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AUSTRALIAN JOURNAL OF ADVANCED NURSING REVIEW PANEL: INTERNATIONAL

Specialist nurses' experiences of using 'The Viewer', a consolidated electronic medical records system: a pre-post implementation survey

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KEYWORDS

computerised medical records system; computerised patient medical records; electronic medical records; evaluation; nurses; pre-post tests

ABSTRACT

Objective

Evaluate changes in specialty areas nurses' knowledge and perceptions of a consolidated electronic medical record (EMR) system before and after implementation.

Design

A survey deployed pre- and six months post-implementation of 'The Viewer'.

Setting

Regional Hospital and Health Service, Queensland.

Subjects

Nurses working in specialist areas including community health, palliative care, discharge planning, wound and stoma care, diabetes education and renal dialysis satellite services (n=110) were invited to participate in the study. Response rate of the pre-implementation survey (n=42, 38%) was much higher than the post-implementation subset (n=10, 24%). A major health service restructure that included losses of nursing positions in specialist areas significantly affected post-implementation results.

Intervention

An EMR system called 'The Viewer' to access consolidated electronic medical records of patient information produced by different parts of the organisation.

Main Outcome Measures

Changes in participants' knowledge and perceptions of 'The Viewer', and their satisfaction with the quality, ease of use and access to patient information.

Results

Pre-implementation, specialist nurses reported dissatisfaction with most aspects of the current patient information system but high confidence and comfort in using electronic systems. Post implementation satisfaction scores either remained the same or increased. Satisfaction with ease of access to consolidated patient data ($U = 125.0$, $p = 0.038$, $r = 0.29$) and usefulness of electronic systems ($U = 115.0$, $p = 0.031$, $r = 0.30$) increased significantly post-implementation of 'The Viewer'.

Conclusion

Specialist nurses are positive about the possibilities EMRs offer to centralise, consolidate and improve access to patient data.

ACKNOWLEDGEMENTS

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INTRODUCTION AND LITERATURE REVIEW

The implementation of new information and communication systems into health services and hospitals is inevitable; millions of nurses will experience such technology changes in their workplace during their careers (Huryk 2010). EMRs are being used widely in hospitals and healthcare services throughout the world to improve communication, centralise and consolidate patient data, and improve efficiency (Lee et al 2013; Rothman et al 2013; Creswick et al 2011). Introducing a records and communication system is complex and can lead to a significant shift in the way a nurse works. This workplace shift can affect outlook and attitudes and might lead to changes in the very culture of the workplace (Westbrook et al 2009).

These technology-driven changes to the health workplace have led researchers and managers to focus more attention on nursing informatics (Mills et al 2013). Two topics dominate the research literature into nursing informatics: nurses' attitudes and/or perceptions of new information technology (Eley et al 2009; Edirippulige 2005; Axford and Carter 1995), and measurements of the impact of EMRs on workflow and healthcare service delivery (Perry et al 2013; Furukawa et al 2010; Wu et al 2006; Simpson 2005).

STUDY BACKGROUND

This study sought to address a gap in the literature about the experience of nurses employed in specialty areas, whose role requires them to work with multidisciplinary teams across different settings, and their adoption of a new EMR resource. The study was set in a regional hospital and health service that was introducing a new EMR technology called 'The Viewer' - a read-only web-based consolidated patient information system that allows clinicians to access summarised patient information in the form of a single electronic medical record (Queensland Health 2013) from six separate clinical information systems. 'The Viewer' enables clinicians to gain a comprehensive picture of a patient's clinical history and provides clinicians with more information essential to clinical decision making. It includes a view of patients' admissions, emergency presentations, pathology, radiology reports, medications, alerts and adverse reactions and procedure reports. Anecdotal evidence suggested specialist nurses working off-site from the regional hospital previously had variable access to patient information, constraining effective clinical decision-making. Therefore the aim of this study was to evaluate changes in specialty areas nurses' knowledge and perceptions of 'The Viewer', and their satisfaction with access to, use and quality of patient information before and after implementation.

METHOD

Setting

Before 2012 Queensland Health, which services the public health needs of the north-eastern Australian state of Queensland, utilised more than seven different EMR systems to manage patient data (e.g., pathology results, diagnostic imaging results, discharge summaries, and patient admissions). In 2011-2012, Queensland Health introduced 'The Viewer', which is a consolidated EMR system. The new information technology aimed to provide clinicians with faster, easier access to patient information and reduce time spent searching different electronic databases or locating paper records stored at various sites (Queensland Health 2013). This pre-post implementation survey took place in 2012 in one northern Queensland Health Hospital and Health Service with a catchment population of approximately 250,000 people (Internal Medicine Society of Australia and New Zealand 2013).

Participants

The population for this study was nurses working in specialist areas in the health service (n=110). Stage 1, pre-implementation participants were 42 registered nurses working in a specialty area, including community health, sexual health, the diabetes and the early years centres. The mean number of years since participant registration as a nurse was 26.25 years (SD ± 9.34). Length of time since registration as a nurse ranged from five years to 42 years. Overall, 40% of participants held a Bachelor degree in nursing and 17% held Masters degrees. Fifty-two percent of participants had been employed in their current setting for more than six years. Stage 2, post-implementation participants were a subset of stage 1 participants (n = 10, rate of return = 24%). In this matched subsample, 50% of participants worked at the regional hospital and 30% worked at the diabetes centre. The remainder worked at various other sites. Mean number of years since registration as a nurse was 30.9 years (SD ± 8.9). Length of time since registration as a nurse ranged from 12 years to 41 years. Thirty-seven percent of stage 2 participants held a nursing diploma and 37% held a Masters degree. Ninety percent of participants had been employed at their current setting for over six years.

Data collection

Data were collected in two stages. Stage 1 data collection occurred prior to training and implementation of 'The Viewer'. Stage 2 data collection occurred six months after implementation of 'The Viewer'. Stage 1 survey packages were mailed to nurses identified as working in a variety of specialist areas using a Queensland Health mailing list. Participants were excluded if the questionnaire was returned without a signed consent form, or respondents did not work in a nursing specialty area.

The survey instrument was adapted from the Queensland Health Information Division (nd) 'The Viewer Project – Clinician Survey'. The first section of the survey instrument included demographic questions about current role, first year of registration as an RN, highest tertiary nursing qualification, and current workplace. The second section asked about current access and use of patient information, and knowledge and perceptions of 'The Viewer' project. The third section asked participants to rate their level of satisfaction with current access, use and quality of patient information on a 5-point Likert scale ranging from 1 = very dissatisfied, 2 = dissatisfied, 3 = neutral, 4 = satisfied, to 5 = very satisfied. The questionnaire also included two open-ended questions asking how electronic systems helped participants perform their role better, and any additional comments. Stage 2 survey packages were mailed to all stage 1 participants, and included the same questionnaire as used in stage 1.

Data Analysis

SPSS version 20 software package (IBM SPSS Inc., Chicago IL, USA) was used for data entry and analysis. Descriptive statistics, means, medians, standard deviations, and ranges for the variables were calculated and presented. Mann Whitney U tests and Spearman's rank order correlations were used to compare demographic variables with satisfaction scores. Wilcoxon signed rank test was used to compare pre and post-implementation satisfaction scores. Alpha values of less than 0.05 were considered statistically significant.

Textual data from the two open-ended questions were analysed using content analysis, a systematic method of describing and quantifying phenomena (Elo and Kyngäs 2008). This method of text data analysis counts frequency of words and content and also includes latent content analysis or interpretation of the content (Hsieh and Shannon 2005). The aim is to create a condensed and broad description of the phenomena using concepts or categories (Elo and Kyngäs 2008).

Ethics Approval

The Hospital and Health Service District Human Research Ethics Committee (HREC) approved all materials and protocols used in this study.

RESULTS

Survey data

Use of patient information in work

A majority of specialist nurses (64%) were entirely dependent on access to patient information to fulfil their nursing role and 90 per cent of participants reported they would access patient records more frequently if access was easier. Ninety-five per cent of participants reported their position involved reporting patient information, and 54% reported accessing patient information on a daily basis.

Knowledge and perceptions of 'The Viewer'

Pre-implementation of 'The Viewer', a majority of participants (54%) reported moderate or good knowledge of Queensland Health information technology (IT) initiatives in general, but 81% reported poor or very poor knowledge of 'The Viewer'. Despite poor knowledge of the new resource, 71% of participants said they believed adopting 'The Viewer' would be beneficial or highly beneficial.

Post-implementation, 30% of participants reported moderate knowledge of 'The Viewer' project, and 50% of participants reported they had good or very good knowledge of 'The Viewer' project. Post-implementation median knowledge score (*Med* = 3.5, *IQR* = 2.8, 4.0) increased significantly compared with pre-implementation knowledge score (*Med* = 2.0, *IQR* = 1.0, 2.0, $p = 0.001$). $U = 77.0$, $p = 0.001$, $r = 0.45$.

Satisfaction with current electronic patient medical record databases

Pre-implementation, specialist nurses reported dissatisfaction with access to current patient information and ease of access to consolidated patient information (table 1), particularly with the need to rely on paper based charts, and the number of electronic systems they were required to access for patient information. Participants reported difficulty with identifying the appropriate electronic system, and low satisfaction with ease of logging into electronic patient databases. Participants reported they felt neutral about the ease of locating patient information but were dissatisfied with the ease of accessing outside patient information. Overall, participants were neutral about reliability of access to patient information and quality of data. Dissatisfaction was high with time spent transcribing and accessing patient data. On average, participants were neutral about the usefulness of electronic systems, however confidence and comfort using electronic systems was high. Satisfaction with the usefulness of electronic systems was positively correlated with confidence ($r = 0.33$, $p = 0.04$) and comfort ($r = 0.44$, $p = 0.005$) using electronic patient information systems (moderate effect size). Participant demographics were not associated with satisfaction scores.

Post-implementation, median satisfaction scores either remained the same or increased, indicating greater satisfaction. The areas in which satisfaction increased were: access to patient information, ease of access to consolidated patient information, ease of identifying appropriate electronic system, ease of locating patient information, quality of data, and usefulness of electronic systems. Satisfaction with ease of access to consolidated patient data ($p = 0.038$) ($U = 125.0$, $p = 0.038$, $r = 0.29$) and usefulness of electronic systems increased significantly ($p = 0.03$) ($U = 115.0$, $p = 0.031$, $r = 0.03$) post-implementation of 'The Viewer' (see table 1). However, due to the small number of participants post-implementation, this finding should be interpreted with caution.

Table 1: Satisfaction scores pre- and post-implementation of 'The Viewer'

Satisfaction scores	Pre-implementation Mdn (IQR)	Post-implementation Mdn (IQR)	P value
Access to patient information	2 (2, 3)	3.5 (2, 4)	0.072
Ease of access to consolidated patient information	2 (2, 3)	3.5 (2, 4)	0.038
Need to use paper-based charts	2 (2, 3)	2 (1, 3)	0.178
Number of electronic systems	2 (2, 3)	2 (2, 3)	0.890
Ease of identifying appropriate electronic system	2 (2, 3)	3.5 (2, 4)	0.157
Signing in to electronic systems	2 (2, 4)	2 (2, 4)	0.951
Ease of locating patient information	3 (2, 4)	3.5 (2, 4)	0.351
Ease of accessing outside patient information	2 (1, 2)	2 (1, 3)	0.645
Reliability of access to patient information	3 (2, 4)	3 (2, 4)	0.437
Quality of data	3 (2, 4)	3.5 (3, 4)	0.115
Time spent transcribing patient data	2 (2, 3)	2 (1, 2)	0.494
Time spent accessing patient data	2 (1, 3)	2 (2, 4)	0.223
Usefulness of electronic systems	3 (2, 4)	4 (4, 4)	0.031
Confidence using electronic patient information systems	4 (3, 4)	4 (4, 4)	0.484
Comfort using patient information systems	4 (2, 4)	4 (4, 4)	0.335

Note: *Mdn* = Median; *IQR* = Interquartile range

Stage 1 - textual data

Three main themes were identified from the open-ended question: *How do electronic systems help you perform your role better?* and from the *Additional comments* section. These themes were: time/speed, access and consolidated patient information. Some participant responses were relevant to more than one theme.

Time/speed

Seventeen participants commented on time and speed in relation to the use of EMRs. A majority of responses were positive (*n* = 13) and pertained to the use of EMRs saving time compared to the retrieval and use of paper files. Participants reported the time saved by having all information in one place could be used more efficiently to improve patient care, continuity of care and patient flow. Negative responses included the following: too few computers which slowed down ward rounds, duplication entering information, and lack of functionality in the current system that slowed retrieval of information.

Access

Twenty-one participants mentioned access of EMRs. Positive responses (*n* = 13) were that easier, immediate access to current information would help with decision making, referral time, enhance phone/telehealth consults, improve patient care and improve time management. Access to patient information from a central database was perceived as beneficial. Negative comments about the existing system included lack of access to electronic medical records, the need to travel to different sites to access patient information, and information not being current.

Consolidated patient information

Fifteen participants commented on consolidated patient information in relation to the use of electronic systems. It was perceived that linked information from all health providers would allow a holistic approach, enable comprehensive assessments of patients, and enhance patient management and referral. Two participants voiced concerns that databases they currently used would not be included in 'The Viewer', and one participant expressed concern about patient confidentiality if all clinicians could access sensitive information such as HIV diagnosis.

Stage 2 - textual data

Participant comments post-implementation generally followed the same themes as pre-implementation comments. Responses outside of these themes included: participants would like to access 'The Viewer' via a wireless network using a tablet so they can access patient information when they are in a client's home or GP surgery, or during ward rounds to mitigate the limited availability of computers on wards. Participants also reported 'The Viewer' had not negated the need to access other information sources and criticised the slowness of data input and update, and poor display of pathology results.

DISCUSSION

Nurses in the present study, and elsewhere throughout the world, have been generally hopeful and positive about the potential of new information technology, even when they reported having little knowledge of the actual system proposed (O'Mahony et al 2014; Huryk 2010; Eley et al 2009). This positive attitude represents a shift away from a resistance to new technology noted by some researchers in the early 2000s (Ash and Bates 2005; Timmons 2003). This resistance was attributed, in part, to a lack of trust and limited collaboration between clinicians and administrators (Ash and Bates 2005). Collaboration appears to remain an area in which improvements can be made as evidenced by a lack of knowledge of proposed systems in some studies (Planitz et al 2012), including the present study.

In the present study, nurses surveyed before the introduction of the Viewer perceived that one of the key benefits of EMRs was that they would spend less time on documentation and more time on patient care, thereby improving patient flow and continuity of care. Post-'The Viewer', time-saving was dependent largely upon access and availability of computers, a point highlighted by Poissant et al (2005), who found nurses who used bedside terminals and a central station cut the time they spent working on documentation by as much as a quarter. Qualitative data from the present study highlighted the use of tablets and wireless networks could improve efficiency of 'The Viewer' system. Nurses noted a continuing need to access multiple sources for patient data after the introduction of 'The Viewer' and criticised slow data input. The immediacy of access, however, and consolidation of most patient data was a positive feature of the post 'Viewer' workplace. Nurses said they could more efficiently make decisions and referrals, and more effectively manage their time, a finding reflected in an emergency department setting in Creswick et al (2011).

Technology transitions can be difficult to manage (O'Mahony et al 2014; Stevenson et al. 2010; Timmons 2003), and are rarely without glitches (Planitz et al 2012), particularly in the healthcare sector (Callen et al 2007). The successful implementation of EMRs is largely dependent on the people who use them and the organisational culture in which they work (Huryk 2010). Some researchers suggest using a socio-technical lens to better understand the way technology can change the way nurses work and to improve implementation processes (Casella et al 2014; Creswick et al 2011; Westbrook et al 2009). An inclusive, collaborative, constructive culture will better-facilitate the adoption of new technology-related work practices (Callen et al 2007), as can careful consideration of the principles of change management (Simpson 2005).

LIMITATIONS

The health service in which the study was carried out was restructured and nursing positions were cut, including those in specialist areas, during the research period. Post-implementation return rates reflect these cuts and make it difficult to compare pre and post results and to generalise the data.

RECOMMENDATIONS

Gains in efficiency through the use of an integrated EMR are affected by the extent of consolidation of patient data; health services and hospitals should carefully consider how they will achieve true consolidation of records for maximum effect.

Open communication, consultation with nurses and effective change management should be primary considerations when implementing EMRs to capitalise on nurses' positive attitudes towards new records technology.

CONCLUSION

Specialist nurses are positive about the possibilities a consolidated EMR system offers to centralise, consolidate and improve access to patient data. Nurses who work across sites, teams and disciplines also see time-saving potential in a consolidated EMR system. Effective implementation of new technology will capitalise on nurses' willingness to learn by employing effective communication, constructive workplace practices, and on-going consultation to iron out inevitable problems.

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Exploring values in nursing: generating new perspectives on clinical practice

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KEY WORDS

practice development, culture change, essentials of care, nursing, practice

ABSTRACT

Objective

The ‘Essentials of Care’ (EoC) program seeks to develop a shared vision amongst nurses within particular workplace teams. The purpose of this study was to describe the experiences of nurses during the process of exploring their values and developing these into a shared vision at both an individual level and as a team.

Design

A qualitative, focus group design was used to provide an accurate representation of the nurses experiences in reflecting on their values and developing these into individual ward/unit vision statements. Six focus groups were conducted by independent researchers. The focus group discussions were recorded and transcribed by an independent researcher. The transcription provided the data for thematic analysis.

Setting

This study was conducted in two tertiary hospitals from the same Local Health District in New South Wales, Australia.

Subjects

Forty-two nurses from fourteen hospital wards or units participated in the study. Seventeen were facilitators of the program and the remainder were nursing staff who had undertaken the program.

Main outcome measures

The authors independently interpreted the transcripts using inductive qualitative analysis, reaching consensus on emergent themes. Representative quotations were chosen for each theme.

Results

Six themes emerged which describe the experiences of nurses during the exploration of individual and team workplace values which were then developed into shared visions. The emergent themes were: shared values and commitment to patient care; empowerment and ownership for cultural change; real and observable outcomes; the meaning of the team; different active learning approaches equalling the same outcome; and culture change results in new perspectives.

Conclusion

This study supports the benefits of value-based programs. Exploring values led to new perspectives on clinical practice, both individually and collectively by the nursing teams.

INTRODUCTION

Practice Development (PD) programs are fast becoming a key instrument in engaging healthcare teams and changing practices. One example of this program within New South Wales (NSW), Australia is the Essentials of Care Program (EoC), which is built on Practice Development (PD) methodologies and approaches (NSW Health 2009). The aim of this program is to create a person-centred culture and overall improvement of patient care (NSW Health 2009). One of the key elements in the program is the development of a shared vision and exploration of individual values amongst the nurses within their teams (McCormack et al 2013).

This paper reports on a qualitative study undertaken to explore and uncover the experiences of nurses in reflecting on their values and developing these into individual ward/unit vision statements through the EoC program. Phase one of the program asks nurses to explore their values as individuals with their team members, later developing these into a shared vision for the ward/unit (NSW Health 2009).Two tertiary hospitals from the same Local Health District participated in the study.

The EoC program has been in effect since 2005 within NSW public hospitals and involves over 600 wards/units. The program has been running since 2008 in the local health district where this study was conducted. Anecdotal evidence suggested a change in behaviours and attitudes amongst nursing teams as they progressed through the program and in particular when they completed their vision statement. A number of studies suggest that changing workplace culture should start with the clarification of values, the impact of this being improved patient care and staff satisfaction (Mannion et al 2005; Wilson et al 2005).

LITERATURE REVIEW

The role that values play in nursing is expressed in the literature in various ways, including ways in which values are developed and viewed by nurses, and the influence of values on workplace satisfaction and culture (Manley 2004; Ingersoll et al 2005; Maben et al 2007; LeDUC and Kotzer 2009). Maben et al (2007) identified that nursing values are developed during nursing training, and can be attributed to the many ethics codes and requirements imposed on students early in training. The authors suggest that core values, such as being ethically responsible and accountable, are important for the profession. A study by LeDUC and Kotzer (2009) found that professional values were similar across three generations of nurses with a greater emphasis placed on professional values such as competence and collaboration compared to societal values such as patient safety and advocacy.

Whether there is a difference between personal values and professional values, and what impact this may have on nursing practice remains unclear. Watson (2002) offers some insight by suggesting that personal values play an important role in nurses' interactions within the workplace. If there is any conflict between personal values and organization values, nurses can be challenged and tend not to follow a directive or requirement with which they disagree.

Values are viewed as “what is important, worthwhile and worth striving for” (Horton et al 2007 p717). There is also an understanding that, on the one hand, values define who we are as individuals, while conversely the society, culture, morals and beliefs impact on how individual personal values are defined (Horton et al 2007). At the heart of understanding values and the meaning this has for nursing, is the acknowledgement by some authors, that personal values can influence professional behavior (Hammell and Whalley 2013; Ingersoll et al 2005). McNeese-Smith and Crook (2003) in a recent survey of 412 nurses recorded benefits from understanding values, including an increased sense of teamwork. Moreover, numerous studies have agreed that values, attitudes and beliefs of staff impact on a workplace culture (Tillott et al 2013; Scott-Findlay and Estabrooks 2006; Wilson et al 2005; Manley 2004).

Central to the exploration of values within healthcare organisations, is the understanding of culture and what defines it. Manley and co-workers identify two distinct types of culture; *corporate* culture which is designed by the values and vision established by the organisation, and *organisational* culture which is the individual values and experiences of staff and users of the service (Manley et al 2011; Manley 2004). It therefore makes sense that the impact individuals have on organisational culture is experienced at different levels.

Studies into workplace culture have identified subcultures or local cultures, that occur within an individual ward or unit, or existing within an organisation (Wilson et al 2005; Manley 2004). Therefore experiences of staff in a discrete setting such as a ward may be very different to the overall culture of the organisation. Taking the time to uncover values within teams is one approach in identifying whether the espoused values of the organisation are reflected in reality (Dewar et al 2013; Christie et al 2012).

The role of values in contributing to culture change is emerging as an important field of research. Nurses bring with them both professional and personal values to their working environments. It appears that identifying values is not difficult for nurses; however, the contribution or impact of their values on nursing practice remains to be fully elucidated.

METHOD

Aim

The aim of the study was to describe the experiences of nurses who used PD approaches in exploring both individual and team values.

Design

The qualitative design of the study was chosen to ensure the experience of the nurse was captured in a way which gave a true representation of how they viewed and felt about what had occurred during their experience of exploring values and developing a shared vision statement during phase one of the EoC program.

Research Ethics

Ethics approval from the Human Research Ethics Committee of the local health district (LHD) was obtained before any recruitment was undertaken or data collected. Each participant was provided with a participant information sheet and written consent form to complete.

Recruitment

Recruitment of nurses and EoC facilitators was undertaken separately. To recruit nursing staff for the focus groups, four medical or surgical wards/units from the largest hospital in the local health district were selected. The rationale was that the staff in these particular wards/units had all progressed through the values stage of the EoC program and provided a broad representation of the wards/units involved with the program. Snowball sampling was used to gain participants. The EoC facilitators provided verbal information sessions outlining the study to staff and written flyers were also provided.

To recruit for the EoC facilitator focus groups, facilitators from two of the hospitals in the local health district (one being the largest hospital mentioned above) were sent an individual invitation to participate in the study. These individual facilitators came from fourteen wards/units across the two hospitals, representing a variety of clinical specialties. A total of 40 invitations were sent.

The nursing teams were interviewed separately from the EoC facilitators to ensure they felt comfortable in sharing their experiences without the potential for bias or fear of the wrong answers in their facilitator's presence.

Focus Groups

Nursing teams and EoC facilitators were already familiar with group style conversations during their EoC sessions. Focus groups which inherently allow for flow of conversation and discourse were therefore chosen as the method to capture the staff members' experiences. Six focus groups were conducted: four groups of nurses each in their individual wards/units and two groups of EoC facilitators. There were 42 participants in total; 33 female and nine male. Enrolled and registered nurses were present in each of the nursing focus groups. The EoC facilitators were all registered nurses. The focus groups were conducted by an independent interviewer; they were recorded and transcribed by another independent transcriber. All interviews were de-identified. The transcribed notes formed the textual basis for analysis. The following questions were used as prompts for the focus groups: How did you begin to explore your values in your ward/unit? Can you describe your experiences of using a values clarification approach in developing your vision statement? Tell me about your individual experiences in exploring your values. Can you describe the experiences as a member of the team in using a PD approach to explore values?

Analysis

The data were analysed independently by both authors who each read and interpreted the transcripts. The analysis followed the same process whether the transcript was from a focus group of staff or EoC facilitators. Consensus was reached on the major emergent themes using a phenomenological tool developed by Palmer et al (2010) and inductive qualitative analysis.

RESULTS

The local health district comprises of six hospitals. The two hospitals where the focus groups were conducted are the largest in the LHD, with 466 beds and 112 beds. The staff taking part in the focus groups represented 20% of their ward/unit and 4% of the staff involved in the EoC program at that hospital. The EoC facilitators who took part represented 23% of all staff involved in the EoC program at the facilitator level.

The two researchers analysed the transcripts of all focus groups independently. Moreover, the transcripts of focus groups of nurses and facilitators were analysed separately. Consensus between the researchers was reached and it was noted by both researchers that the focus group transcripts revealed the same themes regardless of whether the participants were nurses or facilitators. Thus the themes and representative quotations were combined. Six themes emerged from analysis of all transcripts:

1. Shared values and commitment to patient care.
2. Empowerment and ownership for cultural change.
3. Real and observable outcomes.
4. Meaning of team.
5. Different active learning approaches equals same outcome.
6. Culture change results in new perspective.

The following discussion presents findings from these themes and representative quotations from the focus groups.

1. Shared values and commitment to patient care

The nurses agreed that exploring values identified a passion for nursing and a commonality of values amongst their colleagues. There was a consensus that even though each team member is an individual and has different values, fundamentally they all agreed on how they wanted patients to receive care. Integrated into the discussion relating to values, was a realization that it is not only core values that individuals bring to work, but attitudes and behaviours as well. They felt the focus on nursing and exploring their values always came back to the patient.

> *"We all work individually and at the end of the day we all want the best for the ward and the patient".*

> *"I think that most of our values were the same; they maybe differently worded but they all came back to the same common goal".*

> *"We all wanted the same thing, the same goals. We all strived for the same sort of purpose for being here".*

2. Empowerment and ownership of change

The transcripts revealed a general perception that changes had occurred as a result of the EoC process. A clear benefit of the EoC program was staff felt empowered to identify changes in practice that they would like to develop into quality projects. Moreover, innovations or ideas could be legitimised by placing them under the same EoC umbrella which became a platform for continued change.

> *"I think we've always had those skills but again EoC has given us that chance to work as a team".*

> *"This has brought about change in the way we do things".*

> *"EoC came along it gave us all a voice to say I'd like to see this happen".*

> *"We're empowered to make those changes".*

3. Real and observable outcomes

Nurses identified positive outcomes during the development of the shared vision statement. Perceptions of improvements in the quality of care provided and the potential for new quality projects were discussed. Interestingly, the positive outcomes were more obvious once the vision statement had been finalised and the process of engaging with a novel quality project had begun. Some nurses revealed renewed passion and energy in the workplace at this point in the process. However, this was not shared by all of the nurses; one focus group felt they had lost momentum with the program, although participants felt change was achievable.

> *"We did a project on Clinical Handover. Since that project we had a big change and people started to see the difference".*

> *"Everyone has improved a lot from what their culture was before and now to improve everything. So EoC is definitely our care".*

> *"It's quite inspiring and so I found that quite rewarding. I love my ward and doing EoC. We get a bit busy and sometimes we get burned out. I'm a bit like a chook without a head running around. I'm very inspired, I go home and think "oh I like this job" it's nice to feel that'.*

> *"But we are capable of change it's almost like we need a "tidbit" to say "look this is what we can achieve" and see it happen on the ward".*

4. Meaning of the team

There was a real sense of camaraderie throughout the focus groups. It brought recognition of the contributions from team members, the qualities and values they shared.

> *“At the beginning, some of us did feel like we were personally being attacked but we had to think ‘no that just people’s reactions to different things’. But now its better I just think you’ve just got to work together, because you’re all working together in a team”.*

> *“I guess just qualities that you might see within yourself or even another team. Just simple things like respect and even being a team player; patience, those common qualities”.*

> *“I think it has raised a lot of awareness that we wouldn’t have really taken the time to think about before and I think people have adapted to that a bit”.*

5. Different approaches, same outcome

Different approaches in developing values statements and implementing the EoC program were described by the nurses. These approaches were a variety of different active learning activities taught during EoC workshops. The consensus however was that the outcomes were the same.

> *“We had really fun activities. We had sessions of claims concerns issues, circle of influence circle of concern we also had class sessions so it captured a lot of different people coming in”.*

> *“In the first workshop we did was full of this crazy activities like reflection, walking in the park, and we were like ok why are we doing this. It’s not until the penny drops that I really believed 100% in the program that I was able to facilitate a better team”.*

> *“We first spoke about all the issues that we had and it was oh well its done now how do we move forward and what your goals and values were and at the end I think we achieved a lot in terms of we are working together now”.*

6. New perspective, culture change

There was a real lived experience of a change in culture, and for some individual nurses a complete transformation and new outlook on their roles as nurses.

> *“I was one of the hostile ones to begin with because I thought “Oh something else we need to do”! But seeing the girls involvement, how much time and effort they’ve put into it has made me think, because I’m an old jaded nurse and I just think “Oh yeah another change of government another change something else, here we go again”. You do get jaded but it’s given me a new perspective and making me sit back and think “Oh if other people can come up with these ideas perhaps I should too it does make you re-think”.*

> *“In my mind now I’m thinking this is personal development so I think it’s good because we develop ourselves and from thereon we can encourage the people to develop themselves too, to be able to give a quality of care to our clients. So it’s not just practice and development. For me it’s also personal development because you’re developing yourself and from that you’re also encourage people to visit the values, to know again what their value is as a nurse”.*

DISCUSSION

Values play an important role not only defining an organisation, but also in shaping its future direction (Davies et al 2000). It is clear from the focus groups that exploring values helped nurses to understand each other and acknowledge the similarities and differences amongst their peers. These findings support the importance of developing a shared vision in the first step of working towards creating an effective workplace culture

(Manley et al 2014). Nurses were able to recognise they all have similar values and share the same goal of improving patient care.

Our findings support other studies of the benefits from engaging teams in PD approaches to achieve a change in culture (Kirkley et al 2011; Wilson et al 2005; Manley 2004). Nurses that had experienced the PD approaches through the EoC program described being more engaged in the workplace and creating projects to improve patient care. One of the issues emerging from this study is that not all nursing teams felt the same positivity towards the program. It is suggested in some of the literature that some teams require different approaches before commencing in PD work (Ford et al 2013; Shaw 2012; McCance et al 2011). This was shared by nurses in one focus group; they had identified they felt a change when the program first started but had since lost momentum and returned to old ways of working. This is similar to other participants involved in PD programs (Shaw 2012).

Despite different active learning activities used, the outcomes were the same; engagement and a sense of enhanced teamwork. Ford et al (2013) evaluation of a program which used PD approaches reported a positive influence on the learning culture of the organization. Active learning in the workplace helps staff to make sense of what is occurring in their practice and the influence they have on making change (Manley et al 2008).

This study has limitations. It was confined to two settings and not all of the wards/units involved with the program participated in the study. It also did not include any members from the multidisciplinary team, even though the impact of values and creating vision extends to all members of the healthcare team, the EoC program has only been implemented with nursing teams. However the work provides insights into experiences of nurses engaged with the program and provides an opportunity for other researchers to consider the benefits for their own setting. Further study with a focus on how values evolve and impact on nursing practice with teams engaged in a PD program over time is suggested.

Personal values influence the way in which individuals interact, behave and deliver patient care. One of the greatest impacts on individual values is each person's cultural background. Fundamentally, culture shapes a person's belief and values systems. With global multicultural societies it is expected that this influences and contributes to the culture of organisations, which are ultimately reflected in the workplace (Horton et al 2007). In 2011 the Australian Bureau Statistics (ABS) (2013) reported that 33% of Australian nurses were born overseas in comparison to 25% in 2001. Useful information may have been obtained if the researchers investigated whether nurses from different cultural backgrounds shared different experiences and values in the focus groups; however this direction was outside the scope of the present study. It was important the collective experience from either the individual nursing teams or facilitator groups were explored and themed.

The inclusion of experiences of those nurses who were also facilitators could be a potential bias in this study as it may be considered they had additional knowledge of expected outcomes for the program. However it is important to note that there were no program objectives listed or identified during this process and these nurses facilitated the development of a shared vision amongst colleagues. The emergent themes represent issues and topics that were identified as important during the thematic analysis of these experiences. The transformation of both individual and team perspectives provides insight into the potential for a program which is values driven. It was interesting to observe that while the themes were consistent across the different wards/teams, the actual vision statements varied. For instance, in two different surgical unit's one vision statement valued: *"provide a welcoming and supportive environment for our patients and their families…"* while the other surgical unit valued *"providing a professional, holistic, supportive and compassionate environment"*. This supports the methodologies of PD in that real meaning comes from individual teams developing their own vision statements as opposed to a vision statement developed by an organisation with an expectation that employees will embrace it (Dewar et al 2013; Christie et al 2012;). With a focus on organisations being built on values, programs such as EoC provide a framework and principles for teams to follow in developing a shared vision.

CONCLUSION

Providing opportunities for nurses to explore their values is important in the development of a person-centred culture. The most significant realisation amongst the nurses was the most shared and strongest value about being a nurse was about caring for patients. Reflecting and discussing values amongst the teams led to experiences of personal growth, empowerment and enhanced self-awareness. There was a noticeable change in culture felt by some nurses and a greater engagement in team projects. This body of evidence provides an opportunity for further research that explores the experiences and impacts from working with value based programs.

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The clinical environment – do student nurses belong? A review of Australian literature

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ABSTRACT

Objective – broad aim

This paper aims to identify some of the issues related to the nursing students' experience of belonging on clinical placements from the current Australian literature. Anecdotal and empirical evidence suggests that nursing students on clinical placements often experience problems that can adversely affect their feeling of belonging in the clinical setting and ultimately their career decisions. As nursing shortages increase, retention of student nurses in their chosen profession is often affected by their clinical experiences, both positively and negatively (HWA, 2012).

Setting and Subjects

Health professionals' attitudes towards nursing students may affect their feelings of belonging to the environment and the health care team. These health professionals include Registered Nurses and a range of other health professionals including medical staff, physiotherapists and dieticians. The clinical settings in which student nurses' practice vary greatly and may also make a difference to the student experience and their feelings of belonging.

Primary Argument

Student expectations should include feeling welcomed to the clinical area and respected as part of the nursing culture. Clinical placements provide the 'real world' experience to complement classroom and laboratory education. These expectations are clearly not met in some clinical environments. Complimentary research reinforces the benefit of partnering students with experienced registered nurses who have an interest in teaching nursing students.

Conclusion

The literature has identified some examples of where students have felt a sense of belonging to the clinical environment and others where the situation has been less than encouraging. Provision of support, guidance and ensuring appropriate clinical education remain ongoing challenges for Australian universities and the health care system (Henderson et al 2011).

INTRODUCTION – RELEVANCE AND SETTING THE SCENE

The chronic national nursing workforce shortage has been compounded by the decrease in numbers of students completing their degree and entering the workforce (Courtney-Pratt et al 2011; Beadnell 2006). It is therefore imperative that student nurses are not discouraged from continuing in their chosen profession by feeling they do not belong in the clinical environment.

Belongingness is intrinsic in humans with the need to belong and be accepted by their social group, a fundamental element in social interactions. It involves feelings of security, feeling connected to the clinical nurse group and that their professional and personal values are in sync with the larger clinical group (Levett-Jones and Lathlean 2009). This view is reinforced by research findings where self-esteem and belongingness are linked, and acceptance into a cultural group signifies that the individual is meeting the important social domains (Beadnell 2006). Research into the link between nursing students' clinical experience and learning has been limited, and further research is required to examine belongingness and the influence this has on the students' clinical placement experience (Mallik and Aylott 2005).

When the way in which nursing students were educated changed in the late 1980's from hospital trained to university education, one of the key issues for the registration authorities and universities was the maximisation of clinical skill development on clinical placement (Nolan 1998). Anecdotal and empirical evidence suggests nursing students on clinical placements experience problems that can have far reaching effects on their progress through their degree. Many of these problems are directly related to the feelings of belonging to the profession, the clinical environment and to the health care team.

Australian undergraduate nursing students currently complete their degree within accredited universities usually over three years. One essential component of the degree involves clinical placements where students are allocated to various health facilities for a set period of time. During this time, students aim to integrate knowledge from the classroom into skill development, form part of the clinical workforce and are supported by a university or facility clinical facilitator/mentor. Not all students experience support by the clinical staff in the environment during this time, which can lead to superficial learning, student feelings of not belonging and increased student attrition. Students who experience anxiety during clinical placement may experience decreased learning opportunities, also resulting in student attrition (Melincavage 2011).

An examination of Australian and British nursing student stories of clinical placements (Levett-Jones et al 2007) found the clinical managers and nurses who were supportive and welcoming, who valued and included nursing students into the workplace were conducive to their feelings of belongingness. Taylor et al (2014) also found student satisfaction with a clinical placement had an impact on their decision to graduate and register. Although part of these decisions was related to the students' preparation for placement, qualitative data suggests their feeling of belonging in the clinical setting also had an influence on the decision to complete their undergraduate nursing degree and become a registered nurse.

DISCUSSION

Clinical placement can occur in a variety of hospital based or community settings including mental health, aged care and acute care areas, covering all shifts including night duty (Zielinski and Beardmore 2012). The majority of universities provide block placement for student nurses during the designated university semesters. Block placement involves nursing students being allocated to designated 'blocks' of time and then to facilities who have agreed to host the nursing students during this time.

The nursing students on clinical placement are supported and supervised by a clinical specialist called a facilitator, usually paid for by the university, in addition to the clinical registered nurse (Courtney-Pratt et al 2011). Clinical practice is vital for nursing students to integrate knowledge from the classroom with their development of practical nursing skills. Clinical skills are more than successfully performing tasks; they incorporate client assessment, identification of deficits and problems and the ability to critically think to provide solutions (Walker et al 2014). A usual clinical placement day consists of approximately 6-8 hours of patient contact and/or up to one hour of post clinical reflection and discussion to identify and discuss learning experiences with other students.

During one study (McKenna et al 2009), students attended placement weekly to facilitate learning and assimilation into the clinical setting. Some students found the experience of learning about a procedure at university and performing that procedure the next day on placement to be helpful in linking theory and practice. Findings from this research indicated that students attending placement in one clinical facility felt included and accepted by staff, facilitating the development of trust and optimum learning experiences. Students were able to continually engage with theory and practice, consolidating one skill at a time, extending learning and boosting confidence (McKenna et al 2009). Alternatively, students who experienced block placements reported having to re-orientate on each placement and experienced difficulty in establishing relationships with the clinical staff. This information suggests that to encourage professional socialisation, clinical placements should be conducted in the same clinical facility over an extended period of time. Limitations of this research include data that was obtained from a larger study with only student midwives experiences discussed in this paper. Findings cannot therefore be generalised to other student groups in other institutions, but does form the basis for further research.

Levett-Jones et al (2009) sought to measure whether the duration of clinical placement impacted on the student nurses' perception of belonging in the clinical workplace and found students required a 'settling in' period as well as the establishment of relationships with staff in order to feel a sense of belonging. This research utilised information gathered from 362 third year undergraduate nursing students from two Australian and one British university through anonymous online surveys. Findings from this research indicated that all participants identified that feelings of belongingness impacted on their confidence, resilience, capacity and motivation to learn. Many students identified that they felt uncertain, lost and unsure as they struggled to learn about the staff, clients, culture and practices of the clinical area. Students also identified that they felt their ability to learn was impacted by this assimilation process, and only when they were considered to be a team member, did they learn new skills or consolidate learned skills, leading to feelings that they belonged in the clinical setting.

Clinical placements afford students the opportunity to not only link theory to practice but also to begin socialisation into the nursing culture. Early research (Nolan 1998), discussed how students striving to fit into the nursing culture norm would do whatever was needed to be accepted. The sense of 'belonging' along with knowledge and affirmation from staff and patients were of particular importance to student nurses. Clinical placements are integral to completion of the nursing degree, and entry of the nursing student into this nursing 'atmosphere' where they can learn and socialise with clinical nurses is vital (Kern et al 2014). Nursing students, who fail to gain entry into this elite environment and gain belongingness, experience their clinical placement as outsiders, often with detrimental results (Courtney-Pratt et al 2014; Kern et al 2014).

The impact of mature aged nursing students (so called 'Baby Boomers'), on health workforce retention once they graduate, is important, as many employers consider them to be more likely to stay in the workforce (Walker et al 2014). One concern is that these students are considered to be at 'high risk' of academic failure and withdrawal from undergraduate nursing degrees (Walker et al 2014). These students in particular, may struggle with engagement in the profession of nursing during clinical placement due to bias and decreased feelings of belonging. One Australian study utilised open ended questions as part of an online survey to discover both supports and obstacles to learning opportunities on placement, and how these factors impact on the feelings of belonging experienced by the mature aged graduate registered nurse (Walker et al 2014). As the ratio of mature aged students are anticipated to increase within future undergraduate nursing programs, additional research into methods to both attract and retain these students is advised.

One of the key elements of student learning then is for nursing students to fit into the clinical setting, be accepted by staff and clients and have a sense of belonging. ‘Fitting in’ has been documented by Malouf and West (2011) as being vital for new graduate nurses. This need to belong was a significant component of their clinical performance and there is no reason to suspect it is any different for the student nurse. Sedgwick et al (2014) focused on the experiences of nursing students from minority groups and their feelings of belonging in the clinical setting. Findings from this study identified the additional barriers faced by this group of nursing students, often resulting in a higher attrition rate than other nursing student groups. Sedgwick et al (2014) also found that every interaction the minority students had with the nurses who they came into contact with, had an impact on their sense of belonging in the environment.

The impact of clinical placement on student retention across the undergraduate nursing degree has been a focus for many universities, leading to research into why undergraduate student nurses terminate their nursing degree. Students undertaking an accelerated university nursing degree program have experienced significantly lower level connectedness to the clinical setting and associated feelings of belonging, due to reduced confidence (Sedgwick 2013). Accelerated nursing degrees are common throughout the world and, as there appears to be little research evident in this area, the suggestion is made that further research is required.

Researchers have postulated that the first clinical placement for second year undergraduate nursing students can influence their decision to continue (James and Chapman 2010). In this research study, six second year undergraduate nursing students enrolled in a Bachelor of Nursing degree in an Australian university, completed a compulsory three week clinical placement for their acute medical surgical course. Their only prior clinical placement comprised a two week aged care facility placement in their first year. Findings from this study included reports that almost all of the students felt overwhelmed and disorientated by sights, noises and smells associated with the busy clinical environment, the patients and their clinical conditions, leading to them feeling that they did not belong in the clinical area. Some students also identified the pain and suffering experienced by the patients were triggers for feelings of helplessness experienced by the students. Three major themes were identified as a result of this research: feelings of confrontation and being overwhelmed, the concept of patients as people and the students’ perception of their preceptors (James and Chapman 2010). Many participants felt that familiarity with the preceptor facilitated building of confidence and the use of initiative in the clinical setting. Some participants reported feeling intimidated and unwelcome by their preceptors, leading to them feeling overwhelmed, disorientated and disconnected from the clinical setting (James and Chapman 2010). Limitations relating to this study include the very small participant group of six students, drawn from one clinical context (nursing) which limits the usefulness of this information in the broader context of all nursing students.

A positive learning experience can occur when encouragement and constructive feedback are given to students through the support of a role model. Donaldson and Carter (2005) found students like to have access to a nurse role model, adding to their sense of belonging in the environment, their confidence and feelings of competence. Many of the students in a study by Suresh et al (2012), had difficulty feeling supported in the clinical environment with low staffing levels, which caused a decrease in the quality of nursing care and decreased feelings of belonging in the clinical environment.

Further research reinforced the benefit of partnering students with registered nurses with expertise and an interest in teaching nursing students, thereby bridging the gap between theory and practice (Donaldson and Carter 2005). Opportunities for clinical placement in non-hospital settings, including general practice settings, offer student nurses clinical practice in primary care (Peters et al 2013). Whilst these placements offer high quality placement interactions with practice nurses and patients, their success is dependent on support being provided to the practice nurses who act as facilitators, mentors and educators (Peters et al 2013).

Other Australian research has focused on the undergraduate nursing student experience during clinical placements in rural and remote areas (Webster et al 2010), reinforcing the issue of belonging as an important aspect of clinical placements. This qualitative study involved a cohort of eight (8) second year nursing students from Australian Catholic University on a four week rural placement in northern New South Wales. A pre and post placement questionnaire captured their experiences and knowledge development in rural communities and rural health clinical placements. Findings from this study confirmed student clinical experience in rural areas influenced the student's perception, attitudes, preparedness for practice, engagement and feelings of belonging within their clinical facility.

Discussion regarding the impact of the length of clinical placements on student belongingness has been extensive. Some researchers (Levett-Jones et al 2007; Mallik and Aylott 2005; Nolan 1998) suggest a short clinical placement across a variety of clinical settings decreases the sense of belonging in student nurses due to the period of 'settling in' which is required. Other researchers (Edmond 2001), believe it is not the length of the clinical placement that is important but the guidance and support that is given, suggesting a well-supported placement, regardless of the length, has the potential to provide the students with a feeling of belonging. This contradiction should be of particular interest to academics managing clinical placements as part of the undergraduate nursing degree.

CONCLUSION

Limited research has been conducted on the structure of clinical placements. Historically, undergraduate student nurses attend placements in blocks where they attend a clinical facility for five days a week for a set number of weeks. Short placements can result in a decreased sense of belonging and limited learning opportunities for student nurses due to the time required for "settling in". The conflict between funding and the number of clinical placement hours has been identified as a negative factor in students achieving sufficient clinical experience. Frequent changes in clinical settings has also been identified by students as opportunities for varied experiences, but these experiences lacked depth of learning and they required more registered nurse time for orientation and support.

Little research has explored student perceptions of their clinical experiences and the impact of placements on their career choices. Experiences, acceptance and a sense of belonging can have implications not only for the students, but for the area of nursing they choose once they graduate.

In order to facilitate student learning on clinical placement there is support for sending students to a small number of facilities where they are well supported and increasing the length of placement time to maximise the learning and practice of clinical skills.

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Prevention of postnatal mental health problems: a survey of Victorian Maternal and Child Health Nurses

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KEY WORDS

prevention, postnatal depression, risk factors, primary care

ABSTRACT

Objectives
To investigate Maternal and Child Health (MCH) nurses' views on what contributes to mental health problems among new mothers, and their current practices regarding risk factors for maternal mental health problems that are potentially modifiable in primary care.

Design
Cross-sectional, online survey.

Setting
Universal MCH service offered free to all new parents in Victoria, Australia.

Subjects
All MCH nurses employed in full or part-time clinical practice were invited to participate.

Main outcome measures
MCH nurses' views on risk factors for maternal mental health problems and for unsettled infant behaviour; and their current practice regarding addressing unsettled infant behaviour and inclusion of fathers in services.

Results
Surveys were completed by 343/1051 eligible MCH nurses (32.6%). Respondents identified social factors as major determinants of postnatal mental health problems among women, including: parents having limited knowledge about infant sleep needs and skills to manage unsettled infant behaviour; and lack of support, including from intimate partners. Respondents offered widely divergent advice to mothers about management of unsettled infant behaviour. They regarded the inclusion of fathers in routine services as valuable, but acknowledged practical barriers, including difficulties in offering services and programs outside conventional office hours.

Conclusions
MCH nurses identified risks to maternal mental health that are potentially modifiable in primary care, but face barriers in addressing these. To facilitate more consistent advice to new parents about management of unsettled infant behaviours, evidence-based guidelines and training programs should be developed. Inclusion of men in routine services would require practical barriers to be overcome.

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INTRODUCTION

In Australia perinatal depression is associated with significant health and social care costs as well as productivity loss among women and men (Deloitte Access Economics 2012). Less is known about the burden of other mental health problems such as anxiety or adjustment disorders which may be even more common than depression in the perinatal period (Wynter et al 2013).

The National Perinatal Depression Initiative (NPDI) (Australian Government Department of Health and Ageing 2008) was launched in 2009, to "improve prevention and early detection of antenatal and postnatal depression and provide better support and treatment for expectant and new mothers experiencing depression" (Austin et al 2011). In the Australian state of Victoria, there is a universal Maternal and Child Health (MCH) service, whose mandate is to monitor child health and development, but since the launch of the NPDI, has been expected also to screen women who have recently given birth for symptoms of depression and refer those who meet screening criteria, for care. While training in detection has been implemented, there have not yet been systematic approaches to primary prevention. Prevention requires identifying potentially modifiable risk factors, plausible causal pathways and strategies to address these directly (Mrazek and Haggerty 1994).

There is consistent international evidence for four risk factors for postnatal mental health problems: having a history of mental health problems, lack of social support, poor partner relationship and recent adverse life events (Scottish Intercollegiate Guidelines Network (SIGN) 2012). Of these, lack of social support and poor partner relationship are potentially modifiable. Data gathered from women admitted with their infants to residential early parenting services (REPS) in Australia, which offer brief psychoeducational programs to mothers with their infants for assistance with difficulties in caretaking or unsettled infant behaviour (Fisher et al 2011), are consistent with the international evidence that poor quality intimate partner relationships play a central role in maternal mental health problems (Fisher et al 2002a; Barnett et al 1993). Many of the women admitted to these services, amongst whom depression and anxiety are common (Fisher et al 2011; Rowe and Fisher 2010; Rowe et al 2008; Phillips et al 2007; McMahon et al 2001), report that they feel unable to confide in their partners (Rowe and Fisher 2010), that they experience their partners as critical and lacking in empathy (Fisher et al 2002b) or that paternal participation in infant care and household work is low. Including partners in ante- or postnatal education classes has been found to contribute to prevention of postnatal mental health problems (Midmer et al 1995; Gordon and Gordon 1960).

Another potentially modifiable risk factor for maternal postnatal mental health problems which has emerged from the data gathered from women admitted with their infants to REPS in Australia is unsettled infant behaviour (Fisher et al 2002b; McMahon et al 2001; Armstrong et al 1998). Unsettled infant behaviour includes prolonged and inconsolable infant crying, resistance to soothing, frequent overnight waking and waking after short sleeps (Fisher et al 2011), and is a common reason for mothers of infants to seek help (McCallum et al 2011). Prospective cohort studies assessing the effects of Australian REPS, in which sustainable settling strategies and solution-focused responses to infant crying are taught (Fisher et al 2011), have shown not only significant improvements in infant sleep but also reductions in depression and anxiety symptoms, sustained up to six months post discharge (Rowe and Fisher 2010; Matthey and Speyer 2008; Fisher et al 2004a; Fisher et al 2004b; Don et al 2002; Leeson et al 1994).

Primary care practitioners are well positioned to promote maternal mental health, including by addressing potentially modifiable risks. However, little is known about their views about factors associated with mental health problems among women who have recently given birth, and this extension to their role and responsibilities.

The aims of this study were to investigate MCH nurses':

- views about risk factors for postnatal mental health problems;
- views about risk factors for unsettled infant behaviour;
- current practice in responding to mothers with unsettled infants; and
- current practice regarding inclusion of fathers in their services.

METHODS

Setting

In Victoria, a universal primary care health service is available to families with children from birth to preschool age (Department of Education and Early Childhood Development Maternal and Child Health Office for Children and Portfolio Coordination 2011). The MCH service is funded by local and state governments, and is offered free to all new parents to support and monitor child health and development from birth until school age. The service includes a home visit, at least 10 consultations at the local MCH centre, and access to the MCH Line, a state-wide 24-hour telephone information service. MCH nurses are registered nurses with midwifery qualifications and postgraduate training in maternal and child health nursing (Kruske and Grant 2012).

The focus of MCH care is predominantly the health and development of the child. However, the schedule of visits as documented in the state of Victoria's Key Ages and Stages (KAS) Framework (Department of Education and Early Childhood Development Maternal and Child Health Office for Children and Portfolio Coordination 2011) includes a longer consultation at four weeks postpartum, for the 'Maternal Health Check'. Australian guidelines recommend that the Edinburgh Postnatal Depression Scale (EPDS) (Cox et al 1987) be used 6-12 weeks after birth, to assess symptoms of depression and anxiety (Austin et al 2011). Translated versions of the EPDS in some languages other than English are available to MCH nurses. Many MCH centres also offer First-Time Parent (FTP) groups, which emphasise parenting skills and social support in order to increase confidence and skills in parenting (Hanna et al 2002).

Participants

Inclusion criteria were: MCH nurses practicing in MCH centres or staffing the MCH Line anywhere in Victoria during June 2012.

Data source

A survey instrument including both open-ended and fixed choice questions was developed in collaboration with key stakeholders from local and state government.

The survey content was informed first by existing international evidence about potentially modifiable risk factors for postnatal mental health problems, and second by themes emerging from semi-structured interviews and small group discussions with 21 MCH nurses, about current practice and training needs in this field (Wynter et al 2013). The survey was piloted by research staff to ensure face validity.

The survey had five sections. First, characteristics of the respondents and their services, including FTP groups, were assessed in fixed choice questions. Second, views about risk factors for mental health problems in new mothers were assessed using an open-ended question: "In your experience, what are the three main contributing factors that contribute to mental health problems in parents of infants in your area?". Third, as unsettled infant behaviour is a potentially modifiable risk factor for postnatal mental health problems, two open-ended questions assessed nurses' views about risk factors for, and current practices and responses relevant to, unsettled infant behaviour: "We know that parents often seek help with a baby who is unsettled (for example, sleeps poorly, cries inconsolably, is difficult to feed, is difficult to manage). In your experience, what contributes to unsettled infant behaviour?" and "Please imagine that a mother/ caregiver presents with a concern regarding her six month old infant, of age-appropriate weight, who wakes every few hours overnight and/or is difficult to settle. She is distressed about this. What advice would you give her?". Fourth, as poor quality intimate partner relationship is also a risk factor for postnatal mental health problems and could potentially be addressed in MCH services if opportunities existed to engage with both parents, nurses' practices and experiences regarding inclusion of fathers in usual care were assessed using fixed choice questions: "What do you offer in your service that is relevant to fathers?" and "In your opinion, what are the main barriers that prevent fathers from becoming more involved in activities at your MCH service?". Finally, nurses were asked to indicate how willing they would be to make changes to FTP groups in the future to address evidence about potentially modifiable risk factors.

Procedure

The survey was hosted online by an independent online survey company, from 4 - 22 June 2012. Local government representatives e-mailed MCH co-ordinators an invitation to participate with the online survey link and co-ordinators forwarded this email to MCH nurses.

Ethics approvals

Approval to conduct the study was obtained from the Human Research Ethics Committee of Monash University (CF12/0989 – 2012000455, 18 April 2012) and the Research and Evaluation Branch, Department of Education and Early Childhood Development (2012_001508, 24 April 2012).

Data analysis

Data from fixed-choice questions were analysed using descriptive statistics. Responses to open-ended questions were read by two researchers and sorted into themes, which were summarised. Concept maps were generated using Mindjet Mind Manager software (Mindjet 2011) to illustrate the relative frequencies of responses within themes: the size of the 'bubble' and font reflects the number of responses which represent each theme relative to the number of responses in other themes.

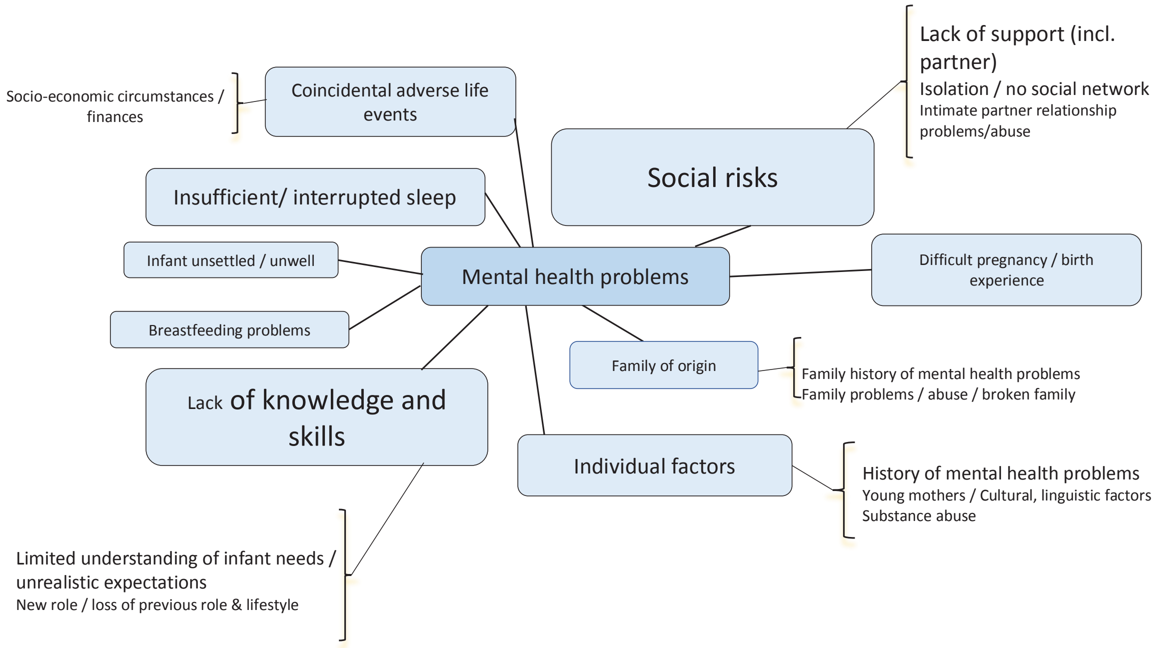
Findings

At the time of the survey, 1,051 nurses were employed (203 full time), 992 only in the universal service, 39 on the MCH Line, and 20 in both services. Online surveys were completed by 343 MCH nurses, 11 of whom worked only at the MCH Line and not in universal service. The overall response was 343/1,051 (32.6%). Survey responses were received from Greater Melbourne as well as all five additional regions of Victoria. More than half (51.0%) of the respondents had been practising as a MCH nurse for at least 11 years.

Factors identified as contributing to mental health problems

Respondents described mental health problems among new parents as having multifactorial causes. The most commonly identified risk factors related to social circumstances and experiences rather than biological vulnerability. The two most commonly cited factors were parents having insufficient understanding, knowledge and skills about infant caregiving and lack of support from intimate partners and others (see figure 1).

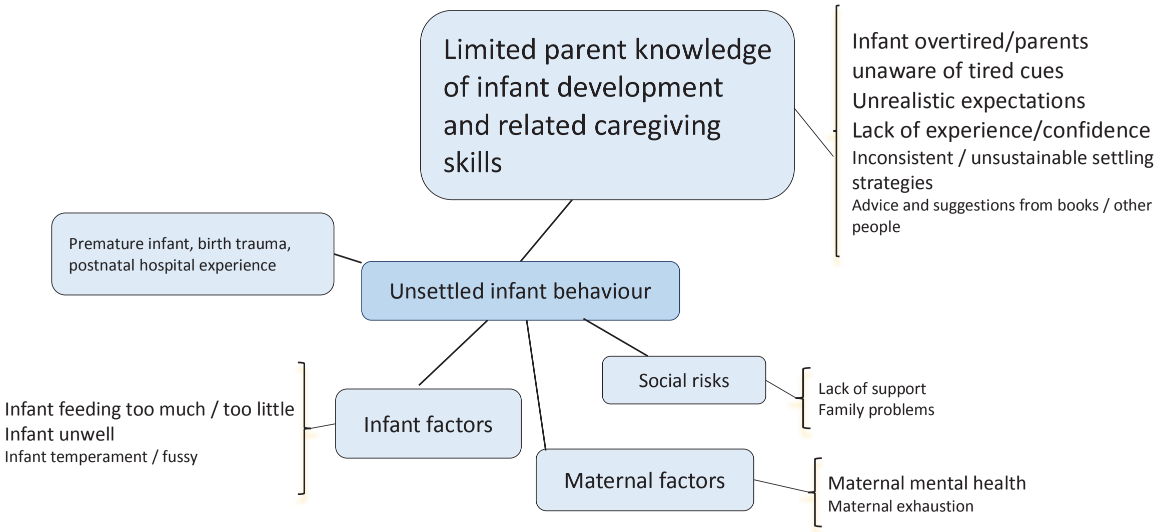
Figure 1: Themes emerging from responses to 'What contributes to mental health problems in parents of infants in your area?'



Factors contributing to unsettled infant behaviour and advice regarding overnight waking

The main factors which respondents believed contributed to unsettled infant behaviour were grouped into themes. The most commonly mentioned risk factor was parents' lack of knowledge about infant development and related caregiving skills (see figure 2).

Figure 2: Themes emerging from responses to 'What contributes to unsettled infant behaviour?'



There were four broad categories of responses to the question about advice to a mother of a six month old infant who wakes frequently and is difficult to settle (see figure 3). Many responses were included in more than one category of response.

General assessment (n=280)

Many respondents saw it as central to their role to assess the mother's wellbeing and gain insight into her current circumstances, assess the infant's physical wellbeing, and gather information on current sleeping and feeding habits.

Education (n=220)

Some respondents indicated they would discuss or explain to parents about infant sleep needs, infant development, sleep environment and routines.

Specific advice (n=247)

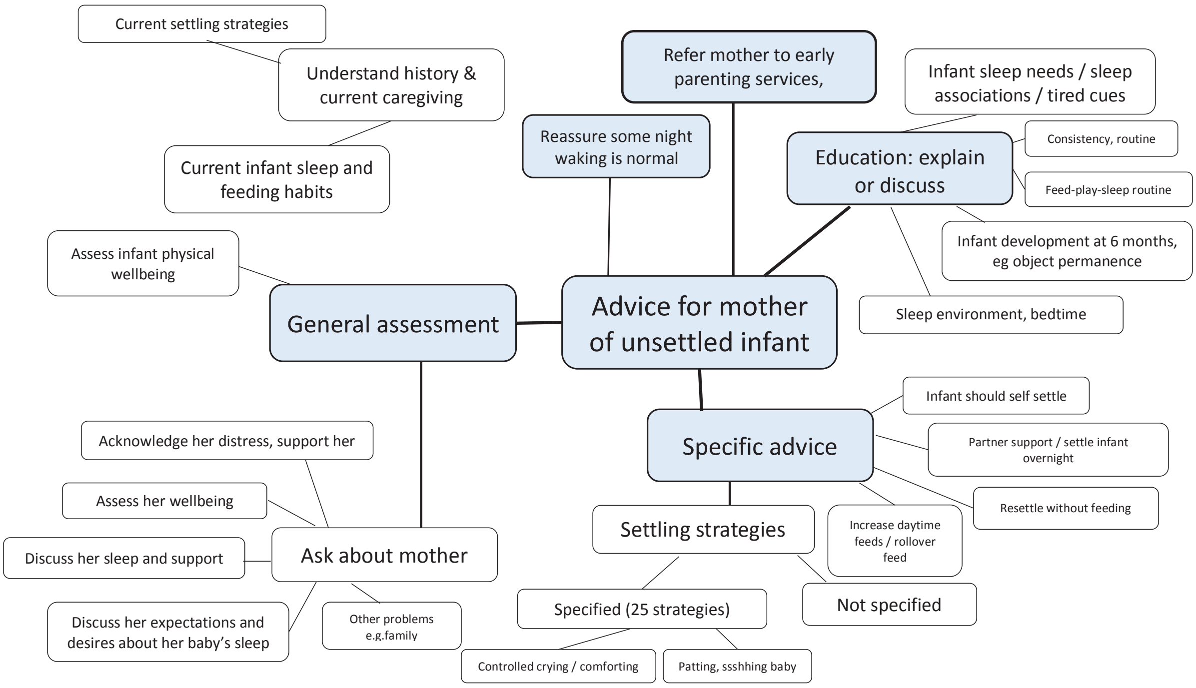
Some respondents indicated specific advice, including feeding advice (n=60) and settling strategies (n=221). In many cases (n=125), settling strategies were not specified. Amongst the responses which mentioned a specific settling strategy (n=96), at least 25 different settling strategies were mentioned.

Some respondents indicated that they would 'normalise' the infant's overnight waking, or emphasise that it is common at this age (n=55).

Referral (n=147)

Some respondents said they would refer parents to various resources or services, such as early parenting centres.

Figure 3: Themes emerging from "Advice fo a mother of a six month old infant who wakes frequently overnight or is difficult to settle"



Inclusion of fathers in routine practice and First Time Parent groups

More than three quarters of respondents (76.7%) indicated that FTP groups are offered at their centres.

Most respondents indicated that fathers are welcome to attend MCH routine visits (93.7%) and FTP programs (80.3%). However, few indicated that they extend a specific invitation to fathers to attend MCH routine visits (18.7%) or FTP programs (12.3%). Almost half (45.0%) of respondents indicated that they 'cover' partner relationships in the FTP program.

Table 1 shows the frequency of responses for each of the specified barriers that may prevent fathers from becoming more involved in activities at MCH services.

The most common response was that programs and services are not offered after hours. Of the 263 respondents who reported that FTP groups are offered at their MCH centres, only 2 (0.8%) indicated that they are offered on Saturday mornings and 11 (4.2%) on weekday evenings.

Table 1: Barriers preventing fathers from becoming more involved in activities at MCH centres

Programs and services are not offered after hours	220	73.3%
They're too busy	193	64.3%
There are few other fathers who attend	151	50.3%
They consider these activities to be "the mother's job"	137	45.7%
Cultural factors e.g. they don't want to gather in mixed sex groups	109	36.3%
They don't feel confident	72	24.0%
They don't feel included or involved	62	20.7%
They're not interested	61	20.3%
They are embarrassed by women breastfeeding in front of them	56	18.7%
We (the MCH nurses) don't invite them	43	14.3%
We (the MCH nurses) don't feel as comfortable with them as with mothers	15	5.0%

*As respondents could select more than one option, these do not sum to 100%

Willingness to incorporate changes to FTP programs

More than two thirds of respondents indicated that they would be willing to include sessions about adjustments to relationships, roles and responsibilities after the birth of an infant (67%) and about infant soothing and settling techniques (72%) in their FTP programs. An additional 22% and 18% indicated that they felt neutral (neither unwilling not unwilling) about including these sessions, respectively. However, only 38% of respondents indicated that they would be willing to include at least one Saturday session. An additional 31% indicated that they felt neutral about doing this.

DISCUSSION

This study provides unique evidence about MCH nurses' views about risk factors for maternal mental health problems and unsettled infant behaviour, and current practices in addressing these in primary care in Victoria. The respondents' emphasis on the social determinants of postnatal mental health, and their commitment to their own role in facilitating mothers' wellbeing and helping them find ways to overcome risks to their mental health, provides support for the implementation of a prevention focus in universal MCH service. The main risk factors named by the respondents in this study were potentially modifiable, although addressing these would involve some changes in *what* MCH nurses are offering, *to whom* they are offering it and *when* it is offered.

To address parents' lack of knowledge and skills in caring for (unsettled) infants, consistent, evidence-based advice about managing unsettled infant behaviour should be given to parents by primary care providers. Our data suggest that advice from nurses on this matter is currently diverse. In a recent national study of Australian paediatricians, a similar lack of uniform responses to persistent infant crying was reported and further training supported by evidence-based guidelines was recommended (Rimer and Hiscock 2014).

To optimise the intimate partner relationship, an opportunity for nurses to engage with both partners is necessary. Having the father present at individual consultations or FTP group sessions, and explicitly addressing adjustment in the intimate partner relationship following the birth of a baby in the FTP group, would be an ideal opportunity to address this. However, respondents indicated that currently fathers are rarely specifically invited to FTP groups, and MCH services and FTP groups are almost always available only during conventional office hours. Respondents acknowledge this as the major barrier which prevents fathers from attending, but only 38% of respondents indicated willingness to offer a Saturday session which would facilitate fathers' attendance.

We acknowledge some limitations in this study. For privacy reasons researchers did not have access to e-mail addresses for individual MCH nurses, centres or co-ordinators. All respondents used the same survey link, targeted reminders could not be sent and it was not possible for respondents to save a draft of their surveys and return to their draft at a later stage, which is likely to have reduced participation rates.

CONCLUSIONS

This study represents an important step in building evidence for broadening the focus of primary care of new mothers to include prevention of, as well as screening for and treatment of mental health problems. Primary care nurses are ideally positioned not only for case detection and referral for treatment but also for addressing risk factors in order to reduce the risk of mental health problems in the postnatal period.

RECOMMENDATIONS

The results from this study indicate there are opportunities in primary care to address two potentially modifiable risk factors for postnatal mental health problems: poor adjustment in the intimate partner relationship and unsettled infant behaviour. It is recommended that evidence-based guidelines for infant sleep needs, and relevant training, be made available to nurses to facilitate consistent advice to new parents about managing unsettled infant behaviour. In addition, increasing involvement of fathers in services may help new mothers feel supported and help couples to negotiate changes in roles and responsibilities after the birth of the infant.

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Literature review: “Are you ok there?” The socialisation of student and graduate nurses: do we have it right?

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KEY WORDS

socialisation, nurses, student nurse, undergraduates, graduate nurse, literature review

ABSTRACT

Objective
To determine the effectiveness of the current socialisation processes for student and graduate nurses, into the clinical practice setting.

Setting
The clinical nursing environment, with underlying links and reference to the academic setting of nurse education.

Subjects
The sole focal subjects of this literature review are student/undergraduate and graduate/new nurses.

Primary argument
Internationally, attrition rates of new graduate nurses in their first year of practice ranges between 30-60%. Undergraduate and new nurses enter the nursing profession with a beginning skill set, reflective of their education, coupled with preceded values and ideas about the profession itself. Recognition of an adjustment period undergraduate and new nurses require, is paramount to meeting the anticipated socialisation of these new professionals. Socialisation in the profession of nursing is an ongoing and complex interactive process by which the professional role, incorporating skills, knowledge, and behaviours, is learned and the individual consciously and subconsciously seeks their sense of occupational identity, and perfecting this process is crucial.

Conclusion
Newcomers to the nursing profession have expressed that learning how to behave appropriately in the workplace is more difficult than bridging the gap between theory and practice. Intentional measures implemented by organisations, is paramount in enabling newcomers to adjust to the workplace, and it is unsafe to assume the process of socialisation is good, and underestimation of this socialisation process, would be negligent.

INTRODUCTION

The Australian Nursing Federation states that the nursing and midwifery workforce, is, a workforce under immense pressure, and over the next seven years, 40% of the workforce will be due to retire (Health Workforce Australia, 2014). Health Workforce Australia (HWA) (2014) identifies the increase in mean age of nurses from 43.8 in 2007, to 44.3 in 2012, with a 4.4% increase of nurses over the age of 50, in this same period. Awareness of such statements highlights the need for the implementation of strategies, aimed at retaining and recruiting nurses at the bedside (Brown et al 2011). Australian nurse education has been solely provided through the tertiary sector for the past 20 years. However, the professional identity, of which nurses are striving for, has become blurred. Cohen (1981, cited in Brown et al 2011) posed the questions: What is missing? What went wrong? Why are graduate nurses not more comfortable with their roles? Why do large numbers of nursing students drop out? and, Why do so many new graduates drop out in their first year? Cohen's (1981, cited in Brown et al 2011) posing of these questions, must encourage members of the industry to attempt identification of causative features, as to why nurses entering and having just entered the profession have limited careers. This hasty exodus from the nursing workforce, will/is having a damaging impact on patient safety in the clinical setting.

DISCUSSION

The socialisation of an individual into a profession and/or professional group has been documented in nursing since the 1950's. Becker and Geer (1958, cited in MacKintosh 2006) express that socialisation in the profession of nursing is an ongoing and complex interactive process by which the professional role, incorporating skills, knowledge, and behaviours, is learned and the individual consciously and subconsciously seeks their sense of occupational identity. There is an abundance of literature which has a heavy focus on the negative effects of overload stress and unsupportive relationships within the workplace, which can be directly related to the failure of well-being, self-efficacy, self-esteem, learning, persistence and success. On the contrary, understanding negative aspects of the socialisation process on student and graduate nurses, is not seen as adequate, resulting in posing the question of: "Are you ok there?" The socialisation of student and graduate nurses: do we have it right? (Del Prato et al 2011).

In order to undertake this literature review, a search of three electronic databases took place: CINAHL (Cumulative Index for Nursing and Allied Health Literature), The Cochrane Library and PubMed. Keywords and phrases utilised when searching each of the three databases were, "socialisation", "nursing socialisation", "socialisation" AND "nursing", and "socialisation" AND "new nurses". CINAHL originally yielded 141 full text articles, from the keyword "socialisation" this was then further defined with the use of keywords "nursing" and "new nurses", which resulted in 51 full text articles, with a time frame between 2004-2014 selected. A secondary search of CINAHL was completed with alterations to key words, consequently relying on "Socialization" and "Social Adjustment" (S1), then "New Graduate/Novice Nurses" (S2). The combination of S1 and S2, resulted in the yielding of 108 articles. Cochrane was only able to yield 2 articles from the use of all of the aforementioned keywords, with PubMed originally yielding 720 articles, of which was narrowed to 163, with the addition of the keywords "socialisation" AND "new nurses". Finding confidence in the amount of literature available, the number of articles which were utilised for this literature review was finalised at 26.

Qualitative data was desired data, for this literature review as gathering of an in-depth understanding of human behaviour and reasons that govern this, were the central focus of the posed question. Knowledge of 'why' and 'how', was required to understand individual's feelings and perceptions. However, quantitative data was not entirely eliminated, as some method of statistical data would be relevant in determining the success of socialisation in this setting. Surveys and Grounded Theories were seen as beneficial, due to their innate focus on social sciences, discovering a theoretical explanation of actions that resolve the main concerns of participants.

Internationally, attrition rates of new graduate nurses in their first year of practice ranges between 35% and 60%, with 57% of these new professionals leaving their first place of employment by their second year of practice (Odland et al 2014). Undergraduate and new nurses enter the nursing profession with a beginning skill set, reflective of their education, coupled with preceded values and ideas about the profession itself. Recognition of an adjustment period undergraduate and new nurses require, is paramount to meeting the anticipated socialisation of these new professionals (Phillips et al 2015; Brown et al 2012; Brown et al 2011). The practice setting component of nurse education is seen as critical and plays a key part in the ideal world versus the real world clash that many undergraduate and new nurses face (Maxwell et al 2015; Phillips et al 2015; Brown et al 2012; Houghton et al 2012). Professional socialisation in nursing extends beyond skills and business activities. Socialisation in nursing is the development of a professional identity, necessary for involving students and graduates in professional practices (Zarshenas et al 2014). Nurses who are newly qualified and newly exposed to the clinical environment have indicated their intention to remain within the nursing profession is linked to their satisfaction with transition into the clinical environment. Both Australian and international studies show that if new nurses are supported and valued in the beginning of their practice, this will result in positive transitional experiences, optimising retention rates within the industry (Phillips et al 2015).

Nursing students of post-modern society have differing motives for choosing nursing as their profession. Common motives of the undergraduate nurse, of today, are to “help others”, “do something useful”, and have a “safe job” (Rongstad et al 2004). Research on the socialisation of student nurses has shown that these individuals experience two versions of nursing, in the classroom and in practice. Socialisations’ processes have been suggested to begin in the undergraduate phase, within this classroom setting (Brown et al 2012) however, it has also been asserted that nursing students don’t initially encounter the socialisation process until they first step in to the clinical setting (Houghton 2014). Student and new nurses are exposed to influences from different social worlds: personal, university and practice, entering the practice environment with a commitment to being kind, respectful and compassionate, yet find the enactment of these characteristics fraught with contests (Curtis et al 2012). Socialisation is a significant issue for newly graduated nurses, and acquisition of knowledge of the socialisation process is pertinent to assist in successful role transition. Research has indicated that professional socialisation is significant in shaping these new nurses, again, influencing retention within the industry. New graduates, who are not appropriately supported in their socialisation process are found to be less satisfied, perform poorly and are not committed to remaining in the profession (Kelly and Ahern 2009).

Socialisation is at its most vulnerable during a nurses’ inception into the profession. In a qualitative study conducted by Zarshens et al (2014), it was determined that there are two categories in which new nurses hold in high regard when entering the nursing workforce: (1) a sense of belonging and (2) forming of a professional identity. Through the performance of semi-structured interviews, Zarshenas et al (2014) was able to determine a sense of belonging resulted in acceptance of the profession. When a sense of belonging exists, it is indicative of one accepting their profession, leading to respect for the profession and cementing a complete commitment. Furthermore, a sense of belonging evolves from contributing factors such as: theory-practice incongruence, educational experiences and tacit knowledge (Zarshenas et al 2014). Participants in this study highlighted inconsistency with the demands presented in academic, as opposed to demands in the practice setting. Consistent management of two differing methods of learning causes stress and students often find themselves in situations where they were not able to show themselves as a nurse, leading to feelings of uselessness, consequently leading to a reduction in devotion to the industry (Zarshenas et al 2014). Many students express a preference for learning skills in the clinical environment, rather than a laboratory setting. However, the ‘reality of practice’ can stir feelings of uncertainty and anxiety, due to the pace of the environment, and being exposed to conflicting ways of practising clinical skills, which in turn forces students and new nurses to replicate these skills seen in practice, aimed at enhancing their probability of being ‘accepted’ (Houghton et al 2012).

Student and graduate nurses hold great value in their educational experiences, which can influence the formation and development of sense of being a nurse (Zarshenas et al 2014). Student nurses have reported feeling abandoned by their higher education institution, due to the reality shock of the practice environment, and a reported 95% of students perceive themselves as anxious, depressed, and unhappy at the end of their three-year course due to inappropriate socialisation and acceptance into the clinical workforce (Jackson et al 2011). Sources of students’ stress can be categorised as academic, clinical and personal/external, although numerous studies show the clinical learning environment to be a primary source of stress in these novice nurses. Apart from the expectation to provide competent patient care in complex and often unpredictable clinical practice settings, juggling shift work fatigue and heavy workloads, student and graduate nurses need to learn the clinical unit’s formal and informal norms and locate supportive nursing staff members, at each clinical placement and/or rotation (Zarshenas et al 2014; Del Prato et al 2011; Samaha et al 2007). Stemming from this often unexpected learning objective arises the need for appropriate supervision and support in clinical practice.

Supervision and support are pivotal to a new nurses’ experience, a fact supported by a multitude of senior nurses currently in practice. The use of appropriate Preceptors and Clinical Facilitators, promotes a sense of belonging, enabling these novice professionals to identify with a colleague in the clinical environment. Preceptored learning experiences are found to be instrumental in the socialisation of student and graduate nurses in the real world of clinical practice, aiding in dealing with the inevitable shifted perceptions experienced of what the life of a nurse is (Beattie et al 2014; Houghton et al 2012; Crawford et al 2000).

Obtaining a professional identity in nursing has been described as difficult, with nurses historically struggling to define their role (Willetts and Clarke 2012). A positive professional identity is critical for nurses to function at an appropriate level, and benefits not only the individual, but patients and other members of the interdisciplinary team. How nurses think and feel about themselves promotes a positive patient care environment, whilst enhancing job satisfaction and retention rates. Nurses’ judgements of their own competence and professional self is crucial in achieving an effective standard of performance (Johnson et al 2012; Willetts and Clarke 2012). Student and graduate nurses inevitably seek the meaning of being a nurse. Professional identities of nurses are acquired through socialisation, which can begin prior to the commencement of education in nursing (Johnson et al 2012). Exposure to the practice environment faces new nurses with the discovery of nursing cultures that include ‘cliques’ and common ‘languages’ associated with the profession. Prior to completion of the undergraduate and new graduate phases, it has been suggested that there was a total absence of awareness of this professional social trend (Zarshenas et al 2014; Kelly and Ahern 2009). Student and graduate nurses have expressed they do not feel they have a purpose until the final stages of their undergraduate journey, eliminating any sense of purpose, up until this point. Social connectedness and cooperation with and amongst nursing staff promotes self-confidence and a sense of being valued, aiding new nurses in forming their identity as a nurse. These novice professionals are not being appropriately socialised until completion of their graduate year, resulting in extended periods of not belonging and absence of a professional identity (Zarshenas et al 2014; McKenna and Newton 2007).

CONCLUSION

The most significant time of stress for student and graduate nurses is when in the clinical practice environment. Newcomers to the nursing profession have expressed that learning how to behave appropriately in the workplace is more difficult than bridging the gap between theory and practice (Feng and Tsai 2012; Del Prato et al 2011). The recruitment and retention of freshly graduated nurses, in the profession, over the next few years will play an essential role in underpinning the long term sustainability of the nursing workforce (Health Workforce Australia 2014). Intentional measures and support implemented by organisations is needed to enable newcomers to adjust to the workplace.It is unsafe to assume the process of socialisation is good, and the value of the socialisation process should not be underestimated (Health Workforce Australia 2014; MacKintosh 2000). MacKintosh (2000) resumes by stating, “care is nursing and nursing is caring” and in order to support nurses’ socialisation into the workforce, those who facilitate clinically based student-learning, need to understand the discord between effective care and the socialisation process, and well planned graduate programs are fundamental in assisting the evolution of these novice professionals (Health Workforce Australia 2014). Success of this will enable realignment with practice reality and professional ideals, development of resilience and enable the next generation of nurses to enact their professional ideals (Curtis et al 2012; Del Prato 2012).

RECOMMENDATIONS

The following recommendations have arisen from this literature review:

More intense and intimate relationships between academic and clinical facilitates, promoting and facilitating consistency of practice. Involvement of clinical staff, who are still practising, in the teaching processes held within the academic setting. Enabling student nurses to meet actual nurses, from an actual hospital, prior to entering the practice setting, will enable them to obtain a first-hand view of what to expect when learning in the real environment of nursing;

A more detailed focus on education of those who facilitate nursing education, in both academic and clinical arenas. Incorporation of Preceptor and Facilitator education for nursing staff will equip staff with optimal preparedness, ensuring optimal advantage is taken when learning in the clinical practice environment;

Production and execution of extensive orientation programs, with a direct focus on the professional environment. Socialisation into the clinical setting should begin in the academic arena, allowing the largest timeframe of preparation possible. Again, incorporation of nurses’ currently practising, in these orientation activities, in the academic setting, will allow new nurses to relate to a component of the clinical environment prior to entering it;

Individual focus at each level of learning should take place, as the needs of novice nurses differ in each phase of learning. Student and graduate nurses’ needs differ at different stages of their learning. It is vital that catering for each of these stages of learning take place, as to avoid overwhelming these newcomers, and to ensure their learning occurs at an appropriately gradual pace; and

More regular updating of educational institution curriculums. The nursing profession is one that changes constantly, with new knowledge and innovations ever-present. It is important for academic institutions to keep up with the ever-changing clinical environment, further ensuring currency of knowledge and practices, and preparing newcomers to become change-agents, an often, unknown requirement of a nurse.

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Delirium in the intensive care unit and long–term cognitive and psychosocial functioning: literature review

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KEY WORDS

intensive care, delirium, sedation, cognitive function, outcomes

ABSTRACT

Objective

This paper reviews existing literature on delirium that arises during mechanical ventilation in the Intensive Care Unit (ICU). It looks at the physiology of delirium, its subtypes and risk factors. It further considers the impact of delirium on cognitive and psychosocial function of patients after their discharge from acute care. The aim of this paper was to increase awareness of ICU delirium, accentuate the potential link between different sedation agents and the development of delirium, and inform practitioners, especially nurses, about this common neurocognitive disorder that appears in the Intensive Care Unit (ICU).

Setting

Intensive Care Unit (of any acute hospital) where is ICU located.

Subjects

Mechanically ventilated patients.

Primary argument

This paper argues for the awareness of delirium in the Intensive Care Unit and examines sedation during mechanical ventilation with its potential role in promoting this disorder.

Conclusion

Delirium is the most common neurobehavioral disorder in patients who are critically ill and mechanically ventilated in ICU. It frequently generates psychiatric and psychological outcomes such as depressed mood, anxiety and/or Post Traumatic Stress Disorder (PTSD). Cognitive and psychological dysfunction following delirium seems to be overlooked, under recognised, and misdiagnosed in the ICU. These impairments are often incorrectly attributed to other processes, such as concurrent psychoactive medication use, substance use, or psychiatric disorders, in particular depression, rather than delirium. Although it is generally accepted that providing sedation for a patient's comfort is an essential part of bedside care for nearly every patient in ICU, an increasing number of researchers hypothesise there is a strong link between sedation practice and long-term patient centred outcomes, such as quality of life (Dimopoulou et al 2004) and cognitive and psychosocial functioning. Increasing nurses' awareness of this potential link is exceptionally important, as they are instrumental in administration and observing subsequent side effects of any medication, including sedatives.

INTRODUCTION

Delirium is a disturbance of consciousness developing over a short period of time, where inattention is accompanied by a change in cognition and/or perceptual disturbance (American Psychiatric Association 2013). It is characterised by an acute confusional state defined by fluctuating mental status, inattention and either disorganised thinking or an altered level of consciousness (Girard et al 2008; Maldonado 2008; Pun and Ely 2007; Stevens and Nyguist 2007). Delirium is one of the most common psychiatric disorders encountered among the medically unwell, yet it very rarely has a psychiatric origin (Gunther et al 2008; Maldonado et al 2009, Jacobson and Schreibman 1997 as cited in Justic 2000; Nicholas and Lindsay 1995 as cited in Justic 2000). It occurs across different health care settings (Levkoff et al 1992 as cited in Jackson et al 2004). Research confirms that delirium effects between 15 to 20% of general hospital patients (Lipowski 1989 as cited in Jackson et al 2004); between 20 to 50% of lower severity ICU patients, and as many as 80% of critically ill ICU patients receiving mechanical ventilation (Girard et al 2008; Pun and Ely 2007; Ely et al 2001a,b,c). In the ICU, delirium is associated with critical illness itself (particularly with multiple co-morbidities and multi-organ failure), as well as management related factors such as mechanical ventilation, sedation, and lack of sleep. It is associated with adverse outcomes including death and long-term cognitive impairments (Cox et al 2009; Pandharipande et al 2008; Quimet et al 2007; Pandharipande et al 2006; Combes et al 2003). Several studies show that ICU delirium risks are cumulative and potentially count towards increased possibilities of cognitive dysfunction and poorer functional status and quality of life (Oeyen et al 2010; Maldonado 2008; Girard et al 2008; Stevens and Nyguist 2007; Pun and Ely 2007; Hopkins and Jackson 2006; Marcantonio et al 2003; McCusker et al 2001). Despite this recognition, cognitive impairments associated with delirium following mechanical ventilation in ICU are not well described and deserve further study. The literature suggests a reduced quality of life for survivors of critical illness and delirium, and this reinforces the relationships between post-ICU cognitive impairment and cognitive morbidity and decreased social interaction (Hopkins and Jackson 2009; Stevens and Nyguist 2007; Jackson et al 2003 as cited in Ely et al 2004a; Hopkins et al 1999). Nonetheless, data to support these relationships are still limited (MacLullich et al 2009; Girard et al 2008; Gunther et al 2008; Stevens and Nyguist 2007).

Expanding investigations on long-term psychosocial functioning following mechanical ventilation-related delirium will facilitate better understanding of this neurocognitive sequelae and its impact on cognitive outcomes. These outcomes seem to be significant markers of a decline in cognitive function, basic daily functioning, quality of life and ability to return to work (de Miranda et al 2011; Oeyen et al 2010).

This article reviews the literature in this area of investigation, with a particular focus on the depressed mood, anxiety, and Post Traumatic Stress Disorder (PTSD) subsequent to mechanical ventilation and ICU delirium. Improving knowledge and awareness in this area of the evidence-based practice in intensive care, will open up insights into this common neurocognitive disorder, its development, consequences and management.

METHODS

Articles were identified through a computerised search of the Medline (1996-2011) and Google Scholar (2000-2011). This was done by combining subject headings and keywords, and the terms were merged with search filters for retrieving articles.

RESULTS

The literature search produced 128 references published between 1996 and 2011. Out of these, 72 articles were excluded based on abstracts or titles, leaving 56 articles for the full text review. The articles were then tabulated into subgroups such as ICU delirium, post-operative delirium, pathophysiology of delirium, mental health and delirium, and cognition and delirium. During this review, 56 articles were evaluated and included in this review.

DISCUSSION

Delirium was until recently considered to be a relatively benign medical problem in ICU (McGuire et al 2000), and of no importance to survival or long-term quality of life (Girard et al 2008; Ely et al 2004a, b). The prevalence of delirium reported in both medical and surgical ICU cohort studies has varied from 20% to 80%, depending upon severity of illness observed and diagnostic methods used (Thomason 2005 as cited in Patharipande 2008; Bergeron et al 2001 as cited in Pun and Ely 2007; Ely et al 2004b). Nevertheless, despite high prevalence rates in the ICU, delirium often goes unrecognised by clinicians, with symptoms incorrectly attributed to dementia, depression, or 'ICU syndrome', which was considered an expected, inconsequential complication of critical illness (Girard et al 2008; Ely et al 2004b; Justic 2000). For that reason, ICU physicians mostly overlooked delirium, as their main focus was to successfully assess, prevent and reverse multi-organ dysfunction (Pae et al 2008). The above approach resulted in a lack of attention to delirium and obstructed correct diagnosis and subsequent treatment of this condition (Pae et al 2008; Armstrong et al 1997). Ely et al (2004, as cited in Pae 2008) in their exploratory study of the current opinions and perceptions of health care professionals reported that although 92% considered delirium to be a significant or very serious problem, 78% of them reported delirium to be under diagnosed.

Delirium Subtypes

Delirium has been described as a multifactorial syndrome with different mechanisms interacting to produce the typical clinical manifestations. Most of these mechanisms are related to imbalances in the neurotransmitters that modulate cognition, behaviour and mood, thus generating different subcategories of delirium according to the psychomotor symptoms experienced, such as 'hyperactive', 'hypoactive' and 'mixed' delirium (Miller and Ely 2006 as cited in Girard et al 2010; Girard et al 2008; Maldonado 2008; Pun and Ely 2007, Ely et al 2001a,b; Justic 2000).

Hyperactive delirium is reportedly associated with extreme levels of agitation, emotional lability and disruptive behaviours such as shouting, hitting, biting and pulling out indwelling catheters and lines (Pun and Ely 2007; Justic 2000). This delirium subtype was in the past referred to as 'ICU psychosis' and is rare in its pure form. Peterson et al (2006) examined 614 consecutive medical ICU patients for delirium over one year, and reported that hyperactive-only delirium was present in less than 2% of all cases. Kabayashi et al (1992 as cited in Meagher et al 2000) reported that patients with hyperactive delirium had a higher rate of full recovery in comparison to patients with either hypoactive or mixed subtypes. Several studies pointed out that patients with hyperactive phenomenology had shorter hospital stays and better outcomes than either those with mixed or hypoactive subtypes of delirium (Girard et al 2008; Pae 2008; Pun and Ely 2007; Meagher and Trezepacz, 2000 as cited in Pun and Ely 2007; Stevens and Nyquist 2007; Ely et al 2004a,b;

Meagher et al 2000; Olofsson et al 1996 as cited in Meagher et al 2000; Liptzin and Levkoff 1992 as cited in Meagher et al 2000).

Hypoactive delirium alone is also relatively rare and is characterised by withdrawal, lethargy, apathy and a lack of responsiveness (Pun and Ely 2007; Justic 2000). Hypoactive delirium is associated with a worse prognosis than hyperactive delirium.

Most patients demonstrate a mixed hyperactive and hypoactive delirium after mechanical ventilation in ICU, and this subtype is associated with the worst outcomes and the highest mortality of the three subtypes

(Girard et al 2008; Pun and Ely 2007; Miller and Ely 2006; Elly et al 2004a; Misra and Ganzini 2003; Ely et al 2001a,b; Justic 2000; Meagher et al 2000).

Pathophysiology

Delirium is thought to be a neurobehavioral manifestation of imbalances in the synthesis, release, and inactivation of neurotransmitters that normally control cognitive function, behaviour, and mood (Trzepacz 1999 as cited in Girard et al 2008; Maldonado 2008). Maldonado (2008) argues that derangements of these multiple neurotransmitter systems have been implicated in the pathophysiology of delirium. Trzepacz (1999 as cited in Girard et al 2008) reported that these neurotransmitters work in opposition, with dopamine increasing and acetylcholine decreasing neuronal excitability. Any such imbalance results in neuronal instability, unpredictable neurotransmission and delirium. Similarly, research shows that other neurotransmitters may equally play a role in the pathogenesis of delirium, including aminobutyric acid (GABA) serotonin, endorphins, and glutamate (Girard et al 2008; Maldonado 2008; Marcantoni et al 2003).

ICU Delirium Risks

Risk factors for delirium can be divided into predisposing factors (host factors), and precipitating factors (Girard et al 2008; Pun and Ely 2007; Inoye and Charpentier 1996). Predisposing factors are present before ICU admission and are difficult to alter, while precipitating factors occur during the course of critical illness and may be alterable. More recently Miller and Ely (2006) proposed three categories of risk factors for the development of delirium: a) predisposing or baseline vulnerability; b) intrinsic risk factors such as the features of the acute illness and c) hospital related or iatrogenic factors (table 1).

Table 1. Risk factors for delirium

Baseline characteristics	Intristic / Disease factors	Iatrogenic / environmental factors
Cognitive Impairment	Sepsis	Sedative medications
Comorbidities	Hypoxemia	Analgesic medications
Age	Metabolic derangements	Use of bladder catheter
	Severity of illness score	Anticholinergic medications
		Sleep quality / quantity

Miller et al 2006, p56.

There is an ongoing debate on the relative contribution of intrinsic versus iatrogenic risk factors in the development of delirium (Meyer and Hall 2006). Pandharipande et al (2006) reported that although delirium may result from patients' specific underlying illness, it was often an outcome of different iatrogenic and thus preventable sources.

Gunther et al (2008) argued that sedatives and analgesics represent the leading modifiable iatrogenic risk factor for transiting to delirium. Similarly, an increasing number of researchers suggest the use of ICU sedative, analgesic and anticholinergic medication may be contributing to the development of delirium (Shehabi 2010; Riker et al 2009; Maldonado 2008; Shehabi et al 2008; Pandharipande et al 2006; Pandharipande and Ely 2006). Several studies (Riker et al 2009 Maldonado et al 2009; Gunther et al 2008; Maldonado 2008; Gaudreau et al 2005) imply that there is a link between the use of pharmacologic agents with known psychoactive activity, such as opiates, corticosteroids, benzodiazepines, non-steroidal anti-inflammatory agents and chemotherapeutic agents, and the increasing occurrence of ICU delirium.

Esteban et al (2002 as cited in Maldonado 2008) suggest about 90% of ventilated patients in ICU who develop delirium receive benzodiazepines, opioids, or both, to facilitate management and ease the discomfort associated with intubation. Maldonado (2008) argues there is a strong body of evidence, gathered through past experimental studies and clinical observations, which clearly demonstrates the link between the use of drugs with anti-cholinergic properties and a physical and mental impairment (Tune 2000 as cited in Maldonado 2008; Tune and Egeli 1999 as cited in Maldonaldo 2008; Flacker et al 1998 as cited in Maldonaldo 2008; Tune et al 1993 as cited in Maldonaldo 2008; Golinger et al 1987 as cited in Hopkins et al 1999; Innoye and Charpentier 1996 as cited in Innoye et al 1998). Similarly, Maldonado (2008) reports an exposure to anticholinergic agents alone is an independent risk factor for the development of delirium and an increase in delirium symptom severity. This research is in line with previous studies (Plaschke et al 2007 as cited in Pandharipande et al 2008; Marcantonio et al 1994 as cited in Pandharipande et al 2006; Pandharipande and Ely 2006), which have already suggested the possible association between the use of sedation, such as *y*-aminobutyric acid (GABA) receptor agonists (including propofol and benzodiazepines) and the increased occurrence of delirium.

At the same time, little is known about the relationship between the duration of sedative administration and the risk of delirium following operative procedures and both general and regional anaesthesia. The majority of studies suggest short periods of exposure to these agents are not associated with similar risks to those of longer term administration in the ICU setting (Bryson and Wood 2006).

ICU Delirium and Cognitive Functioning

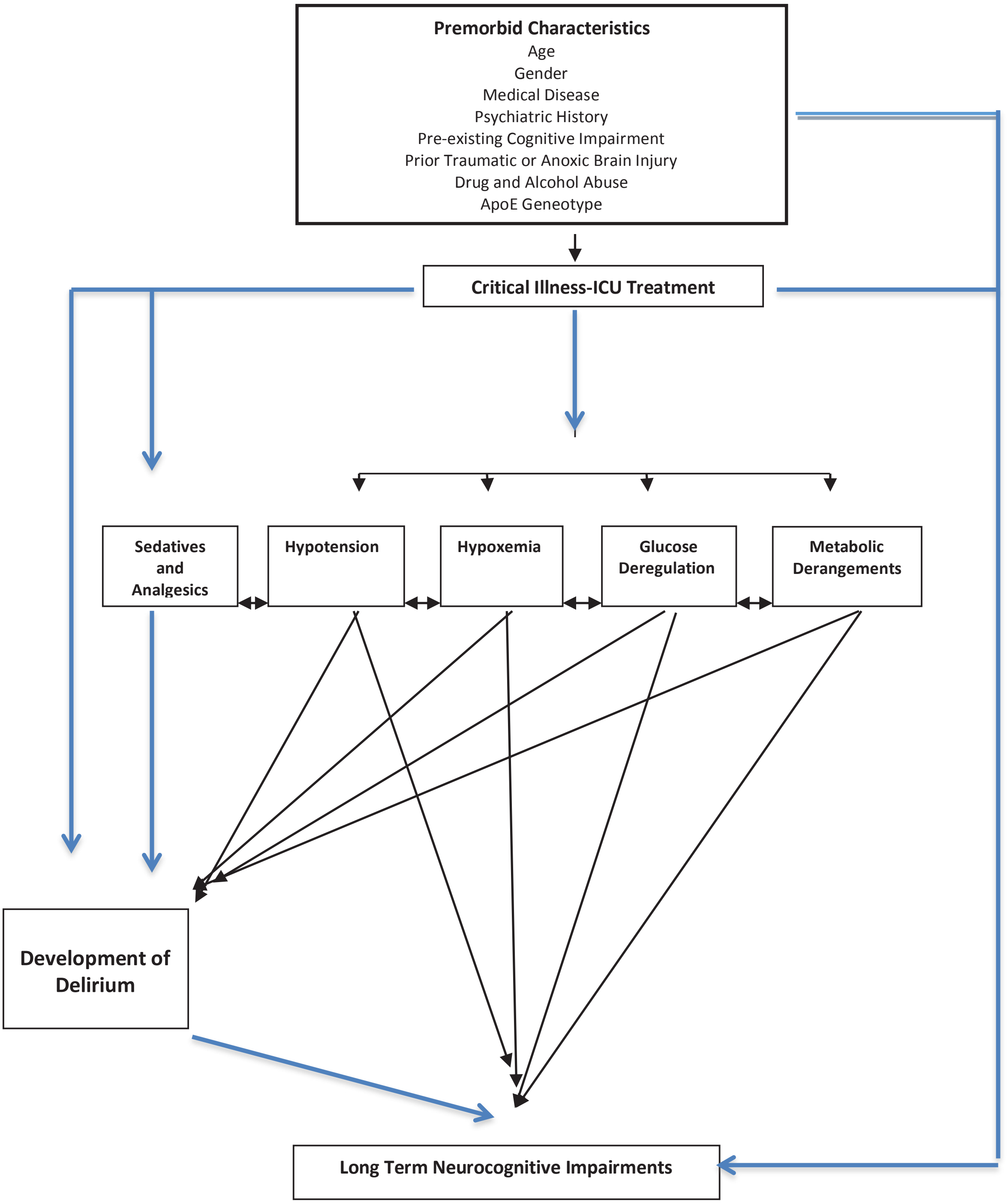
Evidence is also emerging in support of an association between the experience of delirium and either a poor functional and cognitive recovery, or long term cognitive impairment following hospital discharge (Girard et al 2010; Jackson et al 2010; Pun and Ely 2007; Stevens and Nyguist 2007; Hopkins et al 2006; Hopkins and Jackson 2006, Jackson et al 2004; Ely et al 2004b; McCusker et al 2001; O'Keeffe and Lavan 1997). Several longitudinal studies report approximately one third of ICU patients receiving mechanical ventilation have long term neurocognitive impairments, and this is documented up to six years after hospital discharge (Girard et al 2010; Pun and Ely 2007; Jackson et al 2007; Hopkins and Jackson 2006; Hopkins et al 2006; Ely et al 2001a,b).

Although the relationship between the management of critical illness in the ICU (including mechanical ventilation, sedation and multiple medications) and illness-factors such as metabolic derangements, underlying infections, multiple organ failure, and the development of delirium is under ongoing investigation (Hopkins and Jackson 2009), evidence is emerging that this has the potential to promote delirium, exacerbate existing and/or introduce new cognitive impairments (figure 1).

Jackson et al (2007) followed 98 patients who were mechanically ventilated for acute respiratory failure in medical ICUs and found prolonged periods of ICU delirium were associated with an increased risk for long-term cognitive impairment at three months post-discharge. Girard et al (2010) in their study of mechanically ventilated medical ICU patients reported the duration of delirium was independently associated with long-term cognitive impairment, such as memory issues and the decline in basic life skills and functioning. This, in some patients, promotes development of mental health problems, such as post-traumatic stress disorder (PTSD), anxiety and depression.

PTSD is characterised by the development and persistence of intrusive recollections, avoidance symptoms, and hyper-vigilance. In addition to the strain the disorder itself places upon psychosocial functioning and psychological health, PTSD is implicated in increased rates of depression, substance abuse, and suicide attempts (Strauss et al 2006). Anxiety demonstrates itself as a diffuse sensation of fear, which is not related to an actual external danger (Sareen et al 2005). This sensation could be due to the numerous stressful situations that take place in the critical care setting such as pain, noise and loss of body control. Although a certain degree of anxiety seems to be 'normal' in the ICU environment, a literature describes a 'pathological' anxiety when this sensation appears to be disproportionately high considering its cause, and when it is associated with other severe signs, such as severe dysautonomia, and loss of self-control which cannot be appropriately treated due to a complete lack of patient cooperation (Chevrolet and Jolliet 2007).

Figure 1: A possible explanatory model of neurocognitive impairments among ICU survivors (Hopkins and Jackson 2006; p876). ApoE = apoliprotein E



CONCLUSION

While most of the literature supports an association between delirium following mechanical ventilation in ICU and subsequent cognitive dysfunction in the short and long term, the functional correlates of cognitive impairments seem to be under-studied (Pae et al 2008). These functional correlates reflect patients' ability to return to work or to work at previously established levels, as well as function effectively in emotional and interpersonal domains (Oeyen et al 2010; Hopkins and Jackson 2009; Schweickert et al 2009). In addition, more research is needed in observing the development of depression, anxiety and PTSD following ICU delirium, as they are the markers of a psychological function that significantly shapes one's quality of life.

The ability of nursing staff to observe and report delirium has not received the attention it deserves. The presence and attention given to each patient in ICU as a consequence of one-to-one nursing gives an opportunity for nurses to identify early signs of delirium, and work with the rest of the medical team to implement strategies designed to reduce the incidence and severity of delirium occurrence. Therefore, educating nurses to understand delirium, its subtypes, risks and pathophysiology, is an important step in dealing with this neurobehavioral disorder. Using this knowledge, nursing staff will be empowered to act to increase the patients' cognitive status by enhancing their sense of security, safety, and comfort.

RECOMMENDATIONS

An increasing number of researchers call for an individualised, balanced approach to analgesia and sedation in order to minimise side effects and iatrogenic risks of ICU delirium and consequent poor cognitive and psychosocial outcomes (Shehabi et al 2010; Riker and Fraser 2005). Recognising and treating delirium in the ICU should become an avenue more thoroughly explored if we are to offer good, all-inclusive care in the ICU. In doing so, we need to recognise nurses presence with the ICU patient and their ability to identify delirium. Therefore, equipping nurses with the best practice strategies to manage patients who are experiencing delirium in the ICU is of the utmost importance (Justic 2000; Webb et al 2000).

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The role of specialist nurses in cardiac genetics - the Victorian experience: supporting partnerships in care

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KEY WORDS

partnerships; cardiac genetics; sudden unexplained death; screening; specialist nurse

ABSTRACT

Objective

In Victoria, Australia, a unique referral process exists for families who require investigation for possible inherited cardiac disease. This is spearheaded by a team of specialist nurses located at the Royal Children's Hospital Melbourne (RCH), the Royal Melbourne Hospital (RMH) and the Victorian Institute of Forensic Medicine (VIFM), who ensure that all potentially at-risk families are offered the opportunity for clinical assessment and consultation.

Setting

In Victoria, approximately 5,500 deaths are reported to the Coroner each year. Where there is a suspicion of a causative heritable cardiac condition, the surviving relatives are offered referral to a tertiary centre for assessment and screening.

Subjects

A specialist nurse employed by the VIFM is the focal point for forensic pathologists to flag families requiring referral. Concurrently, specialist nurses within the cardiac genetic services of RMH and RCH accept, review, triage and action these referrals. All three services work closely to create a seamless model of care, which is age appropriate and provides ease and equity of access to consistent care.

Primary argument

The nurse specialists are a critical part of the multidisciplinary team, providing the first entry point into the hospital system. Their background experience encompasses intensive care and cardiology nursing. This is essential to the provision of professional and empathetic care in which families can approach the difficult issues surrounding post mortem consideration of a diagnosis.

Conclusion

The Victorian nurse led system is an effective model, which could be trialled in other jurisdictions, and other disorders, where multidisciplinary care is required.

INTRODUCTION

In 2004, a nurse-initiated referral process for families requiring cardiology screening began between The Royal Children's Hospital (RCH) and the Victorian Institute of Forensic Medicine (VIFM). This service to the Victorian public arose from a perceived need for specialised care and a systematic approach for at risk families, and was expanded in 2007 with the establishment of the Cardiac Genetics Clinic at The Royal Melbourne Hospital (RMH).

Prior to establishing the current service, at-risk families were referred to General Practitioners (GP) with a recommendation for follow-up and screening. It became evident that it was difficult to determine whether this approach was effective and whether at-risk relatives were being adequately managed. Therefore, the Victorian Institute of Forensic Medicine ran a pilot program with 15 families who were referred to a specific medical specialty (Morgan 2005). After trialling a targeted referral process, participants were asked to complete a survey. As a consequence of the positive feedback from families, pathologists and other staff, the pilot evolved into the formalised referral service it is today.

The aim of this service is to identify and manage cases of potentially preventable cardiac deaths by a process of early referral, consistency of information collation and provision, and coordinated care between adult and children's services.

When there is suspicion of a causative heritable cardiac condition, the surviving relatives are offered referral to a tertiary centre for assessment and screening. These cases include, but are not limited to, deaths where the cause is unascertained, hypertrophic cardiomyopathy (HCM), dilated cardiomyopathy (DCM), aortic dissection, arrhythmogenic right ventricular dysplasia (ARVD), sudden unexpected death in epilepsy (SUDEP), connective tissue disorders and cardiomegaly.

In Victoria, a unique team of nurses lead this system to ensure that all potentially at-risk families are offered the opportunity for clinical assessment and consultation. These specialist nurses have appropriate clinical expertise and knowledge, with cross-disciplinary knowledge of both genetic medicine and clinical cardiology.

A specialist nurse employed by the Victorian Institute of Forensic Medicine (VIFM) provides the focal point for forensic pathologists to flag families requiring referral. This position is pivotal in contacting families, using established clinical skills to ascertain important information and relevant history of both the deceased individual and their family members in a socially sensitive manner. This expertise is critical in identifying cases where genetic testing may be accessible and relevant at a later date; thereby ensuring appropriate samples for DNA extraction are obtained and stored.

Family members who accept referral to the Cardiac Genetic Clinics receive a seamless, specialised and integrated model of care, which is age appropriate, and delivered at either, or both the Royal Melbourne Hospital (RMH) and Royal Children's Hospital (RCH). The Victorian model promotes and provides ease and equity of access to consistent care, with clinicians able to discuss and share information (with consent) across both campuses.

A number of conditions are referred post mortem by VIFM. Figure 1 details the post mortem diagnosis in all the cases where adults were referred to the RMH from mid 2007 to mid 2014. The largest proportion is sudden cardiac death, without further diagnosis as to the cause at autopsy, a condition where the death certificate is issued with the cause of death being 'unascertained'.

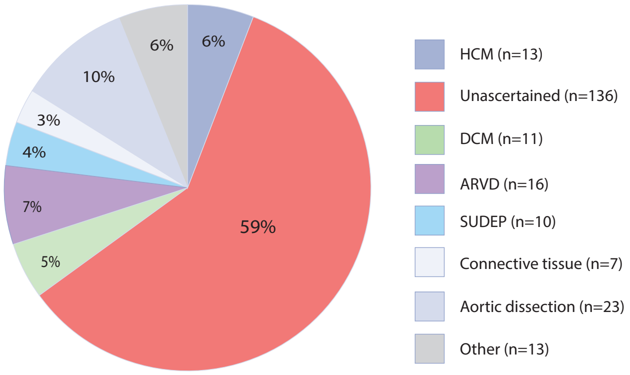


Figure 1: Diagnoses at VIFM where referral made to a Cardiac Genetics Service at RMH

In terms of referral numbers, the diagnosis for referral fluctuates from year to year. After an initial rise in referral numbers and as the Victorian model matured, figures have remained constant over the last few years (figure 2). The number of family members referred for screening after a sudden cardiac death (SCD) is dependent on family size, structure, age of the proband (the index case) and how many first-degree relatives accept referral.

On average, a referral to RCH results in 1.7 family members being screened and to RMH results in 3.4 family members screened per proband (figure 2). This reflects the overall smaller number of relatives aged less than 18 in comparison to those that are adult. To date, 758 individuals in 229 have been referred via this route for diagnosis, risk assessment and risk management to RMH alone. At RCH, 164 families including 278 children have had the opportunity for screening for heritable cardiac conditions.

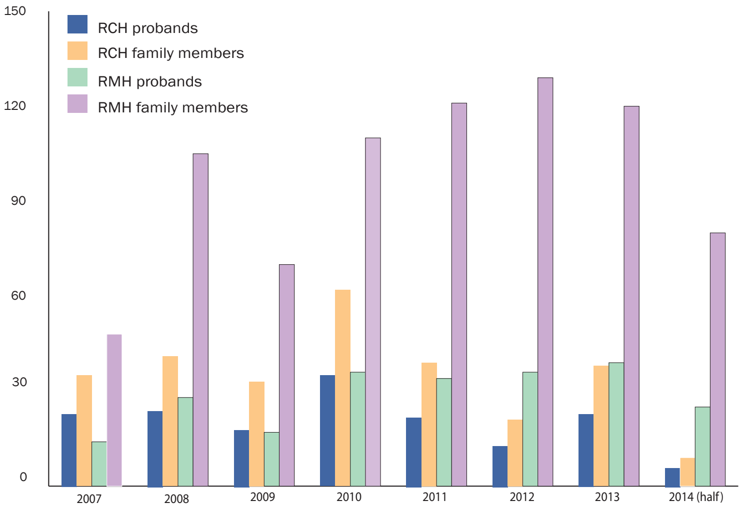


Figure 2: Comparison of the number of individuals (probands/index case) and family members referred from VIFM to RCH & RMH each year (2007 – July 2014)

DISCUSSION

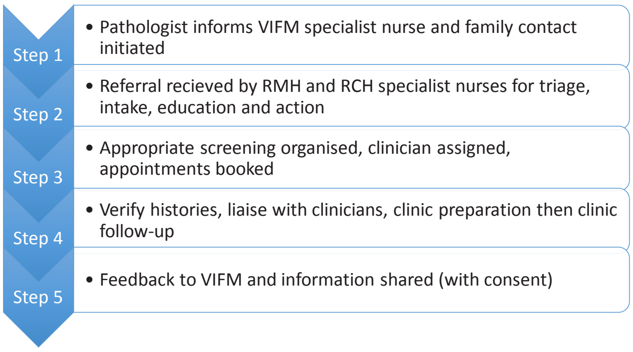
The referral process that has been established and run by the specialist nurses is simple and effective. The specialist nurses review, triage and action the referrals. They document and verify family histories, organise appropriate pre-assessment clinical screening and manage clinic bookings to ensure optimal use of the clinician and patient time. Clinical liaison is a central role for all specialist nurses.

Throughout the referral, screening and feedback process all three clinical services work closely and cohesively. Communication amongst the groups is critical – especially with shared families. Regular clinical meetings between all centres provide an opportunity for open and honest feedback and an opportunity to seek further clinical information.

Record keeping, consent, storage of appropriate biological samples and the content of post mortem reports are just a few things that have become streamlined as the result of this approach to feedback.

The main pre attendance steps and clinical pathway are detailed in figure 3.

Figure 3: The referral steps and clinical pathway



Step 1
- Pathologist informs VIFM specialist nurse and family contact initiated

Step 2
- Referral recieved by RMH and RCH specialist nurses for triage, intake, education and action

Step 3
- Appropriate screening organised, clinician assigned, appointments booked

Step 4
- Verify histories, liaise with clinicians, clinic preparation then clinic follow-up

Step 5
- Feedback to VIFM and information shared (with consent)

Figure 4: The many roles of the specialist nurse

The nurse specialists provide the initial contact with families and facilitate entry into a multidisciplinary clinical care setting. The nurses involved have clinical expertise in cardiology nursing (n=3), coronary care/ ICU nursing (n=3) and worked at VIFM (n=2). The cross-disciplinary knowledge and experience allows them to fulfil many essential roles within the clinical services and enables effective communication (figure 4) with the inter-professional team.

In addition to clinical service, the nurse relationship between VIFM, RMH, and RCH has provided an effective platform for research studies and the translation of research findings into clinical practice. Recruitment of patients to The National Genetic Heart Disease Registry (Ingles et al 2008) and the Investigation of Sudden Cardiac Death in the Young study are just two examples of this.

CONCLUSION

Having a single point of contact identified in each service has provided a consistent level of service provision, and fosters expertise and accountability. The specialist nurses have multiple functions and responsibilities within their respective organisations, but together form part of a larger team that aids in the clinical care of Victorian families who have suffered a recent, and sometimes unexplained, bereavement in a sensitive and effective manner.

Collaboration between specialist nurses in the individual services has created streamlined access to medical specialists, providing the basis of multi disciplinary care and managing identification and transfer of samples suitable for DNA extraction. The relationship between VIFM, RMH, and RCH has aimed to provide equitable, easily accessible and age appropriate care to the potentially at-risk people of Victoria, in the area of cardiac genetics.

Audits of parts of the Victorian service have been published elsewhere (Kumar et al 2013). Further auditing of the services is now underway to assess adherence to screening recommendations and recall of advice given as a marker of the effectiveness of the clinic.

RECOMMENDATIONS

The authors believe that the Victorian nurse led system is an effective model. It is proposed that the model could be adopted in other Coronial jurisdictions and could be applicable to other disorders requiring multidisciplinary care.

In the future, these specialist nurses being recognised as part of advanced practice nursing, is a real possibility. As the framework for advanced nursing practice is formalised, ways of assessing the practice of specialist nurses is essential in the dynamic, unpredictable and ever-changing world of healthcare and service provision.

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Using clinical reasoning and simulation-based education to 'flip' the Enrolled Nurse curriculum

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KEY WORDS

Enrolled nurse, flipped classroom, simulation, clinical reasoning

ABSTRACT

Objective
This paper describes the development and implementation of an innovative Diploma of Nursing curriculum for preparing Enrolled Nursing students for acute care nursing practice.

Setting
Vocational Education and Training at the Health Education and Research Centre in Hobart, Tasmania.

Subjects
Vocational Education and Training students enrolled in the Diploma of Nursing (Enrolled-Division 2 Nursing) (HLT51612).

Primary Argument
The increasing complexity and acuity of contemporary practice environments requires a nursing workforce that is flexible and competent. In 2013 nurse educators developed an innovative approach to offering the national standardised Diploma of Nursing course that integrates three key pedagogical approaches: the 'flipped classroom', simulation-based learning and the Clinical Reasoning Cycle.

Conclusion
By 'flipping the curriculum' students are provided with opportunities to develop and extend their clinical reasoning skills as they respond to both routine and unpredictable 'patient' scenarios in the safety of a simulation environment. These simulated clinical learning experiences are designed to challenge students to 'think like a nurse' while actively engaging in the provision of safe and effective 'patient' care.

INTRODUCTION

As predicted in the National Health Workforce Innovation and Reform Strategic Framework for Action 2011-2015 (Health Workforce Australia 2011), the current health workforce is, in many respects, inadequately prepared for meeting the needs of the changing Australian patient population. The aging population, increased prevalence of chronic diseases, advances in technology and changes in public expectations, means demand for healthcare services continues to rise (Ramis et al 2013). Against this background, evidence points to changing nursing workforce trends due to ongoing nursing shortages and higher patient acuity (Commonwealth of Australia 2002). Throughout Australia, enrolled nurses are now considered integral to the nursing skill mix in acute, primary and residential aged care settings (Bull and Hickey 2011).

In Australia, there are two levels of nurse: Registered Nurses (RNs), and Enrolled Nurses (ENs). RNs are required to meet the minimum requirement of a three year Bachelor of Nursing degree whilst ENs are required to complete an eighteen month Diploma of Nursing qualification. The EN qualification was first introduced in Australia in the 1960s to improve the supply of nursing services and reduce the rising costs associated with staffing in health care (Russell 1990). Historically, the role of the EN was to support the work of RNs (Hutchinson et al 2011) and primarily involved a task-oriented approach whilst working under direct supervision (Jacob et al 2013). EN education therefore has tended to place emphasis on students acquiring 'skills' for performing 'nursing tasks'. This antiquated pedagogy that has been identified as "over prescriptive and reliant on individual certification of tasks and activities" is no longer appropriate in today's health care settings (Willis 2011). Contemporary nursing requires nurses who are skilled critical thinkers and able to care for people who often have multiple co-morbidities and complex psychosocial needs. Hence the need for EN training programs that meet the evolving needs of the wider health sector (Missilidine et al 2013).

Over the last 12-15 years the role of ENs has continued to evolve and expand. This began with a review of training programs undertaken by the National Aged Care Forum (Commonwealth of Australia 2002). The Review called for expansion of the EN role and recognised the need to extend their scope of practice to include the administration of medications (Commonwealth of Australia 2001). Following on from the Review there were frequent calls for a nationally consistent educational approach for ENs and in 2009 EN training was included in the National Health Training package. However, a national approach was not fully operationalised until 2010 when the National Registration and Accreditation Scheme replaced the state based accrediting bodies. The standardised curricula initially provided a qualification at the Certificate IV level of the Australian Qualifications Framework (AQF) (Hutchinson et al 2011) and placed primary emphasis on aged care and rehabilitation.

In 2014 the baseline qualification for an EN was changed to a Diploma of Nursing (Certificate V) with preparation for specialty areas of nursing practice through the Advanced Diploma of Nursing (DN) (Jacob et al 2013). The EN course is accredited by the Australian Nursing and Midwifery Accreditation Council (ANMAC) and primarily delivered by TAFE institutes and other private Registered Training Organisations (RTOs). The new DN course places greater emphasis on mental health, community health, maternal and child health and acute health care. While the degree of emphasis on these content threads varies between different providers, it is an ANMAC requirement that students undertake a minimum of 400 clinical practice hours and meet a specific number of teaching and learning hours across each of the four discipline areas (ANMAC 2009). These changes to EN training have enhanced career pathways and provide more employment options for ENs in specialty areas of nursing practice (Jacob et al 2013). Consequently, most states are now employing increasing numbers of ENs in both non-acute and acute care settings (Blay and Donoghue 2007).

It is anticipated that ENs will continue to become a larger proportion of the acute care nursing workforce over the coming decade (Bull and Hickey 2011). The demand for acute care beds continues to increase and tight budgetary constraints limit the number of RNs employed necessitating consideration of new staffing models. The shifting skills and scope of practice means that ENs are in greater demand in more diverse areas of the health care sector than ever before. Health care, however, is dynamic and EN's scope of practice continues to evolve. Workforce trends in Australia mean there is a need to develop skills for consumer-directed care, enhanced leadership and management capability and stronger cross interdisciplinary collaboration (Community and Health Industry Services Skills Council 2014). These shifting workforce demands mean that ENs need to be flexible, person-centred and able to engage in new ways of working as a part of the health care team to advocate for and facilitate the involvement of individuals, their families and significant others in planning and evaluating care and progress toward health outcomes (Community and Health Industry Services Skills Council 2014, Gibson and Heartfield 2005).

ENs are now expected to care for higher acuity patients across a number of different health care contexts (Jacob et al 2013). Assuming these higher level responsibilities requires ENs to be prepared with more sophisticated skills and knowledge (Nankervis et al 2008; Heartfield and Gibson 2005). These factors now feature in the National Training Package for the Diploma of Nursing course as competency standards, which specify the requirements for effective workplace performance alongside many other discrete areas of work and nursing work activity. These competency standards are used as the basis for defining learning outcomes and assessment benchmarks within the Vocational Education and Training (VET) sector. They are a prescriptive way of classifying nursing work and often used as technical instruments for organising EN training by specifying the knowledge and skills to be applied in nursing practice. Nursing work, however, is not simply a technical practice: it is human work that relies on tacit understandings as much as formal ways for organising practice (Grealish 2012). Contemporary approaches to curriculum design, delivery and sequencing is therefore central to promoting coherent learning experiences for ENs (O'Neilla et al 2014).

A critical examination of contemporary RN education suggests that there is a shift away from competency-based education and teaching of discrete areas of discipline specific knowledge. Instead, there is a refocussing on more holistic means of developing learners' professional attributes (Burford et al 2014). Similar changes are urgently required for EN training because of the increasing focus on patient safety and quality. This means ENs must be prepared to respond to emergent patient situations and recognise and manage patient deterioration. To prepare students for working in the dynamic and unpredictable contexts of acute care, most contemporary RN education incorporates problem based and enquiry based learning as a way of teaching students how to think about the complex clinical problems they deal with using a clinical reasoning framework (Levett-Jones et al 2010). These trends have been slow to appear in EN training. It is now imperative that a radical transformation in EN education delivery occurs (Benner et al 2010) to create a workforce that is prepared for the current and future health care needs. This paper now presents an overview of an innovative model being used to deliver the national Diploma of Nursing course that integrates three key pedagogical approaches: the 'flipped classroom', the Clinical Reasoning Cycle and simulation-based learning.

DISCUSSION

The Flipped Diploma of Nursing Curriculum model

The model used by the authors was born from the desire to create a comprehensive EN curriculum that has two key goals. Firstly, that it meets the requirements of the standardised Diploma of Nursing (Enrolled-Division 2 Nursing) (HLT51612) training package; and secondly, that it develops ENs that are adequately prepared for nursing work in diverse settings, with particular emphasis on preparation for the acute care setting. An innovative curriculum model was therefore developed to frame and deliver the Diploma of Nursing course. It centralises student learning activity and provides students with three main elements for completing the course:

- **Flipped Classroom** - This includes the curriculum content, spaces and tools necessary to carry out a blend of elearning, guided classroom activities and assessments (Bergmann and Sams 2014).
- **Clinical Reasoning** - This is understood as the process by which health care professionals 'collect cues, process the information, come to an understanding of a patients' problem or situation, plan and implement interventions, evaluate outcomes and reflect on and learn from the process' in order to solve problems and address patient's needs (Levett-Jones et al 2010, p.515).
- **Simulation Based Learning** - This is the group of teaching techniques carried out in environments that realistically simulate nursing practice settings with guided learning experiences that evoke aspects of the real world of nursing in a fully interactive fashion (Gaba 2007).

The flipped classroom

The flipped-classroom approach is an effective way of radically transforming education to produce ENs who are flexible and well-equipped to practice in dynamic health care environments (Missidline et al 2013). The 'flipped classroom' exposes learners to new theoretical content prior to them attending face-to-face classes (Bergman and Sams 2014). This new learning is then discussed, applied and processed in guided group learning sessions (Benitez 2014). The notion of a flipped classroom draws on constructivist learning theories and concepts such as active learning and student engagement (Bergmann and Sams 2014; Hawk 2014). Educators who use a flipped classroom approach devote much of the "face-to face" contact time to small group and class brainstorming, peer review and other epistemological processes such as wondering, critiquing, collaboration, visualisation and connection making (Ryan 2013). Students learn how to learn instead of relying on content heavy didactic approaches that encourage passive transference of knowledge (Allen 2013).

There is emerging evidence that the flipped classroom pedagogical approach has the potential to bring about a distinctive shift in priorities in nursing programs from merely covering material to working towards mastery (Hawk 2014). It is suggested that flipped classrooms promote student empowerment and create opportunities to develop the skills required for the 21st century such as critical thinking, creativity, and communication (Ryan 2013). The authors therefore adapted the flipped-classroom model to deliver the Diploma of Nursing course and didactic teaching components are shifted to an online repository for lectures and readings that are made available to students prior to their attendance at simulation based practice sessions.

Simulation based practice sessions

By familiarising students with the preparatory tools and resources to facilitate learning through the pre-recorded lectures, screencasts, videos, or reading material class is freed up for mastery exercises (Bergman and Sams 2014). The DN students then engage in authentic and engaging simulation-based practice sessions. Simulation scenarios create opportunities for students to apply and practice the knowledge gained from preparatory learning materials in a collaborative and supportive setting (Gaba 2007). Simulation sessions also have the capacity to enhance learner's psychomotor, communication, teamwork and critical thinking skills (Lapkin et al 2010). These practice based learning simulations are designed to emphasise a problem solving, critical thinking, evidence based and reflective approach to nursing practice (Allen 2013) by drawing upon a theoretical frame of clinical reasoning.

Clinical reasoning

In the authors DN course, clinical reasoning frames the entire curriculum. Clinical reasoning, as defined by Levett-Jones et al (2013) is a complex cognitive process that requires students to use various thinking strategies to gather and analyse patient information. It requires the students to move beyond simple knowledge acquisition because the process is reliant on the students using both intuition and knowledge to influence decision-making relevant to individual client circumstances. Clinical reasoning requires a critical thinking 'disposition' (Rubenfeld and Scheffer 2015) and is influenced by a person's assumptions, perspectives, attitudes and preconceptions (McCarthy 2003).

The flipped curriculum model allows students to learn about the steps of clinical reasoning in online lectures and readings. Simulation sessions are then used to expose students to the complexity of real life nursing situations. They work as a mechanism for students to apply their clinical reasoning knowledge to realistic practice situations and demonstrate their developing clinical decision making abilities. The simulated scenarios require student's active engagement in deliberate practice and the use of critical thinking, problem solving and guided reflection (Lapkin et al 2010).

Following the simulations students participate in facilitated group discussion activities where domain specific content related to the construction of knowledge is integrated into the clinically relevant scenarios. This flipped classroom three-step approach (online lectures and readings, simulations and class discussions) frames the entire Diploma of Nursing curriculum; and information provision occurs through a relevant, active and participatory approach. We anticipate that the application of this flipped approach will better prepare graduate ENs to 'hit the ground running' (Chernomas et al 2010) with beginning skills that will enable them to confidently and safely engage in patient care (Allen 2013).

Value of the model

The model is flexible because it supports the implementation of a diverse range of learning activities in accordance with the competencies worked, the area of knowledge or the specialisation level that the student is studying. This is an important feature because one of the most pressing and significant drivers influencing the changing scope of practice for ENs is the current review of the competency standards for the EN. The primary purpose of the review is to ensure the relevance and currency of the standards against the contemporary EN role. The new competency standards for ENs stipulate that although the EN works under the direction and supervision of the RN, as stipulated by NMBA (ANMC 2002), they now assume full responsibility for their actions in the health care team and are accountable for providing delegated nursing care (Heartfield and Gibson 2005). The proposed changes to the EN competency standards evidence how the role of the EN is moving away from being a support for RNs towards one where they are instead considered to be an associate. This requires a competent and confident health professional who has the critical and reflective thinking skills that underpin safe and effective decision making, and the provision of evidence-based care.

CONCLUSION

The use of simulation, clinical reasoning and a flipped classroom have emerged in response to the patient safety imperative and in an attempt to bridge the divide between industry need, educational drivers and EN preparedness for complex practice. The unique blended-learning structure of the flipped EN curriculum has been made possible through the creation of a stimulating learning environment where students are empowered to take ownership of their own learning, and over time transform into engaged active participants in the learning process (Ryan 2013).

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Can Generation Y nurses supply areas of shortage? New graduate challenges in today's job market

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KEY WORDS

Generation Y, workforce, nursing graduates, shortage, mental health, aged care

ABSTRACT

Objective
Workforce attitudes, such as intent to stay, leave temporarily, or exit permanently from nursing, develop at an early career stage. This paper explores the mismatch between the challenges faced by nursing graduates (of whom many belong to Generation Y) in obtaining a Registered Nurse (RN) position following graduation and the continuing shortages in nurse workforce in aged care and mental health areas.

Setting
Current Australian literature reveals the discontent of university graduates seeking positions in an industry that does not make arrangements to employ graduates, but concomitantly reports workforce undersupply. Areas of nursing shortages of concern discussed in this paper are aged care and mental health nursing.

Primary argument
A number of reasons may explain why these areas are depleted of nurses: an ageing workforce, unattractive market positions for new graduate nurses and negative perceptions of the aged care and mental health sectors. Also, numerous generational negative opinions expressed in academic literature and popular media serve to discourage newly graduating nurses from working in these areas.

Conclusion
The paper offers potential solutions to address three main issues raised in the discussion. Firstly, addressing the shortage of new graduate positions is an effort to retain qualified but inexperienced nurses. Secondly, drawing on the pool of new graduates to supply aged care and mental health rejuvenates these specialty areas and ensures these nursing fields are well catered for. Finally, directing efforts to retain new graduate nurses is an opportunity to address the 2025 projected Australian nurse workforce shortfall.

INTRODUCTION

Graduates wishing to register as a nurse in Australia will have completed a nursing course offered at a tertiary institution accredited by the Nursing and Midwifery Board of Australia (NMBA) (Australian Health Ministers' Advisory Council, 2006). On account of the predicted significant shortfall of nurses by the year 2025, the premise has been that these graduates will enter a job market eager to offer them a place in health care on successful completion of their course (Health Workforce Australia, 2012). However, currently these new graduates are reported to be experiencing difficulties obtaining employment in the Australian public health sector on graduation (Anderson 2013; Peters and Jackson 2013a; Uncut.com.au 2013).

To understand the new graduate employment experience is to acknowledge that generally today's job market is a difficult one for new graduate nurses to obtain positions. The literature and the media attribute several reasons for nursing graduates finding difficulties in sourcing employment. The 2007-2009 Global Financial Crisis delayed the predicted retirements of older experienced nurses who have been forced to work longer and thus retain potentially available positions (Peters and Jackson 2013b; O'Loughlin et al 2010). Perceptions by prospective employers that graduate nurses are unprepared for clinical roles, thus making them unsuitable applicants, is a subject of Internet blogging locally and internationally and is discussed in the academic literature (CINHC January 2014; Peters and Jackson 2013a; Uncut.com.au 2013; Cardillo 2011). As a result, applicants compete with each other for fewer positions; selecting areas that they feel prepared for, such as acute care nursing. However, acute care nursing is a specialised area of workforce that is currently experiencing lower demands for nurses (HWA, 2014).

Considering that new graduates experience multiple issues associated with their transition from education to work practice, a vulnerability already exists (El Haddad et al 2013; Boychuk 2008). New graduate nurses' preparedness for practice is extensively researched and well documented (El Haddad et al 2013). Transition shock and thought provoking situations during the early course of their nursing work are both documented causes of why some new graduates leave nursing after their first year of practice (Missen et al 2014; Drury et al 2009; Halfer and Graf 2006). Aware of potential future role hardship, final year students often elect to apply for a Graduate Transition Program (GTP) in general, acute and surgical nursing areas in large metropolitan hospitals.

An ideal solution both to address the inability of these new graduates to obtain positions and to address the specialty shortages would be to encourage new graduates to consider aged care and mental health nursing as career options. Universities and health care employers have attempted to foster favourable and positive attitudes to these specialties, but to date outcomes of innovative GTPs in aged care and mental health have not been overly successful. In this paper, we explore the following questions: Are we making aged care and mental health nursing unattractive as a result of unsubstantiated negative perceptions? Have nursing students and new graduates actually absorbed and experienced negative impressions from their clinical experience? Were these harmful and damaging exposures transmitted from experienced nurses and/or from educators?

There are complex reasons that may explain the difficulties in attracting new graduate nurses to specific areas of practice, particularly aged care and mental health nursing; areas at particular risk of shortages by 2025 (HWA, 2012). The aged care sector deals with a particular set of negative occupational stereotypes, such as a reputation for being boring and monotonous work, workplace violence and a wage disparity of 12% compared to other specialist nursing work (Currie and Carr Hill 2012; Palmer and Eveline 2012; Jackson et al 2003).

Similarly, mental health nursing appears to be an unattractive option for first year graduate nurses. Negative perceptions are propagated in professional literature and the media with both mental health and aged care nursing being described as 'the dark side' (Hazelton et al 2011, p.182), 'dirty' (Stannard 1973, p.329), 'basic'

(Abbey et al 2006, p.14), ‘repetitive’ (Fussell et al 2009, p.220) and ‘less exciting’ (Happell and Cutcliffe 2011, p223).

Difficulties in recruiting new nurses to a career in mental health nursing have been highlighted. Problems in curriculum development in preparing undergraduate nurses to work in this field have meant that a ‘diluted’ content (McCloughen and O’Brien 2005, p.225) of mental health education is delivered in generic nursing programs. Additionally, limited exposure to mental health subjects and inadequate numbers of supervised mental health placements have led to a lack of motivation in choosing mental health as a nursing career. An Australian study evaluating a new graduate program in mental health (Cleary and Happell 2005) confirmed earlier findings: a combination of limited opportunities extended to the graduate nurse to practise their clinical mental health nursing skills and the absence of a supportive work environment do little to promote recruitment and retention in mental health. These factors were supported in an Australian literature review on promoting mental health positions for new graduates (Cleary et al 2012).

Following on from the five year Australian reform in mental health under the 1993 and 1998 National Mental Health Strategy, which saw a greater expansion of community based mental health services, little seems to have changed in perceptions of mental health nursing (Whiteford et al 2002). In an Australian scoping study by Hazelton et al (2011) of mental health education and new graduate preparation for practice, participants characterised mental health nursing as “arduous”(p.1), “uncaring” (pp.1,11,12), “mistreating” (pp.1,8) and “neglectful” (p.6).

DISCUSSION

Shortage of positions for new graduate nurses and oversupply of workforce in the acute care sector

Generation Y comprises a group of individuals who share the birth range from 1984 to 2002. This cohort is known to be technologically literate (LeDuc and Kotzer 2009) growing up in an era of information, social media, interconnectedness and globalisation. Generation Y nurses entered the workforce in times of industrial change: reduction in organised labour, shrinking unions and competition from international labour markets (Chung and Fitzsimmons 2013). International literature refers to this generation as globally vastly diverse - economically, ethnically and academically - from previous and subsequent generations (Bell 2013; Chung and Fitzsimmons 2013). Karl Mannheim’s generational theory (1923) provides an insight into behaviours for this particular cohort. Mannheim posits that younger generations are “imperfectly socialised between ideals learned from older generations and the realities of the world they experience” (Codrington 2008, p3). Such a theoretical position might help to explain the generational differences between the four generations currently working side by side in nursing: The Matures (born before 1945), the largest cohort -the Baby Boomers (1946-1964), the smallest - Generation X (1965-1980) and Generation Y (1981- 1999). The youngest cohort, Generation Z (born 2000 to the present day), will enter the workforce in their numbers by the end of the decade.

The inability to obtain a first preference in an acute care generalist GTP has become a common experience for Generation Y graduating nurses. This is an area of concern for industry and workforce, employers and Generation Y nurses (Peters and Jackson 2013b; McCloughen and O’Brien 2005). Nursing graduates require a supportive, well-structured, learning environment to enable them to practise newly acquired skills safely and with confidence (Missen et al 2014).

The shortage of aged care and mental health nurses, due in part to an ageing workforce, is a matter of recorded concern. In 2012, 27% of the aged care workforce was aged 55 years or over, placing this cohort in the Baby Boomer generation (King et al 2012). The median age of a mental health nurse is 47 years and 46% are aged 50 years and over (Australian Institute of Health and Welfare 2012a, 2012b). Concerns over the Baby Boomers' departure from the workforce are expressed from a variety of industries (Australian Human Resources Institute 2012; Roberts 2012; Benson and Brown 2011; Long Dilworth and Kingsbury, 2005;). There is also awareness of the loss of expert knowledge and skills on the departure of Baby Boomer nurses. This departure of nursing knowledge is defined as the 'expertise gap' (Spector and Echternacht 2009; Orsolini-Hain and Malone 2007). This 'gap' is exacerbated by declining numbers of experienced nurses in the clinical setting, meaning that new and less experienced nurses miss out on learning skills from experienced peers in areas such as conflict resolution, prioritisation of care and initiative (Chenoweth et al 2010).

A survey of health employers conducted in 2012 by the Department of Education, Employment and Workplace Relations (DEEWR) revealed public and private health providers in metropolitan Sydney also find positions in mental health and aged care the most difficult to fill (Department of Education Employment and Workplace Relations 2012). Major Sydney hospitals do not experience the same recruitment difficulties in other areas of nursing, such as intensive care, emergency, acute care, surgical and ophthalmology, due to a pool of strong candidates. These areas generally attract younger, experienced nurses and Generation X nurses currently fill positions in leadership roles (Drury et al 2009). New graduates are eager to commence their career in high acuity areas of nursing where the pace is fast (Lavoie-Tremblay et al 2010). These new graduate nurses perceive that contemporary clinical education opportunities are available and there is greater scope to learn and grow in acute care environments (McCalla-Graham and De Gagne 2015).

However, even in the acute sector, new graduates are reported to experience some difficulties in transitioning their practice from student to registered nurse. Negative reactions towards new graduates in acute care may also be attributed to generational differences. As much as new nurses from the Net Generation enjoy 'high tech' areas of nursing (Happell and Cutcliffe 2011, p.332), older experienced nurses may be sending the message to new graduates that "we are so specialised, you can't fit in here". Older nurses were found to be critical of their younger colleagues and considered what they perceived as younger nurses' lack of commitment and arrogance as a negative attitude to the work environment (Blythe et al 2008). Unfavourable work relationships in critical care and emergency care areas between novice and experienced nurses is reported in the nursing literature (Baumberger-Henry 2012). These attitudes and practices are reported as "tensions" (Nelsey and Brownie 2012, p.2) and "clash[es]" (Feng and Tsai 2012, p.2069) between nurses at different career stages.

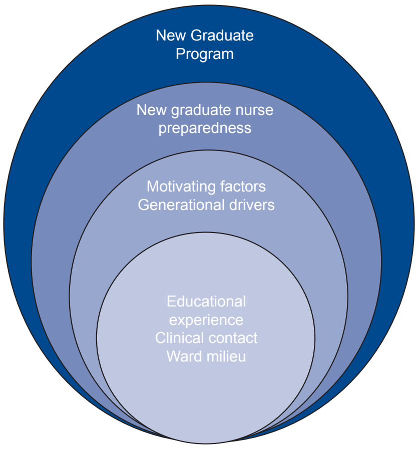
Nursing education and workforce research reveal several influences impacting on future career and specialty choice for new nurses. Student nurses' are sensitive to educational experiences as well as the clinical contact offered, the ward milieu, and possess personal and generational motivational drivers. Based on positive work experiences, new graduate nurses will develop an intent to remain in nursing and follow a formalised post graduate area of practice, course of study and clinical ladder for a period of years (Zeller et al 2011). These combine to influence career paths. The figure below shows new graduate influences of career path as identified in the literature (Cleary et al 2013a; Haron et al 2013; Prentice 2012).

Lack of nurses in mental health and aged care

Ideally, there needs to be a focus on underserved areas to try to attract the surplus of new graduates into these positions. Mental health and aged care nursing specialties share characteristics that affect nurses' future career paths. In an effort to ameliorate the lack of nurses in these areas, research has focused on the role of universities in preparing new graduate nurses for work in aged care and mental health. Since educational experiences during course work or clinical placement are known to influence career paths (Pfaff et al 2014; McKenna et al 2010; Australian Health Ministers' Advisory Council, 2006; Waite 2006), some universities have attempted to expose students positively to these specialties by weaving mental health and aged care content throughout the pre-registration curriculum (Moxham et al

2011; Abbey et al 2006). The delivery of aged care and mental health subjects as electives is also proposed by others, with flexible content through the use of problem based programs (Haron et al 2013; Curtis, 2007).

Figure 1: Factors that influence choices new graduate nurses make for their career path.



Manipulating the learning environment by way of arousing interest and passion in the student is another way that universities have attempted to increase awareness of mental health and aged care nursing. Educators, clinical instructors and clinicians can act as mentors and role models displaying an enthusiastic and knowledgeable attitude when delivering nursing care (Cleary et al 2013b; Baumberger-Henry, 2012). There needs to be an awareness that the first contact with these specialties, whether in the classroom or in the clinical area, has a pivotal impact on the student. It is at this point that students start to develop ideas about a future career pathway (Browne et al 2013; Prentice 2012). This is a point of crucial knowledge to employers interested in addressing shortages. In addition, universities should inform new graduates throughout their course of study and upon graduation that there are shortages in aged care and mental health and this is where they should be applying. This proposition will have long term benefits to nurses in the development of a career and for nursing in addressing the predicted nursing shortfall by 2025. Plenty of post graduate education opportunities to encourage work engagement in mental health and aged care exist as well (King et al 2012). Aged care nurses respond positively to career progression and education opportunities but perceptions, shaped by ageist and paternalistic attitudes as student nurses, inhibit them to pursue a career in long term aged care once registered (Koh 2012; Chenoweth et al 2010; Fussell et al 2009).

Generation Y motivating factors

Individual characteristics also motivate the nurse to pursue a career in aged care or mental health. Positive attitudes take shape from past contact with elderly persons and personal experiences. An Israeli study surveying 486 final year nursing students found that promoting encouraging attitudes towards older people increased recruitment in aged care (Haron et al 2013). Encouraging nurses to make aged care or mental health a career choice can commence at a number of stages: in the formative school years, as pre registration undergraduate students and through post graduate education for registered nurses (Chenoweth et al 2013; Knight et al 2011; Stevens 2011; Drury et al 2009).

Generation Y possess numerous professional motivational drivers. As the new and largest nursing workforce, Generation Y undergraduate and new graduate nurses have identified that they are committed to the philosophy of nursing and the ideals of the caring profession (Jirwe and Rudman 2012; Mooney et al 2008). Care giving is considered an important component of their work ethic and this is shared by generations of nurses before them. Price (2009) conducted a meta study of career choices in nursing and identified influencing factors, many of which are also shared by older nurses: caring ideals, the role of significant others and the caring paradox. Identifying factors of attraction and retention for Generation Y nurses in order to integrate them into retention practices have also been the subject of recent research (Clendon and Walker 2012; Hutchinson et al 2012; Tourangeau et al 2012; Cubit, 2011; Lavoie-Tremblay et al 2010).

Flexibility in the work place is a major factor in attaining work satisfaction for Generation Y (Carver and Candela 2008). A work schedule that enables life and work balance is a professional driver for Generation Y; thus workplaces that are shrouded by out-dated policies, practices and lack of access to technology do not make for an attractive career choice. Generation Y undergraduates also express their wish to choose what they study and where they work (Cleary et al 2013b). Lack of choice results in frustration and may precipitate their intention to leave nursing. Other professional motivators and drivers for Generation Y include acknowledgement of a job well done by supportive and nurturing leaders (McCalla-Graham and De Gagne 2015).

Creating work opportunities for new graduates should take into account their work requirements. Generation Y like to be stimulated at work and work towards consolidating newly learned professional skills (Hutchinson et al 2012; Lower 2008). Provision of education, working with technology and career progression may improve their organisational commitment to their employer. Mostly, Generation Y graduates are usually free from financial and other responsibilities such as family, child minding or caring for elderly relatives due to their time of life (Ng et al 2010). They want to work to afford the lifestyle they most enjoy and this is potentially a motivator to employers to recruit these new nurses and focus on keeping them.

Generation Y distracting factors

This new generation of nurses is also a vulnerable workforce (Hutchinson et al 2012). Generation Y has expressed concern over workplace issues such as less pay for work and work conditions. A dominant theme in new graduate aged care nursing research is the effort/reward imbalance (Lavoie-Tremblay et al 2010). There is current dialogue between industry and government over the lack of monetary incentives provided to aged care nurses. Concern stems from nursing positions being replaced by less qualified, cheaper auxiliary staff (Happell and Gough 2007). The attrition of Generation Y nurses due to job dissatisfaction, negative work environment and lack of job motivation is foreshadowed. Disillusioned, unemployed new graduate nurses have the choice to consider leaving nursing, study further at postgraduate levels or retrain with a view to “side step” from nursing. These choices impact on national turnover and retention rates, already weakened by an ageing workforce, health budget cuts and the GFC. Health related areas, such as pathology, pharmaceutical sales and research, become innovative work fields where Generation Y are made welcome, supported and offered greater possibilities for career advancement. These are substantial distractions to the long term Gen Y engagement that is required for the nursing workforce. Another aspect of fragility for this new workforce is the possibility of applying for jobs that leave them open to exploitation such as working as Registered Nurses for lower rates of pay or performing non-nursing duties such as cleaning (Stevens 2011; Duffield et al 2008; Holmes 2006).

PREDICTED NURSING SHORTFALL TO 2025

The findings of HWA 2025 through its retention modelling scenario, outlined the urgency to retain the nursing workforce by at least 20% in “meeting the demand for nurses” (HWA 2012, p.49). In the case of a ‘do nothing’ comparison scenario, where currently nursing loses up to one in five of its nurses, the estimated shortfall signifies it will be necessary to increase supply by 27% (or 109,000 nurses) by 2025 (HWA, 2012, p120). Focus should be placed “on the retention of the current nursing workforce” (Mason, 2013, p. 259) to which new graduates belong. Frustration is evidenced by protests, campaigns and research about the lack of jobs for new nursing graduates (Parker et al 2012; Thomas 2012). With an ageing population of consumers and health workers, new graduate nurses are part of the solution to a growing workforce problem.

CONCLUSION

A range of local and international nursing specialty and workforce literature has been reviewed to highlight the sentiments expressed by new graduate nurses unable to source employment opportunities. This paper also identifies the responsibilities of universities and employers in the recruitment and eventual retention of Generation Y nurses.

The message that universities and employers are not preparing new graduate nurses to work where they are most wanted is not new. The idea that nursing graduates should supply areas of need is not enough to motivate and attract nurses to these areas. Generational theory alone does not answer why there are gaps unable to be filled in aged care and mental health. However, the theory is useful to guide and alert workforce planners to certain behaviours, especially in terms of work commitment and engagement with work environments. Unfortunately, generational stereotypes are often used to negatively categorise Generation Y as disloyal, unmotivated and interested only in work flexibility (Department of Education Employment and Workplace Relations, 2013; Baumberger-Henry 2012).

RECOMMENDATIONS

The discussion presented aims to alert those concerned about the challenges faced by graduating nurses and suggests that their impending employment should be addressed at the time of entry as students at university. Coupled with workforce and employers' needs, new nurses will play an important role in addressing the predicted shortfall of nurses by 2025. As a young, vibrant and knowledgeable workforce, there need to be processes in place at regular stages of Generation Y's early careers. This generation needs to be informed of workforce needs as students and again as graduate nurses when they begin their nursing career. Developing an awareness of 'where nurses are needed' in the early stages of their career has the potential to inform future career choice and fill workforce gaps where education and health might cooperate to find solutions.

Creative ways to educate nurses and provide a career pathway are suggested. Proposing electives in aged care and mental health nursing in pre-registration programs is one way to develop early interest and passion in these fields, provided they are positive and nurturing experiences. Generation Y nurses want to choose where they would like to work and initial contact with the clinical arena can have a major impact in their chosen field. Workforce and education providers should make new graduates aware through their course of study and on graduation that there are shortages in aged care and mental health care and suggest that this is where they should be applying. Some specialist aged care and mental health GTPs are offered to successful applicants in private and public health facilities, but retention of new graduate nurses remains low (Rush et al 2013). It is recommended that strategies targeting under graduate students in the classroom and clinical areas would be of benefit to nurses and employers. Presenting the state of nursing recruitment needs early, in a transparent and coordinated manner to 'new' nurses, would facilitate their preparation into the industry.

Industry representatives such as the Australian Nursing and Midwifery Federation (ANMF) have done much to raise public awareness of the employment plight of new graduates. Campaigns such as "stop passing the buck: Australia's nursing grads need jobs", mobilise the nurses concerned, employers, health care consumers and education providers in a united and solid front (Thomas 2012). The aim of the ANMF and its factions is to motivate governments to introduce commitment and economic investment in recruiting and retaining new graduates. Participating in public dialogue such as the Aged Care Workforce Strategy (Aged Care Insite 2014) place the needs of the aged care workforce high on the health workforce agenda.

Generational theories such as Mannheim's 1923 Theory of Generations (Parry and Unwin 2011; Codrington 2008) may be applied to redress the imbalance experienced in these three areas of nursing workforce: the shortage of suitable positions for new graduates; the predicted nursing shortfall; and the lack of specialist nurses in mental health and aged care. Applying a sociological approach provides the foundation for shared action facilitating the transition from the Baby Boomer to the Generation Y workforce.

Bringing these issues together may form a potential solution: graduate nurses filling attractive positions in mental health and aged care would in return increase prospective retention.

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AUSTRALIAN JOURNAL OF ADVANCED NURSING REVIEW PANEL: INTERNATIONAL

Moral distress of oncology nurses and morally distressing situations in oncology units

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KEY WORDS

moral distress, nurses, oncology

ABSTRACT

Objective
The purpose of this study was to evaluate the intensity and frequency of moral distress and determine clinical situations leading to moral distress in oncology units. The study also examined the relationship between moral distress scores and demographic characteristics of oncology nurses.

Design
This descriptive study was performed between 25 January 2012 and 29 June 2013.

Setting
The study was conducted in the oncology units of eight training hospitals in Tehran, Iran.

Subjects
One hundred and forty eight nurses (131 females, 17 males; mean age 32.5 years; range 24 to 52 years) who had worked in oncology units of training hospitals in Tehran were included in the study.

Main outcome measure(s)
The main outcome measures included intensity and frequency of moral distress, which were assessed by the Moral Distress Scale – Revised (MDS-R).

Results
Most of the 148 nurses had high to moderate scores. Nurses had experienced higher moral distress when receiving informed consent forms from patients and asking patients to carry out physicians' order for unnecessary tests in patients' last stages of life.

Conclusion
Moral distress exists in oncology nurses and interventions will be developed and tested to decrease and prevent it.

INTRODUCTION

Nurses' actions and behaviours are influenced by their personal moral beliefs and ethical values. In addition they are taught and expected to adhere to the values of their profession (Momennasab et al 2015; Cohen and Erickson 2006). Every day nurses make great moral decisions in their workplace, but in practice they cannot always act according to their moral obligations. An unpleasant experience titled as 'moral distress' is one of the major issues that nurses are faced with (Wilkinson 1987; Jameton 1984). Jameton (1984) defines moral distress as a phenomenon in which one knows the right action to take, but is constrained from taking it. Moral distress experienced by nurses and other health care professionals depends on the environment of care (Pauly et al 2009; Hamric and Blackhall 2007; Corley et al 2005). With the increase of technology in health care, oncology nurses are often involved in ethical discussions regarding the best use of aggressive interventions for patients (Shepard 2010). Due to the physical and psychological stress that cancer patients are faced with, the oncology unit can be considered a challenging and unique setting for nurses (Wittenberg-Lyles et al 2014; Ekedahl and Wengstrom 2007). Findings of Rice et al (2008) indicated the level of moral distress in nurses caring for cancer patients is higher than the level of moral distress among other nurses. In Iran, much has been written about moral distress that Iranian critical care nurses experience. For example, the results of a study conducted by Shoorideh et al (2014) revealed that Iranian intensive care unit nurses suffered greatly from moral distress. Joolaee et al (2012) in their study conducted on nurses working in internal, surgical, intensive care, critical care units and the emergency rooms of medical and training centres of Tehran University of Medical Sciences found nurses suffered a moderate severity of moral distress. Based on a search of the databases in Iran using 'moral distress', 'nurses', and 'oncology' as keywords and also using the English equivalent of these keywords in databases it was concluded that moral distress in oncology wards in Iran has not been studied. If ethical issues remain unknown and unresolved in clinical contexts, they will lead to nurses instability, confusion, depression and finally end in a burnt-out and depleted workforce (Trautmann et al 2015; Hamaideh 2014; Shoorideh et al 2014; Cohen and Erickson 2006; Elpern et al 2005). Therefore, this cross-sectional study was designed and implemented with the following aims:

- assess the level of moral distress in nurses who work in oncology units at teaching hospitals in Tehran;
- identify clinical situations associated with significant moral distress; and
- evaluate possible associations among demographic characteristics of oncology nurses and the level of moral distress.

METHOD

Sample and setting

All nurses working in the oncology units of eight training hospitals in Tehran who met the criteria were included in this cross-sectional study. Participants had a Bachelor degree or higher; were employed in an adult oncology unit and had at least one years clinical experience in an oncology unit. Of the 156 eligible nurses 148 nurses participated in this study.

Procedures

Shahid Beheshti Medical Sciences University Research Ethics Board in Tehran approved this study. After coordinating with relevant hospitals, the researcher commenced collecting data in each hospital. Participants were assured their information would remain confidential before the questionnaires were distributed. Nurses were asked to participate by completing the questionnaires anonymously and returning them to a locked drop box placed in the units.

INSTRUMENTS

In order to collect data a questionnaire including demographics and MDS-R was used. Demographic information included age, gender, academic level and years of experience in oncology units. MDS-R measures moral distress intensity and frequency based on a five-point Likert scale from NEVER (zero) to DAILY (four) to measure frequency and NEVER (zero) to VERY HIGH (four) to measure intensity. A composite score for each item was calculated as the scores of moral distress intensity is multiplied by scores of moral distress frequency. Composite scores have a range of 0 – 16 and the total score has a range of 0 - 336. The scores of moral distress frequency and intensity of the total scale were classified into four categories: low (0-1), medium (1.01-2), high (2.01-3) and very high (3.01-4). The composite score was also classified into four categories: low (0-4), medium (4.01-8), high (8.01-12) and very high (12.01-16). A higher score indicates more moral distress.

Prior to use, official permission was obtained from Professor Hamric and the scale was translated into Farsi using a forward/backward method. Content validity was used to determine the validity of the instrument. The questionnaire was reviewed and evaluated by 10 faculty members of the Nursing and Midwifery Faculty at Shahid Beheshti University of Medical Sciences. Considering a score of 85% for content, all questionnaire items met the minimum requirements of validity. Using the Cronbach's alpha, reliability coefficient of the questionnaire was estimated at 0.88.

Data Analysis

In order to analyse the data, descriptive statistical methods were used to determine the level of moral distress. The appropriate correlation statistic was used to examine relationships among variables.

FINDINGS

In this study, 131 subjects (88.51%) were female and 17 (11.48%) were male. Participants ages ranged from 24 to 52 years; the mean age and the Standard Deviation were 32.5 and 5.8 respectively (see table 1).

Table 1: Sample Characteristics (n=148)

Characteristic	n
Age(years)	
20-29	62
30-39	73
40-49	11
50-59	2
Gender	
Female	131
Male	17
Experience in oncology (years)	
1-2	32
3-5	46
6-10	56
11-20	10
Greater than 20	4

Mean scores for items on the moral distress frequency scale ranged from 1.06 to 3.36, with an overall mean score of 2.13± 0.44 and Mean scores for items on the moral distress intensity scale ranged from 1.74 to 3.86, with an overall mean score of 2.08± 0.36. The two highest scoring items for moral distress frequency were '*Ignore situations in which patients have not been given adequate information to ensure informed consent*' (mean, 3.36± 0.61) and '*Carry out the physician's order for what I consider to be unnecessary tests and treatments*' (mean, 3.33± 0.71). The two highest scoring items for moral distress intensity were '*Work with nurses or other healthcare providers who are not as competent as the patient care requires*' (mean, 3.86± 1.12) and '*Provide care that does not relieve the patients suffering because the physician fears that increasing the dose of pain medication will cause death*' (mean 3.74 ± 1.11). Tables 2 and 3 show the top 10 detailed results for frequency and intensity.

The lowest scoring item for moral distress frequency was '*Increase the dose sedative/opiates for an unconscious patient that I believe could hasten the patients' death*' (mean 1.32 ± 1.1) and the lowest scoring item for moral distress intensity was '*Avoid taking action when I learn that a physician or nurse colleague has made a medical error and does not report it*' (mean, 1.50 ± 0.88).

Table 2: Moral Distress Scale items associated with top 10 items for frequency

Moral Distress Scale Items	Mean±SD
Ignore situations in which patients have not been given adequate information to ensure informed consent.	3.36 ± 0.61
Carry out the physician's orders for what I consider to be unnecessary tests and treatments.	3.33 ± 0.71
Witness diminished patient care quality due to poor team communication.	3.01±1.04
Assist physician who, in my opinion, is providing incompetent care.	2.87 ± 1.13
Take no action about an observed ethical issue because the involved staff member or someone in a position of authority requested that I do nothing.	2.77 ± 1.14
Follow the physician's request not to discuss the patient's prognosis with the patient or family.	2.72 ± 0.87
Initiate extensive life-saving actions when I think they only prolong death.	2.61 ± 1.45
Witness medical students perform painful procedures on patients solely to increase their skill.	2.43 ± 1.25
Avoid taking action when I learn that a physician or nurse colleague has made a medical error and does not report it.	2.14 ± 0.43
Watch patient care suffer because of a lack of provider continuity.	2.12 ± 1.07

Table 3: Moral Distress Scale items associated with top 10 items for intensity

Moral Distress Scale Items	Mean±SD
Work with nurses or other healthcare providers who are not as competent as the patient care requires.	3.86 ± 1.12
Provide care that does not relieve the patient's suffering because the physician fears that increasing the dose of pain medication will cause death.	3.74 ± 1.11
Ignore situations in which patients have not been given adequate information to insure informed consent.	3.24 ± 0.9
Watch patient care suffer because of a lack of provider continuity.	3.18 ± 1.28
Witness diminished patient care quality due to poor team communication.	2.95±0.84
Take no action about an observed ethical issue because the involved staff member or someone in a position of authority requested that I do nothing.	2.93 ± 1.12
Increase the dose of sedatives/opiates for an unconscious patient that I believe could hasten the patient's death.	2.62 ± 1.13
Provide less than optimal care due to pressures from administrators or insurers to reduce costs.	2.55 ± 1.26
Be required to care for patients I do not feel qualified to care for.	2.30 ± 1.38
Witness healthcare providers giving "false hope" to the patient or family.	2.24 ± 1.18

Composite scores revealed situations, most associated with moral distress. The highest item score was '*Ignore situations in which patients have not been given adequate information to ensure informed consent*' (10.12 ± 3.02). Table 4 shows the top 10 detailed results for composite score.

Table 4: Moral Distress Scale items associated with highest levels of moral distress (composite score)

Moral Distress Scale Items	Mean±SD
Ignore situations in which patients have not been given adequate information to insure informed consent.	10.12 ± 3.02
Carry out the physician's orders for what I consider to be unnecessary tests and treatments.	9.38 ± 2.01
Witness diminished patient care quality due to poor team communication	9.01± 3.78
Provide care that does not relieve the patient's suffering because the physician fears that increasing the dose of pain medication will cause death	7.45 ± 3.47
Watch patient care suffer because of a lack of provider continuity	7.05 ± 2.84
Witness healthcare providers giving "false hope" to the patient or family	6.37 ± 3.69
Witness medical students perform painful procedures on patients solely to increase their skill.	6.15 ± 3.49
Take no action about an observed ethical issue because the involved staff member or someone in a position of authority requested that I do nothing	6.03 ± 3.60
Assist physician who, in my opinion, is providing incompetent care	4.73 ± 3.08
Work with nurses or other healthcare providers who are not as competent as the patient care requires.	4.42 ± 2.82

Demographic characteristics analysed in relation to the moral distress scores. Only years of experience in oncology unit were positively correlated with composite scores (p=0.01, r= 0.24) (see table 5).

Table 5: Correlation between demographic characteristics and moral distress frequency intensity composite

Characteristics	***Frequency***		***Intensity***		***Composite***	
	Correlation	P	Correlation	P	Correlation	P
Age	0.12	0.24	0.06	0.09	0.16	0.06
Experience in oncology	0.09	0.11	0.11	0.08	0.24	0. 01

DISCUSSION

In this study, mean score for moral distress was similar to scores found for critical care nurses in previous studies (Shoorideh et al 2014). In addition, mean score for moral distress was higher in this study than the scores found in other studies on oncology nurses (Sirilla 2014). Limitations in previous studies involving oncology nurses had participants from one institution (Sirilla 2014; Rice et al 2008). This study included oncology nurses from eight hospitals. Therefore the results can apply to oncology nurses in other hospitals.

According to this study the highest scores for frequency, intensity and level of oncology nurses' moral distress was related to receiving informed consent forms from patients, which demonstrated failure to be fully informed. Nurses in other studies also experienced high moral distress in such situations (Aft 2011; Lunardi et al 2009). As cancer patients need to undergo diagnostic and therapeutic procedures (Mobley et al 2007), and due to unknown and unexpected side effects of many diagnostic and therapeutic procedures in oncology wards (Ferrell 2006), it is necessary to obtain informed consent from patients before giving any treatment. However, it is also important to provide the patient with the necessary information about such diagnostic and therapeutic procedures before obtaining any consent. As patient education and emotional support in times of crisis and making medical decisions are among legal responsibilities of nurses, it is natural that nurses feel responsible for giving patients enough information to fill in consent forms. Patient's informed consent to undertake medical tests and to receive treatment is a patient's right (Grace and McLaughlin 2005).

Conducting unnecessary diagnostic and laboratory tests in clinical situations with ‘futile care’ (Mobley et al 2007) were sources of high moral distress in this study. Rice et al (2008), also report that futile care can also bring about high intensity and frequency for moral distress. In this area, Ferrell (2006), believes that nurses’ moral distress issues which are associated with futile care and treatment have mostly been studied in the intensive care units. Having talked to oncology nurses Ferrell (2006) reached the conclusion it was necessary that futile care in oncology nursing be studied. According to the mean score of moral distress intensity in clinical situations of ‘incompetent nurses or other health care providers, considering the important role of nurses in the care for cancer patients (Izumi et al 2010), research that identify factors leading to poor nursing care in oncology wards seems to be necessary. Pelton et al (2015) also indicated that incompetent nursing is one of the two main themes of situations leading to moral distress in surgical oncology unit.

In this study, the clinical situation in which the nurse observed a patient’s suffering and pain as well as a failure to control the pain properly caused high moral distress in nurse. Maningo-Salinas (2010) and LeBaron et al (2014), also reported that failure to control the pain of the patient was among the situations with high moral distress for oncology nurses.

Positive correlation between experience in oncology and composite score was consistent with several studies (Shoorideh et al 2014; Rice et al 2008; Elpern et al 2005). However, Abbasi et al (2014) found that more experienced nurses experienced lower levels of moral distress.

LIMITATIONS OF THE STUDY

The only limitation of this study was nurses who work in oncology units of training hospitals in Tehran were busy and it took a long time to return the completed questionnaire.

CONCLUSION

According to the results of this study and the importance of reducing moral distress in clinical situations, moral distress in oncology nurses should be considered and addressed as a priority for further investigation. It seems interventions such as establishing Ethics Committees, and having nurses as members of such committees can improve discussion about clinical situations leading to moral distress, consultation, training, and proposing strategies for nurses to cope with moral distress. The results obtained in this study can be useful for nurse leaders, oncology nurses, managers of medical institutes, and education providers in order to propose strategies to cope with moral distress. This research will also be helpful in conducting studies on reducing or eradicating moral distress in oncology wards.

RECOMMENDATIONS

- Since moral distress reduces the quality of nursing care, it is necessary to identify clinical situations which lead to experiencing moral distress among nurses in order to increase the quality of nursing care.
- It is recommended that Ethics Committees be established and nurses be included on such committees to provide expertise about clinical situations which lead to moral distress.
- Head nurses should motivate and morally support their staff.
- Nurses should be trained and provided with strategies to cope with moral distress.

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A prospective comparison of the AUSDRISK and HbA1c for persons with spinal cord injury

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KEYWORDS

AUSDRISK, type 2 diabetes, spinal cord injury, diabetes screening tools, preventative health

ABSTRACT

Objective
The primary object of this study was to determine the validity of the Australian Type 2 Diabetes Risk Assessment Tool (AUSDRISK) for predicting the development of type 2 diabetes in persons with spinal cord injury (SCI).

Design and setting
The prospective comparative study (December 2013-March 2014) collected data on AUSDRISK and haemoglobin A1c (HbA1c) in participants' homes.

Participants
Participation rate was 67% (n=79). Study criteria: over 18 years of age, a SCI for more than 12 months, living at home, wheelchair dependant and no diabetes diagnosis.

Main outcome measures
AUSDRISK sensitivity and specificity in predicting incident type 2 diabetes in persons with SCI.

Results
Of the 79 participants, 81% were male, mean age was 53 years (SD 14.14) with 23.2years (median 23; SD +/- 13.2yrs) since injury. There was a positive correlation between length of time since SCI and risk score (AUSDRISK) (r = .242, p = .032). Participants with high AUSDRISK scores had higher HbA1c% (5.38 versus 5.2, p = .026) level. The high risk classification explained a moderate amount of HbA1c % (area under curve = .651; 95% CI .53 - .77). The level of HbA1c which had the highest sensitivity (.59) and specificity (.73) for risk classification was 5.25%. Waist circumference and physical activity items require further powered studies to determine if appropriately weighted.

Conclusion
Comparing the AUSDRISK with HbA1c assays, the AUSDRISK can predict type 2 diabetes risk in a person with SCI, although further powered studies are needed to be undertaken, to refine the predictive capacity of the tool.

INTRODUCTION

More than one million Australians are diagnosed with diabetes, the majority of whom (84.9%) have type 2 diabetes (Australian Institute of Health and Welfare 2012; Diabetes Australia and The Royal College of General Practitioners 2011). This proportion is escalating. With 275 people being diagnosed with type 2 diabetes every day it is anticipated that 3.3 million Australians will be living with the disease by 2031(Vos et al 2004).

Persons with spinal cord injury (SCI) are at higher risk for type 2 diabetes than the general population, primarily due to abnormalities of carbohydrate and lipid metabolism disorders common among persons with SCI (Raymond et al 2010; Banerjea et al 2008; LaVela et al 2006; Bauman and Spungen 2001). It has been demonstrated that SCI is independently associated with 2-fold increased odds of type 2 diabetes not explained by known risk factors for the disorder (Cragg et al 2015).

Due to adverse changes in body composition, metabolic rate and autonomic function, all known as consequences of SCI, physical health and functional ageing changes occur earlier in this population (LaVela et al 2012; Charlifue et al 2010; Banerjea et al 2008; Bauman and Spungen 2001; Soden et al 2000). Hence, early identification of type 2 diabetes is essential to limit associated microvascular and macrovascular complications (LaVela et al 2012; Gore and McGuire 2009; Middleton et al 2008; World Health Organisation and International Diabetic Federation 2006).

The Australian Type 2 Diabetes Risk Assessment Tool (AUSDRISK), based on nine risk factors was developed for predicting incident diabetes and promoted across the nation in 2008 (Chen et al 2010; Australian Government Department of Health and Ageing and Baker IDI Heart and Diabetes Institute 2009). The survey tool provides a simple way to classify adults as low, intermediate or high risk of developing diabetes (Chen et al 2010). Australian general practitioners have been encouraged to use AUSDRISK for patients who are at risk of developing diabetes; however awareness and application in general practice is low (Wong et al 2011). Individuals who are classified as high risk on the tool are recommended to be tested for diabetes (Colagiuri et al 2009).

The AUSDRISK has been validated for the population as a whole (Chen et al 2010), with limited testing in population subgroups (Fernandez and Frost 2013; Sathish et al 2013; Pasco et al 2010). When compared to multiple other risk assessment methods in a rural Asian population, the AUSDRISK performed equal to most other tools in predicting risk of diabetes, dysglycaemia and metabolic syndrome (Sathish et al 2013). To date there is no published evidence that the AUSDRISK has been used on persons with SCI to predict incident diabetes. Therefore, the primary aim of this study was to determine the validity of the AUSDRISK for predicting the development of type 2 diabetes in persons with SCI.

METHODS

This was a prospective comparative study set in one of Sydney's metropolitan local health districts. Data were collected between December 2013 and March 2014 using convenience sampling. Participants were identified using a university tertiary hospital database. From the database there were 118 people identified as eligible for the study. Persons were eligible if they were residents of the local health district, older than 18 years of age, had sustained a SCI for more than 12 months, lived at home, were wheelchair dependent and had not been diagnosed with diabetes. All 118 persons were mailed an information sheet and invited to contact the lead investigator.

Data were collected at participants' homes by the principal author. Data included: AUSDRISK screening tool, a haemoglobin A1c (HbA1c) assay and an eight item interview tool, based on available literature, was developed by the authors. AUSDRISK items relate to risk factors including: age, gender, ethnicity/country of birth, antihypertensive medication usage, smoking, waist measurement, physical activity level, familial history of diabetes, fruit and vegetable intake and high blood glucose history. Each answer was scored and the sum total classified the participant as low risk (less than 5 points), intermediate risk (between 6-11 points) or high risk (more than 12 points) of developing diabetes. The interview tool questions included the classification of the neurological level and severity of the each injury according to the American Spinal Injury Association (ASIA) Impairment Scale (AIS) and recorded the individuals' weight, vital signs, and general practitioner contact details. During the home visit, to support health promotion, all participants were offered diabetes education and resource material.

To measure the HbA1c, Point of Care Diagnostics sponsored the loan blood analyser (Afinion AS100^{TM})$^{.}$ The company manager trained the principal author in the use of the equipment. A HbA1c assay was obtained using a small capillary lancet finger prick of 1.5 µ which took three minutes to analyse. Infection control precautions were adhered to throughout the procedure. The point of care analysing device was quality tested each month (externally) to confirm reliability and validity. For the purposes of this study, a level of HbA1c 6.0% was considered the cut-off point for high risk of the presence of diabetes.

The data were analysed using IBM SPSS program (IBM SPSS v.21, Chicago IL USA). Data were summarised using frequencies, percentages, means and standard deviations. Associations between continuous score and variables and HbA1c were conducted using Pearsons or Spearman's r correlation and characteristics. Associations between categorical variables and HbA1c were conducted using Pearsons Chi-Square (X^2) test. Receiver Operating Characteristics (ROC) was used to assess sensitivity and specificity of the AUSDRISK tool and HbA1c. Statistical significance was considered met at p=0.05 and 95% confidence interval.

The study was approved by the local Human Research Ethics Committee (HREC 1305-160M) and operated according to the guidelines of the National Health and Medical Research Council of Australia.

FINDINGS

From the 118 mailed invitations, 24 were 'returned to sender', eight persons had diagnosis of diabetes, and seven declined participation. The participation rate was 66.9% (n=79). Of the 79 participants, 81% were male and the mean age was 53 years (SD 14.14) (table 1). The mean number of years since injury was 23.2years (median 23; SD +/- 13.2yrs). The most common (58%) neurological levels of SCI were within the cervical region and almost two-thirds (65.8%) of all the participants were graded as AIS A (complete injury).

The most frequent risk factors identified were insufficient exercise (58.2%) and taking anti-hypertensive medication (21.5%). The average waist circumference was 112.1cm; with males having an average waist circumference of 113.4cm compared to 106cm for females. Sixty-four (81%) participants had the maximum point score available for waist circumference. There was no statistical difference when comparing waist measurement with gender (X^2 p=.402)$^{.}$

There was also no difference in the predicted risk of diabetes or the presence of diabetes (HbA1c % and mmol/mol) according to the extent of the neurological deficit arising from the SCI (table 2).

Table 1: Participant Characteristics (n = 79)

Characteristic	N	%
Age (years, mean, SD)	53	14.14
Male	64	81
Females	15	19
Ethnicity		
Australian born	74	93.6
Born outside Australia	3	3.7
Pacific Islander	2	2.5
Level of spinal cord injury		
Tetraplegia (C3-8)^a	44	55.7
High paraplegia (T1-T6)^b	14	17.7
Low paraplegia (T7-L2)^c	21	26.6
Completeness of spinal cord injury		
AIS^d-A (Complete)	52	65.8
AIS-B and C (Incomplete)	27	34.1
Risk factors for diabetes		
Family history of diabetes	9	11.3
History of hyperglycaemia	7	8.9
Antihypertensive medications	17	21.5
Current smoker	7	8.9
Insufficient daily intake of fruit and vegetables	15	18
Insufficient exercise of < 150 mins/week	46	58.2
Waist circumference (cms, mean, SD)	112.1	19.9
Weight (kgs, mean, SD)	82.5	18.4

a Cervical neurological injury
b Thoracic neurological injury
c Lumbar neurological injury
d American Spinal Injury Association Impairment Scale: A B C

Table 2: Classification of risk of diabetes (AUSDRISK) for spinal cord injury deficit

Characteristic	**Overall**		**Complete AIS A (n = 52)**		**Incomplete AIS B/C (n = 27)**		**P value***
	N or mean	**% or SD**	**N or mean**	**% or SD**	**N or mean**	**% or SD**	
AUSDRISK score	***14.7***	***5.3***	***14.67***	***4.57***	***14.78***	***6.59***	***.93***
Low risk <5	7	8.9	3	6	4	15	.34
Intermediate Between 6-11	19	24	14	27	5	19	
High risk ≥ 12	53	67.1	35	67	18	66	
HbA1c %	5.3	3.3	5.28	.33	5.39	.35	.16
HbA1c mmol/mol	34.42	3.68	33.98	3.58	35.26	3.80	.14

*t-test, chi-squared or Fishers' exact test used

There was a positive and statistically significant correlation between length of time since SCI and risk score (AUSDRISK) (r = .242, p = .032) but not with HbA1c% (r = -.004, p = .97) or mmol/mol (r = -.041, p = .72). There were trends towards a correlation between risk score and HbA1c % (r = .210, p = .063) and mmol/mol (r = .215, p = .058).

The AUSDRISK classified 53 (67%) participants as high risk of developing diabetes, having a score greater than 12 points. These participants also had higher levels of HbA1c% (5.38 versus 5.2, p = .026) and higher HbA1c mmol/mol (35.08 versus 33.08, p = .022) (table 3). Two (2.5%) participants had HbA1c of 6% or above.

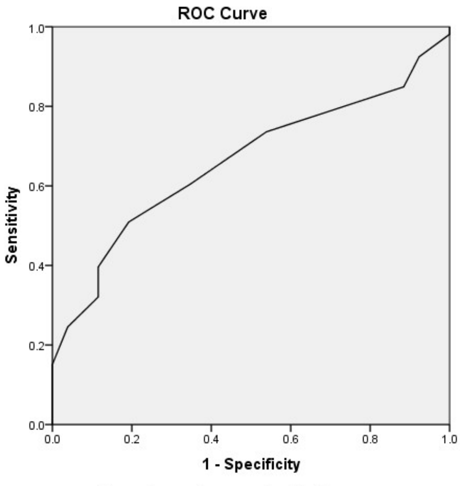
Table 3. Comparison of HbA1c % and mmol/mol for risk classification (AUSDRISK)

Characteristic	AUSDRISK low/intermediate < 12 points (n = 26)		AUSDRISK high ≥ 12 points (n = 53)		P level*
	Mean	SD	Mean	SD	
HbA1c %	5.2	.21	5.38	.37	.026
HbA1c mmol/mol	33.08	2.13	35.08	4.10	.022

*T-test

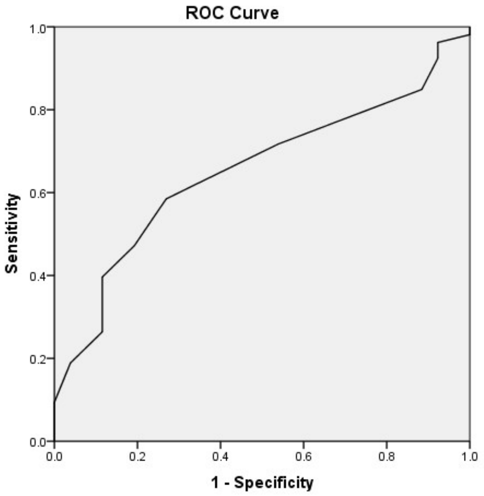
The high risk AUSDRISK classification explained a moderate amount of HbA1c % (area under curve = .651; 95% CI .53 - .77) (figure 1). The level of HbA1c, which had the high risk classification with the highest sensitivity (.59) and specificity (.73) was 5.25%.

Figure 2: Receiver operating curve for HbA1c mmol/mol versus high riskclassification on AUSDRISK



Diagonal segments are produced by ties.

Figure 1: Receiver operating curve for HbA1c percent versus high risk classification on AUSDRISK



Diagonal segments are produced by ties.

Similar results occurred for HbA1c mmol/mol as the AUSDRISK high risk classification explained a moderate amount of HbA1 mmol/mol (area under curve = .66; 95% CI .54 - .78) (figure 2). The level of HbA1c mmol/mol which had the highest sensitivity (.60) and specificity (.65) for high risk classification was 33.50 mmol/ mol. AROC analysis identified a moderate correlation with HbA1c and a high AUSDRISK score.

There were limitations to this study. The hospital database was reliant on all fields being up to date. However, addresses may have been incorrect reducing the potential sample size. As a result, the study may have underestimated the number of eligible people residing within the local health district. This was not a powered study and so sample size limits the generalisability. For the purposes of this study, medical screening for pre-existing conditions (e.g. abnormalities of red blood cell structure) known to interfere with HbA1c blood analysis were not undertaken, and may have influenced the findings. Future powered studies need to be conducted to determine the validity of the AUSRISK tool for people with SCI.

DISCUSSION

The AUSDRISK is a useful screening tool for predicting incident diabetes in the SCI population. The discriminatory ability of the AUSRISK was moderate when compared with HbA1c. There was a positive correlation between length of time since injury and diabetes risk. Diabetes rates are likely to increase in the SCI population given the improvement in life expectancy and anthropometric and physiologic changes associated with ageing with a SCI (Charlifue et al 2010; Banerjea et al 2008). Given the strong association between SCI and type 2 diabetes (Cragg et al 2015), there is an urgent need to monitor diabetes risk factors in this vulnerable patient group. The AUSDRISK can provide a dual function firstly by identifying type 2 diabetes risk factors, while providing an opportunity for health promotion and education. AUSDRISK screening should begin in the acute setting and continue in the primary health care setting. Further research needs to explore the screening frequency rate of AUSDRISK in the SCI population.

Due to the AUSDRISK high risk classifications, the AROC findings suggested the HbA1c threshold should be lowered to 5.25% (33.5mmol/mol) in a SCI cohort. This is in contrast to evidence that a HbA1c level of 6.0%-6.4% (42-47mmol/mol) should be recognised as high risk for the presence of diabetes (International Expert Committee 2009) or a HbA1c of 6.5% (48mmol/mol) being diagnostic of diabetes (World Health Organization 2011) in the normal population. Further powered studies need to be conducted to validate HbA1c sensitivity and specificity levels for persons with SCI.

This study identified that 21.5% of participants were on antihypertensive medication. Persons with a SCI level, which results in high paraplegia or tetraplegia, experience hypotension due to their blood pressure control being impaired, leading to lower resting blood pressures (Middleton et al 2008). This study supports the recent findings by Cragg et al (2015) that with improved treatment resulting in longevity that many are now having to be managed for chronic cardiovascular disease.

This study sample identified the majority had a large waist circumference, which supports the anatomical changes related to chronic SCI. The anatomical changes include: a decrease in muscle mass below injury level; weakened abdominal wall; a sunken chest; and, a lower positioned liver. Additionally chronic SCI results in an increase in visceral fat (Cragg et al 2015) and an enlarged colon. This study is the first to test the AUSDRISK in a SCI population, hence the AUSDRISK has only been validated in populations able to stand for waist circumference measurement. However, for persons who are wheel chair dependant and cannot weight bear, waist circumference often needs to be measured when seated or in supine position. Therefore, research is needed to validate the optimal waist circumference assessment method and scoring system for persons with SCI who are wheelchair dependant.

The AUSDRISK also scores a physical activity item. People need to undertake regular and sufficient exercise to improve insulin sensitivity. It has been identified that physical activity is a greater determinant of glucose concentration than neurological lesion level (Raymond et al 2010). For a person with SCI exercising may be a challenge and was reflected in the findings of these results. The AUSDRISK scoring system for physical activity needs further validation to determine whether adjusted scores for the SCI population are needed.

The AUSDRISK also scores ‘ethnicity/country of birth’. This item (Australian born, Aboriginal, Torres Strait Islander, Pacific Islander, Maori descent, Asian, Middle Eastern, North African, Southern European) may need to be further explored to determine what the meaning of ‘Australian born’ is in a multicultural society. A better definition of ‘Australian born’ is required to ensure that scores are appropriately weighted to identify risk in all ethnically diverse sub-populations. This may be an important factor in determining diabetes risk.

This study demonstrated that for primary healthcare providers, the use of screening tools and point of care testing equipment in the home has the potential to enhance the patient experience, and reduce the burden on sub-groups that are challenged in seeking traditional health care assessments. Further studies need to be conducted with portable point of care technologies to improve the detection of preventable diseases within the Australian community.

CONCLUSION

This study provides evidence that when comparing the AUSDRISK risk classification to HbA1c assay, the tool can predict incident type 2 diabetes risk in persons with a SCI. The discriminatory ability of the AUSDRISK was moderate when compared with HbA1c. Further powered studies are needed to be undertaken to refine the predictive capacity of the tool and the frequency rate for screening. Utilising the AUSDRISK could prove useful as a screening tool and a health promotional opportunity to monitor and meet the ongoing health needs of people with SCI living in the community.

RECOMMENDATIONS

- AUSDRISK can be used to screen for type 2 diabetes in persons with SCI, although screening frequency rate requires further investigation.
- The HbA1c level for predictive risk of diabetes should be lowered in the spinal cord injured population.
- Further powered studies need to be undertaken to test the AUSDRISK tool to determine predictability for wheelchair dependent groups.
- The scoring for waist circumference and exercise activity items in the AUSDRISK tool require multi-centred powered studies to determine weighting for persons with SCI.

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Why such success? Nursing students show consistently high satisfaction with bioscience courses at a regional university

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KEYWORDS

bioscience, education, nursing, satisfaction, learning, effective teaching

ABSTRACT

Background
An understanding of anatomy, physiology and pathophysiology is considered essential for graduate nurses, but many nursing students find such courses difficult and anxiety-provoking. This was contrary to the authors' experiences, so student perceptions were studied at the survey institution.

Objective
This paper examines nursing students' satisfaction with bioscience and nursing courses in the first two years of a Bachelor of Nursing at an Australian university, in order to suggest strategies for effective bioscience teaching.

Design
Quantitative data for student satisfaction, measured on the Likert scale, were collected for three bioscience and 11 nursing courses from 2010 – 2012. Mean satisfaction was compared among courses and offerings by ANOVA, with offerings nested within courses, and correlation analysis was used to examine the relationship between student satisfaction and pass rate. Qualitative data were sourced from open questions, emails and forum posts and examined for recurrent themes.

Results
Students rated the three bioscience courses in the top four of the 14 courses. There was no relationship between satisfaction and pass rate. Qualitative responses showed satisfaction with the course content, the learning materials, the delivery style and lecturer support.

Conclusion
It is possible to deliver bioscience courses that are appreciated by nursing students. Four principles are suggested in this paper that may improve student satisfaction with bioscience courses and, therefore, result in more effective learning and better prepared nursing graduates.

INTRODUCTION

Nurses often spend the most time with a patient and a well-informed nurse may be the first to detect a change in their health status. Therefore, an understanding of human anatomy, physiology and pathophysiology (often collectively called 'bioscience') is essential to good nursing practice (Whyte et al 2011; Friedel and Treagust 2005; Jordan and Reid 1997; Karch and Kent 1990) and also helps a practitioner understand the rationale for patient care (Jordan and Reid 1997). A positive relationship has been found between the level of knowledge of bioscience among nurses and patient care outcomes (Prowse and Heath, 2005; Prowse and Lyne, 2002; Jordan and Hughes, 1998). Bioscience is taught as a range of distinct courses in 25 of 28 nursing programs in Australia.

Although an understanding of bioscience is clearly important, several studies have shown that nursing students are often anxious about studying anatomy and (especially) physiology, but nevertheless appreciate the importance and relevance of it to their careers (Friedel and Treagust 2005; Gresty and Cotton 2003; Jordan et al 1999). Two recent Australian studies have also found that nursing students have negative attitudes towards bioscience.

Birks et al (2011) surveyed 163 first year students at one university. At the end of each semester the students were asked to indicate which of the four units of study they found (a) the most and (b) the least enjoyable; (c) the most valuable and (d) the least valuable. For the first (introductory) bioscience unit, 25% rated it as the most enjoyable but 20% as the least; in relation to its perceived value 31.5% rated it as the most valuable and only 2.9% rated it as the least valuable. For the second (advanced) bioscience unit, only 8.7% rated it as the most enjoyable and 32% the least, but nevertheless 16% rated it as the most valuable and 11.6% the least. Birks et al (2011) suggested the discrepancy between enjoyment and value of the more advanced unit may have been because students had lost interest in science or lacked the background to cope with new material.

Craft et al (2013) surveyed 273 nursing students at one university and found over 50% were anxious about studying bioscience but 93% understood why it was necessary for their careers. Therefore, in both cases, nursing students had negative perceptions of the process of studying bioscience but nevertheless appreciated the importance of the content to their career. Such perceptions may be because they (a) lack basic biological knowledge (McKee 2002), (b) have attempted but failed science in high school (McKee 2002) or (c) view nursing as a caring profession (Lumb and Strube 1993) but science as inherently 'non-caring' and, therefore, lacking relevance to nursing (Dawson 1994; Walker 1994).

Considering the discrepancy between the perceived value and the enjoyment of studying bioscience courses, it is argued that strategies for making bioscience more enjoyable are likely to improve learning outcomes. Furthermore, in contrast to the findings given above, the authors' experiences of teaching an integrated sequence of bioscience courses to health science students during the past 20 years have been extremely positive. Case studies of success can be used to suggest strategies for effective learning and teaching: in this paper evidence is given for successful teaching, student feedback is analysed and used to reflect on practice. This has identified four principles that appear to contribute to extremely high student satisfaction with bioscience courses at a regional Australian university.

A three year undergraduate Bachelor of Nursing has been offered by the regional university (henceforth called RU) where the authors are employed, since the late 1980s. Bioscience courses in the nursing program have always been delivered by staff with science qualifications, which is also the case for the majority of Australian and international nursing programs (Logan and Angel 2014); this is at least partly because of concerns that nursing academics might not have sufficient discipline knowledge to teach science or to help students apply it to practice (Wharrad et al 1994; Courtenay 1991).

Many RU nursing students are mature age, study by distance, have low tertiary entry scores, and lack writing and study skills. Some have transferred from vocational programs offered by technical colleges. Classes are relatively large, with over 750 new students enrolling in the program in each of 2011 and 2012.

METHODS

This was a confirmatory study to examine student satisfaction with three bioscience and 11 nursing courses within the first and second year of the Bachelor of Nursing at RU where student feedback has been solicited through the online learning platform (Moodle) for every offering of all undergraduate courses since 2010. Voluntary responses of less than 100% of the solicited population are unlikely to be representative or random (Liu 2006), but in this case the data consistently represent students who were sufficiently motivated to complete the questionnaire.

Evaluations open in the latter part of each term and close before results are released to ensure that responses reflect the student's learning experience and are not biased by their level of achievement. Summary numerical data for each course are made available to all university staff and students. The three bioscience courses are scheduled in the first and second years of the nursing program so these were compared with all first and second year nursing courses. Data were used for the three most recent offerings of each course as these had the highest response rates (table 1).

Table 1: The nursing (code NURS) and bioscience (code BIOH) courses offered in the first two years of the Bachelor of Nursing at RU.

Course name	Course code	Year of study
Introductory Anatomy and Physiology	BIOH11005	1
Professional Nursing Identity	NURS11146	1
Foundations of Nursing Practice 1	NURS11149	1
Therapeutic and Professional Communication	NURS11152	1
Advanced Anatomy and Physiology	BIOH11006	1
Holistic Nursing Assessment	NURS11150	1
Beginning Nurse Practice	NURS11151	1
Health and Behaviour	NURS 11153	1
Human Pathophysiology	BIOH12008	2
Acute Nursing Management	NURS12147	2
Pharmacology for Nurses	NURS12151	2
The Psychiatric Consumer	NURS13113	2
Person Centred Approach to Chronic Disease	NURS12146	2
Legal and Ethical Issues in Health Care	NURS12148	2

Students were asked to respond to six statements about learning resources and assessment by choosing Strongly Disagree, Disagree, Neutral, Agree and Strongly Agree, and these categories assigned scores from 1 to 5 respectively on the Likert scale. The first statement, "Overall, I was satisfied with the quality of this course", provided the opportunity to obtain reliable, robust and comparative data for student satisfaction across courses. Opportunity for comment was also provided by two free response questions: "What are the best aspects of your course?" and "What aspects of your course are most in need of improvement?" Responses to these questions for two courses (BIOH11006 and BIOH12008) gave considerable insights into factors that contributed to student satisfaction. Comments from students made in unsolicited email or Moodle forum posts were also examined.

When completing course evaluation surveys, students are advised that no student may be identified but that aggregated data may be used for research purposes. To ensure anonymity, no comments from the course evaluations were used in this report. Open, voluntary student comments from other sources (forums and emails) have been de-identified and reported below. The data for satisfaction were analysed by nested ANOVA (Zar 2010), with courses as a fixed factor and offerings as a random factor nested within each course. Sample sizes were at least 200 per course (table 2) and since they were constrained by the number of voluntary responses power was calculated retrospectively, using the effect size from the empirical data. Correlation analysis was used to examine the relationship between student satisfaction and pass rate.

Table 2. Mean student satisfaction on a Likert scale of 1 to 5 where 1 indicates strongly dissatisfied, 3 neutral and 5 strongly satisfied. n = total responses for the last three offerings of each course. The three left hand columns give the results of a posteriori Tukey tests in relation to each of the three bioscience courses. Course codes in bold italic show no significant difference between each bioscience course and the others in the program. For example, BIOH 12008 was not significantly different to NURS 11149 or BIOH11006, but had significantly greater satisfaction than all other courses in the program.

BIOH 12008	BIOH 11006	BIOH 11005	Mean satisfaction	*n*
NURS11149	NURS11149	NURS11149	4.66	452
BIOH12008	***BIOH12008***	BIOH12008	4.59	347
BIOH11006	***BIOH11006***	***BIOH11006***	4.37	383
BIOH11005	***BIOH11005***	***BIOH11005***	4.24	399
NURS11153	***NURS11153***	***NURS11153***	4.17	316
NURS12147	NURS12147	NURS12147	3.98	337
NURS12151	NURS12151	NURS12151	3.96	460
NURS12148	NURS12148	NURS12148	3.96	463
NURS13113	NURS13113	NURS13113	3.82	396
NURS11151	NURS11151	NURS11151	3.79	238
NURS12146	NURS12146	NURS12146	3.75	393
NURS11152	NURS11152	NURS11152	3.73	275
NURS11150	NURS11150	NURS11150	3.52	405
NURS11146	NURS11146	NURS11146	3.50	314

RESULTS

Mean student satisfaction among courses and the sample size for each are in table 2; response rates ranged from 21% to 67%. There was a highly significant difference in student satisfaction among courses ($F_{13, 25}=9.173$, $P < 0.001$, power=1.00) and among offerings nested within each course ($F_{25, 5139}=5.67$, $P < 0.001$, power=1.00). The three bioscience courses were rated in the top four for satisfaction, with scores above 4.0, and *a posteriori* Tukey analysis showed the three bioscience courses had significantly greater satisfaction than nine of the eleven nursing courses (table 2). The significant variation among the random factor of successive offerings of the same courses was not further investigated but is likely to reflect that (a) different lecturers taught some offerings of some courses and (b) enhancements were made in response to student feedback. There was no correlation between student satisfaction and mean pass rate (r=0.006, n=14, P=0.98) (figure 1).

The data are robust in that satisfaction was measured on the Likert scale, which provides a quantifiable measure on an interval scale that is independent among courses, which is a more realistic and reliable measure of student attitude than comparative studies where students are asked to rank courses against each other (Birks et al 2011). Comparative ranking only provides ordinal scale data; differences between ranks are not necessarily equivalent and the same rank does not necessarily indicate equivalence among courses across different terms or years a course is offered.

Qualitative responses to the open ended questions also demonstrated high student satisfaction with bioscience courses. In 2012, 90% of respondents for BIOH12008 and 75% for BIOH11006 nominated the lecturers and teaching methods as the best aspects of the course and 78% and 40% of respondents, respectively, did not identify any aspect of these courses that needed improvement.

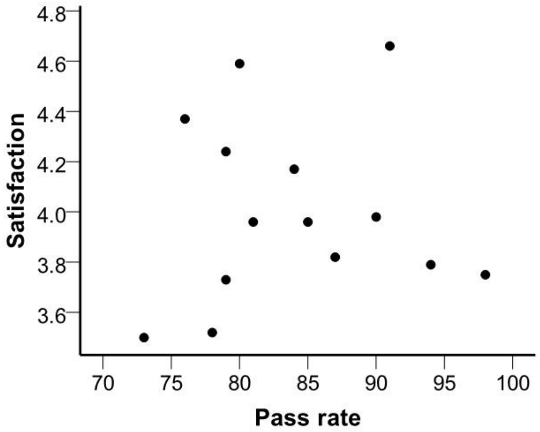

Figure 1: No correlation between pass rate (percentage) and satisfaction scores for courses in the Bachelor Nursing at Regional University (*r*=0.006, *n*=14, *P*=0.98).

DISCUSSION

All courses in the nursing program scored well for student satisfaction and it is notable that none had mean satisfaction scores below 3.5 of a possible 5. This may, in part, be due to a concerted effort by the RU learning and teaching community to reflect on teaching practice and respond to student feedback. Statistical comparison showed nursing students were highly satisfied with the bioscience courses at RU, even though pass rates in these were within the lower range of the courses within the Bachelor of Nursing. Furthermore, the lack of any relationship between satisfaction and pass rates across the program is evidence that students are not simply equating success with satisfaction.

Although pass rates for RU nursing bioscience courses (72 – 84%) are higher than the 55 – 65% reported at other tertiary institutions (Durai et al 2012) and 63% (Whyte et al 2011) it does not appear to be because courses at the former are relatively easy or lacking in content. First, the bioscience courses are part of an accredited program which requires their content and depth to be regularly reviewed by staff in Science and Nursing, as well as by an external accreditation panel. Second, it is notable that both nursing and allied health students from other Australian universities often take these bioscience courses by cross-institutional enrolment, which requires prior approval by the student's principal institution.

The finding that students are highly satisfied with bioscience courses at RU are inconsistent with previous studies at other Australian institutions (Craft et al 2013; Birks et al 2011) and further research is needed to identify why. There are at least three possible reasons. First, one important contributor to student satisfaction is the commitment and capability of teaching staff, including their command of the subject, clarity of presentation, interaction with students, organisation and preparation, ability to motivate students and their presentation skills (Kane et al 2004; Hativa et al 2001; Elton 1998; Feldman 1997; Horan 1991; Sherman et al. 1987; Hildebrand 1973). All three bioscience coordinators have undergraduate qualifications in general science (which included physiology, but none are medically trained) and, for two, their doctoral and current research is in animal ecology. Wharrad et al (1994) also found that 72% of bioscience teachers in nursing programs in the United Kingdom held a PhD in science and only 15% had a nursing qualification, but concluded that while being taught by a subject specialist was advantageous, the lack of a nursing background meant that the material was rarely presented in a way that was related to nursing practice. It is possible the RU instructors' initial *lack* of detailed anatomical, physiological, pathophysiological and nursing knowledge made it necessary for them to first teach themselves and then put the material into a nursing context, thereby seeing things from the point of view of a starting student and thus developing a conceptual, rather than a highly-detailed, factual treatment of the material. Their sound knowledge of general science also made it possible to develop explanations and course materials that could be understood by students with little or no prior knowledge of basic science (which is often the case for nursing students (McKee 2002)). Thus the instructors embedded strategies and used innovative delivery methods that minimised anxiety and targeted the learners' needs (Gordon et al 2012), as well as using assessment strategies that fostered originality and encouraged students to question (McKillup and McKillup 2007). Starting from an assumed zero background basic concepts are introduced, expanded upon and then gradually fleshed out until the students, sometimes to their surprise, find themselves with sufficient understanding to apply their knowledge in the workplace: *"I felt really nervous, but I remembered the diagram about acidosis in your lecture and told the intern he was wrong and the doctor said: That girl is right!"* (student reporting on a hospital placement in 2000).

Second, all three of the bioscience coordinators have received awards for teaching excellence; two have qualifications in education. They frequently consult with each other and the nursing faculty to ensure the bioscience courses are well integrated and relevant to the program. Students have acknowledged the quality of curriculum design and delivery: *"I have learned so much this term, you would not believe it! (I don't believe it myself). I am sure in part, it is because of the numerous and varied resources you have made available. But MAINLY, it is because of your clear understandable delivery of the material"* (student forum post 2012). It is also possible that the necessity to teach students by distance has resulted in better teaching to both internal and distance students. Both distance and on campus education now rely largely upon web-based learning platforms such as Moodle. Distance delivery requires a higher level of communication skills, a sound grasp of information technology, and empathy and respect for students of disparate backgrounds. Class websites are easy to navigate, meet a variety of learning styles, and are relatively simple in layout and format. Communication and engagement are enhanced by email, discussion boards and blogs. It is notable that students who have transferred to RU from other institutions (or are taking courses cross-institutionally) have reported their previous bioscience courses consisted of a loosely organised set of topics, with little continuity or overall integration, and did not relate well to their nursing program. *"Just a note to say thanks for the best course I've ever done. I'm soooo glad I decided to take this subject at RU after I failed at [another university]. You make it all so clear and interesting as well"* (student email 2012).

Finally, the bioscience courses have been the major part of the workload and therefore the primary responsibility of each coordinator for the past five years. Unfortunately, some science staff have said that teaching to non-science rather than science majors is 'second rate' and, therefore, an unpleasant and unrewarding chore. The authors do not share these attitudes. Instead, they have recognised a unique opportunity to create enthusiasm for science and an understanding of the scientific method in a large group of 'naive' students. Nursing students, with their variety of backgrounds, abilities and interests are rewarding to teach, yet teaching outside of the 'area of interest' was one of the five most common 'dislikes' of lecturers (Brown and Atkins 1997). More research into the attitudes of academic staff is warranted to identify if this is a sector-wide phenomenon that may contribute to the dissatisfaction with bioscience courses reported elsewhere among nursing students.

CONCLUSION

It is possible to deliver bioscience courses that are appreciated by students, even though they deal with relatively complex concepts and are often content heavy. The methods described in this paper can be summarised by four principles: sound content knowledge and a conceptual delivery approach; a student-centred attitude and perspective; quality materials; and excellent communication. First, the teacher has to have sufficient knowledge, commitment and confidence to develop and offer clear and conceptual explanations instead of excessive and often irrelevant detail. Second, they need to be able to see things from the student's perspective and, therefore, start at an appropriate level; take advantage of prior student knowledge and experiences; and put concepts into the context of the health professional. Third, they need to provide well organised, quality materials that cater for a range of learning styles. Finally, to achieve this they also need to communicate clear expectations, give detailed and prompt feedback, respect the diversity within their classes and encourage interactions with students.

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Y doesn't Gen Y 👍Like 2 w8?

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KEY WORDS

Nurse Practitioner, Treatment Stream, Generation Y, waiting times, expectations, satisfaction.

ABSTRACT

Objective

The aim of this small scaled research project was to identify any generational differences in expectations and satisfaction in waiting times, amongst Minor Injury patients with an ATS (Australian Triage score) four and five and how, or indeed if these relate to overall satisfaction of the Emergency Department (ED) Fast track or Treatment Stream (TS) Service. The question for this research was: In what ways do generational groups perceive waiting times for the service provided by an Emergency Department Fast track or Treatment Stream Service and with what implications for future services?

Design

A descriptive survey design where patients entering the TS area of the ED were given a validated patient satisfaction questionnaire to complete during their stay, in order to quantify their expectations of the waiting times and their level of satisfaction. Data was descriptively analysed and discussed within the conceptual framework of generational descriptions.

Setting

Emergency Department, within an independent Emergency Nurse Practitioner (ENP) led TS service.

Subjects

Convenience sample, limited to a maximum of every third adult patient attending the Armadale ED TS area, was offered the opportunity to participate in the study.

Main outcome measures

Expectations of waiting times and levels of satisfaction across generational groups.

Results

There was no difference between the expectations of Gen Y and other generational groups (Pr Chi 0.135), however Gen Y were still significantly less satisfied with the service than the other generational groups (P=0.018).

Conclusion

More research is required to address the expectations and satisfaction in waiting times and health services offered to different generational groups. This study offers beginning insights.

INTRODUCTION

Fast track or TS is an initiative implemented in EDs internationally to address increasing presentation numbers and associated increased waiting times in the ED for patients with minor illness and injury, without negatively impacting on the higher acuity patients (Dinh et al 2012; Abbott 2010; Kwa and Blake 2008; Jarvis 2007; Mills and McSweeney 2005; Megahy and Lloyd 2004; Cooper et al 2002).

TREATMENT STREAMING AT ARMADALE HEALTH SERVICE

From 2010 to Jan 2013, Armadale Hospital had a TS area staffed with ENP's. The ENP led service was set up to provide efficient and effective management of patients with triage categories four and five and assist with meeting the government National Emergency Admission Targets (NEAT), for triage categories four and five. The ENP in the TS area at Armadale functioned as the sole practitioner in the area, however there was always access to senior medical support in the main ED if required. The designated TS area had four assessment/treatment beds and an eight seated waiting/treatment area inside the department.

From 2006-2012, ED presentations to Armadale Hospital doubled from 30,000 to just over 61,000 patients per year. Approximately 25-30% of ED presentations (20,000 patients) were minor injuries and were allocated to the TS. The hours of operation for TS were between 0800hrs and 2200hrs daily (Kwa and Blake 2008) and medical staff attended to patients in the area, in the absence of an ENP.

Different generations have unique needs and concerns. However, Generation Y represent the future of health care in terms of large demographic numbers. Vast numbers of Gen Y patients access their health care needs via ED because their psychological profile links them to a drop in service that they can access quickly (Deloitte 2010), however Gen Y are generally less satisfied with service provision due to higher expectations (Thiedke 2007, Urden 2002). Market research into Generational analysis can help an organisation to develop insight in order to "consider the differences in world view and attitude between various generations…and use the information and business strategies to identify trends, changes and customer or client demands" (www.business.qld.gov.au, Washburn 2000).

BACKGROUND: LITERATURE REVIEW

Many studies have demonstrated that waiting times (Soremekun et al 2011) and expectations (Lateef 2011; Toma et al 2009) have an impact on the patients' satisfaction levels, however those who looked at age, did so in conjunction with other demographic characteristics such as gender, ethnicity, education and income, rather than exploring age in isolation (Taylor and Benger 2004, Urden 2002; Knudtson 2000).

Studies by Thiedke (2007) and Young et al (2000) found that individuals aged ≥ 70 years were more likely to be satisfied with the health system than individuals 18–29 years of age ($P < 0.001$). These authors both theorised that the lower satisfaction scores of younger patients might reflect on their inexperience (and possibly unrealistic expectations) with health care organisations. Some patients expect to be met at the door by a doctor immediately on arrival in ED (Roper 2010).

Satisfaction is both a cognitive evaluation and an emotional reaction to components of care delivery and service. When looking at patient satisfaction it appears what is measured is a combination of the patients expectation before the visit, the experience at the visit and the extent to which the patient felt their symptoms were resolved (Thiedke 2007). It is a subjective perception and is closely tied to individual's expectations (Urden 2002). It was therefore postulated that different generational groups had different expectations, which influenced their level of satisfaction. Expectations fall into two categories (Cooke et al 2006): consumer expectations of what is likely to occur or consumer expectations of what 'should' happen.

CONCEPTUAL FRAMEWORK: GENERATIONAL DESCRIPTIONS

A generation is a peer group, which is defined by both key life events and its demographics. Strauss and Howe (1991) named five generations, however these do not have exact boundaries and different authors will list differing birth years. There are generalisations about generational attitudes and outlook and there will be exceptions, however certain overall trends and outlooks, e.g. shared values and behaviours will appear, due to similar influences and experiences (Borges et al 2006; www.valueoptions.com).

The Silent Generation (born between 1926 – 1945). The prevailing value of this generation is adherence to proper principles such as law and order, patriotism and faith. They save and pay for what they get (Washburn 2000). They like to be involved in their care plans (Gauthier et al 2012).

Baby boomers (born between 1945-1964) are focused on self-discovery based on humanistic, altruistic, and narcissistic assumptions. They are a demographically powerful and important group, due to sheer numbers. They like instant gratification and can be very moralistic, but would prefer to work out morals and ethics themselves, rather than accept authority or institutional principles (Washburn 2000).

Generation X (Gen X - born between 1965-1981) is wedged between the Baby boomers and Generation Y and thus feel demographically overlooked and insecure. This was the first generation to develop ease with technology. They like hard facts; expertly delivered and value variety and speed (Borges et al 2006).

Although Generation Y (Gen Y - born between 1982-2003) is not as big as the Baby boomers they will have as large an impact on business and infrastructure as the boomers did. Even though this generation is only recently starting to graduate from high school they are already changing the face of advertising and marketing. They have grown up with computers, email and instant communication and information. The internet and television are the Gen Y medium of choice (Washburn 2000) when seeking information (Chaczko 2008; Weiler 2004).

It is well acknowledged that Gen Y have ‘a sense of entitlement’ (Garrett 2013), see themselves as of the utmost importance and highest worth (Goessi 2013) and that they want everything for themselves (Jaswal 2013), wanting it now and expecting ‘excellent customer service’ (Waldron 2013). They therefore cannot comprehend a health care system that does not give them the highest priority (Garrett 2013; Goessi 2013; Jaswal 2013).

Gen Y are known to have below average visits to the GP (1.5 per year). A survey of health care consumers by Deloitte (2010) showed that 39.1% of Gen Y did not have a GP. Deloitte (2010) also demonstrated that Gen Y’s visits to the ED are higher than any other generation, both due to sporting accidents and the fact that they access ED for routine medical problems, which they perceive as more convenient. Deloitte (2010) identified many factors for this higher presentation to ED, suggesting this generation are also more likely to wait until a health issue becomes severe, rather than accessing primary care when symptoms first appear. Gen Y dislike making appointments, preferring instead to attend ED, expecting to be seen quickly and also have not developed a relationship with a GP. However this may also be due to the fact young people do not perceive they need a GP. It is not known if this is a Gen Y phenomenon, or simply a result of their young age.

An understanding of generational differences underpinning the value sets of different generations in inextricably linked to how care can be prioritised in relation to community expectations (Chaczko 2008). This research attempts to identify the expectations of generational groups in terms of waiting times; with a focus on the patient expectations of what is likely to occur (Cooke et al 2006), by asking patients direct questions about their expectations (Boxer and Boxer 2009).

PURPOSE OF THE RESEARCH

Gen Y form 30-40% of the total patient numbers attending ED's (Thiedke 2007). Based on generational descriptions, the possibility exists that 'Gen Y doesn't like to Wait'. This understanding focusses attention on whether their levels of satisfaction correlate with Gen Y's higher expectations, as theorised by Thiedke (2007) and Urden (2002). What this may mean for clinical environments and future service delivery (Washburn 2000) is important to explore.

The aim of this small scaled research project was to identify any generational differences in expectations and satisfaction in waiting times, amongst Minor Injury patients with an ATS (Australian Triage score) four and five and how, or indeed if these relate to overall satisfaction of the Emergency Department (ED) Fast track or Treatment Stream (TS) Service. The question for this research was: In what ways do generational groups perceive waiting times for the service provided by an Emergency Department Fast track or Treatment Stream Service and with what implications for future services?

STUDY DESIGN

A descriptive survey design was employed.

POPULATION SAMPLED

A convenience sample comprising of potentially every third adult patient attending the Armadale ED TS area, was offered the opportunity to participate in the study. Armadale ED saw 61,000 patients in the previous year. Approximately one third of these (20,000) were TS patients. An uptake of 25% uptake was anticipated on a potential recruitment total of 50 patients per day. The maximum number of patients likely to be recruited on a daily basis was therefore approximately 12. In order to achieve a confidence level of 95% with a 5% sample error, it was calculated that a minimum sample population of 377 patients would be required to be recruited.

Patients entering the TS area of the ED were given a validated patient satisfaction questionnaire by the ENP or Medical Officer (MO), to complete during their stay, together with a verbal explanation of the study. The questionnaire was validated during a study by Sun et al (2001) in order to quantify their impression of the waiting times and their level of satisfaction and had a Cronbachs alpha score of 0.88 (Dihn et al 2012). Patient satisfaction was measured as an overall care score which gave a rating from 1 (poor) to 5 (excellent) and gave a combined score. There were five elements of care considered: 'courtesy and politeness, explanation and advice, waiting times and understanding of discharge instructions' (Dinh et al 2012).

Data was gathered by the nursing staff, ENPs and emergency medical officers and was collected over a three month period from September to December 2013. The Research was approved by the South Metropolitan Health Service Ethics Committee. Consent was implied by completion of the questionnaire. The questionnaire response identified patients by their Emergency Department Information System (EDIS) day number only. Patients were asked to complete the questionnaire during their visit to the ED TS area, rather than returning it by post, in order to improve the response rate. Patients were asked to identify their generational cohort on the demographic details. They were also asked to outline their expected and perceived waiting times on Likert scales from 0-30 mins to 4 hours: these included wait to be seen, wait for their investigations and their total wait in the department. They were then asked to identify their levels of satisfaction with the service and staff on Likert scales with ratings of 0 (poor) to 5 (excellent). The responses were analysed to see if there were any differences in the waiting times, expectations of waiting times and patient satisfaction between the different generational cohorts attending the TS area of the ED. In addition, overall numbers of patients from different generations attending the TS area of the ED were also analysed. The actual total perceived waiting times for individual patients were then cross-correlated with the actual time of admission and actual discharge time on EDIS.

EDIS data was used to corroborate patients' impression of waiting times.

INCLUSIONS

All patients entering the TS area of the Emergency department, between the ages of 18 and 65.

EXCLUSIONS

Patients under 18 years of age over 65 years of age; patients who did not comprehend English, including patients requiring an interpreter; patients with decreased physical or mental capacity to complete or comprehend the survey and patients with other comorbidities leading to increased length of stay and/or admission.

LIMITATIONS

It was also likely that the vast majority of patients sampled will have been seen by an ENP. This is because it is the ENP team driving this piece of research and also because it was not common (during the day) for a medical officer to be assigned to the streaming area. Medical officers therefore pick up the occasional patient during the day if the patient numbers attending the streaming area at any one time are too large for the ENP to cope with alone.

The ability to recruit patients closely correlated with the influx of patients into the department. The busier the department, the less likely it was to have time to recruit patients. This likely reflects the decreased ability to attend to the research and get patients to fill in questionnaires during the afternoon shift, when it tends to get very busy. This would have skewed the results, if the impetus of the questionnaire was solely on patient satisfaction, as it is well documented that patient satisfaction decreases with increased waiting times (Parker and Marco 2014). However, as this study focuses on the differences in patient expectations and was investigating the correlation between expectations and satisfaction, it was felt that the information was still worth analysing. The longer the study went on, the numbers of patients recruited reduced and then the study was halted early, due to the discontinuation of the TS area.

Due to a change in focus of departmental service initiatives, the TS was discontinued in December 2013 and the ENPs now see minor injury patients within the main department. Unfortunately, this research had to cease before the proposed number of patients had been recruited, however the preliminary data from this research was collated and analysed in the hope that it might provide some valuable insight into any generational differences in patient expectations and satisfaction, so that this information might be utilised in ongoing strategic planning for this cohort of patients, attending the Emergency department.

FINDINGS

Results were descriptively analysed using Stat data and statistical analysis software and discussed within the conceptual framework of generational descriptions.

Quantitative data was analysed using Pearsons Chi and Fischers. Significant variables identified were that there may be variations between the perception of waiting times by the patient and the data input on EDIS. This may be inaccurate with regard to discharge times, due to the fact that this information is not always recorded as the patient leaves the department.

- 86.75% of the patients questioned were seen by an ENP and 6 % were by an ED Medical officer (MO). 4.6% were seen by both an NP and an MO.

- 72% of patients questioned were seen between 0800 and 1400 hours, with 23% between 1400 and 2200.
- Only 7% of the patients questioned fell into the silent generation category. 40% were Gen Y with 26% gen X and 25.5% baby boomers. These figures are in keeping with the literature which identifies a 40% ED attendance for Gen Y (Deloitte 2010).
- 60% of attendees were male and 38% female. Four did not state their gender.

Table 1: Perceived wait times to be seen in percentages of total patients

Wait Times	30mins	<1hour	2-3 hours	>4hours
%	52	32.5	12	4

- 80% of patients said they 'expected' to be seen within three hours, with 40% of those expecting a wait of <1hour. In fact, patients perceived that 84.5% waited less than an hour and 96.5% total waited less than three hours.
- 43% of respondents experienced a wait of less than 30mins for 'test results' with a further 26% waiting under 1 hour. 77% total, waiting under three hours for test results.
- 98.6% of patients felt that the staff member attending them was courteous and polite, with the other 1.3% in the 'average' category.
- 97% felt that the advice they were given was either 'good' (15%), or 'excellent' (82%).
- 92% left the ED feeling that they understood the discharge instructions, with 6% declaring that their discharge instructions were poor and 1.3% said they were average.

Reasons for attending ED were varied: 1.3% was unstated; 47% stated it was an emergency; 20% were unable to get an appointment at their GP; 1.3% said the GP was too expensive (there are two large bulkbilling clinics nearby); 9% thought ED provided a better service and 21% had other reasons for attending but did not state what these were.

Overall satisfaction was good or excellent in 95% of respondents. However only 62% of the Gen Y group rated their satisfaction as excellent compared to 90% of respondents who were not Gen Y (p<0.001) P=0.018 (see tables 2 and 3a/b).

Table 2: Does satisfaction with ED visit vary with aged group?

KEY SATISFACTION: 0=missing 1=Poor; 2=Average;3=Good;4=Excellent

Satisfaction	**0**	**1**	**2**	**3**	**4**	**TOTAL**
Year Born Pre 1925	0	0	0	0	2	2
1925-1945	0	0	0	1	9	10
1946-1964	0	0	0	1	37	38
1965-1980	0	0	2	5	33	40
1980-1995	0	2	5	16	37	60
TOTAL	0	2	7	23	118	150

Pearson chi2(12) = 21.0448 Pr = 0.050

Fisher's exact = 0.018

Table 3a: Does level of satisfaction vary between Gen Y and all other aged groups?

	Gen Y	Other generations	TOTAL
SATISFACTION	0	1	
0	0	2	2
2	2	5	7
3	7	16	23
4	81	37	118
Total	90	60	150

Pearson chi2(3) = 17.9315 Pr = 0.000

Fisher's exact = 0.000

Table 3b

```
   Over    Proportion        Std. Err.  [95% Conf.Interval]

_prop_1
   0                 (no observations)
   1   .0333333 .0233696     -0128454      .079512

_prop_2
   0   .0222222 .015625      - 0086529     .0530973
   1   .0833333 .0359823     . 0122318     .1544349

_prop_3
   0   .0777778  .028389      .0216807     .1338749
   1   .2666667 .0575717     .1529042      .3804291

_prop_4
   0   .9          0317999    . 8371629     .9628371
   1   .6166667 .0632976     .4915897      .7417436
```

INTERPRETATION

62% (95% CI 49-74%) of generation Y rated their satisfaction as excellent compared to 90% (84-96%) of those who were not Gen Y (p<0.001).

Expectations of Waiting Times:
comparison of generational groups revealed no difference between expectations of waiting times and perceived waiting times for any generation. Pr Chi 0.135. Therefore Generation Ys expectations were surprisingly the same as everyone else's. Data was examined to identify whether or not the waiting times were longer for Gen Y, to find out if this was why they were less satisfied. The wait times were not statistically significant between groups; however Gen Ys perception of their waiting time was wrong in a significant number of cases. Whilst as expected, a proportion of these thought they had waited longer than they actually had, an equal number thought they had waited a shorter time than they actually had.

DISCUSSION

Understanding generational differences can ensure the health services are delivered in a way to match expectations and increase level of satisfaction.

In this study, 150 patients were recruited over the study's time period providing results that add valuable insights and are worthy of discussion.

High numbers of patients seen by ENPs were due to ENP's primarily staffing the TS area and ENPs driving this research and encouraging their patients to complete the questionnaires. As the covering MOs changed daily, it also proved difficult to inform all of them about the research.

The correlation between patient expectations and satisfaction that had been postulated in the literature (Thiedke 2007; Urden 2002) was not supported by our findings. Whilst the results were very interesting, it is difficult to propose changes to the service when there is no perceived need, due to the fact that the expectations of the Gen Y'ers were the same as the other generations. A demonstrated difference in expectations could have supported further research to ascertain why and subsequently support proposed changes to the current system in order to meet those expectations.

This study found that Gen Y's appear to have a decreased awareness of time (longer and shorter) when compared to the other generations. However these results are in direct contrast with a study by Parker and Marco (2014), which did not identify any correlation between accuracy of time estimates and age. The authors postulate this may be due to the fact many of them are engrossed in social media whilst they are waiting and lose track of the time completely.

CONCLUSION

Gen Ys expectations with regard to waiting times were the same as the other groups, but Gen Ys are still less satisfied than the other generational groups. The reasons for this are unclear however this research demonstrated that Gen Ys dissatisfaction was not correlated with their expectations of the service. Further research is required in this field with a larger cohort of patients in order to ensure an improved confidence interval and increased rigor.

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A nurses' guide to the hierarchy of research designs and evidence

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KEY WORDS

Evidence based practice (EBP). Case reports, Cross-Sectional Studies, Cohort Studies, Random Control Trials, Systematic Reviews, Meta-analysis

ABSTRACT

Objective
This article provides a breakdown of the components of the hierarchy, or pyramid, of research designs. Its intention is to simplify the components of the hierarchy to enable novice readers of research to better understand the differing approaches and levels of evidence.

Primary Argument
Evidence-based Practice (EBP) is the integration of the best research evidence with clinical expertise and the patient's unique circumstances. This includes respect of patient values, and their needs, whilst delivering high-quality, cost effective health care. Understanding the differing levels of evidence, and their reliability, is paramount to making correct and appropriate health care decisions. Nurses are required to use evidence-based practice as they are responsible for a significant amount of judgments and decisions every day, and therefore, they must use research literature as part of their clinical decision-making.

Conclusion
The content, or levels of evidence, of the hierarchy will be discussed in a systematic, logical order from the base to the apex of the pyramid. A comparative grid at the end may lead the nurse to better understand the differing components of the seven levels of evidence or, depending on the source, eight.

INTRODUCTION

The nursing research pyramid, or nursing research hierarchy of evidence, provides a visual and systematic depiction of forms of research from the least reliable (base) to the most reliable (apex). The pyramid includes both qualitative and quantitative paradigms. Pyramids vary slightly from source to source which can be confusing. To further add to the varying hierarchies "there is currently no universally agreed upon hierarchy of evidence for study types that seek to answer questions about patient's experiences and concerns (Del Mar et al 2013 p.29). Figures 1 and 2 are discussed in the main part of this article.

At the Base of the Pyramid (Level 7): Ideas, Opinions, Anecdotes and Editorials

The least reliable evidence comes from ideas, opinions, anecdotes and editorials. Our knowledge comes from varying places and our practices can be from tradition and custom, with many practices ritualistic. We can accept those practices with little questioning (Usher and Fitzgerald 2008 p.7). Whilst personal ideas, opinions and experience can be useful, they may not be transferrable or easily explained. They are akin to anecdotal evidence which is based on, or consists of, reports or observations of usually unscientific observers (Merriam Webster Dictionary 2015).

Editorials are usually in the form of a newspaper or magazine article that give the opinion of the editor or publisher (Merriam Webster Dictionary 2015). They are printed and available for public view and scrutiny but cannot be used as scientific evidence.

Another form of evidence not mentioned in the pyramid is instinct which is a 'hunch' or 'gut feeling' which is closely tied to personal experience (Usher and Fitzgerald 2008 p.10). Benner (1984) believes this is often deep knowledge derived from many hours, even years, of observation and experience, and acknowledges its importance, but it remains under-researched (Usher and Fitzgerald 2008 p.10) and cannot be quantified. It is, however, an important tool in nursing practice and part of nurses' synergistic response to patients and events (Center for Spirituality & Healing and Charlson Meadows 2015).

Case Controlled Studies, Case series and Case Reports (Level 6)

A case controlled study, or a case report, can be defined as an in-depth research study of an individual unit which may include, for example, one person, one family, a group or other social unit (Burns and Grove, 2009; Jackson and Borbasi 2008 p.154). A case study generally combines both qualitative and quantitative data (Jackson and Borbasi, 2008). This is further described by Wilczynski and McKibbon (2013 p.43) as an original study but specifically one study only. Jirowong and Pepper (2013 p.156) suggest that case controlled studies have subjects with a disease or condition (cases) or don't (controls). Information is obtained about their previous exposure/non-exposure to the intervention or factor under study (NHMRC (National Health and Medical Research Council) 2009). Comparisons can then be made by the researchers. There is a potential for bias in recalling information and the quality may be affected if the information is collected retrospectively (Jirojwong and Pepper 2013).

A case series is defined as a report on a series of patients, or cases, who have an outcome of interest or may have received some intervention (Del Mar et al 2013) whereas the NHMRC (2009) state it is a single group of people exposed to a intervention (factor under study). Whilst pre and post tests are recorded, there is no control group (Del Mar et al 2013 p.28). Due to the individual nature of these studies, with limited ability to extrapolate to a wider audience, they remain at the lower part of the pyramid.

Cohort Studies (Level 5)

Cohort Studies are defined by Jirawong and Pepper (2013 p.156) as a study which categorises participants according to the level of exposure to risk factors who are then followed over a period of time to observe the possible occurrence of a disease. This is further clarified by Del Mar et al (2013 p.25) as a longitudinal, observational study where differences in outcome are observed and related to the initial differences. The NHMRC (2009 p.9) state that those under study are then compared to a group not exposed to the risk factor.

Cohort studies can be prospective or retrospective. The NHMRC (2009 p.9) explain that prospective cohorts are observed at a point in time to be exposed or not exposed to an intervention whereas retrospective studies are usually done from medical records.

Observational studies are good at answering questions about prognosis, diagnosis, frequency and aetiology but not questions regarding the effect of an intervention (Del Mar et al 2013 p.24). Random Controlled Trials are able to quantify the effects of intervention hence they are higher up the pyramid than Cohort studies.

Random Control Trials (Level 4)

Random Control Trials, or RCT's, are the gold standard but Meta-analyses (discussed below) combine many RCT's. RCT's are considered to provide the best evidence (Koch et al 2008 p.233). This is an experimental form of research where participants are randomised (randomly allocated) in to two, or more, different groups with each group receiving a different intervention. At the end of the trial the effects of the different interventions are then measured (Del Mar et al 2013 p.25). The results are gathered and decisions can be made once it is evident that one intervention is more effective than another.

RCT's are routinely used to test new forms of medication because the design has the three major characteristics of an experiment, namely randomisation, a control group and manipulation (Jirojwong and Pepper 2013 p.153). This style is considered very reliable because the replication of a trial is possible and the study protocols have to be well defined and clearly described (Rose 2013).

Critically-Appraised Individual Articles (Article Synopses) (Level 3)

Critical appraisal is a term used to assess the outcomes for evidence with regard to an individual research study's effectiveness (Jirojwong, Johnson and Welch 2013). Authors of critically-appraised individual articles evaluate and synopsise individual research studies (Harvey Cushing/John Hay Whitney Medical Library 2015; Walden University 2015; Glover et al 2006). A synopses is the evidence of an individual article with an expert telling you its strengths (Wilczynski and McKibbon 2013 p.43). This is less reliable than Critically Appraised Topics as there is less evidence on single articles than in a synthesis of a topic using several papers.

Critically Appraised Topics (Evidence Syntheses) (Level 2)

Several journals have sections where they highlight critically appraised papers (Wilczynski and McKibbon 2013) and tell you how strong the evidence is. Authors of critically-appraised topics evaluate and synthesise multiple research studies (Harvey Cushing/John Hay Whitney Medical Library 2015; Walden University 2015; Glover et al 2006).

These are also called Synopses of Syntheses which have structured abstracts, or brief overviews, of published systematic reviews that have been screened for methodological rigour (Wilczynski and McKibbon 2013 p.46). Synthesising research publications entails categorising a series of related studies, analysing and interpreting their findings and then summarising those findings in to unified statements. The potential lack of standardisation can undermine the validity. However, if properly conducted, it is a systematic approach that can integrate qualitative and quantitative strategies (Shi 2007).

The Apex of the Pyramid (Levels 1a/1b Figures 1 and 2): Systematic Reviews and Meta-analysis

Systematic reviews can be defined as a compilation of all scientific studies on a particular topic according to predetermined criteria (Fernandez et al 2013 p.348). More specifically, it is a method to "review existing literature on a particular question by identifying, appraising, selecting and synthesising all high quality research evidence relative to that question" (Jirojwong et al 2013 p.405). Systematic reviews differ from literature reviews in that they involve rigorous review of all the available evidence on an aspect of health care (Koch et al 2008). The quality of the research is appraised and then the evidence is ranked in terms of reliability (Koch et al 2008). Authors of a Systematic review ask a specific clinical question, perform a comprehensive literature search, eliminate the poorly done studies and attempt to make practice recommendations based on the well-done studies (Harvey Cushing/John Hay Whitney Medical Library 2015; Walden University 2015; Glover et al 2006).

Fernandez et al (2013) and the NHMRC (2009) state that Systematic reviews are recognized as the highest form of evidence as they include all available evidence with conclusions based on rigorous critical appraisal. Literature reviews, by comparison, a much simpler and are a summary of available theoretical and research literature on a selected topic (Borbasi et al 2008 p.105). This helps to place the research problem in a context of what is already known and can help support the need for the study. Systematic reviews may summarise results from qualitative, quantitative or combination studies, that is, Mixed methods research (Bennett et al 2013).

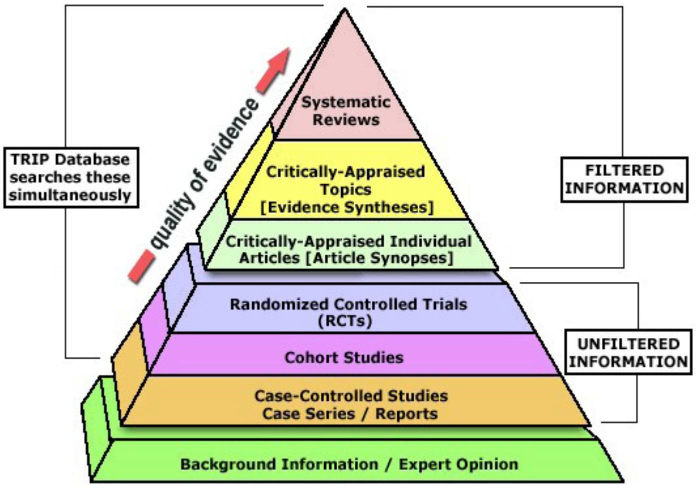
A Meta-analysis is also at the highest part of the pyramid because it is a pooled analysis of several randomised controlled trials (DelMar et al 2013 p.24). Some sources place Systematic reviews alongside Meta-analyses whereas others place Meta-analyses above Systematic reviews. The Meta-analysis differs from Systematic reviews in that the results of two or more individual quantitative studies are typically summarised using the measure of effect that allows for statistics to be compared and combined to form the Meta-analysis (Bennett et al 2013 p.284). A Meta-analysis is a systematic review that combines all the results of all the studies into a single statistical analysis of results (Harvey Cushing/John Hay Whitney Medical Library 2015; Walden University 2015; Glover et al 2006). Sometimes the results of the RCT's cannot be combined because the interventions, or outcomes, may be too diverse to combine and the results are then synthesised narratively (Bennett et al 2013 p.284). Higgins and Green (2011) support this stating if studies are clinically diverse then a meta-analysis may be meaningless, and genuine differences in effects may be obscured.

An example of a body who performs both Systematic reviews and Meta-analyses is the Cochrane Collaboration (Cochrane Community 2015). Cochrane Reviews are Systematic reviews, or Meta-analyses, of primary research into human health care and health policy. They are recognised internationally as the highest standard in evidence-based care (Cochrane Community 2015; Jirojwong and Welch 2013 p.284). Their role is to investigate effects of interventions for prevention, treatment and rehabilitation. They also assess the accuracy of a diagnostic test for a given condition in a specific patient group and setting (Cochrane Community 2015).

CONCLUSION

An understanding of the pyramid of evidence will lead the nurse to appreciate and identify which levels of research are more reliable. Nurses need to be competent in evaluating the strengths and weaknesses of research studies and the applicability of them in relation to their working environment (Jirojwong and Welch 2013 p.5; Levett-Jones 2013; Nursing and Midwifery Board of Australia 2013; Stevens 2013). Nurses have a responsibility to contribute to the development of the profession's knowledge through research.

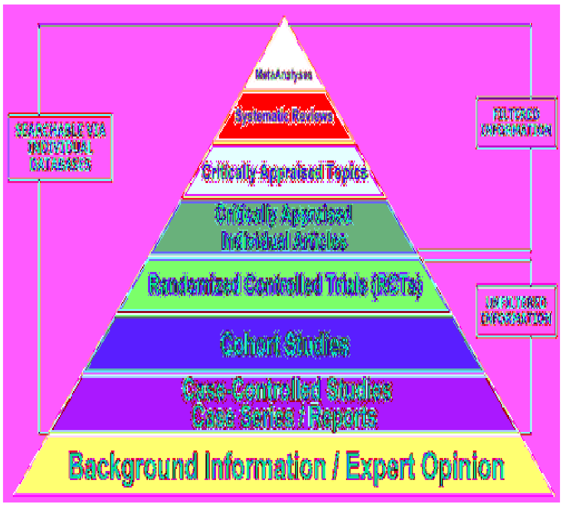
Figure 1



EBM Pyramid and EBM Page Generator, © 2006 Trustees of Dartmouth College and Yale University. All Rights Reserved. Produced by Jan Glover, David Izzo, Karen Odato and Lei Wang.

(Glover et al 2006)

Figure 2



(Bone and Spine, 2015; http://boneandspine.com/what-is-hierarchy-of-evidence/, 2015)

Comparative Grid of the Seven Levels of Evidence

Level 7 Base	Ideas, Opinions, Editorials, Anecdotes.	Least reliable. Basically anecdotal. Unscientific reports and observations (Usher and Fitzgerald 2008)
Level 6	Case Series and Case Reports	Slightly more reliable but there is a potential for bias in recalling information and the quality may be affected if the information is collected retrospectively (Jirojwong and Pepper 2013).
Level 5	Cohort Studies	Becoming more reliable. Observational studies are good at answering questions about prognosis, diagnosis, frequency and aetiology but not questions regarding the effect of an intervention (Del Mar et al 2013 p.24).
Level 4 Middle	Random Control Trials	Very Reliable/ Gold Standard. Random Controlled Trials are able to quantify the effects of intervention hence they are higher up the pyramid than Cohort studies (Koch et al 2008)
Level 3	Critically-Appraised Individual Articles (Article Synopses)	Increasing reliability of findings. A synopses is the evidence of an individual article with an expert telling you its strengths (Wilczynski and McKibbon 2013 p.43). This is less reliable than Critically Appraised Topics as there is less evidence on single articles than in a synthesis of a topic using several papers.
Level 2	Critically Appraised Topics (Evidence Syntheses)	Very high reliability. Synthesising research publications entails the categorising of a series of related studies, analysing and interpreting their findings and then summarising those findings in to unified statements. The potential lack of standardisation can undermine the validity.
Level 1a/1b Apex	Systematic Reviews and Meta-analysis	The most reliable of all. Systematic reviews, and Meta-analyses, of primary research into human health care and health policy are recognised internationally as the highest standard in evidence-based care (Cochrane Community 2015; Jirojwong and Welch 2013 p.284).

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Moral distress of oncology nurses and morally distressing situations in oncology units

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KEY WORDS

moral distress, nurses, oncology

ABSTRACT

Objective
The purpose of this study was to evaluate the intensity and frequency of moral distress and determine clinical situations leading to moral distress in oncology units. The study also examined the relationship between moral distress scores and demographic characteristics of oncology nurses.

Design
This descriptive study was performed between 25 January 2012 and 29 June 2013.

Setting
The study was conducted in the oncology units of eight training hospitals in Tehran, Iran.

Subjects
One hundred and forty eight nurses (131 females, 17 males; mean age 32.5 years; range 24 to 52 years) who had worked in oncology units of training hospitals in Tehran were included in the study.

Main outcome measure(s)
The main outcome measures included intensity and frequency of moral distress, which were assessed by the Moral Distress Scale – Revised (MDS-R).

Results
Most of the 148 nurses had high to moderate scores. Nurses had experienced higher moral distress when receiving informed consent forms from patients and asking patients to carry out physicians' order for unnecessary tests in patients' last stages of life.

Conclusion
Moral distress exists in oncology nurses and interventions will be developed and tested to decrease and prevent it.

INTRODUCTION

Nurses' actions and behaviours are influenced by their personal moral beliefs and ethical values. In addition they are taught and expected to adhere to the values of their profession (Momennasab et al 2015; Cohen and Erickson 2006). Every day nurses make great moral decisions in their workplace, but in practice they cannot always act according to their moral obligations. An unpleasant experience titled as 'moral distress' is one of the major issues that nurses are faced with (Wilkinson 1987; Jameton 1984). Jameton (1984) defines moral distress as a phenomenon in which one knows the right action to take, but is constrained from taking it. Moral distress experienced by nurses and other health care professionals depends on the environment of care (Pauly et al 2009; Hamric and Blackhall 2007; Corley et al 2005). With the increase of technology in health care, oncology nurses are often involved in ethical discussions regarding the best use of aggressive interventions for patients (Shepard 2010). Due to the physical and psychological stress that cancer patients are faced with, the oncology unit can be considered a challenging and unique setting for nurses (Wittenberg-Lyles et al 2014; Ekedahl and Wengstrom 2007). Findings of Rice et al (2008) indicated the level of moral distress in nurses caring for cancer patients is higher than the level of moral distress among other nurses. In Iran, much has been written about moral distress that Iranian critical care nurses experience. For example, the results of a study conducted by Shoorideh et al (2014) revealed that Iranian intensive care unit nurses suffered greatly from moral distress. Joolaee et al (2012) in their study conducted on nurses working in internal, surgical, intensive care, critical care units and the emergency rooms of medical and training centres of Tehran University of Medical Sciences found nurses suffered a moderate severity of moral distress. Based on a search of the databases in Iran using 'moral distress', 'nurses', and 'oncology' as keywords and also using the English equivalent of these keywords in databases it was concluded that moral distress in oncology wards in Iran has not been studied. If ethical issues remain unknown and unresolved in clinical contexts, they will lead to nurses instability, confusion, depression and finally end in a burnt-out and depleted workforce (Trautmann et al 2015; Hamaideh 2014; Shoorideh et al 2014; Cohen and Erickson 2006; Elpern et al 2005). Therefore, this cross-sectional study was designed and implemented with the following aims:

- assess the level of moral distress in nurses who work in oncology units at teaching hospitals in Tehran;
- identify clinical situations associated with significant moral distress; and
- evaluate possible associations among demographic characteristics of oncology nurses and the level of moral distress.

METHOD

Sample and setting

All nurses working in the oncology units of eight training hospitals in Tehran who met the criteria were included in this cross-sectional study. Participants had a Bachelor degree or higher; were employed in an adult oncology unit and had at least one years clinical experience in an oncology unit. Of the 156 eligible nurses 148 nurses participated in this study.

Procedures

Shahid Beheshti Medical Sciences University Research Ethics Board in Tehran approved this study. After coordinating with relevant hospitals, the researcher commenced collecting data in each hospital. Participants were assured their information would remain confidential before the questionnaires were distributed. Nurses were asked to participate by completing the questionnaires anonymously and returning them to a locked drop box placed in the units.

INSTRUMENTS

In order to collect data a questionnaire including demographics and MDS-R was used. Demographic information included age, gender, academic level and years of experience in oncology units. MDS-R measures moral distress intensity and frequency based on a five-point Likert scale from NEVER (zero) to DAILY (four) to measure frequency and NEVER (zero) to VERY HIGH (four) to measure intensity. A composite score for each item was calculated as the scores of moral distress intensity is multiplied by scores of moral distress frequency. Composite scores have a range of 0 – 16 and the total score has a range of 0 - 336. The scores of moral distress frequency and intensity of the total scale were classified into four categories: low (0-1), medium (1.01-2), high (2.01-3) and very high (3.01-4). The composite score was also classified into four categories: low (0-4), medium (4.01-8), high (8.01-12) and very high (12.01-16). A higher score indicates more moral distress.

Prior to use, official permission was obtained from Professor Hamric and the scale was translated into Farsi using a forward/backward method. Content validity was used to determine the validity of the instrument. The questionnaire was reviewed and evaluated by 10 faculty members of the Nursing and Midwifery Faculty at Shahid Beheshti University of Medical Sciences. Considering a score of 85% for content, all questionnaire items met the minimum requirements of validity. Using the Cronbach's alpha, reliability coefficient of the questionnaire was estimated at 0.88.

Data Analysis

In order to analyse the data, descriptive statistical methods were used to determine the level of moral distress. The appropriate correlation statistic was used to examine relationships among variables.

FINDINGS

In this study, 131 subjects (88.51%) were female and 17 (11.48%) were male. Participants ages ranged from 24 to 52 years; the mean age and the Standard Deviation were 32.5 and 5.8 respectively (see table 1).

Table 1: Sample Characteristics (n=148)

Characteristic	n
Age(years)	
20-29	62
30-39	73
40-49	11
50-59	2
Gender	
Female	131
Male	17
Experience in oncology (years)	
1-2	32
3-5	46
6-10	56
11-20	10
Greater than 20	4

Mean scores for items on the moral distress frequency scale ranged from 1.06 to 3.36, with an overall mean score of 2.13± 0.44 and Mean scores for items on the moral distress intensity scale ranged from 1.74 to 3.86, with an overall mean score of 2.08± 0.36. The two highest scoring items for moral distress frequency were '*Ignore situations in which patients have not been given adequate information to ensure informed consent*' (mean, 3.36± 0.61) and '*Carry out the physician's order for what I consider to be unnecessary tests and treatments*' (mean, 3.33± 0.71). The two highest scoring items for moral distress intensity were '*Work with nurses or other healthcare providers who are not as competent as the patient care requires*' (mean, 3.86± 1.12) and '*Provide care that does not relieve the patients suffering because the physician fears that increasing the dose of pain medication will cause death*' (mean 3.74 ± 1.11). Tables 2 and 3 show the top 10 detailed results for frequency and intensity.

The lowest scoring item for moral distress frequency was '*Increase the dose sedative/opiates for an unconscious patient that I believe could hasten the patients' death*' (mean 1.32 ± 1.1) and the lowest scoring item for moral distress intensity was '*Avoid taking action when I learn that a physician or nurse colleague has made a medical error and does not report it*' (mean, 1.50 ± 0.88).

Table 2: Moral Distress Scale items associated with top 10 items for frequency

Moral Distress Scale Items	Mean±SD
Ignore situations in which patients have not been given adequate information to ensure informed consent.	3.36 ± 0.61
Carry out the physician's orders for what I consider to be unnecessary tests and treatments.	3.33 ± 0.71
Witness diminished patient care quality due to poor team communication.	3.01±1.04
Assist physician who, in my opinion, is providing incompetent care.	2.87 ± 1.13
Take no action about an observed ethical issue because the involved staff member or someone in a position of authority requested that I do nothing.	2.77 ± 1.14
Follow the physician's request not to discuss the patient's prognosis with the patient or family.	2.72 ± 0.87
Initiate extensive life-saving actions when I think they only prolong death.	2.61 ± 1.45
Witness medical students perform painful procedures on patients solely to increase their skill.	2.43 ± 1.25
Avoid taking action when I learn that a physician or nurse colleague has made a medical error and does not report it.	2.14 ± 0.43
Watch patient care suffer because of a lack of provider continuity.	2.12 ± 1.07

Table 3: Moral Distress Scale items associated with top 10 items for intensity

Moral Distress Scale Items	Mean±SD
Work with nurses or other healthcare providers who are not as competent as the patient care requires.	3.86 ± 1.12
Provide care that does not relieve the patient's suffering because the physician fears that increasing the dose of pain medication will cause death.	3.74 ± 1.11
Ignore situations in which patients have not been given adequate information to insure informed consent.	3.24 ± 0.9
Watch patient care suffer because of a lack of provider continuity.	3.18 ± 1.28
Witness diminished patient care quality due to poor team communication.	2.95±0.84
Take no action about an observed ethical issue because the involved staff member or someone in a position of authority requested that I do nothing.	2.93 ± 1.12
Increase the dose of sedatives/opiates for an unconscious patient that I believe could hasten the patient's death.	2.62 ± 1.13
Provide less than optimal care due to pressures from administrators or insurers to reduce costs.	2.55 ± 1.26
Be required to care for patients I do not feel qualified to care for.	2.30 ± 1.38
Witness healthcare providers giving "false hope" to the patient or family.	2.24 ± 1.18

Composite scores revealed situations, most associated with moral distress. The highest item score was '*Ignore situations in which patients have not been given adequate information to ensure informed consent*' (10.12 ± 3.02). Table 4 shows the top 10 detailed results for composite score.

Table 4: Moral Distress Scale items associated with highest levels of moral distress (composite score)

Moral Distress Scale Items	Mean±SD
Ignore situations in which patients have not been given adequate information to insure informed consent.	10.12 ± 3.02
Carry out the physician's orders for what I consider to be unnecessary tests and treatments.	9.38 ± 2.01
Witness diminished patient care quality due to poor team communication	9.01± 3.78
Provide care that does not relieve the patient's suffering because the physician fears that increasing the dose of pain medication will cause death	7.45 ± 3.47
Watch patient care suffer because of a lack of provider continuity	7.05 ± 2.84
Witness healthcare providers giving "false hope" to the patient or family	6.37 ± 3.69
Witness medical students perform painful procedures on patients solely to increase their skill.	6.15 ± 3.49
Take no action about an observed ethical issue because the involved staff member or someone in a position of authority requested that I do nothing	6.03 ± 3.60
Assist physician who, in my opinion, is providing incompetent care	4.73 ± 3.08
Work with nurses or other healthcare providers who are not as competent as the patient care requires.	4.42 ± 2.82

Demographic characteristics analysed in relation to the moral distress scores. Only years of experience in oncology unit were positively correlated with composite scores (p=0.01, r= 0.24) (see table 5).

Table 5: Correlation between demographic characteristics and moral distress frequency intensity composite

Characteristics	***Frequency***		***Intensity***		***Composite***	
	Correlation	P	Correlation	P	Correlation	P
Age	0.12	0.24	0.06	0.09	0.16	0.06
Experience in oncology	0.09	0.11	0.11	0.08	0.24	0. 01

DISCUSSION

In this study, mean score for moral distress was similar to scores found for critical care nurses in previous studies (Shoorideh et al 2014). In addition, mean score for moral distress was higher in this study than the scores found in other studies on oncology nurses (Sirilla 2014). Limitations in previous studies involving oncology nurses had participants from one institution (Sirilla 2014; Rice et al 2008). This study included oncology nurses from eight hospitals. Therefore the results can apply to oncology nurses in other hospitals.

According to this study the highest scores for frequency, intensity and level of oncology nurses' moral distress was related to receiving informed consent forms from patients, which demonstrated failure to be fully informed. Nurses in other studies also experienced high moral distress in such situations (Aft 2011; Lunardi et al 2009). As cancer patients need to undergo diagnostic and therapeutic procedures (Mobley et al 2007), and due to unknown and unexpected side effects of many diagnostic and therapeutic procedures in oncology wards (Ferrell 2006), it is necessary to obtain informed consent from patients before giving any treatment. However, it is also important to provide the patient with the necessary information about such diagnostic and therapeutic procedures before obtaining any consent. As patient education and emotional support in times of crisis and making medical decisions are among legal responsibilities of nurses, it is natural that nurses feel responsible for giving patients enough information to fill in consent forms. Patient's informed consent to undertake medical tests and to receive treatment is a patient's right (Grace and McLaughlin 2005).

Conducting unnecessary diagnostic and laboratory tests in clinical situations with ‘futile care’ (Mobley et al 2007) were sources of high moral distress in this study. Rice et al (2008), also report that futile care can also bring about high intensity and frequency for moral distress. In this area, Ferrell (2006), believes that nurses’ moral distress issues which are associated with futile care and treatment have mostly been studied in the intensive care units. Having talked to oncology nurses Ferrell (2006) reached the conclusion it was necessary that futile care in oncology nursing be studied. According to the mean score of moral distress intensity in clinical situations of ‘incompetent nurses or other health care providers, considering the important role of nurses in the care for cancer patients (Izumi et al 2010), research that identify factors leading to poor nursing care in oncology wards seems to be necessary. Pelton et al (2015) also indicated that incompetent nursing is one of the two main themes of situations leading to moral distress in surgical oncology unit.

In this study, the clinical situation in which the nurse observed a patient’s suffering and pain as well as a failure to control the pain properly caused high moral distress in nurse. Maningo-Salinas (2010) and LeBaron et al (2014), also reported that failure to control the pain of the patient was among the situations with high moral distress for oncology nurses.

Positive correlation between experience in oncology and composite score was consistent with several studies (Shoorideh et al 2014; Rice et al 2008; Elpern et al 2005). However, Abbasi et al (2014) found that more experienced nurses experienced lower levels of moral distress.

LIMITATIONS OF THE STUDY

The only limitation of this study was nurses who work in oncology units of training hospitals in Tehran were busy and it took a long time to return the completed questionnaire.

CONCLUSION

According to the results of this study and the importance of reducing moral distress in clinical situations, moral distress in oncology nurses should be considered and addressed as a priority for further investigation. It seems interventions such as establishing Ethics Committees, and having nurses as members of such committees can improve discussion about clinical situations leading to moral distress, consultation, training, and proposing strategies for nurses to cope with moral distress. The results obtained in this study can be useful for nurse leaders, oncology nurses, managers of medical institutes, and education providers in order to propose strategies to cope with moral distress. This research will also be helpful in conducting studies on reducing or eradicating moral distress in oncology wards.

RECOMMENDATIONS

- Since moral distress reduces the quality of nursing care, it is necessary to identify clinical situations which lead to experiencing moral distress among nurses in order to increase the quality of nursing care.
- It is recommended that Ethics Committees be established and nurses be included on such committees to provide expertise about clinical situations which lead to moral distress.
- Head nurses should motivate and morally support their staff.
- Nurses should be trained and provided with strategies to cope with moral distress.

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A prospective comparison of the AUSDRISK and HbA1c for persons with spinal cord injury

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KEYWORDS

AUSDRISK, type 2 diabetes, spinal cord injury, diabetes screening tools, preventative health

ABSTRACT

Objective

The primary object of this study was to determine the validity of the Australian Type 2 Diabetes Risk Assessment Tool (AUSDRISK) for predicting the development of type 2 diabetes in persons with spinal cord injury (SCI).

Design and setting

The prospective comparative study (December 2013-March 2014) collected data on AUSDRISK and haemoglobin A1c (HbA1c) in participants' homes.

Participants

Participation rate was 67% (n=79). Study criteria: over 18 years of age, a SCI for more than 12 months, living at home, wheelchair dependant and no diabetes diagnosis.

Main outcome measures

AUSDRISK sensitivity and specificity in predicting incident type 2 diabetes in persons with SCI.

Results

Of the 79 participants, 81% were male, mean age was 53 years (SD 14.14) with 23.2years (median 23; SD +/- 13.2yrs) since injury. There was a positive correlation between length of time since SCI and risk score (AUSDRISK) (r = .242, p = .032). Participants with high AUSDRISK scores had higher HbA1c% (5.38 versus 5.2, p = .026) level. The high risk classification explained a moderate amount of HbA1c % (area under curve = .651; 95% CI .53 - .77). The level of HbA1c which had the highest sensitivity (.59) and specificity (.73) for risk classification was 5.25%. Waist circumference and physical activity items require further powered studies to determine if appropriately weighted.

Conclusion

Comparing the AUSDRISK with HbA1c assays, the AUSDRISK can predict type 2 diabetes risk in a person with SCI, although further powered studies are needed to be undertaken, to refine the predictive capacity of the tool.

INTRODUCTION

More than one million Australians are diagnosed with diabetes, the majority of whom (84.9%) have type 2 diabetes (Australian Institute of Health and Welfare 2012; Diabetes Australia and The Royal College of General Practitioners 2011). This proportion is escalating. With 275 people being diagnosed with type 2 diabetes every day it is anticipated that 3.3 million Australians will be living with the disease by 2031(Vos et al 2004).

Persons with spinal cord injury (SCI) are at higher risk for type 2 diabetes than the general population, primarily due to abnormalities of carbohydrate and lipid metabolism disorders common among persons with SCI (Raymond et al 2010; Banerjea et al 2008; LaVela et al 2006; Bauman and Spungen 2001). It has been demonstrated that SCI is independently associated with 2-fold increased odds of type 2 diabetes not explained by known risk factors for the disorder (Cragg et al 2015).

Due to adverse changes in body composition, metabolic rate and autonomic function, all known as consequences of SCI, physical health and functional ageing changes occur earlier in this population (LaVela et al 2012; Charlifue et al 2010; Banerjea et al 2008; Bauman and Spungen 2001; Soden et al 2000). Hence, early identification of type 2 diabetes is essential to limit associated microvascular and macrovascular complications (LaVela et al 2012; Gore and McGuire 2009; Middleton et al 2008; World Health Organisation and International Diabetic Federation 2006).

The Australian Type 2 Diabetes Risk Assessment Tool (AUSDRISK), based on nine risk factors was developed for predicting incident diabetes and promoted across the nation in 2008 (Chen et al 2010; Australian Government Department of Health and Ageing and Baker IDI Heart and Diabetes Institute 2009). The survey tool provides a simple way to classify adults as low, intermediate or high risk of developing diabetes (Chen et al 2010). Australian general practitioners have been encouraged to use AUSDRISK for patients who are at risk of developing diabetes; however awareness and application in general practice is low (Wong et al 2011). Individuals who are classified as high risk on the tool are recommended to be tested for diabetes (Colagiuri et al 2009).

The AUSDRISK has been validated for the population as a whole (Chen et al 2010), with limited testing in population subgroups (Fernandez and Frost 2013; Sathish et al 2013; Pasco et al 2010). When compared to multiple other risk assessment methods in a rural Asian population, the AUSDRISK performed equal to most other tools in predicting risk of diabetes, dysglycaemia and metabolic syndrome (Sathish et al 2013). To date there is no published evidence that the AUSDRISK has been used on persons with SCI to predict incident diabetes. Therefore, the primary aim of this study was to determine the validity of the AUSDRISK for predicting the development of type 2 diabetes in persons with SCI.

METHODS

This was a prospective comparative study set in one of Sydney's metropolitan local health districts. Data were collected between December 2013 and March 2014 using convenience sampling. Participants were identified using a university tertiary hospital database. From the database there were 118 people identified as eligible for the study. Persons were eligible if they were residents of the local health district, older than 18 years of age, had sustained a SCI for more than 12 months, lived at home, were wheelchair dependent and had not been diagnosed with diabetes. All 118 persons were mailed an information sheet and invited to contact the lead investigator.

Data were collected at participants' homes by the principal author. Data included: AUSDRISK screening tool, a haemoglobin A1c (HbA1c) assay and an eight item interview tool, based on available literature, was developed by the authors. AUSDRISK items relate to risk factors including: age, gender, ethnicity/country of birth, antihypertensive medication usage, smoking, waist measurement, physical activity level, familial history of diabetes, fruit and vegetable intake and high blood glucose history. Each answer was scored and the sum total classified the participant as low risk (less than 5 points), intermediate risk (between 6-11 points) or high risk (more than 12 points) of developing diabetes. The interview tool questions included the classification of the neurological level and severity of the each injury according to the American Spinal Injury Association (ASIA) Impairment Scale (AIS) and recorded the individuals' weight, vital signs, and general practitioner contact details. During the home visit, to support health promotion, all participants were offered diabetes education and resource material.

To measure the HbA1c, Point of Care Diagnostics sponsored the loan blood analyser (Afinion AS100^{TM})$^{.}$ The company manager trained the principal author in the use of the equipment. A HbA1c assay was obtained using a small capillary lancet finger prick of 1.5 µ which took three minutes to analyse. Infection control precautions were adhered to throughout the procedure. The point of care analysing device was quality tested each month (externally) to confirm reliability and validity. For the purposes of this study, a level of HbA1c 6.0% was considered the cut-off point for high risk of the presence of diabetes.

The data were analysed using IBM SPSS program (IBM SPSS v.21, Chicago IL USA). Data were summarised using frequencies, percentages, means and standard deviations. Associations between continuous score and variables and HbA1c were conducted using Pearsons or Spearman's r correlation and characteristics. Associations between categorical variables and HbA1c were conducted using Pearsons Chi-Square (X^2) test. Receiver Operating Characteristics (ROC) was used to assess sensitivity and specificity of the AUSDRISK tool and HbA1c. Statistical significance was considered met at p=0.05 and 95% confidence interval.

The study was approved by the local Human Research Ethics Committee (HREC 1305-160M) and operated according to the guidelines of the National Health and Medical Research Council of Australia.

FINDINGS

From the 118 mailed invitations, 24 were 'returned to sender', eight persons had diagnosis of diabetes, and seven declined participation. The participation rate was 66.9% (n=79). Of the 79 participants, 81% were male and the mean age was 53 years (SD 14.14) (table 1). The mean number of years since injury was 23.2years (median 23; SD +/- 13.2yrs). The most common (58%) neurological levels of SCI were within the cervical region and almost two-thirds (65.8%) of all the participants were graded as AIS A (complete injury).

The most frequent risk factors identified were insufficient exercise (58.2%) and taking anti-hypertensive medication (21.5%). The average waist circumference was 112.1cm; with males having an average waist circumference of 113.4cm compared to 106cm for females. Sixty-four (81%) participants had the maximum point score available for waist circumference. There was no statistical difference when comparing waist measurement with gender (X^2 p=.402)$^{.}$

There was also no difference in the predicted risk of diabetes or the presence of diabetes (HbA1c % and mmol/mol) according to the extent of the neurological deficit arising from the SCI (table 2).

Table 1: Participant Characteristics (n = 79)

Characteristic	N	%
Age (years, mean, SD)	53	14.14
Male	64	81
Females	15	19
Ethnicity		
Australian born	74	93.6
Born outside Australia	3	3.7
Pacific Islander	2	2.5
Level of spinal cord injury		
Tetraplegia (C3-8)[a]	44	55.7
High paraplegia (T1-T6)[b]	14	17.7
Low paraplegia (T7-L2)[c]	21	26.6
Completeness of spinal cord injury		
AIS[d]-A (Complete)	52	65.8
AIS-B and C (Incomplete)	27	34.1
Risk factors for diabetes		
Family history of diabetes	9	11.3
History of hyperglycaemia	7	8.9
Antihypertensive medications	17	21.5
Current smoker	7	8.9
Insufficient daily intake of fruit and vegetables	15	18
Insufficient exercise of < 150 mins/week	46	58.2
Waist circumference (cms, mean, SD)	112.1	19.9
Weight (kgs, mean, SD)	82.5	18.4

a Cervical neurological injury
b Thoracic neurological injury
c Lumbar neurological injury
d American Spinal Injury Association Impairment Scale: A B C

Table 2: Classification of risk of diabetes (AUSDRISK) for spinal cord injury deficit

Characteristic	**Overall**		**Complete AIS A (n = 52)**		**Incomplete AIS B/C (n = 27)**		**P value***
	N or mean	**% or SD**	**N or mean**	**% or SD**	**N or mean**	**% or SD**	
AUSDRISK score	***14.7***	***5.3***	***14.67***	***4.57***	***14.78***	***6.59***	***.93***
Low risk <5	7	8.9	3	6	4	15	.34
Intermediate Between 6-11	19	24	14	27	5	19	
High risk ≥ 12	53	67.1	35	67	18	66	
HbA1c %	5.3	3.3	5.28	.33	5.39	.35	.16
HbA1c mmol/mol	34.42	3.68	33.98	3.58	35.26	3.80	.14

*t-test, chi-squared or Fishers' exact test used

There was a positive and statistically significant correlation between length of time since SCI and risk score (AUSDRISK) (r = .242, p = .032) but not with HbA1c% (r = -.004, p = .97) or mmol/mol (r = -.041, p = .72). There were trends towards a correlation between risk score and HbA1c % (r = .210, p = .063) and mmol/mol (r = .215, p = .058).

The AUSDRISK classified 53 (67%) participants as high risk of developing diabetes, having a score greater than 12 points. These participants also had higher levels of HbA1c% (5.38 versus 5.2, p = .026) and higher HbA1c mmol/mol (35.08 versus 33.08, p = .022) (table 3). Two (2.5%) participants had HbA1c of 6% or above.

Table 3. Comparison of HbA1c % and mmol/mol for risk classification (AUSDRISK)

Characteristic	AUSDRISK low/intermediate < 12 points (n = 26)		AUSDRISK high ≥ 12 points (n = 53)		P level*
	Mean	SD	Mean	SD	
HbA1c %	5.2	.21	5.38	.37	.026
HbA1c mmol/mol	33.08	2.13	35.08	4.10	.022

*T-test

The high risk AUSDRISK classification explained a moderate amount of HbA1c % (area under curve = .651; 95% CI .53 - .77) (figure 1). The level of HbA1c, which had the high risk classification with the highest sensitivity (.59) and specificity (.73) was 5.25%.

Figure 2: Receiver operating curve for HbA1c mmol/mol versus high riskclassification on AUSDRISK

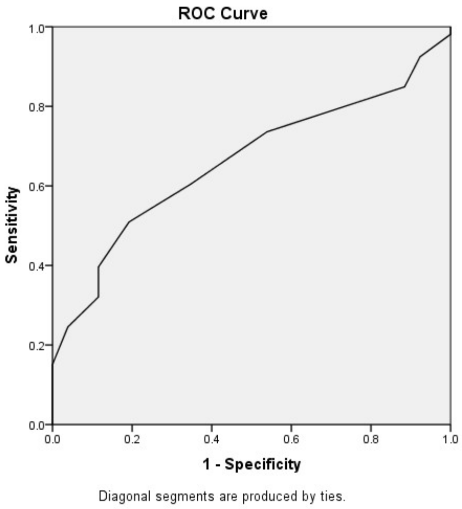
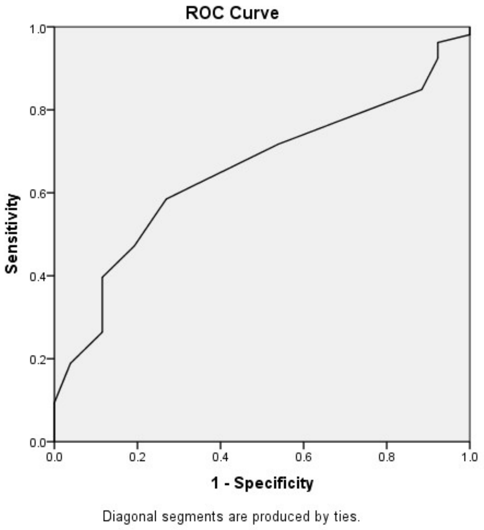


Figure 1: Receiver operating curve for HbA1c percent versus high risk classification on AUSDRISK



Similar results occurred for HbA1c mmol/mol as the AUSDRISK high risk classification explained a moderate amount of HbA1 mmol/mol (area under curve = .66; 95% CI .54 - .78) (figure 2). The level of HbA1c mmol/mol which had the highest sensitivity (.60) and specificity (.65) for high risk classification was 33.50 mmol/ mol. AROC analysis identified a moderate correlation with HbA1c and a high AUSDRISK score.

There were limitations to this study. The hospital database was reliant on all fields being up to date. However, addresses may have been incorrect reducing the potential sample size. As a result, the study may have underestimated the number of eligible people residing within the local health district. This was not a powered study and so sample size limits the generalisability. For the purposes of this study, medical screening for pre-existing conditions (e.g. abnormalities of red blood cell structure) known to interfere with HbA1c blood analysis were not undertaken, and may have influenced the findings. Future powered studies need to be conducted to determine the validity of the AUSRISK tool for people with SCI.

DISCUSSION

The AUSDRISK is a useful screening tool for predicting incident diabetes in the SCI population. The discriminatory ability of the AUSRISK was moderate when compared with HbA1c. There was a positive correlation between length of time since injury and diabetes risk. Diabetes rates are likely to increase in the SCI population given the improvement in life expectancy and anthropometric and physiologic changes associated with ageing with a SCI (Charlifue et al 2010; Banerjea et al 2008). Given the strong association between SCI and type 2 diabetes (Cragg et al 2015), there is an urgent need to monitor diabetes risk factors in this vulnerable patient group. The AUSDRISK can provide a dual function firstly by identifying type 2 diabetes risk factors, while providing an opportunity for health promotion and education. AUSDRISK screening should begin in the acute setting and continue in the primary health care setting. Further research needs to explore the screening frequency rate of AUSDRISK in the SCI population.

Due to the AUSDRISK high risk classifications, the AROC findings suggested the HbA1c threshold should be lowered to 5.25% (33.5mmol/mol) in a SCI cohort. This is in contrast to evidence that a HbA1c level of 6.0%-6.4% (42-47mmol/mol) should be recognised as high risk for the presence of diabetes (International Expert Committee 2009) or a HbA1c of 6.5% (48mmol/mol) being diagnostic of diabetes (World Health Organization 2011) in the normal population. Further powered studies need to be conducted to validate HbA1c sensitivity and specificity levels for persons with SCI.

This study identified that 21.5% of participants were on antihypertensive medication. Persons with a SCI level, which results in high paraplegia or tetraplegia, experience hypotension due to their blood pressure control being impaired, leading to lower resting blood pressures (Middleton et al 2008). This study supports the recent findings by Cragg et al (2015) that with improved treatment resulting in longevity that many are now having to be managed for chronic cardiovascular disease.

This study sample identified the majority had a large waist circumference, which supports the anatomical changes related to chronic SCI. The anatomical changes include: a decrease in muscle mass below injury level; weakened abdominal wall; a sunken chest; and, a lower positioned liver. Additionally chronic SCI results in an increase in visceral fat (Cragg et al 2015) and an enlarged colon. This study is the first to test the AUSDRISK in a SCI population, hence the AUSDRISK has only been validated in populations able to stand for waist circumference measurement. However, for persons who are wheel chair dependant and cannot weight bear, waist circumference often needs to be measured when seated or in supine position. Therefore, research is needed to validate the optimal waist circumference assessment method and scoring system for persons with SCI who are wheelchair dependant.

The AUSDRISK also scores a physical activity item. People need to undertake regular and sufficient exercise to improve insulin sensitivity. It has been identified that physical activity is a greater determinant of glucose concentration than neurological lesion level (Raymond et al 2010). For a person with SCI exercising may be a challenge and was reflected in the findings of these results. The AUSDRISK scoring system for physical activity needs further validation to determine whether adjusted scores for the SCI population are needed.

The AUSDRISK also scores ‘ethnicity/country of birth’. This item (Australian born, Aboriginal, Torres Strait Islander, Pacific Islander, Maori descent, Asian, Middle Eastern, North African, Southern European) may need to be further explored to determine what the meaning of ‘Australian born’ is in a multicultural society. A better definition of ‘Australian born’ is required to ensure that scores are appropriately weighted to identify risk in all ethnically diverse sub-populations. This may be an important factor in determining diabetes risk.

This study demonstrated that for primary healthcare providers, the use of screening tools and point of care testing equipment in the home has the potential to enhance the patient experience, and reduce the burden on sub-groups that are challenged in seeking traditional health care assessments. Further studies need to be conducted with portable point of care technologies to improve the detection of preventable diseases within the Australian community.

CONCLUSION

This study provides evidence that when comparing the AUSDRISK risk classification to HbA1c assay, the tool can predict incident type 2 diabetes risk in persons with a SCI. The discriminatory ability of the AUSDRISK was moderate when compared with HbA1c. Further powered studies are needed to be undertaken to refine the predictive capacity of the tool and the frequency rate for screening. Utilising the AUSDRISK could prove useful as a screening tool and a health promotional opportunity to monitor and meet the ongoing health needs of people with SCI living in the community.

RECOMMENDATIONS

- AUSDRISK can be used to screen for type 2 diabetes in persons with SCI, although screening frequency rate requires further investigation.
- The HbA1c level for predictive risk of diabetes should be lowered in the spinal cord injured population.
- Further powered studies need to be undertaken to test the AUSDRISK tool to determine predictability for wheelchair dependent groups.
- The scoring for waist circumference and exercise activity items in the AUSDRISK tool require multi-centred powered studies to determine weighting for persons with SCI.

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Why such success? Nursing students show consistently high satisfaction with bioscience courses at a regional university

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KEYWORDS

bioscience, education, nursing, satisfaction, learning, effective teaching

ABSTRACT

Background
An understanding of anatomy, physiology and pathophysiology is considered essential for graduate nurses, but many nursing students find such courses difficult and anxiety-provoking. This was contrary to the authors' experiences, so student perceptions were studied at the survey institution.

Objective
This paper examines nursing students' satisfaction with bioscience and nursing courses in the first two years of a Bachelor of Nursing at an Australian university, in order to suggest strategies for effective bioscience teaching.

Design
Quantitative data for student satisfaction, measured on the Likert scale, were collected for three bioscience and 11 nursing courses from 2010 – 2012. Mean satisfaction was compared among courses and offerings by ANOVA, with offerings nested within courses, and correlation analysis was used to examine the relationship between student satisfaction and pass rate. Qualitative data were sourced from open questions, emails and forum posts and examined for recurrent themes.

Results
Students rated the three bioscience courses in the top four of the 14 courses. There was no relationship between satisfaction and pass rate. Qualitative responses showed satisfaction with the course content, the learning materials, the delivery style and lecturer support.

Conclusion
It is possible to deliver bioscience courses that are appreciated by nursing students. Four principles are suggested in this paper that may improve student satisfaction with bioscience courses and, therefore, result in more effective learning and better prepared nursing graduates.

INTRODUCTION

Nurses often spend the most time with a patient and a well-informed nurse may be the first to detect a change in their health status. Therefore, an understanding of human anatomy, physiology and pathophysiology (often collectively called 'bioscience') is essential to good nursing practice (Whyte et al 2011; Friedel and Treagust 2005; Jordan and Reid 1997; Karch and Kent 1990) and also helps a practitioner understand the rationale for patient care (Jordan and Reid 1997). A positive relationship has been found between the level of knowledge of bioscience among nurses and patient care outcomes (Prowse and Heath, 2005; Prowse and Lyne, 2002; Jordan and Hughes, 1998). Bioscience is taught as a range of distinct courses in 25 of 28 nursing programs in Australia.

Although an understanding of bioscience is clearly important, several studies have shown that nursing students are often anxious about studying anatomy and (especially) physiology, but nevertheless appreciate the importance and relevance of it to their careers (Friedel and Treagust 2005; Gresty and Cotton 2003; Jordan et al 1999). Two recent Australian studies have also found that nursing students have negative attitudes towards bioscience.

Birks et al (2011) surveyed 163 first year students at one university. At the end of each semester the students were asked to indicate which of the four units of study they found (a) the most and (b) the least enjoyable; (c) the most valuable and (d) the least valuable. For the first (introductory) bioscience unit, 25% rated it as the most enjoyable but 20% as the least; in relation to its perceived value 31.5% rated it as the most valuable and only 2.9% rated it as the least valuable. For the second (advanced) bioscience unit, only 8.7% rated it as the most enjoyable and 32% the least, but nevertheless 16% rated it as the most valuable and 11.6% the least. Birks et al (2011) suggested the discrepancy between enjoyment and value of the more advanced unit may have been because students had lost interest in science or lacked the background to cope with new material.

Craft et al (2013) surveyed 273 nursing students at one university and found over 50% were anxious about studying bioscience but 93% understood why it was necessary for their careers. Therefore, in both cases, nursing students had negative perceptions of the process of studying bioscience but nevertheless appreciated the importance of the content to their career. Such perceptions may be because they (a) lack basic biological knowledge (McKee 2002), (b) have attempted but failed science in high school (McKee 2002) or (c) view nursing as a caring profession (Lumb and Strube 1993) but science as inherently 'non-caring' and, therefore, lacking relevance to nursing (Dawson 1994; Walker 1994).

Considering the discrepancy between the perceived value and the enjoyment of studying bioscience courses, it is argued that strategies for making bioscience more enjoyable are likely to improve learning outcomes. Furthermore, in contrast to the findings given above, the authors' experiences of teaching an integrated sequence of bioscience courses to health science students during the past 20 years have been extremely positive. Case studies of success can be used to suggest strategies for effective learning and teaching: in this paper evidence is given for successful teaching, student feedback is analysed and used to reflect on practice. This has identified four principles that appear to contribute to extremely high student satisfaction with bioscience courses at a regional Australian university.

A three year undergraduate Bachelor of Nursing has been offered by the regional university (henceforth called RU) where the authors are employed, since the late 1980s. Bioscience courses in the nursing program have always been delivered by staff with science qualifications, which is also the case for the majority of Australian and international nursing programs (Logan and Angel 2014); this is at least partly because of concerns that nursing academics might not have sufficient discipline knowledge to teach science or to help students apply it to practice (Wharrad et al 1994; Courtenay 1991).

Many RU nursing students are mature age, study by distance, have low tertiary entry scores, and lack writing and study skills. Some have transferred from vocational programs offered by technical colleges. Classes are relatively large, with over 750 new students enrolling in the program in each of 2011 and 2012.

METHODS

This was a confirmatory study to examine student satisfaction with three bioscience and 11 nursing courses within the first and second year of the Bachelor of Nursing at RU where student feedback has been solicited through the online learning platform (Moodle) for every offering of all undergraduate courses since 2010. Voluntary responses of less than 100% of the solicited population are unlikely to be representative or random (Liu 2006), but in this case the data consistently represent students who were sufficiently motivated to complete the questionnaire.

Evaluations open in the latter part of each term and close before results are released to ensure that responses reflect the student's learning experience and are not biased by their level of achievement. Summary numerical data for each course are made available to all university staff and students. The three bioscience courses are scheduled in the first and second years of the nursing program so these were compared with all first and second year nursing courses. Data were used for the three most recent offerings of each course as these had the highest response rates (table 1).

Table 1: The nursing (code NURS) and bioscience (code BIOH) courses offered in the first two years of the Bachelor of Nursing at RU.

Course name	Course code	Year of study
Introductory Anatomy and Physiology	BIOH11005	1
Professional Nursing Identity	NURS11146	1
Foundations of Nursing Practice 1	NURS11149	1
Therapeutic and Professional Communication	NURS11152	1
Advanced Anatomy and Physiology	BIOH11006	1
Holistic Nursing Assessment	NURS11150	1
Beginning Nurse Practice	NURS11151	1
Health and Behaviour	NURS 11153	1
Human Pathophysiology	BIOH12008	2
Acute Nursing Management	NURS12147	2
Pharmacology for Nurses	NURS12151	2
The Psychiatric Consumer	NURS13113	2
Person Centred Approach to Chronic Disease	NURS12146	2
Legal and Ethical Issues in Health Care	NURS12148	2

Students were asked to respond to six statements about learning resources and assessment by choosing Strongly Disagree, Disagree, Neutral, Agree and Strongly Agree, and these categories assigned scores from 1 to 5 respectively on the Likert scale. The first statement, "Overall, I was satisfied with the quality of this course", provided the opportunity to obtain reliable, robust and comparative data for student satisfaction across courses. Opportunity for comment was also provided by two free response questions: "What are the best aspects of your course?" and "What aspects of your course are most in need of improvement?" Responses to these questions for two courses (BIOH11006 and BIOH12008) gave considerable insights into factors that contributed to student satisfaction. Comments from students made in unsolicited email or Moodle forum posts were also examined.

When completing course evaluation surveys, students are advised that no student may be identified but that aggregated data may be used for research purposes. To ensure anonymity, no comments from the course evaluations were used in this report. Open, voluntary student comments from other sources (forums and emails) have been de-identified and reported below. The data for satisfaction were analysed by nested ANOVA (Zar 2010), with courses as a fixed factor and offerings as a random factor nested within each course. Sample sizes were at least 200 per course (table 2) and since they were constrained by the number of voluntary responses power was calculated retrospectively, using the effect size from the empirical data. Correlation analysis was used to examine the relationship between student satisfaction and pass rate.

Table 2. Mean student satisfaction on a Likert scale of 1 to 5 where 1 indicates strongly dissatisfied, 3 neutral and 5 strongly satisfied. n = total responses for the last three offerings of each course. The three left hand columns give the results of a posteriori Tukey tests in relation to each of the three bioscience courses. Course codes in bold italic show no significant difference between each bioscience course and the others in the program. For example, BIOH 12008 was not significantly different to NURS 11149 or BIOH11006, but had significantly greater satisfaction than all other courses in the program.

BIOH 12008	**BIOH 11006**	**BIOH 11005**	**Mean satisfaction**	***n***
NURS11149	NURS11149	NURS11149	4.66	452
BIOH12008	***BIOH12008***	BIOH12008	4.59	347
BIOH11006	***BIOH11006***	***BIOH11006***	4.37	383
BIOH11005	***BIOH11005***	***BIOH11005***	4.24	399
NURS11153	***NURS11153***	***NURS11153***	4.17	316
NURS12147	NURS12147	NURS12147	3.98	337
NURS12151	NURS12151	NURS12151	3.96	460
NURS12148	NURS12148	NURS12148	3.96	463
NURS13113	NURS13113	NURS13113	3.82	396
NURS11151	NURS11151	NURS11151	3.79	238
NURS12146	NURS12146	NURS12146	3.75	393
NURS11152	NURS11152	NURS11152	3.73	275
NURS11150	NURS11150	NURS11150	3.52	405
NURS11146	NURS11146	NURS11146	3.50	314

RESULTS

Mean student satisfaction among courses and the sample size for each are in table 2; response rates ranged from 21% to 67%. There was a highly significant difference in student satisfaction among courses ($F_{13, 25}$=9.173, P < 0.001, power=1.00) and among offerings nested within each course ($F_{25, 5139}$=5.67, P < 0.001, power=1.00). The three bioscience courses were rated in the top four for satisfaction, with scores above 4.0, and *a posteriori* Tukey analysis showed the three bioscience courses had significantly greater satisfaction than nine of the eleven nursing courses (table 2). The significant variation among the random factor of successive offerings of the same courses was not further investigated but is likely to reflect that (a) different lecturers taught some offerings of some courses and (b) enhancements were made in response to student feedback. There was no correlation between student satisfaction and mean pass rate (r=0.006, n=14, P=0.98) (figure 1).

The data are robust in that satisfaction was measured on the Likert scale, which provides a quantifiable measure on an interval scale that is independent among courses, which is a more realistic and reliable measure of student attitude than comparative studies where students are asked to rank courses against each other (Birks et al 2011). Comparative ranking only provides ordinal scale data; differences between ranks are not necessarily equivalent and the same rank does not necessarily indicate equivalence among courses across different terms or years a course is offered.

Qualitative responses to the open ended questions also demonstrated high student satisfaction with bioscience courses. In 2012, 90% of respondents for BIOH12008 and 75% for BIOH11006 nominated the lecturers and teaching methods as the best aspects of the course and 78% and 40% of respondents, respectively, did not identify any aspect of these courses that needed improvement.

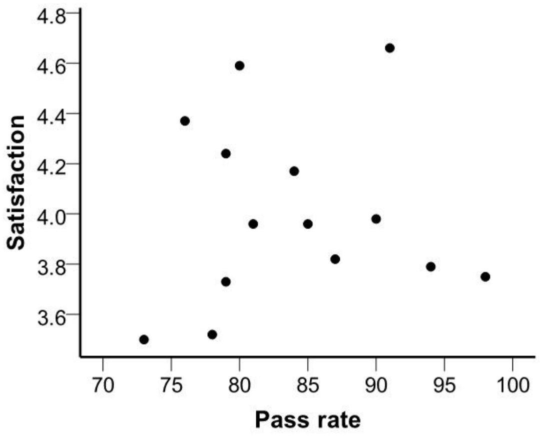

Figure 1: No correlation between pass rate (percentage) and satisfaction scores for courses in the Bachelor Nursing at Regional University (*r*=0.006, *n*=14, *P*=0.98).

DISCUSSION

All courses in the nursing program scored well for student satisfaction and it is notable that none had mean satisfaction scores below 3.5 of a possible 5. This may, in part, be due to a concerted effort by the RU learning and teaching community to reflect on teaching practice and respond to student feedback. Statistical comparison showed nursing students were highly satisfied with the bioscience courses at RU, even though pass rates in these were within the lower range of the courses within the Bachelor of Nursing. Furthermore, the lack of any relationship between satisfaction and pass rates across the program is evidence that students are not simply equating success with satisfaction.

Although pass rates for RU nursing bioscience courses (72 – 84%) are higher than the 55 – 65% reported at other tertiary institutions (Durai et al 2012) and 63% (Whyte et al 2011) it does not appear to be because courses at the former are relatively easy or lacking in content. First, the bioscience courses are part of an accredited program which requires their content and depth to be regularly reviewed by staff in Science and Nursing, as well as by an external accreditation panel. Second, it is notable that both nursing and allied health students from other Australian universities often take these bioscience courses by cross-institutional enrolment, which requires prior approval by the student's principal institution.

The finding that students are highly satisfied with bioscience courses at RU are inconsistent with previous studies at other Australian institutions (Craft et al 2013; Birks et al 2011) and further research is needed to identify why. There are at least three possible reasons. First, one important contributor to student satisfaction is the commitment and capability of teaching staff, including their command of the subject, clarity of presentation, interaction with students, organisation and preparation, ability to motivate students and their presentation skills (Kane et al 2004; Hativa et al 2001; Elton 1998; Feldman 1997; Horan 1991; Sherman et al. 1987; Hildebrand 1973). All three bioscience coordinators have undergraduate qualifications in general science (which included physiology, but none are medically trained) and, for two, their doctoral and current research is in animal ecology. Wharrad et al (1994) also found that 72% of bioscience teachers in nursing programs in the United Kingdom held a PhD in science and only 15% had a nursing qualification, but concluded that while being taught by a subject specialist was advantageous, the lack of a nursing background meant that the material was rarely presented in a way that was related to nursing practice. It is possible the RU instructors' initial *lack* of detailed anatomical, physiological, pathophysiological and nursing knowledge made it necessary for them to first teach themselves and then put the material into a nursing context, thereby seeing things from the point of view of a starting student and thus developing a conceptual, rather than a highly-detailed, factual treatment of the material. Their sound knowledge of general science also made it possible to develop explanations and course materials that could be understood by students with little or no prior knowledge of basic science (which is often the case for nursing students (McKee 2002)). Thus the instructors embedded strategies and used innovative delivery methods that minimised anxiety and targeted the learners' needs (Gordon et al 2012), as well as using assessment strategies that fostered originality and encouraged students to question (McKillup and McKillup 2007). Starting from an assumed zero background basic concepts are introduced, expanded upon and then gradually fleshed out until the students, sometimes to their surprise, find themselves with sufficient understanding to apply their knowledge in the workplace: *"I felt really nervous, but I remembered the diagram about acidosis in your lecture and told the intern he was wrong and the doctor said: That girl is right!"* (student reporting on a hospital placement in 2000).

Second, all three of the bioscience coordinators have received awards for teaching excellence; two have qualifications in education. They frequently consult with each other and the nursing faculty to ensure the bioscience courses are well integrated and relevant to the program. Students have acknowledged the quality of curriculum design and delivery: *"I have learned so much this term, you would not believe it! (I don't believe it myself). I am sure in part, it is because of the numerous and varied resources you have made available. But MAINLY, it is because of your clear understandable delivery of the material"* (student forum post 2012). It is also possible that the necessity to teach students by distance has resulted in better teaching to both internal and distance students. Both distance and on campus education now rely largely upon web-based learning platforms such as Moodle. Distance delivery requires a higher level of communication skills, a sound grasp of information technology, and empathy and respect for students of disparate backgrounds. Class websites are easy to navigate, meet a variety of learning styles, and are relatively simple in layout and format. Communication and engagement are enhanced by email, discussion boards and blogs. It is notable that students who have transferred to RU from other institutions (or are taking courses cross-institutionally) have reported their previous bioscience courses consisted of a loosely organised set of topics, with little continuity or overall integration, and did not relate well to their nursing program. *"Just a note to say thanks for the best course I've ever done. I'm soooo glad I decided to take this subject at RU after I failed at [another university]. You make it all so clear and interesting as well"* (student email 2012).

Finally, the bioscience courses have been the major part of the workload and therefore the primary responsibility of each coordinator for the past five years. Unfortunately, some science staff have said that teaching to non-science rather than science majors is 'second rate' and, therefore, an unpleasant and unrewarding chore. The authors do not share these attitudes. Instead, they have recognised a unique opportunity to create enthusiasm for science and an understanding of the scientific method in a large group of 'naive' students. Nursing students, with their variety of backgrounds, abilities and interests are rewarding to teach, yet teaching outside of the 'area of interest' was one of the five most common 'dislikes' of lecturers (Brown and Atkins 1997). More research into the attitudes of academic staff is warranted to identify if this is a sector-wide phenomenon that may contribute to the dissatisfaction with bioscience courses reported elsewhere among nursing students.

CONCLUSION

It is possible to deliver bioscience courses that are appreciated by students, even though they deal with relatively complex concepts and are often content heavy. The methods described in this paper can be summarised by four principles: sound content knowledge and a conceptual delivery approach; a student-centred attitude and perspective; quality materials; and excellent communication. First, the teacher has to have sufficient knowledge, commitment and confidence to develop and offer clear and conceptual explanations instead of excessive and often irrelevant detail. Second, they need to be able to see things from the student's perspective and, therefore, start at an appropriate level; take advantage of prior student knowledge and experiences; and put concepts into the context of the health professional. Third, they need to provide well organised, quality materials that cater for a range of learning styles. Finally, to achieve this they also need to communicate clear expectations, give detailed and prompt feedback, respect the diversity within their classes and encourage interactions with students.

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KEY WORDS

Nurse Practitioner, Treatment Stream, Generation Y, waiting times, expectations, satisfaction.

ABSTRACT

Objective

The aim of this small scaled research project was to identify any generational differences in expectations and satisfaction in waiting times, amongst Minor Injury patients with an ATS (Australian Triage score) four and five and how, or indeed if these relate to overall satisfaction of the Emergency Department (ED) Fast track or Treatment Stream (TS) Service. The question for this research was: In what ways do generational groups perceive waiting times for the service provided by an Emergency Department Fast track or Treatment Stream Service and with what implications for future services?

Design

A descriptive survey design where patients entering the TS area of the ED were given a validated patient satisfaction questionnaire to complete during their stay, in order to quantify their expectations of the waiting times and their level of satisfaction. Data was descriptively analysed and discussed within the conceptual framework of generational descriptions.

Setting

Emergency Department, within an independent Emergency Nurse Practitioner (ENP) led TS service.

Subjects

Convenience sample, limited to a maximum of every third adult patient attending the Armadale ED TS area, was offered the opportunity to participate in the study.

Main outcome measures

Expectations of waiting times and levels of satisfaction across generational groups.

Results

There was no difference between the expectations of Gen Y and other generational groups (Pr Chi 0.135), however Gen Y were still significantly less satisfied with the service than the other generational groups (P=0.018).

Conclusion

More research is required to address the expectations and satisfaction in waiting times and health services offered to different generational groups. This study offers beginning insights.

INTRODUCTION

Fast track or TS is an initiative implemented in EDs internationally to address increasing presentation numbers and associated increased waiting times in the ED for patients with minor illness and injury, without negatively impacting on the higher acuity patients (Dinh et al 2012; Abbott 2010; Kwa and Blake 2008; Jarvis 2007; Mills and McSweeney 2005; Megahy and Lloyd 2004; Cooper et al 2002).

TREATMENT STREAMING AT ARMADALE HEALTH SERVICE

From 2010 to Jan 2013, Armadale Hospital had a TS area staffed with ENP's. The ENP led service was set up to provide efficient and effective management of patients with triage categories four and five and assist with meeting the government National Emergency Admission Targets (NEAT), for triage categories four and five. The ENP in the TS area at Armadale functioned as the sole practitioner in the area, however there was always access to senior medical support in the main ED if required. The designated TS area had four assessment/treatment beds and an eight seated waiting/treatment area inside the department.

From 2006-2012, ED presentations to Armadale Hospital doubled from 30,000 to just over 61,000 patients per year. Approximately 25-30% of ED presentations (20,000 patients) were minor injuries and were allocated to the TS. The hours of operation for TS were between 0800hrs and 2200hrs daily (Kwa and Blake 2008) and medical staff attended to patients in the area, in the absence of an ENP.

Different generations have unique needs and concerns. However, Generation Y represent the future of health care in terms of large demographic numbers. Vast numbers of Gen Y patients access their health care needs via ED because their psychological profile links them to a drop in service that they can access quickly (Deloitte 2010), however Gen Y are generally less satisfied with service provision due to higher expectations (Thiedke 2007, Urden 2002). Market research into Generational analysis can help an organisation to develop insight in order to "consider the differences in world view and attitude between various generations…and use the information and business strategies to identify trends, changes and customer or client demands" (www.business.qld.gov.au, Washburn 2000).

BACKGROUND: LITERATURE REVIEW

Many studies have demonstrated that waiting times (Soremekun et al 2011) and expectations (Lateef 2011; Toma et al 2009) have an impact on the patients' satisfaction levels, however those who looked at age, did so in conjunction with other demographic characteristics such as gender, ethnicity, education and income, rather than exploring age in isolation (Taylor and Benger 2004, Urden 2002; Knudtson 2000).

Studies by Thiedke (2007) and Young et al (2000) found that individuals aged ≥ 70 years were more likely to be satisfied with the health system than individuals 18–29 years of age ($P < 0.001$). These authors both theorised that the lower satisfaction scores of younger patients might reflect on their inexperience (and possibly unrealistic expectations) with health care organisations. Some patients expect to be met at the door by a doctor immediately on arrival in ED (Roper 2010).

Satisfaction is both a cognitive evaluation and an emotional reaction to components of care delivery and service. When looking at patient satisfaction it appears what is measured is a combination of the patients expectation before the visit, the experience at the visit and the extent to which the patient felt their symptoms were resolved (Thiedke 2007). It is a subjective perception and is closely tied to individual's expectations (Urden 2002). It was therefore postulated that different generational groups had different expectations, which influenced their level of satisfaction. Expectations fall into two categories (Cooke et al 2006): consumer expectations of what is likely to occur or consumer expectations of what 'should' happen.

CONCEPTUAL FRAMEWORK: GENERATIONAL DESCRIPTIONS

A generation is a peer group, which is defined by both key life events and its demographics. Strauss and Howe (1991) named five generations, however these do not have exact boundaries and different authors will list differing birth years. There are generalisations about generational attitudes and outlook and there will be exceptions, however certain overall trends and outlooks, e.g. shared values and behaviours will appear, due to similar influences and experiences (Borges et al 2006; www.valueoptions.com).

The Silent Generation (born between 1926 – 1945). The prevailing value of this generation is adherence to proper principles such as law and order, patriotism and faith. They save and pay for what they get (Washburn 2000). They like to be involved in their care plans (Gauthier et al 2012).

Baby boomers (born between 1945-1964) are focused on self-discovery based on humanistic, altruistic, and narcissistic assumptions. They are a demographically powerful and important group, due to sheer numbers. They like instant gratification and can be very moralistic, but would prefer to work out morals and ethics themselves, rather than accept authority or institutional principles (Washburn 2000).

Generation X (Gen X - born between 1965-1981) is wedged between the Baby boomers and Generation Y and thus feel demographically overlooked and insecure. This was the first generation to develop ease with technology. They like hard facts; expertly delivered and value variety and speed (Borges et al 2006).

Although Generation Y (Gen Y - born between 1982-2003) is not as big as the Baby boomers they will have as large an impact on business and infrastructure as the boomers did. Even though this generation is only recently starting to graduate from high school they are already changing the face of advertising and marketing. They have grown up with computers, email and instant communication and information. The internet and television are the Gen Y medium of choice (Washburn 2000) when seeking information (Chaczko 2008; Weiler 2004).

It is well acknowledged that Gen Y have ‘a sense of entitlement’ (Garrett 2013), see themselves as of the utmost importance and highest worth (Goessi 2013) and that they want everything for themselves (Jaswal 2013), wanting it now and expecting ‘excellent customer service’ (Waldron 2013). They therefore cannot comprehend a health care system that does not give them the highest priority (Garrett 2013; Goessi 2013; Jaswal 2013).

Gen Y are known to have below average visits to the GP (1.5 per year). A survey of health care consumers by Deloitte (2010) showed that 39.1% of Gen Y did not have a GP. Deloitte (2010) also demonstrated that Gen Y’s visits to the ED are higher than any other generation, both due to sporting accidents and the fact that they access ED for routine medical problems, which they perceive as more convenient. Deloitte (2010) identified many factors for this higher presentation to ED, suggesting this generation are also more likely to wait until a health issue becomes severe, rather than accessing primary care when symptoms first appear. Gen Y dislike making appointments, preferring instead to attend ED, expecting to be seen quickly and also have not developed a relationship with a GP. However this may also be due to the fact young people do not perceive they need a GP. It is not known if this is a Gen Y phenomenon, or simply a result of their young age.

An understanding of generational differences underpinning the value sets of different generations in inextricably linked to how care can be prioritised in relation to community expectations (Chaczko 2008). This research attempts to identify the expectations of generational groups in terms of waiting times; with a focus on the patient expectations of what is likely to occur (Cooke et al 2006), by asking patients direct questions about their expectations (Boxer and Boxer 2009).

PURPOSE OF THE RESEARCH

Gen Y form 30-40% of the total patient numbers attending ED's (Thiedke 2007). Based on generational descriptions, the possibility exists that 'Gen Y doesn't like to Wait'. This understanding focusses attention on whether their levels of satisfaction correlate with Gen Y's higher expectations, as theorised by Thiedke (2007) and Urden (2002). What this may mean for clinical environments and future service delivery (Washburn 2000) is important to explore.

The aim of this small scaled research project was to identify any generational differences in expectations and satisfaction in waiting times, amongst Minor Injury patients with an ATS (Australian Triage score) four and five and how, or indeed if these relate to overall satisfaction of the Emergency Department (ED) Fast track or Treatment Stream (TS) Service. The question for this research was: In what ways do generational groups perceive waiting times for the service provided by an Emergency Department Fast track or Treatment Stream Service and with what implications for future services?

STUDY DESIGN

A descriptive survey design was employed.

POPULATION SAMPLED

A convenience sample comprising of potentially every third adult patient attending the Armadale ED TS area, was offered the opportunity to participate in the study. Armadale ED saw 61,000 patients in the previous year. Approximately one third of these (20,000) were TS patients. An uptake of 25% uptake was anticipated on a potential recruitment total of 50 patients per day. The maximum number of patients likely to be recruited on a daily basis was therefore approximately 12. In order to achieve a confidence level of 95% with a 5% sample error, it was calculated that a minimum sample population of 377 patients would be required to be recruited.

Patients entering the TS area of the ED were given a validated patient satisfaction questionnaire by the ENP or Medical Officer (MO), to complete during their stay, together with a verbal explanation of the study. The questionnaire was validated during a study by Sun et al (2001) in order to quantify their impression of the waiting times and their level of satisfaction and had a Cronbachs alpha score of 0.88 (Dihn et al 2012). Patient satisfaction was measured as an overall care score which gave a rating from 1 (poor) to 5 (excellent) and gave a combined score. There were five elements of care considered: 'courtesy and politeness, explanation and advice, waiting times and understanding of discharge instructions' (Dinh et al 2012).

Data was gathered by the nursing staff, ENPs and emergency medical officers and was collected over a three month period from September to December 2013. The Research was approved by the South Metropolitan Health Service Ethics Committee. Consent was implied by completion of the questionnaire. The questionnaire response identified patients by their Emergency Department Information System (EDIS) day number only. Patients were asked to complete the questionnaire during their visit to the ED TS area, rather than returning it by post, in order to improve the response rate. Patients were asked to identify their generational cohort on the demographic details. They were also asked to outline their expected and perceived waiting times on Likert scales from 0-30 mins to 4 hours: these included wait to be seen, wait for their investigations and their total wait in the department. They were then asked to identify their levels of satisfaction with the service and staff on Likert scales with ratings of 0 (poor) to 5 (excellent). The responses were analysed to see if there were any differences in the waiting times, expectations of waiting times and patient satisfaction between the different generational cohorts attending the TS area of the ED. In addition, overall numbers of patients from different generations attending the TS area of the ED were also analysed. The actual total perceived waiting times for individual patients were then cross-correlated with the actual time of admission and actual discharge time on EDIS.

EDIS data was used to corroborate patients' impression of waiting times.

INCLUSIONS

All patients entering the TS area of the Emergency department, between the ages of 18 and 65.

EXCLUSIONS

Patients under 18 years of age over 65 years of age; patients who did not comprehend English, including patients requiring an interpreter; patients with decreased physical or mental capacity to complete or comprehend the survey and patients with other comorbidities leading to increased length of stay and/or admission.

LIMITATIONS

It was also likely that the vast majority of patients sampled will have been seen by an ENP. This is because it is the ENP team driving this piece of research and also because it was not common (during the day) for a medical officer to be assigned to the streaming area. Medical officers therefore pick up the occasional patient during the day if the patient numbers attending the streaming area at any one time are too large for the ENP to cope with alone.

The ability to recruit patients closely correlated with the influx of patients into the department. The busier the department, the less likely it was to have time to recruit patients. This likely reflects the decreased ability to attend to the research and get patients to fill in questionnaires during the afternoon shift, when it tends to get very busy. This would have skewed the results, if the impetus of the questionnaire was solely on patient satisfaction, as it is well documented that patient satisfaction decreases with increased waiting times (Parker and Marco 2014). However, as this study focuses on the differences in patient expectations and was investigating the correlation between expectations and satisfaction, it was felt that the information was still worth analysing. The longer the study went on, the numbers of patients recruited reduced and then the study was halted early, due to the discontinuation of the TS area.

Due to a change in focus of departmental service initiatives, the TS was discontinued in December 2013 and the ENPs now see minor injury patients within the main department. Unfortunately, this research had to cease before the proposed number of patients had been recruited, however the preliminary data from this research was collated and analysed in the hope that it might provide some valuable insight into any generational differences in patient expectations and satisfaction, so that this information might be utilised in ongoing strategic planning for this cohort of patients, attending the Emergency department.

FINDINGS

Results were descriptively analysed using Stat data and statistical analysis software and discussed within the conceptual framework of generational descriptions.

Quantitative data was analysed using Pearsons Chi and Fischers. Significant variables identified were that there may be variations between the perception of waiting times by the patient and the data input on EDIS. This may be inaccurate with regard to discharge times, due to the fact that this information is not always recorded as the patient leaves the department.

- 86.75% of the patients questioned were seen by an ENP and 6 % were by an ED Medical officer (MO). 4.6% were seen by both an NP and an MO.

- 72% of patients questioned were seen between 0800 and 1400 hours, with 23% between 1400 and 2200.
- Only 7% of the patients questioned fell into the silent generation category. 40% were Gen Y with 26% gen X and 25.5% baby boomers. These figures are in keeping with the literature which identifies a 40% ED attendance for Gen Y (Deloitte 2010).
- 60% of attendees were male and 38% female. Four did not state their gender.

Table 1: Perceived wait times to be seen in percentages of total patients

Wait Times	30mins	<1hour	2-3 hours	>4hours
%	52	32.5	12	4

- 80% of patients said they 'expected' to be seen within three hours, with 40% of those expecting a wait of <1hour. In fact, patients perceived that 84.5% waited less than an hour and 96.5% total waited less than three hours.
- 43% of respondents experienced a wait of less than 30mins for 'test results' with a further 26% waiting under 1 hour. 77% total, waiting under three hours for test results.
- 98.6% of patients felt that the staff member attending them was courteous and polite, with the other 1.3% in the 'average' category.
- 97% felt that the advice they were given was either 'good' (15%), or 'excellent' (82%).
- 92% left the ED feeling that they understood the discharge instructions, with 6% declaring that their discharge instructions were poor and 1.3% said they were average.

Reasons for attending ED were varied: 1.3% was unstated; 47% stated it was an emergency; 20% were unable to get an appointment at their GP; 1.3% said the GP was too expensive (there are two large bulkbilling clinics nearby); 9% thought ED provided a better service and 21% had other reasons for attending but did not state what these were.

Overall satisfaction was good or excellent in 95% of respondents. However only 62% of the Gen Y group rated their satisfaction as excellent compared to 90% of respondents who were not Gen Y (p<0.001) P=0.018 (see tables 2 and 3a/b).

Table 2: Does satisfaction with ED visit vary with aged group?

KEY SATISFACTION: 0=missing 1=Poor; 2=Average;3=Good;4=Excellent

Satisfaction	0	1	2	3	4	TOTAL
Year Born Pre 1925	0	0	0	0	2	2
1925-1945	0	0	0	1	9	10
1946-1964	0	0	0	1	37	38
1965-1980	0	0	2	5	33	40
1980-1995	0	2	5	16	37	60
TOTAL	0	2	7	23	118	150

Pearson chi2(12) = 21.0448 Pr = 0.050

Fisher's exact = 0.018

Table 3a: Does level of satisfaction vary between Gen Y and all other aged groups?

	Gen Y	Other generations	TOTAL
SATISFACTION	0	1	
0	0	2	2
2	2	5	7
3	7	16	23
4	81	37	118
Total	90	60	150

Pearson chi2(3) = 17.9315 Pr = 0.000

Fisher's exact = 0.000

Table 3b

```
     Over     Proportion          Std. Err.  [95% Conf.Interval]

_prop_1
     0                  (no observations)
     1   .0333333  .0233696    -0128454      .079512

_prop_2
     0   .0222222  .015625     - 0086529     .0530973
     1   .0833333  .0359823    . 0122318     .1544349

_prop_3
     0   .0777778  .028389      .0216807     .1338749
     1   .2666667  .0575717     .1529042     .3804291

_prop_4
     0   .9         0317999    . 8371629     .9628371
     1   .6166667  .0632976    .4915897      .7417436
```

INTERPRETATION

62% (95% CI 49-74%) of generation Y rated their satisfaction as excellent compared to 90% (84-96%) of those who were not Gen Y (p<0.001).

Expectations of Waiting Times: comparison of generational groups revealed no difference between expectations of waiting times and perceived waiting times for any generation. Pr Chi 0.135. Therefore Generation Ys expectations were surprisingly the same as everyone else's. Data was examined to identify whether or not the waiting times were longer for Gen Y, to find out if this was why they were less satisfied. The wait times were not statistically significant between groups; however Gen Ys perception of their waiting time was wrong in a significant number of cases. Whilst as expected, a proportion of these thought they had waited longer than they actually had, an equal number thought they had waited a shorter time than they actually had.

DISCUSSION

Understanding generational differences can ensure the health services are delivered in a way to match expectations and increase level of satisfaction.

In this study, 150 patients were recruited over the study's time period providing results that add valuable insights and are worthy of discussion.

High numbers of patients seen by ENPs were due to ENP's primarily staffing the TS area and ENPs driving this research and encouraging their patients to complete the questionnaires. As the covering MOs changed daily, it also proved difficult to inform all of them about the research.

The correlation between patient expectations and satisfaction that had been postulated in the literature (Thiedke 2007; Urden 2002) was not supported by our findings. Whilst the results were very interesting, it is difficult to propose changes to the service when there is no perceived need, due to the fact that the expectations of the Gen Y'ers were the same as the other generations. A demonstrated difference in expectations could have supported further research to ascertain why and subsequently support proposed changes to the current system in order to meet those expectations.

This study found that Gen Y's appear to have a decreased awareness of time (longer and shorter) when compared to the other generations. However these results are in direct contrast with a study by Parker and Marco (2014), which did not identify any correlation between accuracy of time estimates and age. The authors postulate this may be due to the fact many of them are engrossed in social media whilst they are waiting and lose track of the time completely.

CONCLUSION

Gen Ys expectations with regard to waiting times were the same as the other groups, but Gen Ys are still less satisfied than the other generational groups. The reasons for this are unclear however this research demonstrated that Gen Ys dissatisfaction was not correlated with their expectations of the service. Further research is required in this field with a larger cohort of patients in order to ensure an improved confidence interval and increased rigor.

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A nurses' guide to the hierarchy of research designs and evidence

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KEY WORDS

Evidence based practice (EBP). Case reports, Cross-Sectional Studies, Cohort Studies, Random Control Trials, Systematic Reviews, Meta-analysis

ABSTRACT

Objective

This article provides a breakdown of the components of the hierarchy, or pyramid, of research designs. Its intention is to simplify the components of the hierarchy to enable novice readers of research to better understand the differing approaches and levels of evidence.

Primary Argument

Evidence-based Practice (EBP) is the integration of the best research evidence with clinical expertise and the patient's unique circumstances. This includes respect of patient values, and their needs, whilst delivering high-quality, cost effective health care. Understanding the differing levels of evidence, and their reliability, is paramount to making correct and appropriate health care decisions. Nurses are required to use evidence-based practice as they are responsible for a significant amount of judgments and decisions every day, and therefore, they must use research literature as part of their clinical decision-making.

Conclusion

The content, or levels of evidence, of the hierarchy will be discussed in a systematic, logical order from the base to the apex of the pyramid. A comparative grid at the end may lead the nurse to better understand the differing components of the seven levels of evidence or, depending on the source, eight.

INTRODUCTION

The nursing research pyramid, or nursing research hierarchy of evidence, provides a visual and systematic depiction of forms of research from the least reliable (base) to the most reliable (apex). The pyramid includes both qualitative and quantitative paradigms. Pyramids vary slightly from source to source which can be confusing. To further add to the varying hierarchies "there is currently no universally agreed upon hierarchy of evidence for study types that seek to answer questions about patient's experiences and concerns (Del Mar et al 2013 p.29). Figures 1 and 2 are discussed in the main part of this article.

At the Base of the Pyramid (Level 7): Ideas, Opinions, Anecdotes and Editorials

The least reliable evidence comes from ideas, opinions, anecdotes and editorials. Our knowledge comes from varying places and our practices can be from tradition and custom, with many practices ritualistic. We can accept those practices with little questioning (Usher and Fitzgerald 2008 p.7). Whilst personal ideas, opinions and experience can be useful, they may not be transferrable or easily explained. They are akin to anecdotal evidence which is based on, or consists of, reports or observations of usually unscientific observers (Merriam Webster Dictionary 2015).

Editorials are usually in the form of a newspaper or magazine article that give the opinion of the editor or publisher (Merriam Webster Dictionary 2015). They are printed and available for public view and scrutiny but cannot be used as scientific evidence.

Another form of evidence not mentioned in the pyramid is instinct which is a 'hunch' or 'gut feeling' which is closely tied to personal experience (Usher and Fitzgerald 2008 p.10). Benner (1984) believes this is often deep knowledge derived from many hours, even years, of observation and experience, and acknowledges its importance, but it remains under-researched (Usher and Fitzgerald 2008 p.10) and cannot be quantified. It is, however, an important tool in nursing practice and part of nurses' synergistic response to patients and events (Center for Spirituality & Healing and Charlson Meadows 2015).

Case Controlled Studies, Case series and Case Reports (Level 6)

A case controlled study, or a case report, can be defined as an in-depth research study of an individual unit which may include, for example, one person, one family, a group or other social unit (Burns and Grove, 2009; Jackson and Borbasi 2008 p.154). A case study generally combines both qualitative and quantitative data (Jackson and Borbasi, 2008). This is further described by Wilczynski and McKibbon (2013 p.43) as an original study but specifically one study only. Jirowong and Pepper (2013 p.156) suggest that case controlled studies have subjects with a disease or condition (cases) or don't (controls). Information is obtained about their previous exposure/non-exposure to the intervention or factor under study (NHMRC (National Health and Medical Research Council) 2009). Comparisons can then be made by the researchers. There is a potential for bias in recalling information and the quality may be affected if the information is collected retrospectively (Jirojwong and Pepper 2013).

A case series is defined as a report on a series of patients, or cases, who have an outcome of interest or may have received some intervention (Del Mar et al 2013) whereas the NHMRC (2009) state it is a single group of people exposed to a intervention (factor under study). Whilst pre and post tests are recorded, there is no control group (Del Mar et al 2013 p.28). Due to the individual nature of these studies, with limited ability to extrapolate to a wider audience, they remain at the lower part of the pyramid.

Cohort Studies (Level 5)

Cohort Studies are defined by Jirawong and Pepper (2013 p.156) as a study which categorises participants according to the level of exposure to risk factors who are then followed over a period of time to observe the possible occurrence of a disease. This is further clarified by Del Mar et al (2013 p.25) as a longitudinal, observational study where differences in outcome are observed and related to the initial differences. The NHMRC (2009 p.9) state that those under study are then compared to a group not exposed to the risk factor.

Cohort studies can be prospective or retrospective. The NHMRC (2009 p.9) explain that prospective cohorts are observed at a point in time to be exposed or not exposed to an intervention whereas retrospective studies are usually done from medical records.

Observational studies are good at answering questions about prognosis, diagnosis, frequency and aetiology but not questions regarding the effect of an intervention (Del Mar et al 2013 p.24). Random Controlled Trials are able to quantify the effects of intervention hence they are higher up the pyramid than Cohort studies.

Random Control Trials (Level 4)

Random Control Trials, or RCT's, are the gold standard but Meta-analyses (discussed below) combine many RCT's. RCT's are considered to provide the best evidence (Koch et al 2008 p.233). This is an experimental form of research where participants are randomised (randomly allocated) in to two, or more, different groups with each group receiving a different intervention. At the end of the trial the effects of the different interventions are then measured (Del Mar et al 2013 p.25). The results are gathered and decisions can be made once it is evident that one intervention is more effective than another.

RCT's are routinely used to test new forms of medication because the design has the three major characteristics of an experiment, namely randomisation, a control group and manipulation (Jirojwong and Pepper 2013 p.153). This style is considered very reliable because the replication of a trial is possible and the study protocols have to be well defined and clearly described (Rose 2013).

Critically-Appraised Individual Articles (Article Synopses) (Level 3)

Critical appraisal is a term used to assess the outcomes for evidence with regard to an individual research study's effectiveness (Jirojwong, Johnson and Welch 2013). Authors of critically-appraised individual articles evaluate and synopsise individual research studies (Harvey Cushing/John Hay Whitney Medical Library 2015; Walden University 2015; Glover et al 2006). A synopses is the evidence of an individual article with an expert telling you its strengths (Wilczynski and McKibbon 2013 p.43). This is less reliable than Critically Appraised Topics as there is less evidence on single articles than in a synthesis of a topic using several papers.

Critically Appraised Topics (Evidence Syntheses) (Level 2)

Several journals have sections where they highlight critically appraised papers (Wilczynski and McKibbon 2013) and tell you how strong the evidence is. Authors of critically-appraised topics evaluate and synthesise multiple research studies (Harvey Cushing/John Hay Whitney Medical Library 2015; Walden University 2015; Glover et al 2006).

These are also called Synopses of Syntheses which have structured abstracts, or brief overviews, of published systematic reviews that have been screened for methodological rigour (Wilczynski and McKibbon 2013 p.46). Synthesising research publications entails categorising a series of related studies, analysing and interpreting their findings and then summarising those findings in to unified statements. The potential lack of standardisation can undermine the validity. However, if properly conducted, it is a systematic approach that can integrate qualitative and quantitative strategies (Shi 2007).

The Apex of the Pyramid (Levels 1a/1b Figures 1 and 2): Systematic Reviews and Meta-analysis

Systematic reviews can be defined as a compilation of all scientific studies on a particular topic according to predetermined criteria (Fernandez et al 2013 p.348). More specifically, it is a method to "review existing literature on a particular question by identifying, appraising, selecting and synthesising all high quality research evidence relative to that question" (Jirojwong et al 2013 p.405). Systematic reviews differ from literature reviews in that they involve rigorous review of all the available evidence on an aspect of health care (Koch et al 2008). The quality of the research is appraised and then the evidence is ranked in terms of reliability (Koch et al 2008). Authors of a Systematic review ask a specific clinical question, perform a comprehensive literature search, eliminate the poorly done studies and attempt to make practice recommendations based on the well-done studies (Harvey Cushing/John Hay Whitney Medical Library 2015; Walden University 2015; Glover et al 2006).

Fernandez et al (2013) and the NHMRC (2009) state that Systematic reviews are recognized as the highest form of evidence as they include all available evidence with conclusions based on rigorous critical appraisal. Literature reviews, by comparison, a much simpler and are a summary of available theoretical and research literature on a selected topic (Borbasi et al 2008 p.105). This helps to place the research problem in a context of what is already known and can help support the need for the study. Systematic reviews may summarise results from qualitative, quantitative or combination studies, that is, Mixed methods research (Bennett et al 2013).

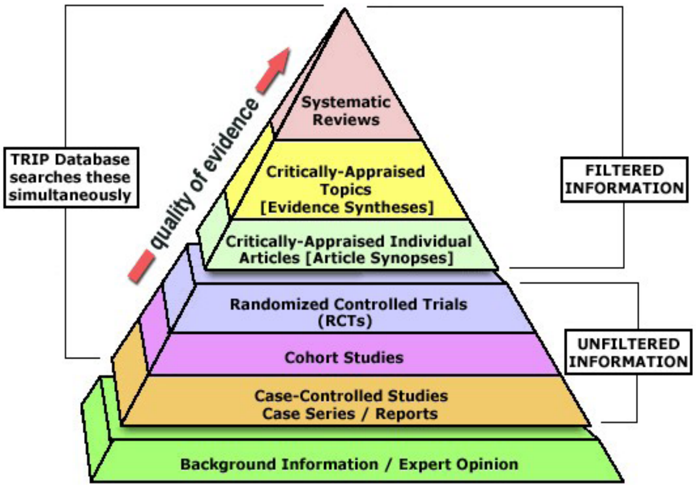
A Meta-analysis is also at the highest part of the pyramid because it is a pooled analysis of several randomised controlled trials (DelMar et al 2013 p.24). Some sources place Systematic reviews alongside Meta-analyses whereas others place Meta-analyses above Systematic reviews. The Meta-analysis differs from Systematic reviews in that the results of two or more individual quantitative studies are typically summarised using the measure of effect that allows for statistics to be compared and combined to form the Meta-analysis (Bennett et al 2013 p.284). A Meta-analysis is a systematic review that combines all the results of all the studies into a single statistical analysis of results (Harvey Cushing/John Hay Whitney Medical Library 2015; Walden University 2015; Glover et al 2006). Sometimes the results of the RCT's cannot be combined because the interventions, or outcomes, may be too diverse to combine and the results are then synthesised narratively (Bennett et al 2013 p.284). Higgins and Green (2011) support this stating if studies are clinically diverse then a meta-analysis may be meaningless, and genuine differences in effects may be obscured.

An example of a body who performs both Systematic reviews and Meta-analyses is the Cochrane Collaboration (Cochrane Community 2015). Cochrane Reviews are Systematic reviews, or Meta-analyses, of primary research into human health care and health policy. They are recognised internationally as the highest standard in evidence-based care (Cochrane Community 2015; Jirojwong and Welch 2013 p.284). Their role is to investigate effects of interventions for prevention, treatment and rehabilitation. They also assess the accuracy of a diagnostic test for a given condition in a specific patient group and setting (Cochrane Community 2015).

CONCLUSION

An understanding of the pyramid of evidence will lead the nurse to appreciate and identify which levels of research are more reliable. Nurses need to be competent in evaluating the strengths and weaknesses of research studies and the applicability of them in relation to their working environment (Jirojwong and Welch 2013 p.5; Levett-Jones 2013; Nursing and Midwifery Board of Australia 2013; Stevens 2013). Nurses have a responsibility to contribute to the development of the profession's knowledge through research.

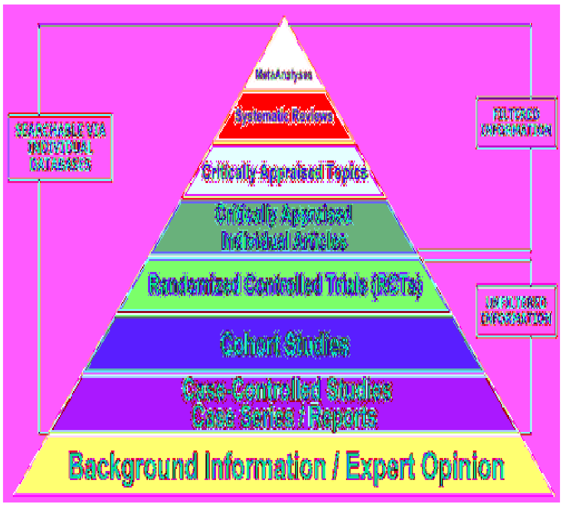
Figure 1



EBM Pyramid and EBM Page Generator, © 2006 Trustees of Dartmouth College and Yale University. All Rights Reserved. Produced by Jan Glover, David Izzo, Karen Odato and Lei Wang.

(Glover et al 2006)

Figure 2



(Bone and Spine, 2015; http://boneandspine.com/what-is-hierarchy-of-evidence/, 2015)

Comparative Grid of the Seven Levels of Evidence

Level 7 Base	Ideas, Opinions, Editorials, Anecdotes.	Least reliable. Basically anecdotal. Unscientific reports and observations (Usher and Fitzgerald 2008)
Level 6	Case Series and Case Reports	Slightly more reliable but there is a potential for bias in recalling information and the quality may be affected if the information is collected retrospectively (Jirojwong and Pepper 2013).
Level 5	Cohort Studies	Becoming more reliable. Observational studies are good at answering questions about prognosis, diagnosis, frequency and aetiology but not questions regarding the effect of an intervention (Del Mar et al 2013 p.24).
Level 4 Middle	Random Control Trials	Very Reliable/ Gold Standard. Random Controlled Trials are able to quantify the effects of intervention hence they are higher up the pyramid than Cohort studies (Koch et al 2008)
Level 3	Critically-Appraised Individual Articles (Article Synopses)	Increasing reliability of findings. A synopses is the evidence of an individual article with an expert telling you its strengths (Wilczynski and McKibbon 2013 p.43). This is less reliable than Critically Appraised Topics as there is less evidence on single articles than in a synthesis of a topic using several papers.
Level 2	Critically Appraised Topics (Evidence Syntheses)	Very high reliability. Synthesising research publications entails the categorising of a series of related studies, analysing and interpreting their findings and then summarising those findings in to unified statements. The potential lack of standardisation can undermine the validity.
Level 1a/1b Apex	Systematic Reviews and Meta-analysis	The most reliable of all. Systematic reviews, and Meta-analyses, of primary research into human health care and health policy are recognised internationally as the highest standard in evidence-based care (Cochrane Community 2015; Jirojwong and Welch 2013 p.284).

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AUSTRALIAN JOURNAL OF ADVANCED NURSING REVIEW PANEL: INTERNATIONAL

The art of clinical supervision: its development and descriptive mixed method review

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KEYWORDS

clinical supervision, nursing clinical placements, belongingness, learning theory, attitude theory

ABSTRACT

Objectives
The Health Workforce Australia Clinical Supervision Support Program Discussion Paper (2010) highlighted the education deficits of health professionals responsible for the clinical supervision of students. This research aimed to develop, implement and evaluate a new education program for nurses to assist in the development of knowledge and attitude to supervise students whilst on clinical practicum.

Design
The impact of the ACS program was determined using a descriptive methodology involving the collection and analysis of quantitative and qualitative data using a triangulation approach. This included the use of surveys, online reflections and interviews.

Settings
The ACS program was presented in both the metropolitan and regional areas of Western Australia.

Subjects
Participants (n=199) were from both the public and private health care sector working in a variety of nursing specialties within both the inpatient and community setting.

Results
Analysis of the data determined that participants improved their knowledge and attitude towards students and clinical supervision.

Conclusions
The ACS was confirmed as a strategy for providing effective education for nurses.

INTRODUCTION

This paper describes the development and evaluation of the Art of Clinical Supervision (ACS) program for registered nurses in Western Australia (WA). The program was first introduced in 2012 as a PhD study involving 199 research participants, however due to the program's success it was contextualised for all health professions and presented across WA with funding from Health Workforce Australia (HWA). As of December 2015 approximately 2,800 participants from nursing, midwifery, medicine, allied health and health sciences had attended the program.

This paper will serve to assist those interested in implementing a clinical supervision program for health professionals to provide an effective learning environment for students.

BACKGROUND

Literature

There is no universal term or definition for describing the clinical supervision of nursing students. Within the literature, terms include, but are not limited to, 'preceptorship', 'clinical supervision', 'supervision' and 'mentorship' (Gleeson 2008; Andrews et al 2006). In addition, there are numerous models of student supervision; these include one-to-one, group/team supervision, buddy system, and team leader model (Russell et al 2011). Whilst differences exist within each of these, all of these models provide students with a clinician to supervise their practice in the clinical environment.

In 2010 the Australian Government, Health Workforce Australia (HWA 2010) stated this lack of consistency across all health professions had left health services confused. In addition, the different university expectations of staff working with students, the learning requirements of students and the students' abilities, added to this state of uncertainty. HWA also recognised that good clinicians are not always naturally good supervisors and that education to supervise students was essential. The paper concluded a nationally consistent approach to the education of supervisors within the health professions was required. It suggested a national program for all health professionals, followed by discipline specific education.

In response to the HWA (2010) Clinical Supervisor Support Program Discussion Paper (CSSP), the Art of Clinical Supervision was developed and evaluated for the West Australian context. For this program and research, the HWA term and definition of clinical supervision was utilised to describe this clinical learning relationship between a student and a health professional:

> *the oversight either direct or indirect ...of professional procedures and/or processes performed by a student or group of students within a clinical placement for the purpose of guiding, providing feedback on and assessing personal, professional and educational development in the context of each student's experience of providing safe, appropriate and high- quality patient care (HWA 2011, p.4).*

Clinical Supervision

The literature articulates the need for registered nurses to possess the knowledge, skills and attitudes of effective clinical supervision. If left unmet, there remains a risk that the next generation of nurses entering the workforce will do so without the essential professional attributes to become effective members of the health care team (Brammer 2008; Gleeson 2008; Kilcullen 2007). The literature paints an alarming picture of student nurses currently not being engaged as active members of the health care team, or being given the opportunity to practice in an environment that is conducive to learning (Barker et al 2011; Smedley et al 2010; Gleeson 2008). This practice places the profession at risk of the production of skills-based nurses who are unable to think critically about the delivery of patient care (Allan et al 2008; Brammer 2008). This can have a detrimental effect on safe and effective health care delivery and patient outcomes (Gleeson 2008; Kilcullen 2007). A secondary risk is the loss of future nurses from the profession before they even begin, or early in, their career (HWA 2013b; Brammer 2008).

One of the current deficits identified is the lack of education and support provided to the nursing staff who supervise students. As stated, 'research has shown that mentors are often ill prepared (and) that their preparation varies from place to place, and that in reality most mentors learn on-the-job' (Andrews et al 2006, p.866).

A result of these ongoing concerns was the creation of Health Workforce Australia. HWA was created as a strategy to address the challenges of providing the Australian community with a skilled and innovative health workforce (HWA 2011).

Health Workforce Australia

HWA was an initiative of the Council of Australian Governments (COAG), and was established by the Commonwealth, State and Territory Governments after the 2008 National Partnership Agreement on Hospitals and Health Workforce Reform (HWA 2013a). HWA's functions included the provision of workforce planning and recruitment, and improving and expanding access to quality clinical placements for health professional students. Within HWA, the Clinical Supervision Support Program was established to assist with meeting the demands of clinical placements in Australia (HWA 2011). Strategies to date include the expansion of the current health service capacity for student placements and the development of a competent health workforce to provide quality clinical placements that promote learning and competence (HWA 2011).

The release of the HWA (2010) Clinical Supervisor Support Program (CSSP) Discussion Paper confirmed the concerns outlined in the national and international literature in relation to student clinical placements. This included a lack of preparation of clinical supervisors supporting clinical placements and the ongoing confusion by health care facility staff regarding the role of the clinical supervisor. The report stated the learning of clinical supervisor skills was separate to professional education requirements to gain entry into a health profession, and the role must therefore be addressed with its own specific education programs (HWA 2010).

The HWA (2010) paper described that many of the existing programs for clinical staff failed to provide them with the necessary knowledge and skills to effectively supervise students. Thus, the CSSP developed core themes for good supervision practice for all health professionals involved in the supervision of students. The seven core skills identified were: competent clinical skills, teaching and learning skills, effective feedback, communication skills, assessment skills, understanding of remediation processes and interpersonal skills.

RESEARCH

The purpose of this research was to design, implement and evaluate an education program that addressed the core skills of HWA (2010), as well as deficits and requirements identified in domestic and international literature, in order to prepare nursing staff for the role of clinical supervision.

On the development of the program, and ethics approval from the University of Notre Dame, Australia (UNDA) Human Research Ethics Committee, flyers for the ACS program were forwarded to health care facilities within WA. Nurses were able to attend sessions at the University or host health care facilities in both metropolitan (one public and one private) and regional WA (one public and one joint public/private). A convenience sample of 199 participants meeting the inclusion criteria attended the program in 2012. Inclusion was based on employment in a role involving the supervision of students, and more than one year's nursing experience. Participants were provided with an Information Sheet, written consent was obtained, and participants were informed that they were free to leave the study at any time.

DEVELOPMENT OF THE ART OF CLINICAL SUPERVISION (ACS)

The term ‘art’ was used in the naming of the program to identify the soft skills of the role in supporting students. In particular the importance of a positive attitude towards students and student learning. A search of the national and international literature did not identify the term ‘The Art of Clinical Supervision’ for existing supervision education. Whilst the term ‘art’ was used to define a style of supervision, its definition varied from undergraduate support to practicing health professionals (Estadt et al 2005; Titchen and Binnie, 1995). Titchen and Binnie (1995) defined the art of clinical supervision as a set of tailored teaching and learning strategies for nursing clinical education as opposed to the then traditional ward teaching of right versus wrong. Estadt et al (2005) demonstrated that the ‘art’ of supervision was a style of supporting peers through their professional development. The book included various stories shared by senior clinical supervisors. These experiences were themed at promoting the clinical supervisor role as a journey of support through shared learning. Whilst in the field of psychology, Falender and Shafranske (2014) discussed the competency requirements for the provision of effective clinical supervision and the current practices within supervision. They define the ‘art’ as being the current state of practice of clinical supervision within psychology and the need for a formal competency based approach to its delivery.

In developing the ACS the researcher considered the findings from the national and international literature, as well as HWA’s (2012, 2011, 2010) publications. The aim of the program was to provide an environment conducive to learning that would assist the participants to understand the bigger picture of student placements in Australia, the future directions and requirements of clinical placements, the role of clinical supervisors and the positive and negative influences of clinical supervisors.

One of the aims of the ACS was to promote a positive attitude toward clinical supervision. To achieve this the work of Katz (1960), related to the theories of persuasion, was applied. Katz (1960) highlighted that changing individuals’ attitudes can be achieved through the use of external forces. To achieve this an understanding of the motivational reason for, or function of, the held attitude is required. This allows motivators/educators to develop a persuasive message that will assist individuals to reason with and change their current attitude. Katz (1960) stated that by provoking individuals to analyse their attitudes, this could change the attitude; however, the success of this approach is usually linked to the charisma and quality of the message.

The ACS teaching plan incorporated the principles of attitude and persuasion (O’Keefe 2002; Katz 1960) by: utilising the behaviourist theories of learning by role modelling positive behaviour and rewarding and encouraging positive attitudes; cognitivist theory by adapting ones teaching and facilitating strategies that ensured the days content and discussions were applicable and relevant for each group; and constructivism through story telling which, highlighted the impact of poor and positive behaviours, therefore encouraging participants to reflect and question the purpose of their own attitude towards students (Knowles et al 2011; Kolb 1984; Knowles 1978).

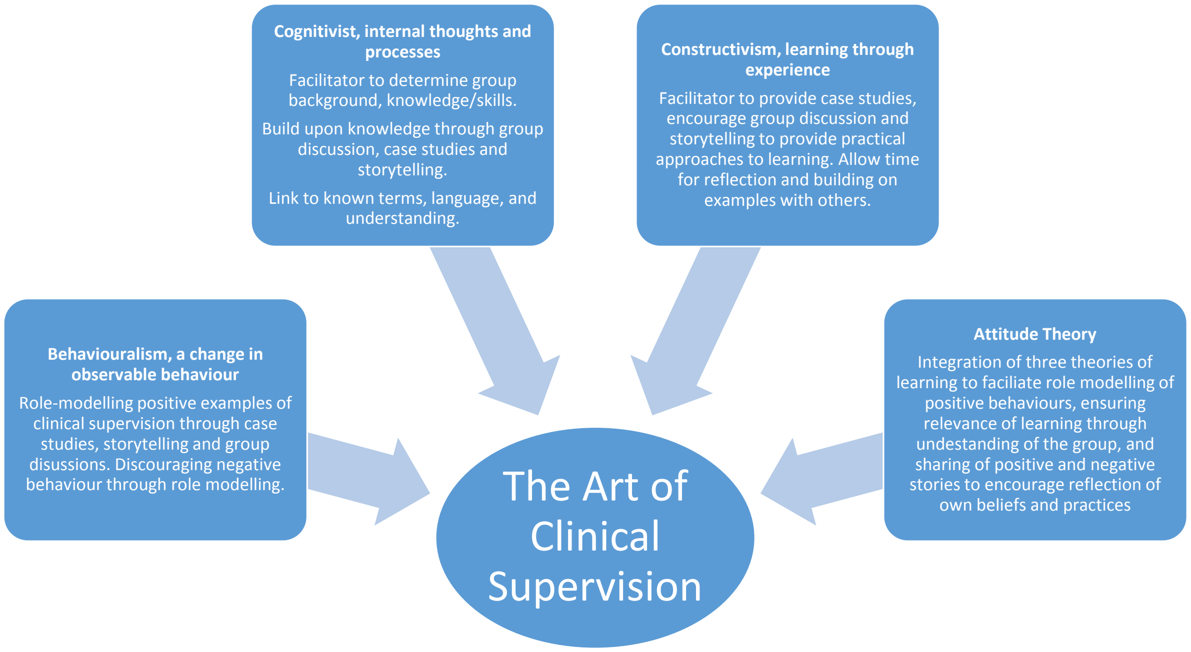
Research on belongingness led by Levett-Jones (2009, 2008, 2007) was a key topic in the study day to provide participants with an opportunity to analyse their attitude and develop strategies that could create a positive attitude towards students and student placements, whilst also highlighting the effect of negative and poor behaviours. The importance of belongingness and its impact on student learning highlighted that the attitude of the clinical supervisor had a significant impact on the ratings of clinical placement satisfaction by students. As a strategy to promote these findings the ACS program included a 90-minute session critiquing this research and developing implementation strategies.

The sessions on communication, feedback, reflection, learning styles, critical thinking and clinical reasoning were included to give participants the knowledge and confidence to provide effective teaching and supervision.

To meet industry demands for succinct education in a climate where staff can be released from the workplace for a limited time, the program was developed as an intensive one-day seminar with a comprehensive resource file.

The use of these theories and prinicples of learning guided the researcher in the development of the ACS teaching plan—that is, the delivery method of the content. These theories and principles were chosen due to their ability to assist with attitude change, an essential component of the program. Consumer input into the program was sought with the development of an expert group (five WA nurse educators) for content validity. This process was augmented by the experience of the author, who has extensive experience in this area as well as a Masters in Health Science Education. The application of the theories and principles of learning and attitude are demonstrated in figure 1.

Figure 1: Application of the Theories of learning and attitude to the ACS



DATA COLLECTION, ANALYSIS AND FINDINGS

The research process involved a Descriptive Study with mixed methods data collection and analysis. Participants completed pre (199) and post surveys (198), which detailed their knowledge and understanding of the principles of supervision and application of these principles, whilst a five point Likert scale attitude survey by Stagg (1992) was utilised to evaluate attitude. Participants were also invited for a further eight weeks to share their experiences of student supervision, work place practices, changes to practice etc. since attending the program via an online reflection. During this time 117 emails were received. Participants again completed the survey tools after a period of eight weeks (71), with a further 12 participants interviewed.

Quantitative

The quantitative findings were divided between the two survey instruments. The first, the knowledge survey, was developed by the researcher, and validated through a nurse educator expert group and tested for reliability with a test-retest approach of two weeks with 30 nurses. An Intraclass correlation coefficient (ICC) of 0.976 confirmed tool reliability.

The knowledge survey findings demonstrated that participants experienced a statistically significant increase in the mean score from the pre-program (42.5%) to the post program surveys (immediate post 58.7%, eight week post 68.3%), and this occurred across all subgroups that were analysed (p value <0.001). These subgroups included the participant demographics of age, area of employment, years of nursing, frequency of clinical supervision and previous education relating to clinical supervision. Although not statistically significant, it was noted with the knowledge survey that participants who were: employed in the metropolitan area, in a public hospital, had the most involvement in clinical supervision, with 21–30 years of nursing experience and were 41 years or older had the highest mean score.

The second survey, an attitude survey on clinical supervision developed by Stagg (1992), also demonstrated a statistically significant (p value <0.001) increase in the mean score from the pre-program (83.4%) to the immediate post-program (87.2%) and eight week survey (86.3%) (p value <0.004). Stagg's (1992) attitude survey highlighted that those with the highest attitude mean score towards students were: employed in the metropolitan area, within public health, and were between 20-30 years of age, however it must be noted that there was only a 2% difference between all age categories. Of note was that participants who supervised students 'most days' had a lower result in the attitude survey compared with those who supervised 'some days', with the most positive results found within the 'some days' group across all phases of data collection. These two groups always supervised students each week; however, it would appear that the 'some days' group also had an opportunity each week to experience some time without students. This is an important finding for educators and ward managers to consider when allocating students to clinical supervisors in the workplace. Other frequency categories included 'Infrequently – on occasions each month', 'Rarely – once or twice within six months' and 'Not at all'. These findings indict that the more engagement with student supervision the more positive the staff members attitude.

Qualitative

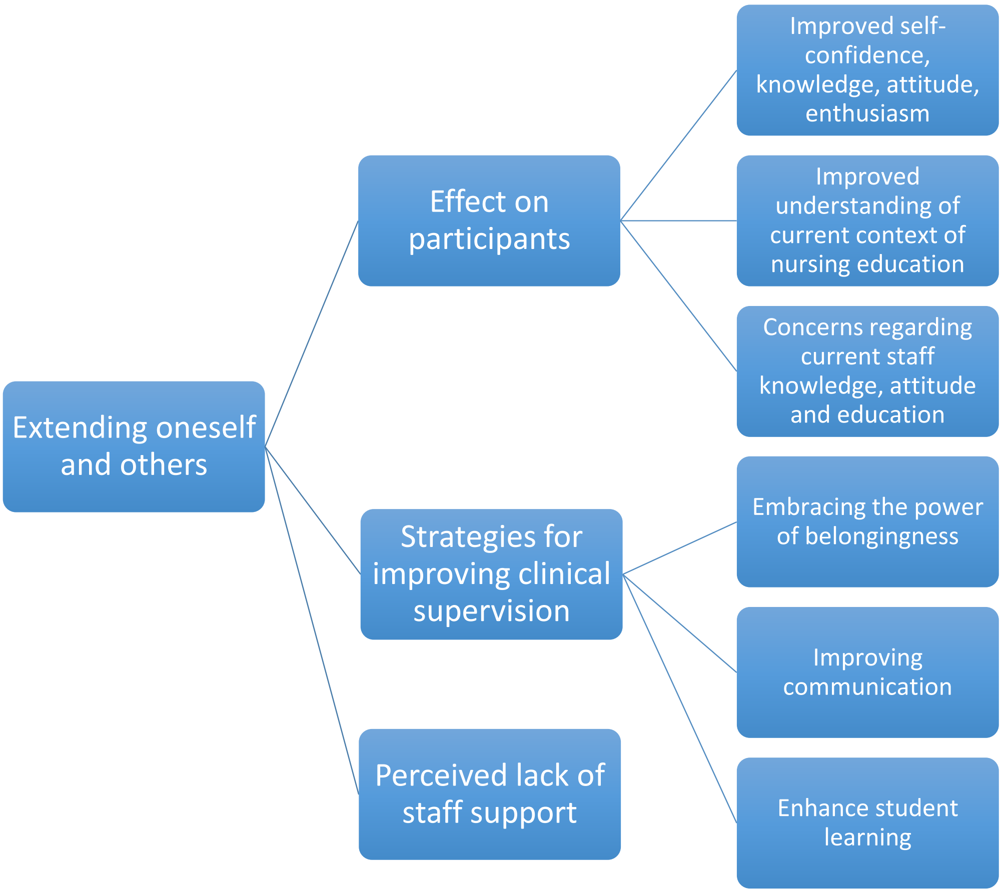
The qualitative data collection and analysis involved collecting participants' words about the effect of the ACS through short statements in the post-program knowledge survey, online reflections and interviews. Each data source was analysed in relation to the principles of thematic data analysis according to Braun and Clarke (2006).

Braun and Clarke (2006, p.79) define thematic analysis as "a method for identifying, analysing and reporting patterns (themes) within data". This method of analysis utilises a 'realist' method, which "reports experiences, meanings and the reality of the participants" (p.79). Six stages of analysis are identified. This involves familiarisation of the data, initial code development, identifying themes, review of themes, naming and defining of themes and the final stage of writing the report.

Upon reviewing the themes from each data source, the researcher determined that similar themes were evident in all of the data collection methods. The overarching theme of the qualitative data was entitled 'extending oneself and others'. Throughout the different qualitative data collection methods, participants commented on the effect of the program on themselves and how they could use this information and renewed enthusiasm and attitude to benefit students and other staff.

All three sources of qualitative data collection supported the findings of each individual source. Different depths of information and stories were obtained by using these different data collection methods within the qualitative phase. These themes and subthemes are articulated in figure 2.

Figure 2: Overall qualitative themes of the ACS study



The qualitative findings of the research indicated that participants found the ACS to be a positive learning experience, participant 119 stated the program "*Gave me more confidence and expertise to be an effective mentor for my students*", while 177 wrote that the program "*Gave me the confidence and education to work with students to improve needs, on role modelling, and working with them*". Participant 184 confirmed this view: "*It increased my confidence in my ability to supervise students and taught me things that I had not thought about before*". Participant 17 stated, "*I was expecting to leave the program with a better understanding of teaching undergraduates. I have that and feel empowered to take action*". Whilst participant 90 stated, "*I think I feel more confident having done this course to be more assertive and a better advocate for them (students)*" and participant 164:

> *"To highlight the importance of student nurses coming through and the value of putting effort into enriching their clinical experience...to be reminded of what it is like to be a student and prompt simple actions an experienced nurse can do to improve the clinical experience of a student."*

It was felt by the participants that this positive experience needed to be shared with others, participant 87 commented that the ACS was "*Essential learning for all RNs who mentor students, it will enhance the students experience if all RNs know how they can contribute*". Whilst participant 8 wrote "*I would like all nurses in my area to have completed this*", and "*My colleagues have not had any formal training and this would be invaluable for staff*" (42).

This positive experience was achieved by improving participants' understanding of the role of clinical supervisor, describing the bigger picture and the students' learning journey, discussing the skills of effective clinical supervision, highlighting the implications of both poor and positive clinical supervision, promoting the importance of belongingness and positive attitudes, and developing a sense of teamwork and collaboration towards the role of clinical supervision. Participant 71 stated:

> *"I had no idea at the start what to expect but this has been the most comprehensive and informative session I have been to on preceptor role and what it entails…It has given me a great resource in the way of the folder. Much more confident in what I am supposed to be doing and what my role entails."*

Whilst participant 21 stated:

> *"I just found it was a very positive experience for me…it just raised my awareness of where the students are coming from and picked up the little fine points that perhaps we weren't doing as well as we could have done with them, and being very conscious of their need to achieve their competencies and to make the most of every moment that they were there, and also trying to give them the best experience that was the most appropriate for them."*

The sessions related to critical thinking, clinical reasoning and reflection provided practical strategies for their implementation to assist with student learning, participant 40 stated:

> *"Relaxed presentation, really interesting information that was research based, current and relevant. I particularly enjoyed the styles of learning and also to have an understanding of how to promote clinical reasoning, critical thinking and reflection in practice."*

And participant 10:

> *"I particularly enjoyed the styles of learning and also to have an understanding of how to promote clinical reasoning, critical thinking and reflection in practice…it will certainly aid me in trying to ascertain how my students learn best and adapt my supervision to optimise their learning and development while on prac."*

All three data sources discussed the future of the program and its availability to assist staff to undertake this role. Participants felt that health services and education providers needed to promote and support the role of the clinical supervisor and that this could in part be achieved through the ongoing commitment to staff education. The ACS was seen as a strategy to improve staff knowledge and promote a cultural change in staff attitudes towards students, by providing the speciality education requirements to achieve this. Participant 68 stated:

> *"I think there's a huge gap out there in nursing…I think a lot of education needs to come in…most of them (nurses) don't have a clue what the code of conduct is, or the code of ethics, let alone professional boundaries."*

With participant 92 commented:

> *"Education in clinical supervision is really poor, very poor…the education from the university is expected to be given by people with Masters and above, not only in their clinical skills but also in their education ability…so why when you're on the front line can we expect people to suddenly become expert teachers? We can't. We have to teach them how."*

While participant 76:

> *"I think it was an excellent initiative to have a proper study day, and it would be nice if it would be, the best word I can think of is compulsory, to get facility staff to take seriously the role of working with students and developing students, that we can't just pretend I'm a nurse, I've got a student, I know about nursing. We can do with it being quite a formal part of staff members development that they come to study days*

> *such as that, that they've got a decent insight into what the role of the supervisor and the mentor is and how to deal with having a student."*

Participant 92 also supported this belief:

> *"Clinical supervision education should be taken more seriously…each nurse [should] get the opportunity to get that education…I hope to goodness it [study day] does continue along to get bigger and bigger."*

Participants also related the importance of improving workplace culture, supporting first year nurses and how this related to the future recruitment and retention of student nurses, and nurses, in nursing. Participant 101 wrote, "*To help nurses…be more supportive of students, to help develop our future nurses stay in the job and enjoy their chosen career paths and put back into nursing*". Whilst participant 39 commented that "*As a profession which is known to be ageing it is important to know how to guide students in a caring and sufficient manner, as we need more nurses and one day they too will become facilitators to students*". Participant 57 linked this to the concept of belongingness, "*Put into realisation how nursing students need to be treated, and how easily they may no longer like the profession should they be treated wrongly*".

LIMITATIONS

There were limitations to this research project. The main limitation related to measuring the impact of the study. The effectiveness of the program was measured through the attending nurses. Whilst results from the data indicated a change in knowledge and attitude, it may not transcend to a change of practice. The researcher considered the inclusion of fieldwork to observe these nurses in practice. This would have involved pre and post observations to measure a change in practice. Due to the many uncontrollable variables, this was not included. As a result, the use of the online reflection by participants was incorporated to provide the researcher with access to the thoughts and examples of experiences of supervision. The researcher also acknowledges that in the recruitment process these participants choose to attend this program and therefore may have a stronger interest in this role than the general nursing population. This may bias the results of the data, and may either set higher expectations of the program content, or a proactive approach in implementing the programs objectives.

DISCUSSION

The findings of this research demonstrate that a positive effect on participants' knowledge and attitude can be achieved with a dedicated study day program. The participants endorsed the ACS as an education strategy that could provide nurses with the necessary knowledge, skills and attitudes to facilitate positive clinical supervision placements.

Findings from the research also suggest that the ongoing success of the program on participants' effective implementation of the role could not be guaranteed without ongoing organisational support and commitment to the role. Participants felt that more support from the health care facilities and education providers was required, including greater recognition of the role, responsibilities, barriers and time requirements.

Due to the success of the study, a further three years of support for the program was provided through Health Workforce Australia (until its cessation in November 2014), and modified (terminology only) to facilitate the inclusion of the wider health care team. Study day evaluations from these days continued to be positive and supportive of the program.

The implications of these findings are an important take-home message for hospital executive staff, educational institutions and clinical supervisors who want to improve their organisational culture and the role of the clinical supervisor. These findings suggest that the success of the clinical supervision relationship between nursing students and registered nurses is co-dependent on all of these factors. Health care facilities and education providers need to consider these findings and their implications for future policy and strategy development.

CONCLUSION

The Art of Clinical Supervision aimed to assist nursing staff to develop the essential knowledge and attitude to provide nursing students with a positive learning experience. The research study confirmed the success of the program, and the program continues to provide learning opportunities for all health professionals in Western Australia. This articles intent has been to provide other health care services with a background to this program and its evaluation to assist with further clinical supervision education strategies.

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Home oxygen therapy assessment for COPD patients discharged from hospital: Respiratory NP Model of Care

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Author statement

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KEYWORDS

home oxygen therapy, COPD, hypoxia, discharge, nurse practitioner

ABSTRACT

Objectives

The research aim was to examine the impact of the introduction of the Chronic Respiratory Disease Nurse Practitioner (CRD NP) Model of Care (MOC) on the assessment for short term oxygen therapy (STOT), provision of care, and patient outcomes for patients discharged with oxygen therapy post an acute exacerbation of chronic obstructive pulmonary disease (COPD).

Design

A retrospective uncontrolled comparative clinical audit was conducted in two six-month periods pre (2009) and post (2011) the introduction of the CRD NP MOC.

Setting

Tertiary referral centre in central Victoria, Australia.

Subjects

A total of 301 patient admissions with a discharge diagnosis of COPD were examined for hypoxia at rest and on exertion prior to discharge.

Main outcome measures

The audit focused on the incidence of assessment for STOT prior to discharge, supply of STOT where indicated on discharge, and incidence of re-admission within 28 days of discharge with COPD related symptoms.

Results

A statistically significant increase in the proportion of appropriate patients assessed with arterial blood gas analysis for eligibility of STOT from 7.7% in 2009 to 45% in 2011. Provision of STOT on discharge increased from 26.7% to 44.4%. Re-admission to hospital within 28 days of discharge for patients with STOT decreased from 25% in 2009 to 12.5% in 2011.

Conclusion

Since the introduction of the CRD NP MOC there has been an increase in patient assessment for STOT, provision of STOT, reduction in hospital re-admissions, improved adherence to procedure protocols, improved patient outcomes and cost savings for the hospital.

INTRODUCTION

Oxygen is a drug that has been used for centuries for its therapeutic purposes (McDonald and Crockett 2009) and was first used in the treatment of lung disease in 1922 (Ringbaek 2006). With increasing fiscal pressure to discharge patients as early as is practicable from hospital it is common practice worldwide to discharge patients who have been admitted for chronic obstructive pulmonary disease (COPD) and remain hypoxic at the time of discharge with short term oxygen therapy (STOT) (Ringbaek 2005; Eaton et al 2001). These patients traditionally have been assessed for STOT according to the guidelines for the provision of long term oxygen therapy (LTOT) that applies to their respective country. It is expected many of these patients who are assessed for STOT will be clinically stable and will not fulfil the criteria for LTOT when reassessed within one to two months of discharge. Therefore STOT provides optimal medical management that appropriately balances patient care and timely discharge (Eaton et al 2001).

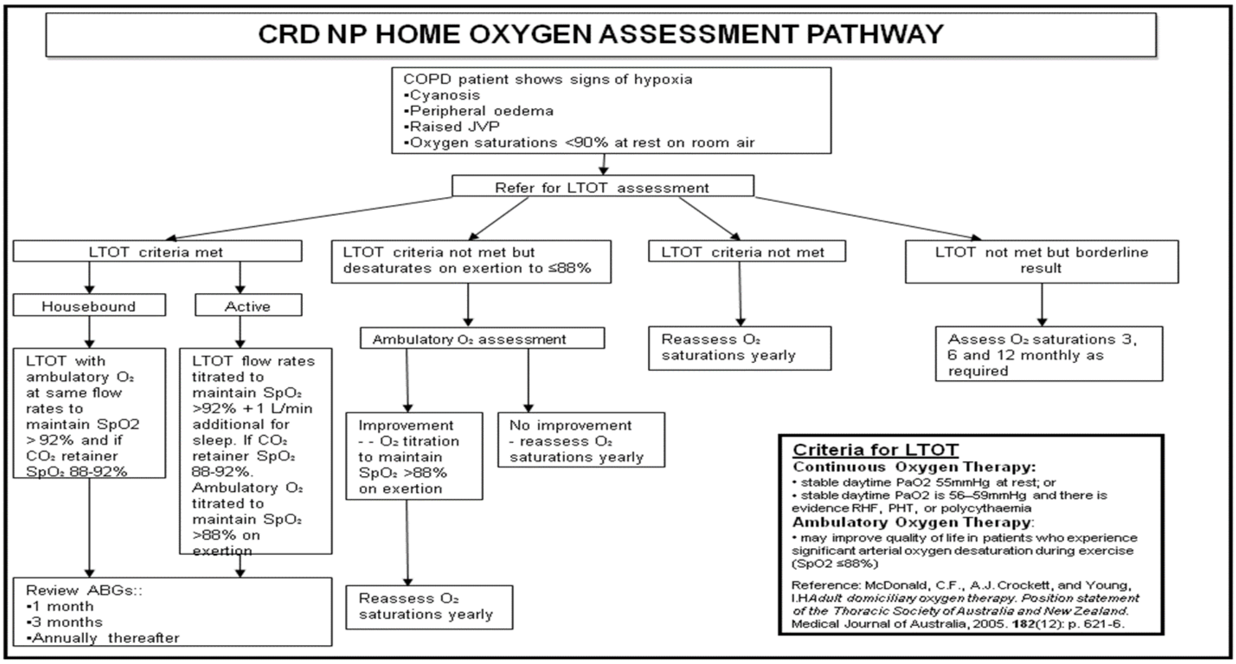
At a regional health facility in Central Victoria, Australia it was recognised that potential enhancement could be made in the areas of access, provision of care and improved client outcomes. Consequentially, a Model of Care (MOC) that could address the gap in service to improve patient outcomes was proposed and one of the authors was appointed to the position of Chronic Respiratory Disease Nurse Practitioner (CRD NP) in 2008. Subsequently, a CRD NP MOC was developed in 2009 which included the assessment and management of COPD patients who required home oxygen therapy on discharge from hospital. With the introduction of the CRD NP MOC in 2010 the existing hospital policy and procedure for home oxygen therapy was revised to specify that medically stable patients who remain hypoxic should be assessed appropriately for STOT within the 48-hour time period prior to discharge from hospital.

The CRD NP reviews patients discharged home with STOT at one and three weeks post discharge for oxygen titration, education of home oxygen therapy and to ascertain the need for assessment of long term oxygen therapy. The CRD NP refers patients who remain hypoxic for the required arterial blood gases (ABG) on room air and on oxygen and also for a Six Minute Walk Test (6MWT) prior to their review appointment at approximately four weeks, however this time frame may be longer to ensure the patient is medically stable when assessed. An Outpatient Department Oxygen Clinic (OPD OC) was established to review patients discharged with STOT in 2010. At the OPD OC the patient's results were reviewed by the CRD NP in collaboration with either of the two respiratory physicians, and eligibility for LTOT was determined. If the patient initially was only eligible for portable oxygen therapy then they may be reviewed in the clinic at three, six or twelve months for assessment for an oxygen concentrator depending on the degree of chronic hypoxaemia present.

BACKGROUND

COPD is a slow progressive disease that is characterised by a reduction in airflow that is not fully reversible which may lead to severe disabling breathlessness on minimal exertion and often leads to chronic hypoxaemia and respiratory failure, increased hospital admission and premature death. Chronic hypoxaemia, is defined by O'Driscoll et al (2008) as a low oxygen tension or partial pressure of oxygen PaO_2 <60 mmHg in the blood, or SpO_2 <90% on room air. Chronic lower respiratory tract disease is expected to be the third leading cause of death by the year 2020 (Crockett et al 2002). Worldwide, COPD is a major cause of morbidity and mortality and in Australia it is estimated that there are approximately two million people with a diagnosis of COPD, with 1.2 million people suffering from moderate to severe COPD (McKenzie et al 2011). It is estimated that 14% of Australian adults over the age of 40 years have some degree of COPD when assessed under the Global Initiative for Obstructive Lung Disease (GOLD) criteria and with an aging population the burden of disease is likely to increase (Toelle et al 2013). COPD has been ranked as the fifth highest contributor to the overall burden of disease estimated by the Australian Institute of Health and Welfare (Australian Institute of Health and Welfare 2008). COPD death rates in Australia are now ranked sixth for both men and women as common causes of death and in the indigenous population death rates are five times higher than that of non-indigenous Australians (Access Economics 2008; Australian Institute of Health and Welfare 2008). COPD is also associated with other conditions such as heart disease, lung cancer, stroke, pneumonia and depression (Abramson et al 2015).

Diagram 1



LTOT benefits have been demonstrated in two landmark randomised clinical trials by the Nocturnal Oxygen Treatment Trial (NOTT) group and Medical Research Council (MRC) working party in the early 1980's (Nocturnal Oxygen Therapy Trial 1980; Medical Research Council Working Party 1981). As a result of the NOTT and MRC trials, guidelines for the prescription of LTOT have been implemented in many countries around the world with the first guidelines being developed in the United Kingdom (UK) in 1985 (Kelly and Lynes 2008). The American Thoracic Society (ATS), European Respiratory Society (ERS), British Thoracic Society (BTS) and the Thoracic Society of Australia and New Zealand (TSANZ) have all established their own similar criteria for LTOT in patients with COPD based on these two multicentre studies (Wijkstra et al 2001). In Australia the guidelines for the management of LTOT recommend that it is prescribed for at least 18 hours per day and it has been found to be the only component in the management of COPD patients with severe daytime hypoxaemia that improves survival, quality of life and reduces mortality (McDonald et al 2014).

In Australia the major cause of chronic hypoxia is COPD, but is a feature of many other cardio-respiratory diseases Oxygen is prescribed according to the adult domiciliary oxygen therapy position statement of the TSANZ. This position statement is a 'consensus statement' that was first developed in 1998, then revised in 2005 and again in 2014 (McDonald et al 2014; McDonald et al 2005). The TSANZ suggest that home oxygen therapy is beneficial for patients with evidence of chronic hypoxia but also for patients whose resting oxygen levels are satisfactory during the day however desaturate on exertion and at night when sleeping despite the lack of strong evidence to support this practice (McDonald et al 2014). STOT and LTOT are prescribed differently across the various states and territories within Australia due to varying policies and funding bodies (Serginson et al 2009).

As a result of an acute exacerbation of COPD, patients may be prescribed STOT on discharge from hospital if hypoxaemia persists. The criteria that has been traditionally used for the assessment for STOT is the same as for LTOT. If the patient is hypoxic (SpO_2 <90%) when awake, at rest and breathing room air, then an ABG sample should be obtained for assessment of hypoxaemia. If the arterial oxygen pressure is low, $PaO_2 \leq 55$ mmHg (7.3 kPa), or if PaO_2 is from 56 to 59 mmHg (7.4-7.9kPa) together with clinical evidence of pulmonary hypertension, cor pulmonale or polycythemia (hemoglobin level >170g/l), then the patient would qualify for STOT that is funded by the hospital. These patients require reassessment within one to two months when their condition is stable and on optimal medical management for LTOT. COPD patients that are most likely to benefit are those who have an increased arterial $PaCO_2$ >45mmHg (6 kPa). The criteria for patients requiring ambulatory oxygen are that during exercise they may experience a significant arterial oxygen desaturation of $SpO_2 \leq 88\%$. Criteria for nocturnal oxygen therapy is $SpO_2 \leq 88\%$ (PaO_2 <55 mm Hg or 7.3 kPa) for more than a third of the night and who have evidence of hypoxia-related sequelae. Absolute contraindication for assessment or provision of STOT or LTOT is current smoking of cigarettes (McDonald et al 2014; McDonald et al 2005).

AIMS

The aim of the study was to examine the impact of the introduction of the CRD NP MOC on the assessment for STOT, provision of care, and patient outcomes for patients discharged post an acute exacerbation of COPD at a regional hospital in central Victoria, Australia.

ETHICAL CONSIDERATIONS

Ethical approval for this study was obtained from the Bendigo Health Human Research Ethics Committee (HREC) and was assessed as being low risk. Patient consent was not required as it was a clinical audit.

METHODS

A retrospective uncontrolled comparative study was conducted based on a clinical audit of the medical records for all patients discharged from hospital with a primary diagnosis of COPD during two six month periods. The first period was prior to the introduction of the CRD NP (pre-NP), from 1 January to 30 June 2009 and the second was the corresponding period in 2011, after the CRD NP MOC was implemented (post-NP). A total of 301 patient admissions during the two periods for patients with a discharge diagnosis of J44.0 (COPD with acute lower respiratory infection), J44.1 (COPD with acute exacerbation unspecified), J44.8 (other specified COPD) or J44.9 (COPD unspecified) were examined. Records for patients who were discharged to other units and health facilities for ongoing management or for convalescence were excluded from the analysis, as were those for patients already commenced on LTOT and receiving both an oxygen concentrator and portable oxygen cylinders. Records for patients who were identified as smokers (and hence ineligible for STOT) were initially included but removed from the analysis once it was evident that the TSANZ guidelines on domiciliary oxygen had been applied stringently and no smokers were provided with STOT.

DATA CAPTURE

The key data that was extracted from each record and examined were the following:

- Oxygen saturations at rest and on room air within 48 hours prior to discharge.
- If resting oxygen saturations ≤ 90% was an ABG sample taken for analysis of hypoxaemia within 48 hours prior to discharge.

- If patients had a functional walk test (performed by the physiotherapist over a 40 metre distance) and oxygen saturations on exertion ≤ 88% within 48 hours of discharge.
- Whether or not the patient was eligible for STOT.
- Whether or not the patient was discharged with STOT.
- Whether or not the patient was re-admitted within 28 days with a COPD diagnosis.

The data was transcribed into the Statistical Packages for Social Science, version 19 (SPSS) software for analysis. Evidence of differences in treatment practice and/or patient outcomes between the pre NP and post NP periods were examined using Fisher's exact test.

RESULTS

In the analysis there were a total of 182 patient admissions: 82 in the pre-NP period (2009) and 100 in the post-NP period (2011). However due to some patients having multiple admissions in total there were 221 individual presentations and admissions (91 pre-NP and 130 post-NP). Whether or not treatment practice or patient outcomes correspond to different episodes for the same patient is unimportant in this analysis so the numbers and proportions that are provided correspond to 'patient admissions'. However, it is convenient in the discussion that follows to refer to them simply as 'patients'.

Table 1 lists the numbers and proportions of (non-smoking) COPD patients with rest $SpO_2 \leq 90\%$ in the two six month periods for whom an ABG sample was taken within the 48 hour period prior to discharge. In the six month period in 2009, prior to the introduction of the CRD NP role, one patient (7.7%) had an ABG sample taken of the 13 patients with rest $SpO_2 \leq 90\%$ for whom an ABG sample was warranted according to hospital guidelines. In the six month period in 2011 with the implementation of the CRD NP MOC, nine of 20 qualifying patients (45%) had ABG samples taken This represents a statistically significant increase in the proportion of qualifying patients being appropriately assessed (using ABG) for eligibility for STOT (Fisher's exact test, p = 0.026).

Table 1: Qualifying COPD Patients for whom an ABG was taken

	Qualifying patients (Resting $SpO_2 \leq 90\%$)	**ABG taken**	
Year		***Yes***	***No***
2009 (pre NP)	13	1 (7.7%)	12 (93.3%)
2011 (post NP)	20	9 (45.0%)	11 (55.0%)
Total	33	10	23

In 2009 during the first six months, 26.7% of COPD patients who met eligibility criteria for STOT (based on outcomes of ABG and/or functional walk test) were provided with STOT on discharge (table 2). In 2011 the proportion of patients meeting the criteria increased to 44.4% during the same six month period. The increase in the proportion of eligible patients being provided with STOT is not statistically significant (Fisher's exact test, p = 0.245).

Table 2: Eligible COPD patients provided with STOT on discharge

	Patients eligible for STOT	STOT provided	
Year		***Yes***	***No***
2009 (pre NP)	15	4 (26.7%)	11 (73.3%)
2011 (post NP)	18	8 (44.4%)	10 (55.6%)
Total	33	12	21

The numbers of patients in each six month period who were discharged with STOT and who were subsequently re-admitted to hospital within 28 days for further treatment of COPD are given in table 3. As the numbers observed in both years examined were relatively small there was not a statistically significant difference observed (Fisher's exact test, $p = 0.576$).

Table 3: Re-admission rates for patients discharged with STOT

	Discharged with STOT	Re-admitted within 28 days	
Year		***Yes***	***No***
2009 (pre NP)	4	1 (25.0%)	3 (75.0%)
2011 (post NP)	8	1 (12.5%)	7 (87.5%)
Total	12	2	10

DISCUSSION

At the time of writing this paper there is a lack of research in the area relating to COPD and STOT. Currently there are no evidence based Australian or international guidelines that refer to the assessment and provision of STOT for patients with COPD prior to discharge from hospital. Abramson et al (2015, p.76) states that "although effective, it is a potentially expensive therapy that should only be prescribed for those in whom there is evidence of benefit". In the 2011 COPD-X Plan, McKenzie et al (2011, p.64), states that "patients should be weaned off supplementary oxygen therapy as soon as possible, with none for 24-48 hours before discharge, unless home oxygen is prescribed". However, as stated in the new revised version of the COPD-X Plan 2015, the above statement has been omitted from the document and replaced with a statement by Abramson et al (2015, p.97), that indicates a patient's readiness for discharge is when "oxygen delivery has ceased for 24 hours (unless home oxygen therapy is indicated)". Neither these guidelines indicate when an optimal time for ABG sampling prior to discharge would be appropriate.

In the BTS Guideline for emergency oxygen use in adult patients (O'Driscoll et al 2008) it is suggested that a small number of patients who may have experienced a major respiratory or cardiac injury will need to be provided with STOT to facilitate a safe discharge from hospital. Oxygen therapy is aimed at achieving oxygen saturations between 88-92%. The criteria for assessment prior to discharge from hospital after an exacerbation has been determined by the Royal College of Physicians – "clinical guideline for domiciliary oxygen" (1999), which is in line with other countries for assessment of LTOT when the patient is clinically stable (O'Driscoll et al 2008). Again, this document does not specify the optimal time to assess patients need for home oxygen therapy prior to discharge from hospital. In a UK study by Gruffydd-Jones et al (2007) on the needs of patients following discharge from hospital after an acute exacerbation of COPD, nine out of 24 patients (38%) had oxygen saturations $\leq 92\%$ on room air, however only three patients (12.5%) where discharged from hospital with home oxygen therapy. Gruffydd-Jones et al (2007) suggest there was a possible under-referral for assessment for oxygen therapy and the patients perceived that there was a need for oxygen therapy but were uncertain as to why it had not been provided.

In contrast, in the United States of America, under the current health system 'Medicare', it is a requirement that a patient is assessed with qualifying data within 48 hours prior to discharge. It is an expectation that after an admission with an acute exacerbation of COPD that acute hypoxaemia will improve (Department of Health and Human Services Centers for Medicare and Medicaid Services 2011; Gronkiewicz and Borkgren-Okonek 2004). The need for oxygen is assessed as per the Global Initiative for Chronic Obstructive Lung Disease (GOLD) Standards for the management of COPD using the existing criteria set out for the assessment of LTOT (Global Initiative for Chronic Obstructive Lung Disease 2014; Gronkiewicz and Borkgren-Okonek 2004). The GOLD Standards have discharge criteria that state the patient must be clinically stable and that ABG assessments have also been stable for 12-24 hours. It also states that prior to discharge from hospital after an exacerbation, patients that remain hypoxaemic should be assessed with either ABG and/or pulse oximetry and then reassessed within three months. The standards do not indicate the level of hypoxaemia that would not be considered acceptable for discharge and the need for oxygen is assessed as per LTOT criteria (Global Initiative for Chronic Obstructive Lung Disease 2014).

After the introduction of the CRD NP MOC, and the subsequent redevelopment of the hospital policy for home oxygen therapy, there has been a significant increase in the number of ABG's being obtained for assessment of hypoxaemia in patients with COPD prior to discharge from hospital (table 1). The revised policy stated the patient must be medically stable and ABG's obtained on room air within 48 hours prior to discharge. This decision to specify that the assessment must be performed within this timeframe was to ensure (1) the patient was medically stable, (2) to provide the oxygen distributor adequate notice that the patient would require home oxygen therapy at discharge and to ensure that patients living outside of a locality also received the service in a timely manner, and (3) for the CRD NP to provide education and resource material to patient (and carer if available) prior to discharge and to make follow up arrangements one week post discharge for assessment and oxygen titration.

The CRD NP attributes the increase in patients being assessed appropriately for home oxygen therapy to an enhanced educative program regarding the home oxygen policy and STOT pathway for medical, nursing and allied health staff across the organisation aimed at improving patient outcomes post discharge, along with the implementation of a new assessment form designed to ensure that hospital policy is followed and the required assessments for ABG and functional walk test are performed. Each department across the organisation received education, targeting medical, nursing and allied health staff, on the new home oxygen policy. Education included a resource package with flow charts for assessment and referral to the CRD NP for STOT. The CRD NP also concurred that, as suggested by Gruffydd-Jones et al (2007) that under-referral for assessment for STOT may be due the high cost involved in supplying oxygen therapy to patients post discharge who may not be eligible for LTOT when reassessed at a later date.

The data in table 2 indicates an increase, from 26.7% in 2009 to 44.4% in 2011, in the proportion of patients assessed as eligible for STOT actually being provided with STOT on discharge. Whilst this increase is not statistically significant it does represent a substantial improvement in clinical terms. Nevertheless, there is clearly a need for continued action given the non-prescription for STOT of 55.6% of eligible patients. The CRD NP suggests that under referral for STOT prescription may also be due to an expectation that a patient experiencing a severe exacerbation may improve once discharged home from hospital and therefore not require oxygen for discharge. According to Eaton et al (2001, p.582), "there is an expectation that when clinically stable a proportion will not fulfil LTOT criteria". In a New Zealand study, 38% of patients when reassessed at the two month review were not eligible for LTOT (McDonald et al 2005). In another study by Andersson et al (2002), 70% of patients studied did not require oxygen therapy one month post discharge. Ringbaek (2006) acknowledges there are a number of patients who, when reassessed at three months post discharge, would not fulfil the eligibility criteria for LTOT, the provision of STOT on discharge can therefore be justified due to symptoms of hypoxaemia and high mortality in the period of time post discharge from hospital.

In a study by Eaton et al (2006) who compared cylinder oxygen versus cylinder air versus usual care in patients who were discharged from hospital after an exacerbation found that those who were discharged home with cylinder oxygen represented to hospital for admission at a lower rate in the first month compared to cylinder air or usual care group With the introduction of the CRD NP MOC and redesign of the hospital home oxygen policy patients are now being assessed more appropriately and considered for STOT. An important aspect of the CRD NP MOC involves follow-up assessment at one and three weeks post discharge and oxygen flow rates are adjusted to meet required oxygen target saturations for at rest and on exertion. As seen in table 3 the decline in re-admissions for these patients is attributed to this aspect of the MOC. As the numbers observed in both years examined were relatively small, if the observed proportions of re-admission rates are realistic then samples roughly 10 times larger would be required to achieve sufficient power to detect the difference at the 5% level of significance.

LIMITATIONS

This study has some limitations. Sample size of patients being assessed and discharged home with oxygen was small in patients with a discharge diagnosis of COPD and it is not known whether the results would have been different had other lung diseases been included in the study that were discharged home with STOT. The study was performed in only one organisation over two six-month periods with no control.

CONCLUSION

The analysis of data for COPD patients in two six-month periods, the first prior to the introduction of the CRD NP model of care and the second following the introduction, reveals improvements in patient outcome and service delivery measures at which the CRD NP role were targeted. A significant increase in the proportion of COPD patients with resting oxygen saturation ≤ 90% being assessed for STOT with ABG sampling within the specified 48 hours prior to discharge was observed. The proportion of COPD patients assessed as eligible for discharge with oxygen therapy for 30 days who were actually provided with STOT improved and a reduction in the re-presentation rate to hospital within 28 days of discharge occurred. Nevertheless, the audit reveals that whilst there is evidence of substantial improvement in practice adherence to policy it falls well short of 100% so continued emphasis of the required processes is important from the perspective of better patient outcomes and more effective service delivery.

This study heightens the awareness of the need to assess patients within a specified time prior to discharge with STOT for optimal medical management. The CRD NP recommends further research be carried out in this area to promote appropriate assessment of all COPD patients prior to discharge from hospital within a specified time for STOT.

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The role of advance care planning in end-of-life care for residents of aged care facilities

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KEY WORDS

Advance Care Planning, Advance Care Directive, nursing homes, residential aged care facilities, end-of-life, dying with dignity

ABSTRACT

Objective
This report will present the case of an elderly woman with rapidly declining health admitted to hospital from a nursing home. It will discuss benefits of advance care planning for residents of aged care facilities who have expressed opinions/wishes regarding their end-of-life care, and identify barriers, varying legal status, the need for documentation of discussion outcomes specifying residents' wishes, and the importance of education and expert support for nursing staff.

Setting
Nursing home and acute tertiary referral hospital.

Subject
Female resident of a nursing home, aged 97 years, with acute onset of abdominal pain and multiple co-morbidities.

Primary Argument
The majority of nursing home residents do not have advance care planning initiated, nor is this routinely raised by nursing staff. While wishes may be discussed with family, they may not be fully respected if undocumented. Acutely ill residents are frequently hospitalised, especially when death is imminent, and often die alone in unfamiliar surroundings, tended by strangers. Many of these admissions could be avoided with Advance Care Planning, as could the resultant medical interventions which may cause the resident acute pain and discomfort.

Conclusion
Advance Care Planning can lead to avoidance of non-essential hospital transfers and their inherent risks and is likely to facilitate a dignified, peaceful death in familiar surroundings for nursing home residents, averting medical interventions which may cause needless pain and prolonged suffering.

INTRODUCTION

Advance care planning (ACP) is a means of enabling the difficult subject of end-of-life care to be openly discussed between loved ones and the healthcare team, whilst the person is still able to effectively communicate their wishes in relation to their future health care in the event of incapacitation through illness or accident (Sellars et al 2015; Amjad et al 2014; Boot and Wilson 2014; Thomas 2008; Shanley and Wall 2004). Both in Australia and globally, most residents of nursing homes are transported to acute care facilities when their health declines rapidly and/or there is reasonable concern that death may be imminent (Gardhouse et al 2014; Caplan and Meller 2010). The availability of, and participation in, ACP may assist in preventing non-essential transfers of the resident from their residential aged care facility (RACF) to the emergency department (ED) of the nearest hospital (Reymond et al 2011). It is not the aim of the ACP to prevent transfers to hospital altogether, but rather to reduce the non-beneficial transfers and resultant complications which may be avoided by keeping the resident at their RACF (Van Gaal et al 2014; Caplan et al 2006; Shanley and Wall 2004). It is common for critically ill people to be sent to ED, despite evidence that those who avoided hospital transfers have fewer diagnoses of increased confusion or delirium (McCloskey 2011; Bezzina 2009; Caplan et al 2006).

LITERATURE REVIEW

Every competent adult has the right to consent to and to refuse medical treatment. This right is the fundamental basis of advance care planning (Advance Care Planning 2015).

The importance of ACP and ongoing communication between older persons, their families and healthcare professionals is progressively becoming recognised (Sellars et al 2015; Amjad et al 2014; Baughman et al 2014; in der Schmitten et al 2014; Stone et al 2013; Storey and Sherwen 2013) especially in Australia (Bird 2014). However, evidence persists that initiating ACP discussions with residents of RACFs remains difficult for staff (Boot and Wilson 2014; Dempsey 2014; Schubart et al 2014; Robinson et al 2013; Stone et al 2013). Notwithstanding the recognition that ACP is integral to person-centred care, a significant proportion of older persons do not have this in place (Schubart et al 2014; Boerner et al 2013; Rhee et al 2012). A number of barriers to the implementation of ACP have been identified, starting with, from the patient's perspective, a lack of knowledge, limited time if they are critically ill, emotional responses, cultural background, and denial of mortality. From a health professional's perspective, again, lack of knowledge is a factor, together with ambiguity regarding its processes (Sellars et al 2015: Boddy et al 2013). There are systemic barriers relating to the different requirements of each State or Territory as there is no uniform legislation and registry, nor is there definition of roles and responsibilities for those involved in the provision of care. There are also procedural issues, especially in the area of assessment of capacity which Boddy et al (2013) have identified in Australia as a medically-based decision. Some practitioners consider there is uncertainty regarding the stage at which capacity is lost and may not be aware of the procedure for determining absence of capacity.

ACP has its roots in the ethical principal of autonomy, in particular, the tenet of informed consent as established in the landmark 1914 court case, *Schloendorff v Society of New York Hospital.* In his widely quoted judgment for this case, Justice Cardozo ruled that competent adults were entitled to sole control regarding their own bodies. This decision has since been followed in Australian courts under Common Law to uphold the rights of persons to determine consent or refusal for medical treatment including in circumstances where death is the likely outcome (Advance Care Planning 2015). In 2009 a New South Wales judge ruled that compliance with advance care directives is appropriate, especially when the person is competent at the time of making such directive, was not unduly influenced, has not changed their mind, and met the existing medical circumstances (New South Wales Supreme Court 2009).

Whilst Common Law is well-defined, legislation has also been passed by State and Territory governments reiterating a person's rights in relation to medical treatment, or the refusal thereof; and all States/Territories, with the exception of Tasmania, legally recognise ACDs and the right to refuse treatment. However, consistency is lacking in policies and laws which support ACP. Indeed, the National Framework for Advance Care Planning (National Advance Care Directives Working Group 2011) identified multiple issues including disparities in terminology, inconsistent legislation, and restrictions on enacting advance care directives.

The need for ACP and its effective communication becomes apparent when an individual who is acutely ill develops physical and/or cognitive deterioration, and is incapable of accepting or declining medical interventions (Scandrett et al 2014; Boerner et al 2013; Dempsey 2013). ACP enables an individual to stipulate what their wishes are for future medical care should they be rendered incapable of making such decisions and, moreover, reduces the worrisome obligation on loved ones to function as proxy decision makers (Amjad et al 2014; Boot and Wilson 2014; Brinkman-Stoppelenburg et al 2014; Dempsey 2014; De Vleminck et al 2014; Boddy et al 2013; Jeong et al 2007). The implementation of ACDs is proven to reduce over-treatment when death is approaching, being consistent with the person's preferences and increasing satisfaction with the end-of-life care from both the family's and the person's points of view, thereby moderating stress (Sellars 2015). There is also evidence that initiation of ACP discussions has led to a decrease in depressive symptoms, especially in the early stages of dementia (Hilgeman et al 2014).

ACDs have also reduced the number of inappropriate hospital presentations and subsequent admissions for residents of RACFs (Sellars et al 2015; Boddy et al 2013; Silvester et al 2013; Stone et al 2013). This is an important reason for their use, as RACF residents may encounter complicating factors in the ED, such as unfamiliar doctors who do not know their history, and rapid health assessments which may compromise their complex needs, especially if they are unable to communicate effectively or are cognitively impaired (Arendts et al 2012). Those who are admitted to a ward face the increased possibility of adverse outcomes, including falls, pressure injuries, delirium, incontinence, and mortality (Renjel and Eeles 2014; Van Gaal et al 2014; Doran et al 2013; Arendts et al 2012; Ashcraft and Champion 2012; Lamb et al 2011; Codde et al 2010). Approximately half of RACF residents who present to the ED will be admitted to a ward, and 75% of those admitted will die by the fifth day (Ashcraft and Owen 2014).

CASE REPORT

Background

The aged care rapid response team (ARRT) received a telephone call from a registered nurse (RN) at an RACF who advised that a 97 year old female resident (Mrs K) had developed acute onset abdominal pain overnight with vomiting and nausea. Mrs K had informed the staff that she had felt some abdominal discomfort the previous evening, but in the morning had awakened with severe pain, despite taking her regularly prescribed analgesia. The RN had contacted Mrs K's general practitioner who directed her to administer an enema, which was done with little effect. As the day progressed, Mrs K's condition worsened, she was uncharacteristically drowsy, and her abdomen was distended, firm and painful to touch. Mrs K had recently been prescribed diclofenac, which, when combined with her already prescribed aspirin, may interact and could cause gastric bleeding. Mrs K had no written end-of-life care pathway or advance care directive (ACD) in place, so the RN was advised to contact Mrs K's daughter, Anne, and have Mrs K transferred to the ED as her condition could be very serious and required immediate investigation.

Diagnosis

A diagnosis of a perforated peptic ulcer was made, and Mrs K was admitted to a ward for treatment.

Health history

Mrs K had an extensive medical history including surgical procedures and hospital stays. She was cognitively intact and aware of the invasive procedures she could face if hospitalised again.

Plan

The admitting medical officer documented a plan which included investigative procedures, insertion of an indwelling urinary catheter, intravenous fluids, and nil oral intake.

Management and treatment

On admission, it was documented in the Multidisciplinary Assessment Form by the medical officer, in capital letters and underlined:

NO CPR, NOT FOR RESUS, NO ICU, NO INTUBATION, NO SURGERY, NO IVABS, D/W DAUGHTER

Mrs K was accepted under the care of the gastroenterology team and transferred to a ward where it was subsequently decided, after consultation with Anne, that she would receive palliative care.

Despite this, her medications were then varied considerably, including the introduction of intravenous antibiotics and the abrupt cessation of opiate analgesia, an anti-inflammatory, and a sedative. This caused her acute discomfort, nausea, vomiting, and diarrhoea which necessitated regular administration of an anti-emetic. In fact, ongoing administration of those ceased medications may have benefitted Mrs K the most. Her urine output dropped to 5-10mL/hour, a clear indication of potential kidney failure, however her treatment continued unchanged. Anne was not aware until the third day that Mrs K was receiving intravenous antibiotics, and advised medical staff that this was in direct contravention of the agreed treatment plan. The intravenous antibiotics were ceased and, when Anne made the observation that her mother was exhibiting signs of strong pain, subcutaneous morphine 2.5-7.5mg was prescribed as needed every two hours. Mrs K's intravenous fluid was reduced to 40mL per hour.

Anne consented to be interviewed for this report in relation to the care given to her mother. She advised that she knew her mother was not going to improve, and had wondered why her mother was prescribed intravenous antibiotics when recovery was so unlikely, given her obvious deterioration, and further, that within two days of hospitalisation her mother's condition had deteriorated to such an extent that she did not recognise her daughter and was no longer able to communicate.

When questioned about ACP, Anne stated that she knew nothing about it and that this subject had not been introduced by RACF staff nor her mother's GP. When given a brief overview of the purpose of ACP, Anne recalled a recent conversation during which her mother said:

"I've had a good life – when my time comes, I'm ready to go. Don't stick me full of needles and tubes. Don't hang on to me – I think I'd hate that. Let me go quick, in my own bed, with you holding my hand."

Anne enquired if that constituted advance care planning and was advised that it did, albeit informal and undocumented. It is clear from that statement that Mrs K would not have wanted the treatment she received in the hospital.

Outcome

Mrs K's condition continued to deteriorate over the course of her hospitalisation. Blood tests revealed multiple deranged results which worsened over three days, indicating excessive intravenous intake, renal failure, and infection. She became increasingly drowsy and delirious, and on the morning of day four, during early morning ward rounds at 0520hrs, she was found with no discernible signs of life. The cause of death was noted as 'perforated viscus'.

DISCUSSION

In the past decade, hospitalisation rates for men and women over the age of 85 have increased by 48% and 35% respectively (Swerissen and Duckett 2014). It is not at all uncommon for residents of RACFs to be transferred to hospital for many reasons, including diagnostic testing, acute illness, falls, and traumatic wound care (Van Gaal et al 2014; Shanley et al 2011). Often residents, are transferred when they are acutely ill and/or death may be imminent (Gardhouse et al 2014), which removes their privilege to die peacefully in a place of their choosing.

As residents of RACFs are usually frailer than their community counterparts, it is not surprising that they present more frequently to hospital (Wysocki et al 2014; Jayasinghe et al 2007). Due to their raised levels of morbidity, their risk of being admitted and dying during their admission is increased (Ingarfield et al 2009). Discussion of end-of-life care should therefore be considered an integral aspect of RACF care, which would entail offering residents, their families, and significant others the option of discussing views and preferences for care should a critical event occur (Dempsey 2014; De Vleminck et al 2014; Allen et al 2003). The outcome of these discussions can then be clearly documented (Bird 2014; De Vleminck et al 2014; Robinson et al 2013).

Although it has been shown that older persons residing in RACFs who discuss their wishes with family members are more likely to have documented ACP in place than those in the community (Allen et al 2003), this did not occur in this instance, most likely due to a combination of Anne's lack of understanding what ACP constitutes and the facility's failure to initiate a conversation in this regard. It would appear that this would have been an ideal situation for discussion and implementation of ACP in the RACF, particularly as Mrs K had openly discussed her wishes with Anne. It may well have precluded Mrs K's transfer to hospital, where she became delirious, a development not uncommon in hospitalised older persons (Renjel and Eeles 2014). In fact, evidence substantiates the benefits of persons remaining in their place of residence, citing familiarity, comfort, and continuity of care (Evans 2011; Allen et al 2003).

In this particular case, Mrs K's acute onset of symptoms did require investigation and diagnosis, so ACP may not have prevented her transfer to hospital. However, documentation of her wishes would have avoided the abrupt cessation of opiate analgesia and a sedative and the initiation of a strong intravenous antibiotic regime, which caused severe nausea and vomiting and significantly increased Mrs K's level of discomfort in her last days. Persons who do not have documented ACP may be given unwanted medical treatment, and indeed are often over treated (Boerner et al 2013), which appears to be the case here. Further, had Mrs K specified a desire not to be transferred to hospital in the event of an acute decline in her health status, this in fact may have been honoured. It was not known to Anne or the RACF that Mrs K's express wish to die in her own bed constituted a desire not to be transferred from her place of residence. Research has identified a statistically significant difference in the proportion of older persons with ACP who have died in hospital compared with those who remained in their place of residence, finding the former much lower (Bischoff et al 2013).

ACP has been proven to lead to a reduction in emergency presentations and subsequent hospital admissions (Boddy et al 2013; Stone et al 2013), and may also guarantee the provision of care as specified by the resident (Brinkman-Stoppelenburg et al 2014; Shaw et al 2010; The Gold Standards Framework 2010; Badger et al 2007). The crucial aspect of planning for end-of-life care should not be assigned to fate by its omission (Evans 2011) but should be a customary feature of care, clarifying health care needs of the resident (Baughman et al 2014; The Gold Standards Framework 2011). This is important when residents are no longer able to speak for themselves, thereby ensuring, where possible, a dignified and peaceful death (Phillips et al 2011). But the issue of raising ACP and its subsequent documentation is a difficult one, particularly in RACFs where new residents and their families are often not ready to consider or discuss such options. Language barriers may also be a factor, together with cultural taboos (Boot and Wilson 2014; Dempsey 2014; Thomas 2008; Shanley and Wall 2004). However, lack of knowledge about ACP has been identified as the foremost barrier to its implementation in RACFs (Boddy et al 2013; Jeong et al 2007). Jeong et al (2007) suggested that a designated expert in ACP would assist in providing guidance in RACFs. At the time of writing, in the Local Health District where Mrs K resided, such an expert is not employed. However, the ARRT regularly raise the issue of ACP with RACF residents they visit.

ACP achieves success when a multi-system method is implemented, including involvement and support from the community, development of administrative policies and procedures, staff education, and appropriate documentation practices (Sellars et al 2015). In its Interim Report the Clinical Excellence Commission (CEC) (2008) recommends the use of prioritised approaches to facilitate practice change. This may well improve ability of RACF staff to initiate discussions with the resident and family. One such approach is the use of a forcing function, a feature that precludes completion of an action unless a specific task is first performed (Patient Safety Network 2015); for example, completion of the admission forms cannot take place until a section on ACP is filled out.

Had Mrs K not clearly made her wishes known to her daughter, she may have been subjected to even more prolonged treatment which may have extended her life with pain and suffering. This would have been in contravention of her wishes since she was no longer capable of making decisions. If ACP had been broached by the RACF staff, Mrs K's wishes may have been documented, and subsequently followed.

CONCLUSION

Mrs K died alone in hospital, which was not her wish. The circumstances of her illness would have been ideal for the implementation and documentation of ACP. According to her daughter, Mrs K had no difficulty discussing her end-of-life care wishes with her and, presumably, would have been amenable to discussions with the RACF staff had the issue been raised. Mrs K's decisions could have been documented in an Advance Care Directive which may have avoided the active, invasive medical interventions that exacerbated her acute discomfort in her last days.

This case study highlights the fact that ACP is not routinely discussed with residents upon their entry to RACFs, and that this omission may, in consequence, have detrimental effects on the quality of life, and death, of the residents. The barriers to such discussions are becoming clear, and it would be beneficial to address these by investigating solutions to the obstacles, and requirements for further education and support of staff in RACFs in relation to ACP, its discussion, documentation, and implementation.

RECOMMENDATIONS

Generally, alignment between the States/Territories' requirements and documentation may resolve discrepancies. This, together with ready access to standardised procedural information and documents from a central source, is likely to reduce the confusion and uncertainty surrounding ACP expressed by professionals and patients alike. The formation of a working party to address these issues is warranted.

A systematic method for the practice of ACP, particularly in RACFs, is required for person-centred care to ensure the residents' wishes are known and respected. This should include education for staff on initiating discussions with residents and their families, and the subsequent documentation of decisions reached. Furthermore, the development and implementation of a standardised form, including a forcing function, across these facilities would enhance this process. Support from professionals experienced in the practice of ACP, for example a clinical nurse consultant, may prove useful in initiating and reinforcing these practices. The feasibility of a designated expert employed in the community sector to regularly visit RACFs should therefore be investigated.

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Key milestones in the operationalisation of professional nursing ethics in Australia: a brief historical overview

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ABSTRACT

Objective

To provide a brief historical overview of the achievement of key milestones in the development of mechanisms for operationalising professional nursing ethics in Australia; examples of such milestones include: the publication of the first Australian text on nursing ethics (1989), the provision of the first Australian national distance education course on nursing ethics for registered nurses (1990), the adoption of the first code of ethics for Australian nurses (1993), and the commissioning of the first regular column on nursing ethics by the *Australian Nurses Journal* (2008).

Setting

Australian nursing ethics.

Primary argument

An historical perspective on the achievement of key milestones in the development of mechanisms for operationalising professional nursing ethics in Australia has been poorly documented. As a consequence an authentic 'Australian voice' is missing in global discourses on the history and development of nursing ethics as a field of inquiry. Compared with other countries, the achievement of key milestones pertinent to the operationalisation of nursing ethics in Australia has been relatively slow. Even so, over the past three decades an Australian perspective on nursing ethics has gained a notable voice in the international arena with Australian nursing scholars now making a significant contribution to the field.

Conclusion

Nursing ethics in Australia remains a 'work in progress'. Although significant achievements have been made in the last three decades, the ongoing development of mechanisms for advancing nursing ethics in Australia would benefit from the development and implementation of a strategic agenda of collaborative, internationally comparative, cross disciplinary scholarship, research and critique.

INTRODUCTION

The history of ‘modern’ nursing ethics in Western countries can be traced back to the late 19th and early 20th centuries, where its inception and development paralleled the beginning and advancement of the new modern nursing profession credited with having progressed under the influence of the legendary reforms lead by British nurse Florence Nightingale (1820-1910). During this early period, those leading reforms in the thinking, teaching and practice of nursing ethics were clear in their aims, notably, to advance a professional nursing ethics that was secular, scientific and humanitarian in its outlook and, as such, which could be readily distinguished from a professional morality based on traditional religious vows and values, such as those upheld by religious-order nurses at the time (Johnstone 2015a, 2015b).

Ethical codes and statements developed and published for the specific purpose of guiding the conduct expected of a given occupational group have long been recognised as the hallmarks of a ‘profession’ and the mechanisms by which a profession’s ethical values are operationalised. One reason a profession’s statements of and commitment to its ethical values stands as a professional hallmark is because, as Churchill (1989, p.30) explains, ‘a profession without its own distinctive moral convictions has nothing to profess’ and will be left vulnerable to the corrupting influences of whatever forces are most powerful – be they religious, legal, social, political or other in nature. In recognition of this, professional ethics are characteristically comprised of a set of rules which ‘govern individuals, which compel them to act in such and such a way, and which impose limits to their inclinations and forbid them to go beyond’ (Durkheim 1957, p.7). In short, professional ethics have had – and continue to have – the unique and special task of governing functions which only certain professional people ‘can do, actually do, and ought to do’ (Durkheim 1957, p.6). In keeping with this stance, the task and purpose of professional nursing ethics is fundamentally concerned with guiding and governing what nurses ‘can do, actually do, and ought to do’ during the course their everyday professional practice (Johnstone 2015a).

The iterative development of the conceptual and theoretical underpinnings of nursing ethics from the late 19th century up until the present time, and the implications of these developments for the nursing profession across the globe, have already been comprehensively documented and thus there is nothing to be gained by rehearsing this history here (see Johnstone 2015a, 2015b, 2015c). Less well known, however, is the achievement of key milestones in the operationalisation of professional nursing ethics in specific countries over time (e.g., the development of national codes of ethics and position statements; the publication of home grown pedagogical literature on nursing ethics).

An historical perspective on the development and achievement of key milestones in operationalising professional nursing ethics in the United States of America (USA), the United Kingdom (UK), and some Western European countries has been well documented in the academic nursing literature (Fowler 2010; Fowler and Tschudin 2006). Since 2006, the development and achievement of key milestones in operationalising nursing ethics in a small number of other countries, for example, Columbia, Hungary, Israel, Malawi, Spain and Turkey, have also been documented in the academic nursing literature (Davis et al 2006). The achievement of key milestones in operationalising nursing ethics in Australia, however, has not been formally published. It is a key aim of this article to redress this oversight.

In keeping with the above stated aim, the purpose of this article is threefold: to formally document the key milestones achieved in regard to the operationalisation of professional nursing ethics in Australia; to enable developments in Australian nursing ethics to be given a rightful place in global discourses on nursing ethics; and to provide a basis for enabling the identification of opportunities for future scholarship, research and policy initiatives that would contribute to the ongoing advancement of nursing ethics locally and globally.

To this end, in the discussion to follow, attention will be given to providing a brief historical overview of the achievement of key milestone in the development of mechanisms for operationalising nursing ethics in Australia. Brief commentary will also be provided on the possible future of nursing ethics in Australia and the need for a strategic nationally coordinated agenda to advance nursing ethics as a field of inquiry and practice in the Australian cultural context.

EARLY TREATISES ON ETHICS FOR AUSTRALIAN NURSES

The first Australian nursing periodicals the *Australasian Nurses Journal (ANJ)* (established March 1903, and the official journal of the Sydney-based Australasian Trained Nurses Association (ATNA)) and *Una* (established April 1903, the official journal of the Victorian Trained Nurses Association (VTNA)) arguably provide the most definitive starting points from which to provide an examination of the nature and early evolution of the mechanism developed for operationalising nursing ethics in Australia (Lemin 1999). As has been previously shown, articles ostensibly published on the subject of 'ethics' in nursing during this period had as their focus 'etiquette' (not ethics) and prescribing behaviours traditionally expected of the proverbial 'good woman', such as submission, obedience, silence, self-sacrifice, and self-restraint – a stance that did not change until well after the second world war (Lemin 1999; Johnstone 1993).

The earliest mention of the notion 'nursing ethics' can be found in a 1903 report published in the inaugural issue of *Una*. The report was of a lecture on 'nursing infectious fevers' by Miss Martha D Farquharson, then Matron of the Bendigo Hospital (1902-1913) and previously Lady Superintendent of the Melbourne Hospital (1895-1900), Matron of Melbourne's Alfred Hospital (1890-1895), and who had also been a member of the provincial council of the International Council of Nurses (ICN) in 1900. In this lecture, Miss Farquharson speaks of her 'life pleasure' in instructing nurses, 'not only in the theory and practice of your profession but also in the ethics of nursing and in the etiquette that should exists between you yourselves in hospital and between your medical attendants, and you and your patients in hospital and private nursing' (Farquharson 1903, p.3). While this statement also stands as probably the first in the Australian nursing literature that hints at a recognised distinction between 'ethics' and 'etiquette' and the relationship between the 'theory' and 'practice' of ethics, nothing more is said about these topics in Farquharson's address.

Three years later, the *ANJ* published its first article on 'Ethics in Nursing'. The article, originally presented as an address to members of the local Branch of the ATNA, was written by Miss Edith Best (1906), Matron of the Children's Hospital, Brisbane. Its contents were in keeping with the conservative conventions of the day apropos extoling the imperatives of the 'moral or the character side of nursing' and the virtues of 'ministering women' qua nurses.

In the decades following the publication of these inaugural articles the theme of 'moral manners' and of the 'moral imperatives' of nurses upholding the virtues of the ideal 'good women' were constantly reiterated (the characteristics of a 'virtuous nurse' commonly reiterated in articles published in the journals are listed in table 1).

It is important to clarify that many of the contributions on the subject of ethics in nursing (e.g., editorials, lectures, commentaries and articles) published respectively in the *ANJ* and *Una* during this period stopped short of presenting an authentic Australian perspective or indeed the 'voice' of Australian nurses. There are two reasons for this. First, contributions by Australian nurses were at best limited, with many of the articles published being written by doctors and hospital superintendents (Lemin 1999). Second, many of the early articles appearing in the Australian journals were in fact reprints from their sister journals in other countries including the USA, Canada, the UK and New Zealand (e.g., *American Nurses Journal*, *Pacific Coast Journal,* *Canadian Nurse*, *Trained Nurse and Hospital Review*, the *Queen's Nurses Magazine*, *The Trained Nurse*, *Nursing Mirror and Midwives Journal, and Kai Tiaki*) as well as from medical journals (e.g. JAMA, and the *British Medical Journal*) (Johnstone 2015a, 2015b; Lemin 1999).

Table 1: Characteristics of the 'virtuous nurse'.*

Characteristics of the 'virtuous nurse'

absolute loyalty (to doctors/hospitals)	gentleness	prudence
absolute obedience (to doctors/hospitals)	good fellowship (with fellow nurses)	quietness
abstinence (from drugs, alcohol and sex)	good manners	refinement
altruism	good temper	respectful (of authority)
bravery	good will	secrecy
charity	grace	self-command
chastity	healthfulness	self-control
cheerfulness	helpfulness	self-reliance
cleanliness (morally and physically)	honesty	self-respect
common sense	honour	self-restraint
compliance (with authority)	hopefulness	self-sacrifice
conscientiousness	ideal womanliness	silence (particularly 'controlled tongues')
compassion	kindness (in word, deed and manner)	spirit of service to humanity
courtesy	love (of patients)	strength (of body, mind, character)
culture (education)	loyalty (to doctors/hospital)	submission
discretion	ministering	sympathy
discipline	nobility of character	tact
empathy	obedience	trustworthiness
endurance (physical and mental)	patience	unselfishness
fidelity	perseverance	versatility
forbearance	pleasing and attractive manner(s)	willingness (to serve, to obey, to oblige)
gentle demeanour	pitiful	womanliness

*Source: Johnstone (1993). Reprinted with permission.

In 1953 the *Australasian Nurses Journal* changed its name to the *Australian Nurses Journal* thus enabling it to retain its *ANJ* acronym. In 1976 the *ANJ* and *Una* merged to become the *Australian Nursing Journal* (rebadged in 2013 as the *Australian Nursing and Midwifery Journal* (*ANMJ*)), the official journal of the Australian and Nursing Midwifery Federation (formerly the RANF and ANF). In keeping with its longstanding commitment to addressing issues of relevance to the Australian nursing profession, in 2008, just over 100 years after the first article on nursing ethics was published in *Una*, the journal began publishing its first regular (bi-monthly) column on the subject of 'ethics in nursing'. Since debuting in the February 2008 issue of the *ANJ* (now the *ANMJ*), over 50 essays on a wide range of ethical issues relevant to Australian nurses and to the nursing profession as a whole have been published under this segment.

CODES OF ETHICS, POLICIES AND POSITION STATEMENTS

The development and ratification of the International Council of Nurses (ICN) *Code of International Nursing Ethics* in 1953 marked a significant turning point in the nursing ethics debate in Australia and saw the emergence of a more sophisticated level of thinking on the nature and importance of ethics in nursing. An example of this can be found in the reported comments contained in an address by Miss I S Hall MBE, given to nurses at a graduation ceremony at Sydney Hospital; she is reported to have stated:

> *"nurses should be encouraged to do some thinking about moral principles [...] Nurses are professional people and among essential qualities of members in a profession is a certain breadth of vision of liberty of thought" (Hall 1959, p.74).*

From 1953 until the mid-1970s, the ICN Code (the latest revision of which was undertaken in 2012) emerged as a dominant focus of attention in journal articles published on nursing ethics during this period. The issues considered ranged from how to teach the Code, to how to ensure it was seen as an 'integral part of nursing practice' and not merely a printed document (ANJ 1953, pp.251-253; see also Hughes-Ford 1976; Aydelotte 1973; Lancaster 1962; Swaby 1960; Hall 1959; Haines 1957).

Despite recognising the importance of having a professional code of ethics for nurses, the Australian nursing profession was relatively slow compared to its counterparts in other countries in adopting its own national code of ethics, which did not occur until 1993. Countries that were among the first to adopt their own national codes of ethics included Liberia (1949), the USA (1950), Poland (1973), Canada (1980), the UK (1982), Ireland (1983), Norway (1983), and New Zealand (1987) (Sawyer 1989). One explanation for this is that, like the nursing profession in other countries, the Australian nursing profession had primarily relied on the ICN *Code for nurses* for guiding the ethical practice of nursing (Sawyer 1989). This was so even though the ICN had encouraged its ICN member states in 1977 to devise their own national codes for administration within their own respective cultural and jurisdictional boundaries (Esterhuizen 1996).

The impetus for change in Australia eventually came from two key sources: the findings and recommendations of a working party established by the Royal College of Nursing, Australia (RCNA) in 1990 (now the Australian College of Nursing); and the independent evaluation in 1990 of a list of competencies expected of the beginning registered nurse, which had been developed and endorsed by the then Australian Nurse Registering Authorities Conference (ANRAC) (Grealish 2012).

NURSING ETHICS WORKING PARTY (NEWP)

A significant although little-known initiative undertaken during the early 1990s was the establishment by the RCNA of a Nursing Ethics Working Party (NEWP) to consider the College's role in relation to nursing ethics. Operating under the acronym NEWP, the working party began to address its Terms of Reference (presented in table 2) in 1990 and presented its final report and recommendations to the RCNA Council in May 1991 (RCNA 1991). Among the recommendations made by the NEWP was that an Australian *Code of Ethics* be developed and that the ethics education needs of nurses be formally reviewed and addressed as a matter of priority. In making these recommendations, NEWP noted that a key obstacle to improving the ethical competencies of nurses was a 'paucity of literature and research' formally addressing key issues of concern (RCNA 1991, p.21). Issues of particular concern identified by NEWP are summarised in table 3.

Table 2: RCNA Nursing Ethics Working Party (NEWP) Terms of Reference

To make recommendations to Council regarding:

- mechanisms through which the collective experience of nursing can be gathered, recorded and shared
- mechanisms through which policy decisions can be monitored and reviewed for their implications for nurses and nursing practice
- structures through which individuals, groups or the profession as a whole can consult on ethical issues
- ways in which the professional stance of nurses on ethical issues can be enunciated and communicated to the public
- ways to improve nurses' knowledge in ethical issues and skill in ethical discussion and decision making (RCNA 1991).

Table 3: Key issues identified by the RCNA Nursing Ethics Working Party 1991

- The nurse's ability to act as an effective ethical negotiator, mediator, and decision-maker
- The ethical and legal content of nursing curricula across Australia
- The adequacy and appropriateness of courses (both nursing and non-nursing) designed to improve nurses' ethical and/or legal knowledge and decision making skills
- The awareness of nurses reading the ethical and legal dimensions and implications of nursing practice (RCNA 1991).

ANRAC COMPETENCIES

Coinciding with the work of the RCNA, in 1990, an independent evaluation of the list of competencies expected of the beginning registered nurse endorsed by ANRAC indicated 'many of the practising nurses had difficulty in assessing the ethical aspects of the competencies' due in large to their 'inability to identify ethical issues in the workplace' (Kelly and Woodruff 1995, pp.93-94). These findings, together with a recommendation made by NEWP that nurses needed education and guidance on ethical decision-making in practice, convinced ANRAC a code of ethics for Australian nurses was needed (Kelly and Woodruff 1995, p.94). To this end, in 1991, ANRAC commissioned the distribution of a discussion paper on a code of ethics for Australian nurses that would complement the competency standards (Kelly and Woodruff 1995). In 1993, following a prolonged period of consultation with nurses and nursing organisations around Australia (including state and federal professional associations, industrial and regulating authorities), the final version of the *Code of ethics for Australian nurses* was adopted and disseminated under the auspices of the then Australian Nursing Council Inc. (ANCI), the Royal College of Nursing, Australia (RCNA), and the Australian Nursing Federation (ANF) (Australian Nursing and Midwifery Council 2002). The 1993 *Code* was reviewed in 2002 and again in 2008. Significantly, in response to the changing social, cultural and political environments that nurses were working in, the 2008 review resulted in a radical revision and rewriting of the Code (Nursing and Midwifery Board of Australia (NMBA 2008). The Code is, once again, under review.

It should be noted that although Australia was relatively slow to develop its own national code of ethics, Australian nurses were not bereft of guidance on ethical issues. What may not be widely known is prior to the publication of the 1993 Code of ethics for Australian Nurses, Australian nursing organisations had nonetheless been active in adopting a suite of policies and positions statements on issues that their members faced and which were perceived as not being covered by the ICN Code of ethics (Sawyer 1989). A list of the policies and position statements 'active' prior to the adoption of the Australian code is presented in table 4. Although some of these position statements have since been rendered obsolete and are no longer available, most have been and remain the subject of regular review, updating and reaffirmation (see, for example, the ANMF suite of policies and position statements available via its homepage at http://anmf.org.au/pages/anmf-policies). In several instances, commensurate with the ongoing emergence of issues relevant to the profession and practice of nursing, entirely new policies and position statements have been adopted – some examples of which are presented in table 5.

NURSING ETHICS PEDAGOGY AND PRAXIS

Nursing ethics pedagogy and the teaching of ethics to nurses were topics rarely mentioned in the early journals. The first article on the subject titled 'Teaching ethics to probationer', published in *Una* in 1917, was a reprint from the US journal *The Trained Nurse* (The Trained Nurse 1917). Aside from an article by a French nurse in the aftermath of the second world war, in which a plea was made for nurses to be given 'a strong moral education' (Clamageran 1948), the topic of nursing ethics education received little coverage until the 1980s when 'references to the need for courses and the teaching of ethics' became more frequent (Lemin 1999, p.65).

Table 4: Examples of ANMF nursing organisations' policies and position statements adopted or endorsed pre-1993 Australian Code of ethics*

- Biomedical research involving human subjects (1984)
- Children's rights (1986)
- Detainees and prisoners (1986)
- Disabled persons (1986)
- Dying - Assuring quality of care for those who are dying (1986)
- Family planning (1986)
- Female circumcision (1983)
- Health care and quality of life (1986)
- Health hazards (1986)
- HIV/AIDS and the nursing profession (1987)
- Human rights (1983)
- International nursing migration (1986)
- Nuclear disarmament (1983)
- Nuclear war (1986)
- Nursing care of the elderly (1984)
- Nursing research (1986)
- Patient rights (1984)
- Policy making and planning (role of the nurse in)(1983)
- Refugees and displaced persons (1984)
- Safe-guarding the human environment (1986)

*Source: ANF (1989) Index to policy and position statements 25 March, 1988. *In Ethics: Nursing perspectives*, Volume 2 (pp.84-86). North Fitzroy, VIC: ANF.

Table 5: Policy and position statements endorsed by ANMF since 1994*

Policies
- Conscientious objection (E: 1994; R&R: 1996, 2004, 2007, 2011)
- Privacy (E: 2014)
- Whistleblowing (E: 2004; R&R: 2007, 2011, 2014)

Position statements
- Child abuse and neglect (E: 2007; R&R: 2010, 2013)
- Climate change (E: 2011)
- Organ and tissue donation for transplantation (E: 1994; R&R: 1996, 2005, 2008, 2011)
- Voluntary euthanasia/assisted suicide (E: 2007; R&R 2009, 2012)

* E- Endorsed
*R&R – Reviewed and Re-endorsed

The rise in interest in nursing ethics pedagogy in the journals during the mid-to-late 1980s is unsurprising given that the period in question coincided with the transfer of Australian nurse education from the hospital to the higher education sector (i.e., colleges of advanced education and universities). The transfer, which occurred circa 1985-1993, was enabled following the passage of legislation in August 1984 and the provision of funding from the Australian Commonwealth Government (Mason 2013). It was during this period that unprecedented attention was given to the subject of professional nursing ethics in the curricular of both undergraduate and post-graduate nursing programs and demand for 'locally grown' (as opposed to USA and UK authored) texts and references began to grow. This period also saw the first national distance education course on 'Ethics and nursing' for registered nurses being offered. Administered by the Distance Education Division of the then RCNA (which became the Australian College of Nursing in 2012 following the merger between its two predecessors, the RCNA and the NSW College of Nursing), the course was offered between 1990 and 1992 (RCNA 1992, 1990). After this period the course was discontinued due to decreasing demand as nurses took up opportunities to study ethics via the new tertiary nurse education programs which had been established following the transfer of nursing education to the higher education sector.

Another significant milestone achieved during this period was the publication of the first comprehensive text book on nursing ethics written from an Australian perspective and published by an Australian-based imprint of Harcourt Brace Jovanovich Group (Australia). The work *Bioethics: a nursing perspective*, first published in 1989, instantly became a bestselling nursing title and today is regarded internationally as a classic in the field (Johnstone 1989). Revised editions of the work were published respectively in 1994, 1999, 2005, and 2009. A 6th revised edition of the work was published in 2016 (Johnstone 2016), marking its 27th year of being in print. Other Australian books on nursing ethics published over the past two decades include Hawley's (1997) *Ethics workbook for nurses* (one print run only and now out of print), and Atkins, de Lacey and Britton's *Ethics and law for Australian nurses* (first published in 2011 and published as a second revised edition in 2014) (Atkins et al 2014).

NURSING ETHICS LEADERSHIP

The achievement of key milestones in operationalising nursing ethics in Australia during the 1980s and 1990s would not have been possible had it not been for the progressive initiatives lead by Australia's lead national nursing organisations, in particular the RANF/ANF (now the ANMF) and the new schools of nursing that were established following the transfer of nursing education from the hospital to the higher education sector. Notwithstanding the findings and recommendations of commissioned reports on nursing (e.g., the much touted Marles (1988) report *The study of professional issues in nursing*, and the Monash University, Centre for Human Bioethics (1988) report *The ethical, legal and social dilemmas in nursing*), it was primarily due to the efforts of Australia's peak nursing organisations and schools of nursing which, during the 1990s, saw an unprecedented number of workshops, seminars and conferences being organised specifically on the subject of ethical issues in Australian nursing (e.g., RANF 1987; ANF 1989; School of Nursing, Phillip Institute of Technology 1988, 1989, 1991). This period also saw the establishment in 1996 of the RCNA inaugural Nursing Ethics Society open to members of the RCNA (now the Australian College of Nursing). As nurse academics from around Australia pursued higher degrees and completed minor and major theses on nursing ethics-related topics, nursing ethics research and scholarship began to increase.

THE FUTURE OF AUSTRALIAN NURSING ETHICS

Australian nursing ethics has an uncertain future. Reasons for this are both complex and multifacted and include, but are not limited to: the lack of a strategic nationally cordinated agenda for progressing nursing ethics in Australia, the legacy of historical deficits in nursing ethics pedagogy and praxis (comprehensively considered in Johnstone 2015b), and the lack of a critical mass of nursing scholars with formal education and grounding in the theoretical foundations of moral philosophy and a substantive track record of peer reviewed publications on nursing ethics. While it is acknowledged that many nurses have a strong interest in and 'passion' for nursing ethics, this is not the same as – and should not be mistaken for – expertise in the discpline, as has sometimes been the case.

Arguably one of the most pressing issues facing the Australian nursing profession at this time is how best to address the deficits in nursing ethics pedagogy and praxis. Although the Australian Nursing and Midwifery Accreditation Council (ANMAC) *Registerd Nurse Accreditation Standards* requires teaching and learning approaches that promote 'ethical practice and leadership skills expected of registered nurses' (ANMAC 2012, Standard 2.4i) and program content that 'supports the development and application of knowledge and skills in legal and ethical issues in health care and research' (ANMAC 2012, Standard 4.4d), a cursory search of Australia's 37 university programs offering undergraduate and postgraduate nursing courses reveals significant disparities in the approaches taken to meet these standards. For example, where as some university programs have discrete subjects/units addressing 'ethical issues in health care', others have none with content being 'sprinkled' through the curriculum (in one case, anecdotally reported to be as little as four hours over the entire three year Bachelor of Nursing program). Still others have units that combine the content of law and ethics, which risks limiting the depth of inquiry that is otherwise warranted for these distinct subject areas. There is also variation in the level of offerings in a course, ranging from ethics being situated as a core subject to being offered as an elective only; offered in undergraduate, but not postgraduate courses, and vice versa; and a taking a 'generic' approach (i.e., for health care professionals generally) as opposed to a nursing-specific approach (i.e., for nurses only) to the content being taught.

Unfortunately it is beyond the scope of this present article to explore this issue in the depth that is warranted, suffice to say that unless the issue of nursing ethics pedagogy and praxis is comprehensively addressed at a national level, the moral competency of Australian nurses will stand in doubt (see also Johnstone 2015d). More worryingly, it will leave Australian nurses vulnerable to being ill-prepared for the major ethical challenges that lay ahead, such as those posed by antimicrobial resistance (Johnstone, in press), climate change, peak oil, pandemic-influenza, and the potentially catastrophic health inequalities associated with these things (Johnstone 2016). Ultimately, the professional ethics of Australian nurses – and what they 'can do, actually do, and ought to do' – will rest on whether and what response Australia's national nursing organisations responsible for setting the agreed ethical standards of the profession will give to this issue.

CONCLUSION

Nursing ethics in Australia, as in other countries, stands as an 'enduring and intimate concern of the profession' (Fowler 2010, p.31). Despite the operationalisation of Australian nursing ethics having a slow start, an Australian perspective on nursing ethics has gained a noticeable presence in the international arena with Australian nursing scholars making a significant contribution to the field. A notable example of this can be found in the Sage major reference work titled *Nursing ethics* (three volumes) curated by Johnstone (2015a, 2015b, 2015c). This work, which spans 127 years and encompasses more than 1,000 pages of pioneering articles on nursing ethics, has the distinction of being the first of its kind in the world (ANMJ 2015).

The Australian nursing profession is committed to achieving the ever expanding moral goals of the profession and practice of nursing. There is, however, room for improvement in regard to the development and practice of nursing ethics in Australia. To this end, the advancement of nursing ethics in Australia warrants being situated as a strategic priority – in education, research, scholarship and practice. Meanwhile, it would be both timely and instructive for a robust program of collaborative, comparative international and interdisciplinary nursing ethics scholarship, research and critique to be progressed. This would help to ensure that the nursing profession in Australia is appropriately positioned to not only meet the moral challenges that it will face in the future, but also contribute to global discourses on how best to meet these challenges.

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A nurses' guide to mixed methods research

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ABSTRACT

Objective
This article provides a breakdown of the components of mixed methods research methodology. The intention of the article is to simplify the terminology and process of mixed methods research to enable novice readers of research to have a better understanding of the language and concepts involved. The Survey method, using both qualitative and quantitative research methods, will be used to explain the principles of mixing methods.

Primary Argument
Australian nurses work in an environment where evidence-based practice is mandatory. Understanding the research process and terminology used may benefit nurses to implement research in their day-to-day practice. Gaining knowledge of the different approaches used in mixed methods research is paramount if nurses are to base their care on research which has utilised this style.

Conclusion
As mixed methods are used in nursing, social and behavioural research it is essential that nurses understand the methodology. The main components of mixed methodology will, therefore, be discussed in a systematic, logical order.

INTRODUCTION

Currently the Nursing and Midwifery Board of Australia include a requirement for nurses to evaluate and implement research in their care (Borbasi and Jackson 2012, p.22; Nursing and Midwifery Board of Australia 2013a). All nurses are expected to be actively involved in implementing or undertaking research (Borbasi and Jackson 2012, p.22) as a major goal of nursing research is to improve health care and outcomes (Moxham 2015; Benner 1984). Evidence based or 'best practice' nursing in Australia is supported by the Joanna Briggs Institute (Chang and Daly 2012). As evidence based practice and research are threaded through professional work and study in the health sciences (Wright-St Clair et al 2014, p.5) nurses, particularly novice nurses, may benefit from a discussion that helps them understand the sequence of a research paper (Moxham 2015) using mixed methods.

The emergence of mixed methods, which was considered a third methodological movement, began during the 1980's (Tashakorri and Teddie 2003). The first and second movements were quantitative methodology and qualitative methodology. Mixed methods are also known as 'multi-methodology' or 'triangulation' and are considered to have high validity due to the variation in data collection (Bulsara 2015; Taket 2013). Mixed methods research is further defined by Jirowong et al (2014, p.360) as research that 'systematically combines the collection and analysis of both qualitative and quantitative data in the same study'. This style of research allows investigators to combine both numeric and narrative data in their analysis (Lewis, 2013 p.166). Mixing methods offers a richer explanation than single use of either qualitative or quantitative methods as it can draw on the strength of each approach and overcome their weaknesses (Lewis 2013, p.167; National Institutes of Health 2011). The range and description of how methods can be mixed is extremely wide (Wurtz 2015; Taket 2013) therefore this paper will address mixed methods very broadly.

THE MIXED METHODS RESEARCH PAPER

The rationale behind using a mixed methods approach

Many authors and investigators have discussed the rationale behind combining qualitative and quantitative research methodology. The following discussion provides a breakdown of the main reasons for using mixed methods.

Mixed methodology can answer a research question from a number of perspectives and ensures there are no, or fewer, 'gaps' to the information collected (Bulsara 2015; Jirojwong et al 2014). Pre-existing assumptions from the researcher are less likely to occur, and inferences made stronger, as different approaches can yield broader information given that one method may not be able to provide all the information required (Bulsara 2015; Jirojwong et al 2014). As Wurtz (2015) explains, using mixed methods can provide a deeper understanding of behaviour, or a better idea of the meaning behind what is occurring. Most significantly mixed method research can include culture in the design by giving a voice to everyone involved in the behaviour being examined (Wurtz 2015). As Taket (2013) further explains, mixed methods can empower research participants by providing appropriate means for them to choose how and whether to participate. For example, a self-completion questionnaire excludes those who do not have the ability to read or write (Taket 2013), however, if an interview is also included in the methodology, they may be able to participate with greater autonomy (Liamputtong 2013, p.326).

There are six categories of Mixed Method Designs (Wurtz 2015) described in the grid at the end of this paper. Creswell and Plano Clark (2011, pp.69 - 101) agree there are six major designs but attribute several differing names to those given by Wurtz (2015).

In brief, a mixed methods study is not two separate studies addressing a specific issue but one study that employs different methods to address a specific research question or hypothesis (Jirojwong et al 2014, p.281).

Survey Method

The Survey Method will be used as an example of how qualitative and quantitative frameworks can be used together to research subjects. A survey is defined as a data collection tool to gather information about individuals (Privitera 2014). It may aim to collect factual information (quantitative data) and/or opinions of individuals through interviews (qualitative data). Surveys may be wholly quantitative but using mixed methods allows for greater depth. It is one of the most commonly used methods in social science research (Hamer and Collinson 2014).

Abstract/Summary

An abstract or summary of a mixed methods paper using survey technique will provide a brief objective summary of the research report. The rationale and background of the study should be provided and also include the theoretical and methodological processes for gathering information (Borbasi and Jackson 2012).

Identifying the problem

Survey designs can use a hypothesis (Privitera 2014) or research question (Jirojwong et al 2014, p.273). A hypothesis is defined by Johnson and Hengstberger-Sims (2014, p.35) as a statement about the relationship between two or more variables (also known as factors or characteristics).Whilst a survey can be used as a measurement tool in many research designs, survey research specifically refers to the use of surveys to quantify, describe or characterise an individual or group (Privitera 2014).

Literature Search

The literature review is generally found in the introductory section of a research paper (Polit and Hungler 2013). The function of a literature search in mixed method research varies depending on the classification of the study. As a survey consists of many questions, or statements, to which participants respond, the literature may be used to inform the researcher of questions or approaches previously used.

METHODOLOGY

Design

The survey research design can be administered either in written form and/or through interview. The survey will include a series of questions or statements, called items, used in a questionnaire and /or interview to measure responses (Privitera 2014, p.226).

There are three types of questions or statements used in a survey, namely open-ended items, partially open-ended and restricted items (Privitera, 2014). The open-ended questions can be used in interviews on an individual basis, or within a focus group, to glean qualitative information. A focus group is based on group discussion to elicit the respondent's perceptions, opinions, beliefs and attitudes (Jirojwong et al 2014, p.359). The participants are able to express their views by interacting within a group discussing an issue or number of issues (Liamputtong 2013). Partially open questions have several set answers but allow the researcher to ask extra questions (Jirojwong et al 2014; Liamputtong 2013). An example of a restricted item, also known as a closed-ended item, includes restricted answer options and commonly uses a Likert scale (Privitera 2014). The Likert scale usually has between three and seven columns with options such as strongly agree, agree, not sure, disagree and strongly disagree. Whilst the Likert scale can be used to elicit responses regarding attitudes and beliefs, statistics can be produced from the responses as the responses can be assigned a numerical value (Jirojwong et al 2014, p.360).

Other response formats may include verbal rating scales where a range of verbal responses are provided and the participant circles the one that most closely mirrors their view, or visual analogue scales, which asks the respondent to mark a position on a line between 0 and 10 or 0 and 100 depending on the nature of the question (Liamputtong 2013, p.212)

Sample

The sample population is very variable in mixed methods research. It can vary from small groups to huge populations. Subjects of survey research may be called participants, informants or subjects. Samples may be selected using convenience (purposive) or probability (random) techniques which means the sample was specifically chosen to ensure the data gathered is 'information-rich' (Borbasi and Jackson 2012, p.135). The quantitative element will mean the sample can be larger but sampling decisions need to be based on the research question. As Lewis (2013 p.277) further explains, mixed methods research has at least two components, elements or phases which means drawing a sample is hard to specify but, very generally speaking, a qualitative (purposive) sample would be less than 30 and a quantitative (probability) sample would be greater than 50.

Concurrent designs (merging qualitative and quantitative research) include the need for adequate sample sizes and being consistent in analysis whereas sequential designs (one phase of qualitative research which then builds on quantitative research or vice versa) results in decisions needing to be made on choosing appropriate sampling and sample sizes for both phases (National Institutes of Health 2011). To put it simply, it is very hard to match qualitative data to quantitative data as investigators, who hold different philosophical positions, may find mixed methods research to be challenging because of the tensions created by their differing beliefs (National Institutes of Health 2011).

Ethics

Consent should be obtained after full explanation of the study's intent (Borbasi and Jackson 2012). All nursing research should consider ethics and potential harm (Nursing and Midwifery Board of Australia 2013b). For example, data collection from web surveys should be undertaken so identities cannot be accessed. Participants should be de-identified (Liamputtong 2013, p.30). The investigator is obliged to consider the implications of the proposed research for the participating subjects, their families and society (Burns and Grove, 2009). Permission for nursing research is sought from an ethics committee appropriate to the situation (Jirojwong et al 2014, pp.63-66; Elliott et al 2013, p.93). The ethical principles of autonomy, beneficence, non-maleficence and justice are widely acknowledged in contemporary regulatory research ethics frameworks (Liamputtong 2013, p.27).

Pilot Study

A pilot study as a trial run of the research which is conducted on a small number of participants (Polit and Hungler 2013; Nieswiadomy 2012). The pilot study allows the researcher to assess the adequacy and feasibility of the intended research (Moxham 2015, p.35). With mixed methods research, using a survey technique, is important to identify problems or 'flaws' and strengthen the combination of qualitative and quantitative methodology by identifying practical and methodological issues (Bulsara 2015). Modifications can be made prior to the main study (Kim 2011).

Main Study

Issues of validity are challenging as qualitative and quantitative research have developed through different pathways (Jirojwong et al 2014, p.279). The essential component for the researcher is to ensure the research demonstrates the established research rigour required by each method (Teddie and Tashakkori 2009, cited in Jirojwong et al 2014). It is generally accepted that the qualitative or quantitative elements in a mixed methods study can have equal status or that one approach may be dominant.

In mixed methods research the investigators intentionally integrate and combine both qualitative and quantitative data rather than separate it. The challenge is how to integrate it (National Institutes of Health 2011). As Liamputtong (2013, p.339) states the combination of qualitative and quantitative data can produce a richer understanding of a number of different factors within a piece of research.

Analysis and Results

Investigators may use codes or colour coding to identify common themes. The codes can be counted and totals given for a response frequency (Bulsara 2015). This works well with survey questions and responses which generate figures but the data can also be considered qualitative if the researcher is seeking opinions and attitudes (Bulsara 2015). The main findings will be discussed according to which design was used (refer to GRID below). Issues may arise when analysing the data because of the combination of the qualitative and quantitative designs. This may mean the researcher has to gather more data or revisit databases (National Institutes of Health 2011).

Two articles in this series discuss this section in more depth, namely, A nurses' guide to Quantitative research (Ingham-Broomfield 2014) and A nurses' guide to Qualitative research (Ingham-Broomfield 2015).

Discussion/Recommendations

Whatever method is used in research papers, this section usually tries to clarify what the results mean. There should be an interpretation of the results, the study limitations and possible implications for further research to advance knowledge (Polit and Hungler 2013; Nieswiadomy 2012). The researcher will discuss problems encountered including the methodology chosen.

Conclusions of the research paper using mixed methods

Any research study design and findings need to be critiqued by the author(s) in the research study's discussion section. The investigators may discuss the complexity of the mixed methods approach. Most conclusions summarise the main points, review the research method, repeat the findings, discuss the limitations and offer suggestions for future research related to the subject researched (Nieswiadomy, 2012).

Reference list

The Reference List will contain research papers including books and other journal articles which may contain a selection of qualitative, quantitative and mixed methods sources to support the concepts outlined (Ingham-Broomfield 2014).

CONCLUSION

The methodological approach used in this paper has discussed mixed methods, using the survey method as an example, in a logical and systematic order. This paper has discussed the main components of mixed methods research for nurses who are new to this process and its terminology.

GRID

Quantitative (QUAN) and Qualitative (QUAL)

Category	Sequential Explanatory Design	Sequential Exploratory Design	Sequential Transformative design	Concurrent Triangulation Design	Concurrent Nested Design	Concurrent Transformative Design
Collection and analysis of data	QUAN stage followed by QUAL stage	2 stages -Priority given to QUAL data followed by QUAN	2 distinct stages –theoretical perspective used to guide the study	QUAL and QUAN data collection is concurrent – only one data collection phase	QUAL and QUAN data collection is concurrent	Guided by a specific theoretical perspective. QUAL and QUAN collected during the same phase
Priority given to which data	QUAN	QUAL	Whichever serves the theoretical perspective best	Ideally equal priority to both QUAL and QUAN	Either QUAL or QUAN dominate the design	Ideally equal priority to both QUAL and QUAN
Integration of data occurs during this research phase	Interpretive phase	Interpretive phase	Interpretive phase	Interpretive phase	Analysis phase mixes both QUAL and QUAN data	Analysis phase but can also occur in the interpretive stage
Purpose	QUAL results used to help explain QUAN results	QUAN data used to help interpret QUAL phase	Whichever serves the theoretical perspective best	Focuses on similarities and differences, with the primary purpose to support each other	QUAL used to better explain QUAN data	The purpose is to use methods that will best serve the theoretical perspective of the researcher

(Wurtz 2015; Lewis 2013)

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The art of clinical supervision: its development and descriptive mixed method review

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KEYWORDS

clinical supervision, nursing clinical placements, belongingness, learning theory, attitude theory

ABSTRACT

Objectives

The Health Workforce Australia Clinical Supervision Support Program Discussion Paper (2010) highlighted the education deficits of health professionals responsible for the clinical supervision of students. This research aimed to develop, implement and evaluate a new education program for nurses to assist in the development of knowledge and attitude to supervise students whilst on clinical practicum.

Design

The impact of the ACS program was determined using a descriptive methodology involving the collection and analysis of quantitative and qualitative data using a triangulation approach. This included the use of surveys, online reflections and interviews.

Settings

The ACS program was presented in both the metropolitan and regional areas of Western Australia.

Subjects

Participants (n=199) were from both the public and private health care sector working in a variety of nursing specialties within both the inpatient and community setting.

Results

Analysis of the data determined that participants improved their knowledge and attitude towards students and clinical supervision.

Conclusions

The ACS was confirmed as a strategy for providing effective education for nurses.

INTRODUCTION

This paper describes the development and evaluation of the Art of Clinical Supervision (ACS) program for registered nurses in Western Australia (WA). The program was first introduced in 2012 as a PhD study involving 199 research participants, however due to the program's success it was contextualised for all health professions and presented across WA with funding from Health Workforce Australia (HWA). As of December 2015 approximately 2,800 participants from nursing, midwifery, medicine, allied health and health sciences had attended the program.

This paper will serve to assist those interested in implementing a clinical supervision program for health professionals to provide an effective learning environment for students.

BACKGROUND

Literature

There is no universal term or definition for describing the clinical supervision of nursing students. Within the literature, terms include, but are not limited to, 'preceptorship', 'clinical supervision', 'supervision' and 'mentorship' (Gleeson 2008; Andrews et al 2006). In addition, there are numerous models of student supervision; these include one-to-one, group/team supervision, buddy system, and team leader model (Russell et al 2011). Whilst differences exist within each of these, all of these models provide students with a clinician to supervise their practice in the clinical environment.

In 2010 the Australian Government, Health Workforce Australia (HWA 2010) stated this lack of consistency across all health professions had left health services confused. In addition, the different university expectations of staff working with students, the learning requirements of students and the students' abilities, added to this state of uncertainty. HWA also recognised that good clinicians are not always naturally good supervisors and that education to supervise students was essential. The paper concluded a nationally consistent approach to the education of supervisors within the health professions was required. It suggested a national program for all health professionals, followed by discipline specific education.

In response to the HWA (2010) Clinical Supervisor Support Program Discussion Paper (CSSP), the Art of Clinical Supervision was developed and evaluated for the West Australian context. For this program and research, the HWA term and definition of clinical supervision was utilised to describe this clinical learning relationship between a student and a health professional:

> *the oversight either direct or indirect ...of professional procedures and/or processes performed by a student or group of students within a clinical placement for the purpose of guiding, providing feedback on and assessing personal, professional and educational development in the context of each student's experience of providing safe, appropriate and high- quality patient care (HWA 2011, p.4).*

Clinical Supervision

The literature articulates the need for registered nurses to possess the knowledge, skills and attitudes of effective clinical supervision. If left unmet, there remains a risk that the next generation of nurses entering the workforce will do so without the essential professional attributes to become effective members of the health care team (Brammer 2008; Gleeson 2008; Kilcullen 2007). The literature paints an alarming picture of student nurses currently not being engaged as active members of the health care team, or being given the opportunity to practice in an environment that is conducive to learning (Barker et al 2011; Smedley et al 2010; Gleeson 2008). This practice places the profession at risk of the production of skills-based nurses who are unable to think critically about the delivery of patient care (Allan et al 2008; Brammer 2008). This can have a detrimental effect on safe and effective health care delivery and patient outcomes (Gleeson 2008; Kilcullen 2007). A secondary risk is the loss of future nurses from the profession before they even begin, or early in, their career (HWA 2013b; Brammer 2008).

One of the current deficits identified is the lack of education and support provided to the nursing staff who supervise students. As stated, 'research has shown that mentors are often ill prepared (and) that their preparation varies from place to place, and that in reality most mentors learn on-the-job' (Andrews et al 2006, p.866).

A result of these ongoing concerns was the creation of Health Workforce Australia. HWA was created as a strategy to address the challenges of providing the Australian community with a skilled and innovative health workforce (HWA 2011).

Health Workforce Australia

HWA was an initiative of the Council of Australian Governments (COAG), and was established by the Commonwealth, State and Territory Governments after the 2008 National Partnership Agreement on Hospitals and Health Workforce Reform (HWA 2013a). HWA's functions included the provision of workforce planning and recruitment, and improving and expanding access to quality clinical placements for health professional students. Within HWA, the Clinical Supervision Support Program was established to assist with meeting the demands of clinical placements in Australia (HWA 2011). Strategies to date include the expansion of the current health service capacity for student placements and the development of a competent health workforce to provide quality clinical placements that promote learning and competence (HWA 2011).

The release of the HWA (2010) Clinical Supervisor Support Program (CSSP) Discussion Paper confirmed the concerns outlined in the national and international literature in relation to student clinical placements. This included a lack of preparation of clinical supervisors supporting clinical placements and the ongoing confusion by health care facility staff regarding the role of the clinical supervisor. The report stated the learning of clinical supervisor skills was separate to professional education requirements to gain entry into a health profession, and the role must therefore be addressed with its own specific education programs (HWA 2010).

The HWA (2010) paper described that many of the existing programs for clinical staff failed to provide them with the necessary knowledge and skills to effectively supervise students. Thus, the CSSP developed core themes for good supervision practice for all health professionals involved in the supervision of students. The seven core skills identified were: competent clinical skills, teaching and learning skills, effective feedback, communication skills, assessment skills, understanding of remediation processes and interpersonal skills.

RESEARCH

The purpose of this research was to design, implement and evaluate an education program that addressed the core skills of HWA (2010), as well as deficits and requirements identified in domestic and international literature, in order to prepare nursing staff for the role of clinical supervision.

On the development of the program, and ethics approval from the University of Notre Dame, Australia (UNDA) Human Research Ethics Committee, flyers for the ACS program were forwarded to health care facilities within WA. Nurses were able to attend sessions at the University or host health care facilities in both metropolitan (one public and one private) and regional WA (one public and one joint public/private). A convenience sample of 199 participants meeting the inclusion criteria attended the program in 2012. Inclusion was based on employment in a role involving the supervision of students, and more than one year's nursing experience. Participants were provided with an Information Sheet, written consent was obtained, and participants were informed that they were free to leave the study at any time.

DEVELOPMENT OF THE ART OF CLINICAL SUPERVISION (ACS)

The term 'art' was used in the naming of the program to identify the soft skills of the role in supporting students. In particular the importance of a positive attitude towards students and student learning. A search of the national and international literature did not identify the term 'The Art of Clinical Supervision' for existing supervision education. Whilst the term 'art' was used to define a style of supervision, its definition varied from undergraduate support to practicing health professionals (Estadt et al 2005; Titchen and Binnie, 1995). Titchen and Binnie (1995) defined the art of clinical supervision as a set of tailored teaching and learning strategies for nursing clinical education as opposed to the then traditional ward teaching of right versus wrong. Estadt et al (2005) demonstrated that the 'art' of supervision was a style of supporting peers through their professional development. The book included various stories shared by senior clinical supervisors. These experiences were themed at promoting the clinical supervisor role as a journey of support through shared learning. Whilst in the field of psychology, Falender and Shafranske (2014) discussed the competency requirements for the provision of effective clinical supervision and the current practices within supervision. They define the 'art' as being the current state of practice of clinical supervision within psychology and the need for a formal competency based approach to its delivery.

In developing the ACS the researcher considered the findings from the national and international literature, as well as HWA's (2012, 2011, 2010) publications. The aim of the program was to provide an environment conducive to learning that would assist the participants to understand the bigger picture of student placements in Australia, the future directions and requirements of clinical placements, the role of clinical supervisors and the positive and negative influences of clinical supervisors.

One of the aims of the ACS was to promote a positive attitude toward clinical supervision. To achieve this the work of Katz (1960), related to the theories of persuasion, was applied. Katz (1960) highlighted that changing individuals' attitudes can be achieved through the use of external forces. To achieve this an understanding of the motivational reason for, or function of, the held attitude is required. This allows motivators/educators to develop a persuasive message that will assist individuals to reason with and change their current attitude. Katz (1960) stated that by provoking individuals to analyse their attitudes, this could change the attitude; however, the success of this approach is usually linked to the charisma and quality of the message.

The ACS teaching plan incorporated the principles of attitude and persuasion (O'Keefe 2002; Katz 1960) by: utilising the behaviourist theories of learning by role modelling positive behaviour and rewarding and encouraging positive attitudes; cognitivist theory by adapting ones teaching and facilitating strategies that ensured the days content and discussions were applicable and relevant for each group; and constructivism through story telling which, highlighted the impact of poor and positive behaviours, therefore encouraging participants to reflect and question the purpose of their own attitude towards students (Knowles et al 2011; Kolb 1984; Knowles 1978).

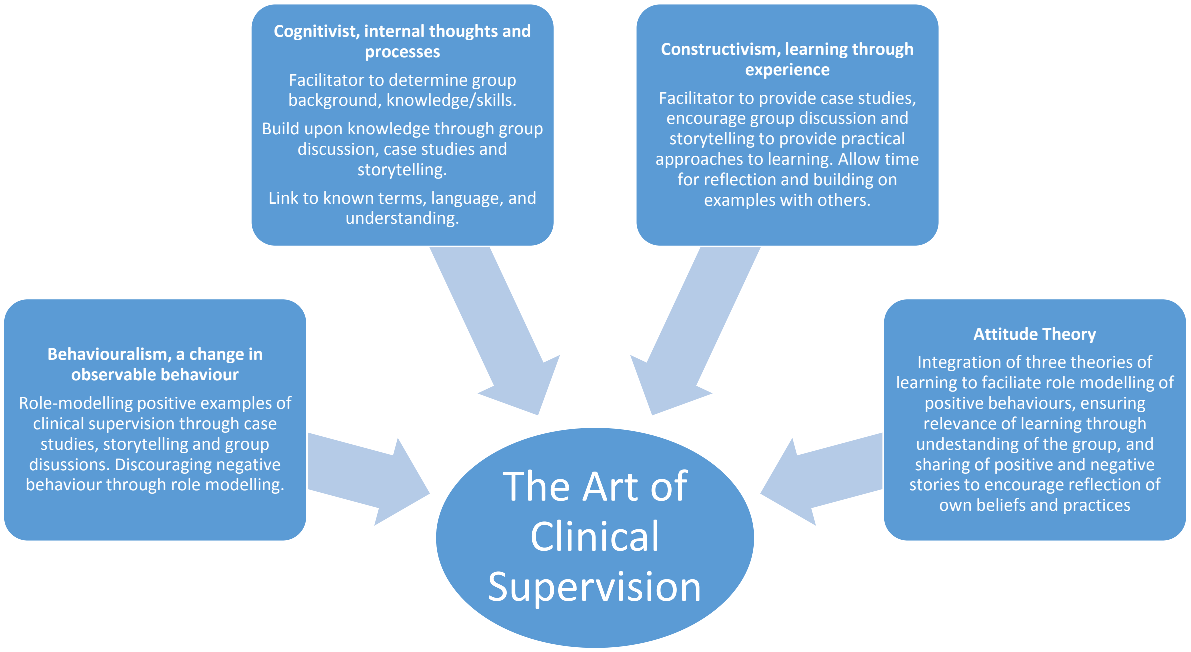
Research on belongingness led by Levett-Jones (2009, 2008, 2007) was a key topic in the study day to provide participants with an opportunity to analyse their attitude and develop strategies that could create a positive attitude towards students and student placements, whilst also highlighting the effect of negative and poor behaviours. The importance of belongingness and its impact on student learning highlighted that the attitude of the clinical supervisor had a significant impact on the ratings of clinical placement satisfaction by students. As a strategy to promote these findings the ACS program included a 90-minute session critiquing this research and developing implementation strategies.

The sessions on communication, feedback, reflection, learning styles, critical thinking and clinical reasoning were included to give participants the knowledge and confidence to provide effective teaching and supervision.

To meet industry demands for succinct education in a climate where staff can be released from the workplace for a limited time, the program was developed as an intensive one-day seminar with a comprehensive resource file.

The use of these theories and prinicples of learning guided the researcher in the development of the ACS teaching plan—that is, the delivery method of the content. These theories and principles were chosen due to their ability to assist with attitude change, an essential component of the program. Consumer input into the program was sought with the development of an expert group (five WA nurse educators) for content validity. This process was augmented by the experience of the author, who has extensive experience in this area as well as a Masters in Health Science Education. The application of the theories and principles of learning and attitude are demonstrated in figure 1.

Figure 1: Application of the Theories of learning and attitude to the ACS



Cognitivist, internal thoughts and processes

Facilitator to determine group background, knowledge/skills.

Build upon knowledge through group discussion, case studies and storytelling.

Link to known terms, language, and understanding.

Constructivism, learning through experience

Facilitator to provide case studies, encourage group discussion and storytelling to provide practical approaches to learning. Allow time for reflection and building on examples with others.

Behaviouralism, a change in observable behaviour

Role-modelling positive examples of clinical supervision through case studies, storytelling and group disussions. Discouraging negative behaviour through role modelling.

Attitude Theory

Integration of three theories of learning to faciliate role modelling of positive behaviours, ensuring relevance of learning through undestanding of the group, and sharing of positive and negative stories to encourage reflection of own beliefs and practices

DATA COLLECTION, ANALYSIS AND FINDINGS

The research process involved a Descriptive Study with mixed methods data collection and analysis. Participants completed pre (199) and post surveys (198), which detailed their knowledge and understanding of the principles of supervision and application of these principles, whilst a five point Likert scale attitude survey by Stagg (1992) was utilised to evaluate attitude. Participants were also invited for a further eight weeks to share their experiences of student supervision, work place practices, changes to practice etc. since attending the program via an online reflection. During this time 117 emails were received. Participants again completed the survey tools after a period of eight weeks (71), with a further 12 participants interviewed.

Quantitative

The quantitative findings were divided between the two survey instruments. The first, the knowledge survey, was developed by the researcher, and validated through a nurse educator expert group and tested for reliability with a test-retest approach of two weeks with 30 nurses. An Intraclass correlation coefficient (ICC) of 0.976 confirmed tool reliability.

The knowledge survey findings demonstrated that participants experienced a statistically significant increase in the mean score from the pre-program (42.5%) to the post program surveys (immediate post 58.7%, eight week post 68.3%), and this occurred across all subgroups that were analysed (p value <0.001). These subgroups included the participant demographics of age, area of employment, years of nursing, frequency of clinical supervision and previous education relating to clinical supervision. Although not statistically significant, it was noted with the knowledge survey that participants who were: employed in the metropolitan area, in a public hospital, had the most involvement in clinical supervision, with 21–30 years of nursing experience and were 41 years or older had the highest mean score.

The second survey, an attitude survey on clinical supervision developed by Stagg (1992), also demonstrated a statistically significant (p value <0.001) increase in the mean score from the pre-program (83.4%) to the immediate post-program (87.2%) and eight week survey (86.3%) (p value <0.004). Stagg's (1992) attitude survey highlighted that those with the highest attitude mean score towards students were: employed in the metropolitan area, within public health, and were between 20-30 years of age, however it must be noted that there was only a 2% difference between all age categories. Of note was that participants who supervised students 'most days' had a lower result in the attitude survey compared with those who supervised 'some days', with the most positive results found within the 'some days' group across all phases of data collection. These two groups always supervised students each week; however, it would appear that the 'some days' group also had an opportunity each week to experience some time without students. This is an important finding for educators and ward managers to consider when allocating students to clinical supervisors in the workplace. Other frequency categories included 'Infrequently – on occasions each month', 'Rarely – once or twice within six months' and 'Not at all'. These findings indict that the more engagement with student supervision the more positive the staff members attitude.

Qualitative

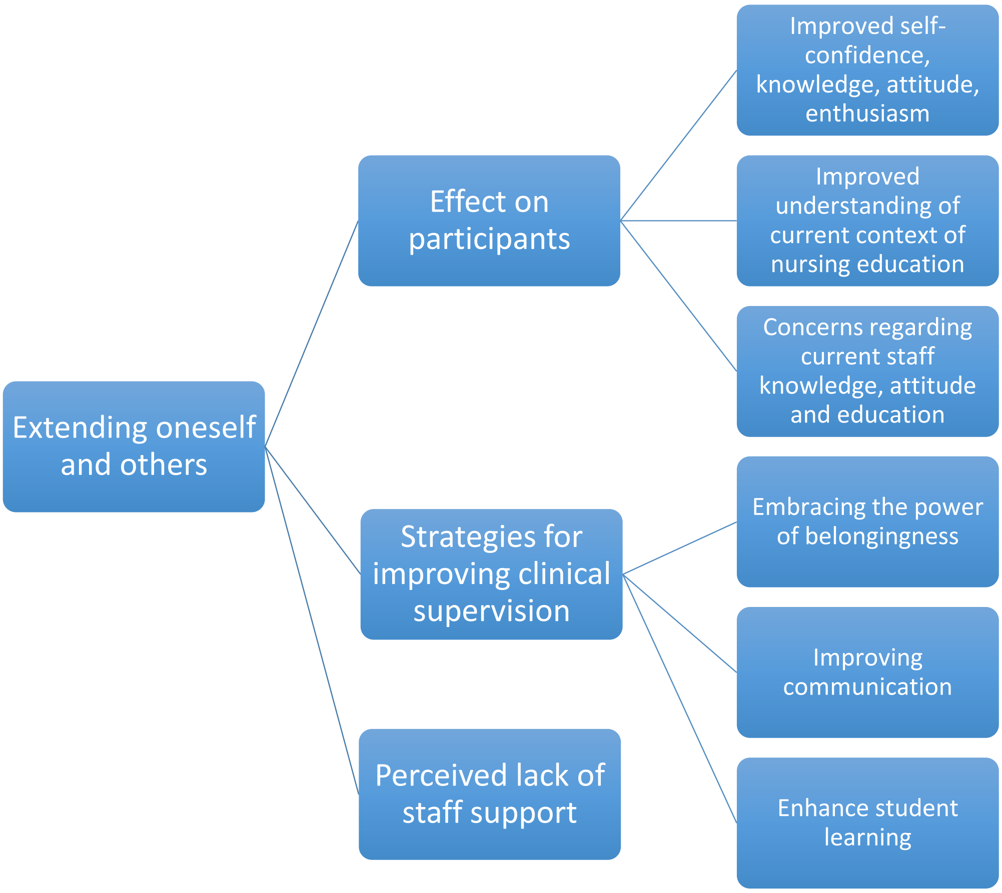
The qualitative data collection and analysis involved collecting participants' words about the effect of the ACS through short statements in the post-program knowledge survey, online reflections and interviews. Each data source was analysed in relation to the principles of thematic data analysis according to Braun and Clarke (2006).

Braun and Clarke (2006, p.79) define thematic analysis as "a method for identifying, analysing and reporting patterns (themes) within data". This method of analysis utilises a 'realist' method, which "reports experiences, meanings and the reality of the participants" (p.79). Six stages of analysis are identified. This involves familiarisation of the data, initial code development, identifying themes, review of themes, naming and defining of themes and the final stage of writing the report.

Upon reviewing the themes from each data source, the researcher determined that similar themes were evident in all of the data collection methods. The overarching theme of the qualitative data was entitled 'extending oneself and others'. Throughout the different qualitative data collection methods, participants commented on the effect of the program on themselves and how they could use this information and renewed enthusiasm and attitude to benefit students and other staff.

All three sources of qualitative data collection supported the findings of each individual source. Different depths of information and stories were obtained by using these different data collection methods within the qualitative phase. These themes and subthemes are articulated in figure 2.

Figure 2: Overall qualitative themes of the ACS study



The qualitative findings of the research indicated that participants found the ACS to be a positive learning experience, participant 119 stated the program "*Gave me more confidence and expertise to be an effective mentor for my students*", while 177 wrote that the program "*Gave me the confidence and education to work with students to improve needs, on role modelling, and working with them*". Participant 184 confirmed this view: "*It increased my confidence in my ability to supervise students and taught me things that I had not thought about before*". Participant 17 stated, "*I was expecting to leave the program with a better understanding of teaching undergraduates. I have that and feel empowered to take action*". Whilst participant 90 stated, "*I think I feel more confident having done this course to be more assertive and a better advocate for them (students)*" and participant 164:

> *"To highlight the importance of student nurses coming through and the value of putting effort into enriching their clinical experience…to be reminded of what it is like to be a student and prompt simple actions an experienced nurse can do to improve the clinical experience of a student."*

It was felt by the participants that this positive experience needed to be shared with others, participant 87 commented that the ACS was "*Essential learning for all RNs who mentor students, it will enhance the students experience if all RNs know how they can contribute*". Whilst participant 8 wrote "*I would like all nurses in my area to have completed this*", and "*My colleagues have not had any formal training and this would be invaluable for staff*" (42).

This positive experience was achieved by improving participants' understanding of the role of clinical supervisor, describing the bigger picture and the students' learning journey, discussing the skills of effective clinical supervision, highlighting the implications of both poor and positive clinical supervision, promoting the importance of belongingness and positive attitudes, and developing a sense of teamwork and collaboration towards the role of clinical supervision. Participant 71 stated:

> *"I had no idea at the start what to expect but this has been the most comprehensive and informative session I have been to on preceptor role and what it entails…It has given me a great resource in the way of the folder. Much more confident in what I am supposed to be doing and what my role entails."*

Whilst participant 21 stated:

> *"I just found it was a very positive experience for me…it just raised my awareness of where the students are coming from and picked up the little fine points that perhaps we weren't doing as well as we could have done with them, and being very conscious of their need to achieve their competencies and to make the most of every moment that they were there, and also trying to give them the best experience that was the most appropriate for them."*

The sessions related to critical thinking, clinical reasoning and reflection provided practical strategies for their implementation to assist with student learning, participant 40 stated:

> *"Relaxed presentation, really interesting information that was research based, current and relevant. I particularly enjoyed the styles of learning and also to have an understanding of how to promote clinical reasoning, critical thinking and reflection in practice."*

And participant 10:

> *"I particularly enjoyed the styles of learning and also to have an understanding of how to promote clinical reasoning, critical thinking and reflection in practice…it will certainly aid me in trying to ascertain how my students learn best and adapt my supervision to optimise their learning and development while on prac."*

All three data sources discussed the future of the program and its availability to assist staff to undertake this role. Participants felt that health services and education providers needed to promote and support the role of the clinical supervisor and that this could in part be achieved through the ongoing commitment to staff education. The ACS was seen as a strategy to improve staff knowledge and promote a cultural change in staff attitudes towards students, by providing the speciality education requirements to achieve this. Participant 68 stated:

> *"I think there's a huge gap out there in nursing…I think a lot of education needs to come in…most of them (nurses) don't have a clue what the code of conduct is, or the code of ethics, let alone professional boundaries."*

With participant 92 commented:

> *"Education in clinical supervision is really poor, very poor…the education from the university is expected to be given by people with Masters and above, not only in their clinical skills but also in their education ability…so why when you're on the front line can we expect people to suddenly become expert teachers? We can't. We have to teach them how."*

While participant 76:

> *"I think it was an excellent initiative to have a proper study day, and it would be nice if it would be, the best word I can think of is compulsory, to get facility staff to take seriously the role of working with students and developing students, that we can't just pretend I'm a nurse, I've got a student, I know about nursing. We can do with it being quite a formal part of staff members development that they come to study days*

> *such as that, that they've got a decent insight into what the role of the supervisor and the mentor is and how to deal with having a student."*

Participant 92 also supported this belief:

> *"Clinical supervision education should be taken more seriously…each nurse [should] get the opportunity to get that education…I hope to goodness it [study day] does continue along to get bigger and bigger."*

Participants also related the importance of improving workplace culture, supporting first year nurses and how this related to the future recruitment and retention of student nurses, and nurses, in nursing. Participant 101 wrote, "*To help nurses…be more supportive of students, to help develop our future nurses stay in the job and enjoy their chosen career paths and put back into nursing*". Whilst participant 39 commented that "*As a profession which is known to be ageing it is important to know how to guide students in a caring and sufficient manner, as we need more nurses and one day they too will become facilitators to students*". Participant 57 linked this to the concept of belongingness, "*Put into realisation how nursing students need to be treated, and how easily they may no longer like the profession should they be treated wrongly*".

LIMITATIONS

There were limitations to this research project. The main limitation related to measuring the impact of the study. The effectiveness of the program was measured through the attending nurses. Whilst results from the data indicated a change in knowledge and attitude, it may not transcend to a change of practice. The researcher considered the inclusion of fieldwork to observe these nurses in practice. This would have involved pre and post observations to measure a change in practice. Due to the many uncontrollable variables, this was not included. As a result, the use of the online reflection by participants was incorporated to provide the researcher with access to the thoughts and examples of experiences of supervision. The researcher also acknowledges that in the recruitment process these participants choose to attend this program and therefore may have a stronger interest in this role than the general nursing population. This may bias the results of the data, and may either set higher expectations of the program content, or a proactive approach in implementing the programs objectives.

DISCUSSION

The findings of this research demonstrate that a positive effect on participants' knowledge and attitude can be achieved with a dedicated study day program. The participants endorsed the ACS as an education strategy that could provide nurses with the necessary knowledge, skills and attitudes to facilitate positive clinical supervision placements.

Findings from the research also suggest that the ongoing success of the program on participants' effective implementation of the role could not be guaranteed without ongoing organisational support and commitment to the role. Participants felt that more support from the health care facilities and education providers was required, including greater recognition of the role, responsibilities, barriers and time requirements.

Due to the success of the study, a further three years of support for the program was provided through Health Workforce Australia (until its cessation in November 2014), and modified (terminology only) to facilitate the inclusion of the wider health care team. Study day evaluations from these days continued to be positive and supportive of the program.

The implications of these findings are an important take-home message for hospital executive staff, educational institutions and clinical supervisors who want to improve their organisational culture and the role of the clinical supervisor. These findings suggest that the success of the clinical supervision relationship between nursing students and registered nurses is co-dependent on all of these factors. Health care facilities and education providers need to consider these findings and their implications for future policy and strategy development.

CONCLUSION

The Art of Clinical Supervision aimed to assist nursing staff to develop the essential knowledge and attitude to provide nursing students with a positive learning experience. The research study confirmed the success of the program, and the program continues to provide learning opportunities for all health professionals in Western Australia. This articles intent has been to provide other health care services with a background to this program and its evaluation to assist with further clinical supervision education strategies.

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Home oxygen therapy assessment for COPD patients discharged from hospital: Respiratory NP Model of Care

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Author statement

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KEYWORDS

home oxygen therapy, COPD, hypoxia, discharge, nurse practitioner

ABSTRACT

Objectives

The research aim was to examine the impact of the introduction of the Chronic Respiratory Disease Nurse Practitioner (CRD NP) Model of Care (MOC) on the assessment for short term oxygen therapy (STOT), provision of care, and patient outcomes for patients discharged with oxygen therapy post an acute exacerbation of chronic obstructive pulmonary disease (COPD).

Design

A retrospective uncontrolled comparative clinical audit was conducted in two six-month periods pre (2009) and post (2011) the introduction of the CRD NP MOC.

Setting

Tertiary referral centre in central Victoria, Australia.

Subjects

A total of 301 patient admissions with a discharge diagnosis of COPD were examined for hypoxia at rest and on exertion prior to discharge.

Main outcome measures

The audit focused on the incidence of assessment for STOT prior to discharge, supply of STOT where indicated on discharge, and incidence of re-admission within 28 days of discharge with COPD related symptoms.

Results

A statistically significant increase in the proportion of appropriate patients assessed with arterial blood gas analysis for eligibility of STOT from 7.7% in 2009 to 45% in 2011. Provision of STOT on discharge increased from 26.7% to 44.4%. Re-admission to hospital within 28 days of discharge for patients with STOT decreased from 25% in 2009 to 12.5% in 2011.

Conclusion

Since the introduction of the CRD NP MOC there has been an increase in patient assessment for STOT, provision of STOT, reduction in hospital re-admissions, improved adherence to procedure protocols, improved patient outcomes and cost savings for the hospital.

INTRODUCTION

Oxygen is a drug that has been used for centuries for its therapeutic purposes (McDonald and Crockett 2009) and was first used in the treatment of lung disease in 1922 (Ringbaek 2006). With increasing fiscal pressure to discharge patients as early as is practicable from hospital it is common practice worldwide to discharge patients who have been admitted for chronic obstructive pulmonary disease (COPD) and remain hypoxic at the time of discharge with short term oxygen therapy (STOT) (Ringbaek 2005; Eaton et al 2001). These patients traditionally have been assessed for STOT according to the guidelines for the provision of long term oxygen therapy (LTOT) that applies to their respective country. It is expected many of these patients who are assessed for STOT will be clinically stable and will not fulfil the criteria for LTOT when reassessed within one to two months of discharge. Therefore STOT provides optimal medical management that appropriately balances patient care and timely discharge (Eaton et al 2001).

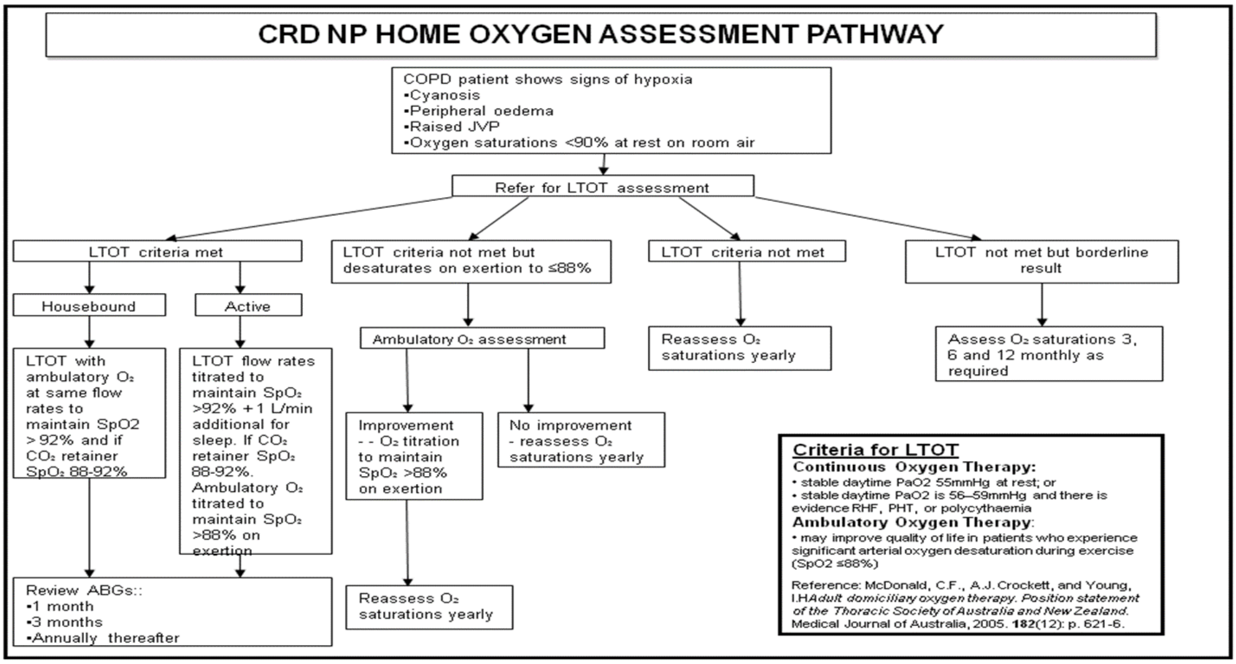
At a regional health facility in Central Victoria, Australia it was recognised that potential enhancement could be made in the areas of access, provision of care and improved client outcomes. Consequentially, a Model of Care (MOC) that could address the gap in service to improve patient outcomes was proposed and one of the authors was appointed to the position of Chronic Respiratory Disease Nurse Practitioner (CRD NP) in 2008. Subsequently, a CRD NP MOC was developed in 2009 which included the assessment and management of COPD patients who required home oxygen therapy on discharge from hospital. With the introduction of the CRD NP MOC in 2010 the existing hospital policy and procedure for home oxygen therapy was revised to specify that medically stable patients who remain hypoxic should be assessed appropriately for STOT within the 48-hour time period prior to discharge from hospital.

The CRD NP reviews patients discharged home with STOT at one and three weeks post discharge for oxygen titration, education of home oxygen therapy and to ascertain the need for assessment of long term oxygen therapy. The CRD NP refers patients who remain hypoxic for the required arterial blood gases (ABG) on room air and on oxygen and also for a Six Minute Walk Test (6MWT) prior to their review appointment at approximately four weeks, however this time frame may be longer to ensure the patient is medically stable when assessed. An Outpatient Department Oxygen Clinic (OPD OC) was established to review patients discharged with STOT in 2010. At the OPD OC the patient's results were reviewed by the CRD NP in collaboration with either of the two respiratory physicians, and eligibility for LTOT was determined. If the patient initially was only eligible for portable oxygen therapy then they may be reviewed in the clinic at three, six or twelve months for assessment for an oxygen concentrator depending on the degree of chronic hypoxaemia present.

BACKGROUND

COPD is a slow progressive disease that is characterised by a reduction in airflow that is not fully reversible which may lead to severe disabling breathlessness on minimal exertion and often leads to chronic hypoxaemia and respiratory failure, increased hospital admission and premature death. Chronic hypoxaemia, is defined by O'Driscoll et al (2008) as a low oxygen tension or partial pressure of oxygen PaO_2 <60 mmHg in the blood, or SpO_2 <90% on room air. Chronic lower respiratory tract disease is expected to be the third leading cause of death by the year 2020 (Crockett et al 2002). Worldwide, COPD is a major cause of morbidity and mortality and in Australia it is estimated that there are approximately two million people with a diagnosis of COPD, with 1.2 million people suffering from moderate to severe COPD (McKenzie et al 2011). It is estimated that 14% of Australian adults over the age of 40 years have some degree of COPD when assessed under the Global Initiative for Obstructive Lung Disease (GOLD) criteria and with an aging population the burden of disease is likely to increase (Toelle et al 2013). COPD has been ranked as the fifth highest contributor to the overall burden of disease estimated by the Australian Institute of Health and Welfare (Australian Institute of Health and Welfare 2008). COPD death rates in Australia are now ranked sixth for both men and women as common causes of death and in the indigenous population death rates are five times higher than that of non-indigenous Australians (Access Economics 2008; Australian Institute of Health and Welfare 2008). COPD is also associated with other conditions such as heart disease, lung cancer, stroke, pneumonia and depression (Abramson et al 2015).

Diagram 1



LTOT benefits have been demonstrated in two landmark randomised clinical trials by the Nocturnal Oxygen Treatment Trial (NOTT) group and Medical Research Council (MRC) working party in the early 1980's (Nocturnal Oxygen Therapy Trial 1980; Medical Research Council Working Party 1981). As a result of the NOTT and MRC trials, guidelines for the prescription of LTOT have been implemented in many countries around the world with the first guidelines being developed in the United Kingdom (UK) in 1985 (Kelly and Lynes 2008). The American Thoracic Society (ATS), European Respiratory Society (ERS), British Thoracic Society (BTS) and the Thoracic Society of Australia and New Zealand (TSANZ) have all established their own similar criteria for LTOT in patients with COPD based on these two multicentre studies (Wijkstra et al 2001). In Australia the guidelines for the management of LTOT recommend that it is prescribed for at least 18 hours per day and it has been found to be the only component in the management of COPD patients with severe daytime hypoxaemia that improves survival, quality of life and reduces mortality (McDonald et al 2014).

In Australia the major cause of chronic hypoxia is COPD, but is a feature of many other cardio-respiratory diseases Oxygen is prescribed according to the adult domiciliary oxygen therapy position statement of the TSANZ. This position statement is a 'consensus statement' that was first developed in 1998, then revised in 2005 and again in 2014 (McDonald et al 2014; McDonald et al 2005). The TSANZ suggest that home oxygen therapy is beneficial for patients with evidence of chronic hypoxia but also for patients whose resting oxygen levels are satisfactory during the day however desaturate on exertion and at night when sleeping despite the lack of strong evidence to support this practice (McDonald et al 2014). STOT and LTOT are prescribed differently across the various states and territories within Australia due to varying policies and funding bodies (Serginson et al 2009).

As a result of an acute exacerbation of COPD, patients may be prescribed STOT on discharge from hospital if hypoxaemia persists. The criteria that has been traditionally used for the assessment for STOT is the same as for LTOT. If the patient is hypoxic (SpO_2 <90%) when awake, at rest and breathing room air, then an ABG sample should be obtained for assessment of hypoxaemia. If the arterial oxygen pressure is low, $PaO_2 \leq 55$ mmHg (7.3 kPa), or if PaO_2 is from 56 to 59 mmHg (7.4-7.9kPa) together with clinical evidence of pulmonary hypertension, cor pulmonale or polycythemia (hemoglobin level >170g/l), then the patient would qualify for STOT that is funded by the hospital. These patients require reassessment within one to two months when their condition is stable and on optimal medical management for LTOT. COPD patients that are most likely to benefit are those who have an increased arterial $PaCO_2$ >45mmHg (6 kPa). The criteria for patients requiring ambulatory oxygen are that during exercise they may experience a significant arterial oxygen desaturation of $SpO_2 \leq 88\%$. Criteria for nocturnal oxygen therapy is $SpO_2 \leq 88\%$ (PaO_2 <55 mm Hg or 7.3 kPa) for more than a third of the night and who have evidence of hypoxia-related sequelae. Absolute contraindication for assessment or provision of STOT or LTOT is current smoking of cigarettes (McDonald et al 2014; McDonald et al 2005).

AIMS

The aim of the study was to examine the impact of the introduction of the CRD NP MOC on the assessment for STOT, provision of care, and patient outcomes for patients discharged post an acute exacerbation of COPD at a regional hospital in central Victoria, Australia.

ETHICAL CONSIDERATIONS

Ethical approval for this study was obtained from the Bendigo Health Human Research Ethics Committee (HREC) and was assessed as being low risk. Patient consent was not required as it was a clinical audit.

METHODS

A retrospective uncontrolled comparative study was conducted based on a clinical audit of the medical records for all patients discharged from hospital with a primary diagnosis of COPD during two six month periods. The first period was prior to the introduction of the CRD NP (pre-NP), from 1 January to 30 June 2009 and the second was the corresponding period in 2011, after the CRD NP MOC was implemented (post-NP). A total of 301 patient admissions during the two periods for patients with a discharge diagnosis of J44.0 (COPD with acute lower respiratory infection), J44.1 (COPD with acute exacerbation unspecified), J44.8 (other specified COPD) or J44.9 (COPD unspecified) were examined. Records for patients who were discharged to other units and health facilities for ongoing management or for convalescence were excluded from the analysis, as were those for patients already commenced on LTOT and receiving both an oxygen concentrator and portable oxygen cylinders. Records for patients who were identified as smokers (and hence ineligible for STOT) were initially included but removed from the analysis once it was evident that the TSANZ guidelines on domiciliary oxygen had been applied stringently and no smokers were provided with STOT.

DATA CAPTURE

The key data that was extracted from each record and examined were the following:

- Oxygen saturations at rest and on room air within 48 hours prior to discharge.
- If resting oxygen saturations ≤ 90% was an ABG sample taken for analysis of hypoxaemia within 48 hours prior to discharge.

- If patients had a functional walk test (performed by the physiotherapist over a 40 metre distance) and oxygen saturations on exertion ≤ 88% within 48 hours of discharge.
- Whether or not the patient was eligible for STOT.
- Whether or not the patient was discharged with STOT.
- Whether or not the patient was re-admitted within 28 days with a COPD diagnosis.

The data was transcribed into the Statistical Packages for Social Science, version 19 (SPSS) software for analysis. Evidence of differences in treatment practice and/or patient outcomes between the pre NP and post NP periods were examined using Fisher's exact test.

RESULTS

In the analysis there were a total of 182 patient admissions: 82 in the pre-NP period (2009) and 100 in the post-NP period (2011). However due to some patients having multiple admissions in total there were 221 individual presentations and admissions (91 pre-NP and 130 post-NP). Whether or not treatment practice or patient outcomes correspond to different episodes for the same patient is unimportant in this analysis so the numbers and proportions that are provided correspond to 'patient admissions'. However, it is convenient in the discussion that follows to refer to them simply as 'patients'.

Table 1 lists the numbers and proportions of (non-smoking) COPD patients with rest $SpO_2 \leq 90\%$ in the two six month periods for whom an ABG sample was taken within the 48 hour period prior to discharge. In the six month period in 2009, prior to the introduction of the CRD NP role, one patient (7.7%) had an ABG sample taken of the 13 patients with rest $SpO_2 \leq 90\%$ for whom an ABG sample was warranted according to hospital guidelines. In the six month period in 2011 with the implementation of the CRD NP MOC, nine of 20 qualifying patients (45%) had ABG samples taken This represents a statistically significant increase in the proportion of qualifying patients being appropriately assessed (using ABG) for eligibility for STOT (Fisher's exact test, $p = 0.026$).

Table 1: Qualifying COPD Patients for whom an ABG was taken

	Qualifying patients (Resting $SpO_2 \leq 90\%$)	ABG taken	
Year		***Yes***	***No***
2009 (pre NP)	13	1 (7.7%)	12 (93.3%)
2011 (post NP)	20	9 (45.0%)	11 (55.0%)
Total	33	10	23

In 2009 during the first six months, 26.7% of COPD patients who met eligibility criteria for STOT (based on outcomes of ABG and/or functional walk test) were provided with STOT on discharge (table 2). In 2011 the proportion of patients meeting the criteria increased to 44.4% during the same six month period. The increase in the proportion of eligible patients being provided with STOT is not statistically significant (Fisher's exact test, $p = 0.245$).

Table 2: Eligible COPD patients provided with STOT on discharge

	Patients eligible for STOT	STOT provided	
Year		***Yes***	***No***
2009 (pre NP)	15	4 (26.7%)	11 (73.3%)
2011 (post NP)	18	8 (44.4%)	10 (55.6%)
Total	33	12	21

The numbers of patients in each six month period who were discharged with STOT and who were subsequently re-admitted to hospital within 28 days for further treatment of COPD are given in table 3. As the numbers observed in both years examined were relatively small there was not a statistically significant difference observed (Fisher's exact test, p = 0.576).

Table 3: Re-admission rates for patients discharged with STOT

	Discharged with STOT	Re-admitted within 28 days	
Year		***Yes***	***No***
2009 (pre NP)	4	1 (25.0%)	3 (75.0%)
2011 (post NP)	8	1 (12.5%)	7 (87.5%)
Total	12	2	10

DISCUSSION

At the time of writing this paper there is a lack of research in the area relating to COPD and STOT. Currently there are no evidence based Australian or international guidelines that refer to the assessment and provision of STOT for patients with COPD prior to discharge from hospital. Abramson et al (2015, p.76) states that "although effective, it is a potentially expensive therapy that should only be prescribed for those in whom there is evidence of benefit". In the 2011 COPD-X Plan, McKenzie et al (2011, p.64), states that "patients should be weaned off supplementary oxygen therapy as soon as possible, with none for 24-48 hours before discharge, unless home oxygen is prescribed". However, as stated in the new revised version of the COPD-X Plan 2015, the above statement has been omitted from the document and replaced with a statement by Abramson et al (2015, p.97), that indicates a patient's readiness for discharge is when "oxygen delivery has ceased for 24 hours (unless home oxygen therapy is indicated)". Neither these guidelines indicate when an optimal time for ABG sampling prior to discharge would be appropriate.

In the BTS Guideline for emergency oxygen use in adult patients (O'Driscoll et al 2008) it is suggested that a small number of patients who may have experienced a major respiratory or cardiac injury will need to be provided with STOT to facilitate a safe discharge from hospital. Oxygen therapy is aimed at achieving oxygen saturations between 88-92%. The criteria for assessment prior to discharge from hospital after an exacerbation has been determined by the Royal College of Physicians – "clinical guideline for domiciliary oxygen" (1999), which is in line with other countries for assessment of LTOT when the patient is clinically stable (O'Driscoll et al 2008). Again, this document does not specify the optimal time to assess patients need for home oxygen therapy prior to discharge from hospital. In a UK study by Gruffydd-Jones et al (2007) on the needs of patients following discharge from hospital after an acute exacerbation of COPD, nine out of 24 patients (38%) had oxygen saturations ≤ 92% on room air, however only three patients (12.5%) where discharged from hospital with home oxygen therapy. Gruffydd-Jones et al (2007) suggest there was a possible under-referral for assessment for oxygen therapy and the patients perceived that there was a need for oxygen therapy but were uncertain as to why it had not been provided.

In contrast, in the United States of America, under the current health system 'Medicare', it is a requirement that a patient is assessed with qualifying data within 48 hours prior to discharge. It is an expectation that after an admission with an acute exacerbation of COPD that acute hypoxaemia will improve (Department of Health and Human Services Centers for Medicare and Medicaid Services 2011; Gronkiewicz and Borkgren-Okonek 2004). The need for oxygen is assessed as per the Global Initiative for Chronic Obstructive Lung Disease (GOLD) Standards for the management of COPD using the existing criteria set out for the assessment of LTOT (Global Initiative for Chronic Obstructive Lung Disease 2014; Gronkiewicz and Borkgren-Okonek 2004). The GOLD Standards have discharge criteria that state the patient must be clinically stable and that ABG assessments have also been stable for 12-24 hours. It also states that prior to discharge from hospital after an exacerbation, patients that remain hypoxaemic should be assessed with either ABG and/or pulse oximetry and then reassessed within three months. The standards do not indicate the level of hypoxaemia that would not be considered acceptable for discharge and the need for oxygen is assessed as per LTOT criteria (Global Initiative for Chronic Obstructive Lung Disease 2014).

After the introduction of the CRD NP MOC, and the subsequent redevelopment of the hospital policy for home oxygen therapy, there has been a significant increase in the number of ABG's being obtained for assessment of hypoxaemia in patients with COPD prior to discharge from hospital (table 1). The revised policy stated the patient must be medically stable and ABG's obtained on room air within 48 hours prior to discharge. This decision to specify that the assessment must be performed within this timeframe was to ensure (1) the patient was medically stable, (2) to provide the oxygen distributor adequate notice that the patient would require home oxygen therapy at discharge and to ensure that patients living outside of a locality also received the service in a timely manner, and (3) for the CRD NP to provide education and resource material to patient (and carer if available) prior to discharge and to make follow up arrangements one week post discharge for assessment and oxygen titration.

The CRD NP attributes the increase in patients being assessed appropriately for home oxygen therapy to an enhanced educative program regarding the home oxygen policy and STOT pathway for medical, nursing and allied health staff across the organisation aimed at improving patient outcomes post discharge, along with the implementation of a new assessment form designed to ensure that hospital policy is followed and the required assessments for ABG and functional walk test are performed. Each department across the organisation received education, targeting medical, nursing and allied health staff, on the new home oxygen policy. Education included a resource package with flow charts for assessment and referral to the CRD NP for STOT. The CRD NP also concurred that, as suggested by Gruffydd-Jones et al (2007) that under-referral for assessment for STOT may be due the high cost involved in supplying oxygen therapy to patients post discharge who may not be eligible for LTOT when reassessed at a later date.

The data in table 2 indicates an increase, from 26.7% in 2009 to 44.4% in 2011, in the proportion of patients assessed as eligible for STOT actually being provided with STOT on discharge. Whilst this increase is not statistically significant it does represent a substantial improvement in clinical terms. Nevertheless, there is clearly a need for continued action given the non-prescription for STOT of 55.6% of eligible patients. The CRD NP suggests that under referral for STOT prescription may also be due to an expectation that a patient experiencing a severe exacerbation may improve once discharged home from hospital and therefore not require oxygen for discharge. According to Eaton et al (2001, p.582), "there is an expectation that when clinically stable a proportion will not fulfil LTOT criteria". In a New Zealand study, 38% of patients when reassessed at the two month review were not eligible for LTOT (McDonald et al 2005). In another study by Andersson et al (2002), 70% of patients studied did not require oxygen therapy one month post discharge. Ringbaek (2006) acknowledges there are a number of patients who, when reassessed at three months post discharge, would not fulfil the eligibility criteria for LTOT, the provision of STOT on discharge can therefore be justified due to symptoms of hypoxaemia and high mortality in the period of time post discharge from hospital.

In a study by Eaton et al (2006) who compared cylinder oxygen versus cylinder air versus usual care in patients who were discharged from hospital after an exacerbation found that those who were discharged home with cylinder oxygen represented to hospital for admission at a lower rate in the first month compared to cylinder air or usual care group With the introduction of the CRD NP MOC and redesign of the hospital home oxygen policy patients are now being assessed more appropriately and considered for STOT. An important aspect of the CRD NP MOC involves follow-up assessment at one and three weeks post discharge and oxygen flow rates are adjusted to meet required oxygen target saturations for at rest and on exertion. As seen in table 3 the decline in re-admissions for these patients is attributed to this aspect of the MOC. As the numbers observed in both years examined were relatively small, if the observed proportions of re-admission rates are realistic then samples roughly 10 times larger would be required to achieve sufficient power to detect the difference at the 5% level of significance.

LIMITATIONS

This study has some limitations. Sample size of patients being assessed and discharged home with oxygen was small in patients with a discharge diagnosis of COPD and it is not known whether the results would have been different had other lung diseases been included in the study that were discharged home with STOT. The study was performed in only one organisation over two six-month periods with no control.

CONCLUSION

The analysis of data for COPD patients in two six-month periods, the first prior to the introduction of the CRD NP model of care and the second following the introduction, reveals improvements in patient outcome and service delivery measures at which the CRD NP role were targeted. A significant increase in the proportion of COPD patients with resting oxygen saturation ≤ 90% being assessed for STOT with ABG sampling within the specified 48 hours prior to discharge was observed. The proportion of COPD patients assessed as eligible for discharge with oxygen therapy for 30 days who were actually provided with STOT improved and a reduction in the re-presentation rate to hospital within 28 days of discharge occurred. Nevertheless, the audit reveals that whilst there is evidence of substantial improvement in practice adherence to policy it falls well short of 100% so continued emphasis of the required processes is important from the perspective of better patient outcomes and more effective service delivery.

This study heightens the awareness of the need to assess patients within a specified time prior to discharge with STOT for optimal medical management. The CRD NP recommends further research be carried out in this area to promote appropriate assessment of all COPD patients prior to discharge from hospital within a specified time for STOT.

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The role of advance care planning in end-of-life care for residents of aged care facilities

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KEY WORDS

Advance Care Planning, Advance Care Directive, nursing homes, residential aged care facilities, end-of-life, dying with dignity

ABSTRACT

Objective

This report will present the case of an elderly woman with rapidly declining health admitted to hospital from a nursing home. It will discuss benefits of advance care planning for residents of aged care facilities who have expressed opinions/wishes regarding their end-of-life care, and identify barriers, varying legal status, the need for documentation of discussion outcomes specifying residents' wishes, and the importance of education and expert support for nursing staff.

Setting

Nursing home and acute tertiary referral hospital.

Subject

Female resident of a nursing home, aged 97 years, with acute onset of abdominal pain and multiple co-morbidities.

Primary Argument

The majority of nursing home residents do not have advance care planning initiated, nor is this routinely raised by nursing staff. While wishes may be discussed with family, they may not be fully respected if undocumented. Acutely ill residents are frequently hospitalised, especially when death is imminent, and often die alone in unfamiliar surroundings, tended by strangers. Many of these admissions could be avoided with Advance Care Planning, as could the resultant medical interventions which may cause the resident acute pain and discomfort.

Conclusion

Advance Care Planning can lead to avoidance of non-essential hospital transfers and their inherent risks and is likely to facilitate a dignified, peaceful death in familiar surroundings for nursing home residents, averting medical interventions which may cause needless pain and prolonged suffering.

INTRODUCTION

Advance care planning (ACP) is a means of enabling the difficult subject of end-of-life care to be openly discussed between loved ones and the healthcare team, whilst the person is still able to effectively communicate their wishes in relation to their future health care in the event of incapacitation through illness or accident (Sellars et al 2015; Amjad et al 2014; Boot and Wilson 2014; Thomas 2008; Shanley and Wall 2004). Both in Australia and globally, most residents of nursing homes are transported to acute care facilities when their health declines rapidly and/or there is reasonable concern that death may be imminent (Gardhouse et al 2014; Caplan and Meller 2010). The availability of, and participation in, ACP may assist in preventing non-essential transfers of the resident from their residential aged care facility (RACF) to the emergency department (ED) of the nearest hospital (Reymond et al 2011). It is not the aim of the ACP to prevent transfers to hospital altogether, but rather to reduce the non-beneficial transfers and resultant complications which may be avoided by keeping the resident at their RACF (Van Gaal et al 2014; Caplan et al 2006; Shanley and Wall 2004). It is common for critically ill people to be sent to ED, despite evidence that those who avoided hospital transfers have fewer diagnoses of increased confusion or delirium (McCloskey 2011; Bezzina 2009; Caplan et al 2006).

LITERATURE REVIEW

Every competent adult has the right to consent to and to refuse medical treatment. This right is the fundamental basis of advance care planning (Advance Care Planning 2015).

The importance of ACP and ongoing communication between older persons, their families and healthcare professionals is progressively becoming recognised (Sellars et al 2015; Amjad et al 2014; Baughman et al 2014; in der Schmitten et al 2014; Stone et al 2013; Storey and Sherwen 2013) especially in Australia (Bird 2014). However, evidence persists that initiating ACP discussions with residents of RACFs remains difficult for staff (Boot and Wilson 2014; Dempsey 2014; Schubart et al 2014; Robinson et al 2013; Stone et al 2013). Notwithstanding the recognition that ACP is integral to person-centred care, a significant proportion of older persons do not have this in place (Schubart et al 2014; Boerner et al 2013; Rhee et al 2012). A number of barriers to the implementation of ACP have been identified, starting with, from the patient's perspective, a lack of knowledge, limited time if they are critically ill, emotional responses, cultural background, and denial of mortality. From a health professional's perspective, again, lack of knowledge is a factor, together with ambiguity regarding its processes (Sellars et al 2015: Boddy et al 2013). There are systemic barriers relating to the different requirements of each State or Territory as there is no uniform legislation and registry, nor is there definition of roles and responsibilities for those involved in the provision of care. There are also procedural issues, especially in the area of assessment of capacity which Boddy et al (2013) have identified in Australia as a medically-based decision. Some practitioners consider there is uncertainty regarding the stage at which capacity is lost and may not be aware of the procedure for determining absence of capacity.

ACP has its roots in the ethical principal of autonomy, in particular, the tenet of informed consent as established in the landmark 1914 court case, *Schloendorff v Society of New York Hospital.* In his widely quoted judgment for this case, Justice Cardozo ruled that competent adults were entitled to sole control regarding their own bodies. This decision has since been followed in Australian courts under Common Law to uphold the rights of persons to determine consent or refusal for medical treatment including in circumstances where death is the likely outcome (Advance Care Planning 2015). In 2009 a New South Wales judge ruled that compliance with advance care directives is appropriate, especially when the person is competent at the time of making such directive, was not unduly influenced, has not changed their mind, and met the existing medical circumstances (New South Wales Supreme Court 2009).

Whilst Common Law is well-defined, legislation has also been passed by State and Territory governments reiterating a person's rights in relation to medical treatment, or the refusal thereof; and all States/Territories, with the exception of Tasmania, legally recognise ACDs and the right to refuse treatment. However, consistency is lacking in policies and laws which support ACP. Indeed, the National Framework for Advance Care Planning (National Advance Care Directives Working Group 2011) identified multiple issues including disparities in terminology, inconsistent legislation, and restrictions on enacting advance care directives.

The need for ACP and its effective communication becomes apparent when an individual who is acutely ill develops physical and/or cognitive deterioration, and is incapable of accepting or declining medical interventions (Scandrett et al 2014; Boerner et al 2013; Dempsey 2013). ACP enables an individual to stipulate what their wishes are for future medical care should they be rendered incapable of making such decisions and, moreover, reduces the worrisome obligation on loved ones to function as proxy decision makers (Amjad et al 2014; Boot and Wilson 2014; Brinkman-Stoppelenburg et al 2014; Dempsey 2014; De Vleminck et al 2014; Boddy et al 2013; Jeong et al 2007). The implementation of ACDs is proven to reduce over-treatment when death is approaching, being consistent with the person's preferences and increasing satisfaction with the end-of-life care from both the family's and the person's points of view, thereby moderating stress (Sellars 2015). There is also evidence that initiation of ACP discussions has led to a decrease in depressive symptoms, especially in the early stages of dementia (Hilgeman et al 2014).

ACDs have also reduced the number of inappropriate hospital presentations and subsequent admissions for residents of RACFs (Sellars et al 2015; Boddy et al 2013; Silvester et al 2013; Stone et al 2013). This is an important reason for their use, as RACF residents may encounter complicating factors in the ED, such as unfamiliar doctors who do not know their history, and rapid health assessments which may compromise their complex needs, especially if they are unable to communicate effectively or are cognitively impaired (Arendts et al 2012). Those who are admitted to a ward face the increased possibility of adverse outcomes, including falls, pressure injuries, delirium, incontinence, and mortality (Renjel and Eeles 2014; Van Gaal et al 2014; Doran et al 2013; Arendts et al 2012; Ashcraft and Champion 2012; Lamb et al 2011; Codde et al 2010). Approximately half of RACF residents who present to the ED will be admitted to a ward, and 75% of those admitted will die by the fifth day (Ashcraft and Owen 2014).

CASE REPORT

Background

The aged care rapid response team (ARRT) received a telephone call from a registered nurse (RN) at an RACF who advised that a 97 year old female resident (Mrs K) had developed acute onset abdominal pain overnight with vomiting and nausea. Mrs K had informed the staff that she had felt some abdominal discomfort the previous evening, but in the morning had awakened with severe pain, despite taking her regularly prescribed analgesia. The RN had contacted Mrs K's general practitioner who directed her to administer an enema, which was done with little effect. As the day progressed, Mrs K's condition worsened, she was uncharacteristically drowsy, and her abdomen was distended, firm and painful to touch. Mrs K had recently been prescribed diclofenac, which, when combined with her already prescribed aspirin, may interact and could cause gastric bleeding. Mrs K had no written end-of-life care pathway or advance care directive (ACD) in place, so the RN was advised to contact Mrs K's daughter, Anne, and have Mrs K transferred to the ED as her condition could be very serious and required immediate investigation.

Diagnosis

A diagnosis of a perforated peptic ulcer was made, and Mrs K was admitted to a ward for treatment.

Health history

Mrs K had an extensive medical history including surgical procedures and hospital stays. She was cognitively intact and aware of the invasive procedures she could face if hospitalised again.

Plan

The admitting medical officer documented a plan which included investigative procedures, insertion of an indwelling urinary catheter, intravenous fluids, and nil oral intake.

Management and treatment

On admission, it was documented in the Multidisciplinary Assessment Form by the medical officer, in capital letters and underlined:

NO CPR, NOT FOR RESUS, NO ICU, NO INTUBATION, NO SURGERY, NO IVABS, D/W DAUGHTER

Mrs K was accepted under the care of the gastroenterology team and transferred to a ward where it was subsequently decided, after consultation with Anne, that she would receive palliative care.

Despite this, her medications were then varied considerably, including the introduction of intravenous antibiotics and the abrupt cessation of opiate analgesia, an anti-inflammatory, and a sedative. This caused her acute discomfort, nausea, vomiting, and diarrhoea which necessitated regular administration of an anti-emetic. In fact, ongoing administration of those ceased medications may have benefitted Mrs K the most. Her urine output dropped to 5-10mL/hour, a clear indication of potential kidney failure, however her treatment continued unchanged. Anne was not aware until the third day that Mrs K was receiving intravenous antibiotics, and advised medical staff that this was in direct contravention of the agreed treatment plan. The intravenous antibiotics were ceased and, when Anne made the observation that her mother was exhibiting signs of strong pain, subcutaneous morphine 2.5-7.5mg was prescribed as needed every two hours. Mrs K's intravenous fluid was reduced to 40mL per hour.

Anne consented to be interviewed for this report in relation to the care given to her mother. She advised that she knew her mother was not going to improve, and had wondered why her mother was prescribed intravenous antibiotics when recovery was so unlikely, given her obvious deterioration, and further, that within two days of hospitalisation her mother's condition had deteriorated to such an extent that she did not recognise her daughter and was no longer able to communicate.

When questioned about ACP, Anne stated that she knew nothing about it and that this subject had not been introduced by RACF staff nor her mother's GP. When given a brief overview of the purpose of ACP, Anne recalled a recent conversation during which her mother said:

"I've had a good life – when my time comes, I'm ready to go. Don't stick me full of needles and tubes. Don't hang on to me – I think I'd hate that. Let me go quick, in my own bed, with you holding my hand."

Anne enquired if that constituted advance care planning and was advised that it did, albeit informal and undocumented. It is clear from that statement that Mrs K would not have wanted the treatment she received in the hospital.

Outcome

Mrs K's condition continued to deteriorate over the course of her hospitalisation. Blood tests revealed multiple deranged results which worsened over three days, indicating excessive intravenous intake, renal failure, and infection. She became increasingly drowsy and delirious, and on the morning of day four, during early morning ward rounds at 0520hrs, she was found with no discernible signs of life. The cause of death was noted as 'perforated viscus'.

DISCUSSION

In the past decade, hospitalisation rates for men and women over the age of 85 have increased by 48% and 35% respectively (Swerissen and Duckett 2014). It is not at all uncommon for residents of RACFs to be transferred to hospital for many reasons, including diagnostic testing, acute illness, falls, and traumatic wound care (Van Gaal et al 2014; Shanley et al 2011). Often residents, are transferred when they are acutely ill and/or death may be imminent (Gardhouse et al 2014), which removes their privilege to die peacefully in a place of their choosing.

As residents of RACFs are usually frailer than their community counterparts, it is not surprising that they present more frequently to hospital (Wysocki et al 2014; Jayasinghe et al 2007). Due to their raised levels of morbidity, their risk of being admitted and dying during their admission is increased (Ingarfield et al 2009). Discussion of end-of-life care should therefore be considered an integral aspect of RACF care, which would entail offering residents, their families, and significant others the option of discussing views and preferences for care should a critical event occur (Dempsey 2014; De Vleminck et al 2014; Allen et al 2003). The outcome of these discussions can then be clearly documented (Bird 2014; De Vleminck et al 2014; Robinson et al 2013).

Although it has been shown that older persons residing in RACFs who discuss their wishes with family members are more likely to have documented ACP in place than those in the community (Allen et al 2003), this did not occur in this instance, most likely due to a combination of Anne's lack of understanding what ACP constitutes and the facility's failure to initiate a conversation in this regard. It would appear that this would have been an ideal situation for discussion and implementation of ACP in the RACF, particularly as Mrs K had openly discussed her wishes with Anne. It may well have precluded Mrs K's transfer to hospital, where she became delirious, a development not uncommon in hospitalised older persons (Renjel and Eeles 2014). In fact, evidence substantiates the benefits of persons remaining in their place of residence, citing familiarity, comfort, and continuity of care (Evans 2011; Allen et al 2003).

In this particular case, Mrs K's acute onset of symptoms did require investigation and diagnosis, so ACP may not have prevented her transfer to hospital. However, documentation of her wishes would have avoided the abrupt cessation of opiate analgesia and a sedative and the initiation of a strong intravenous antibiotic regime, which caused severe nausea and vomiting and significantly increased Mrs K's level of discomfort in her last days. Persons who do not have documented ACP may be given unwanted medical treatment, and indeed are often over treated (Boerner et al 2013), which appears to be the case here. Further, had Mrs K specified a desire not to be transferred to hospital in the event of an acute decline in her health status, this in fact may have been honoured. It was not known to Anne or the RACF that Mrs K's express wish to die in her own bed constituted a desire not to be transferred from her place of residence. Research has identified a statistically significant difference in the proportion of older persons with ACP who have died in hospital compared with those who remained in their place of residence, finding the former much lower (Bischoff et al 2013).

ACP has been proven to lead to a reduction in emergency presentations and subsequent hospital admissions (Boddy et al 2013; Stone et al 2013), and may also guarantee the provision of care as specified by the resident (Brinkman-Stoppelenburg et al 2014; Shaw et al 2010; The Gold Standards Framework 2010; Badger et al 2007). The crucial aspect of planning for end-of-life care should not be assigned to fate by its omission (Evans 2011) but should be a customary feature of care, clarifying health care needs of the resident (Baughman et al 2014; The Gold Standards Framework 2011). This is important when residents are no longer able to speak for themselves, thereby ensuring, where possible, a dignified and peaceful death (Phillips et al 2011). But the issue of raising ACP and its subsequent documentation is a difficult one, particularly in RACFs where new residents and their families are often not ready to consider or discuss such options. Language barriers may also be a factor, together with cultural taboos (Boot and Wilson 2014; Dempsey 2014; Thomas 2008; Shanley and Wall 2004). However, lack of knowledge about ACP has been identified as the foremost barrier to its implementation in RACFs (Boddy et al 2013; Jeong et al 2007). Jeong et al (2007) suggested that a designated expert in ACP would assist in providing guidance in RACFs. At the time of writing, in the Local Health District where Mrs K resided, such an expert is not employed. However, the ARRT regularly raise the issue of ACP with RACF residents they visit.

ACP achieves success when a multi-system method is implemented, including involvement and support from the community, development of administrative policies and procedures, staff education, and appropriate documentation practices (Sellars et al 2015). In its Interim Report the Clinical Excellence Commission (CEC) (2008) recommends the use of prioritised approaches to facilitate practice change. This may well improve ability of RACF staff to initiate discussions with the resident and family. One such approach is the use of a forcing function, a feature that precludes completion of an action unless a specific task is first performed (Patient Safety Network 2015); for example, completion of the admission forms cannot take place until a section on ACP is filled out.

Had Mrs K not clearly made her wishes known to her daughter, she may have been subjected to even more prolonged treatment which may have extended her life with pain and suffering. This would have been in contravention of her wishes since she was no longer capable of making decisions. If ACP had been broached by the RACF staff, Mrs K's wishes may have been documented, and subsequently followed.

CONCLUSION

Mrs K died alone in hospital, which was not her wish. The circumstances of her illness would have been ideal for the implementation and documentation of ACP. According to her daughter, Mrs K had no difficulty discussing her end-of-life care wishes with her and, presumably, would have been amenable to discussions with the RACF staff had the issue been raised. Mrs K's decisions could have been documented in an Advance Care Directive which may have avoided the active, invasive medical interventions that exacerbated her acute discomfort in her last days.

This case study highlights the fact that ACP is not routinely discussed with residents upon their entry to RACFs, and that this omission may, in consequence, have detrimental effects on the quality of life, and death, of the residents. The barriers to such discussions are becoming clear, and it would be beneficial to address these by investigating solutions to the obstacles, and requirements for further education and support of staff in RACFs in relation to ACP, its discussion, documentation, and implementation.

RECOMMENDATIONS

Generally, alignment between the States/Territories' requirements and documentation may resolve discrepancies. This, together with ready access to standardised procedural information and documents from a central source, is likely to reduce the confusion and uncertainty surrounding ACP expressed by professionals and patients alike. The formation of a working party to address these issues is warranted.

A systematic method for the practice of ACP, particularly in RACFs, is required for person-centred care to ensure the residents' wishes are known and respected. This should include education for staff on initiating discussions with residents and their families, and the subsequent documentation of decisions reached. Furthermore, the development and implementation of a standardised form, including a forcing function, across these facilities would enhance this process. Support from professionals experienced in the practice of ACP, for example a clinical nurse consultant, may prove useful in initiating and reinforcing these practices. The feasibility of a designated expert employed in the community sector to regularly visit RACFs should therefore be investigated.

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Key milestones in the operationalisation of professional nursing ethics in Australia: a brief historical overview

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ABSTRACT

Objective
To provide a brief historical overview of the achievement of key milestones in the development of mechanisms for operationalising professional nursing ethics in Australia; examples of such milestones include: the publication of the first Australian text on nursing ethics (1989), the provision of the first Australian national distance education course on nursing ethics for registered nurses (1990), the adoption of the first code of ethics for Australian nurses (1993), and the commissioning of the first regular column on nursing ethics by the *Australian Nurses Journal* (2008).

Setting
Australian nursing ethics.

Primary argument
An historical perspective on the achievement of key milestones in the development of mechanisms for operationalising professional nursing ethics in Australia has been poorly documented. As a consequence an authentic 'Australian voice' is missing in global discourses on the history and development of nursing ethics as a field of inquiry. Compared with other countries, the achievement of key milestones pertinent to the operationalisation of nursing ethics in Australia has been relatively slow. Even so, over the past three decades an Australian perspective on nursing ethics has gained a notable voice in the international arena with Australian nursing scholars now making a significant contribution to the field.

Conclusion
Nursing ethics in Australia remains a 'work in progress'. Although significant achievements have been made in the last three decades, the ongoing development of mechanisms for advancing nursing ethics in Australia would benefit from the development and implementation of a strategic agenda of collaborative, internationally comparative, cross disciplinary scholarship, research and critique.

INTRODUCTION

The history of 'modern' nursing ethics in Western countries can be traced back to the late 19th and early 20th centuries, where its inception and development paralleled the beginning and advancement of the new modern nursing profession credited with having progressed under the influence of the legendary reforms lead by British nurse Florence Nightingale (1820-1910). During this early period, those leading reforms in the thinking, teaching and practice of nursing ethics were clear in their aims, notably, to advance a professional nursing ethics that was secular, scientific and humanitarian in its outlook and, as such, which could be readily distinguished from a professional morality based on traditional religious vows and values, such as those upheld by religious-order nurses at the time (Johnstone 2015a, 2015b).

Ethical codes and statements developed and published for the specific purpose of guiding the conduct expected of a given occupational group have long been recognised as the hallmarks of a 'profession' and the mechanisms by which a profession's ethical values are operationalised. One reason a profession's statements of and commitment to its ethical values stands as a professional hallmark is because, as Churchill (1989, p.30) explains, 'a profession without its own distinctive moral convictions has nothing to profess' and will be left vulnerable to the corrupting influences of whatever forces are most powerful – be they religious, legal, social, political or other in nature. In recognition of this, professional ethics are characteristically comprised of a set of rules which 'govern individuals, which compel them to act in such and such a way, and which impose limits to their inclinations and forbid them to go beyond' (Durkheim 1957, p.7). In short, professional ethics have had – and continue to have – the unique and special task of governing functions which only certain professional people 'can do, actually do, and ought to do' (Durkheim 1957, p.6). In keeping with this stance, the task and purpose of professional nursing ethics is fundamentally concerned with guiding and governing what nurses 'can do, actually do, and ought to do' during the course their everyday professional practice (Johnstone 2015a).

The iterative development of the conceptual and theoretical underpinnings of nursing ethics from the late 19th century up until the present time, and the implications of these developments for the nursing profession across the globe, have already been comprehensively documented and thus there is nothing to be gained by rehearsing this history here (see Johnstone 2015a, 2015b, 2015c). Less well known, however, is the achievement of key milestones in the operationalisation of professional nursing ethics in specific countries over time (e.g., the development of national codes of ethics and position statements; the publication of home grown pedagogical literature on nursing ethics).

An historical perspective on the development and achievement of key milestones in operationalising professional nursing ethics in the United States of America (USA), the United Kingdom (UK), and some Western European countries has been well documented in the academic nursing literature (Fowler 2010; Fowler and Tschudin 2006). Since 2006, the development and achievement of key milestones in operationalising nursing ethics in a small number of other countries, for example, Columbia, Hungary, Israel, Malawi, Spain and Turkey, have also been documented in the academic nursing literature (Davis et al 2006). The achievement of key milestones in operationalising nursing ethics in Australia, however, has not been formally published. It is a key aim of this article to redress this oversight.

In keeping with the above stated aim, the purpose of this article is threefold: to formally document the key milestones achieved in regard to the operationalisation of professional nursing ethics in Australia; to enable developments in Australian nursing ethics to be given a rightful place in global discourses on nursing ethics; and to provide a basis for enabling the identification of opportunities for future scholarship, research and policy initiatives that would contribute to the ongoing advancement of nursing ethics locally and globally.

To this end, in the discussion to follow, attention will be given to providing a brief historical overview of the achievement of key milestone in the development of mechanisms for operationalising nursing ethics in Australia. Brief commentary will also be provided on the possible future of nursing ethics in Australia and the need for a strategic nationally coordinated agenda to advance nursing ethics as a field of inquiry and practice in the Australian cultural context.

EARLY TREATISES ON ETHICS FOR AUSTRALIAN NURSES

The first Australian nursing periodicals the *Australasian Nurses Journal (ANJ)* (established March 1903, and the official journal of the Sydney-based Australasian Trained Nurses Association (ATNA)) and *Una* (established April 1903, the official journal of the Victorian Trained Nurses Association (VTNA)) arguably provide the most definitive starting points from which to provide an examination of the nature and early evolution of the mechanism developed for operationalising nursing ethics in Australia (Lemin 1999). As has been previously shown, articles ostensibly published on the subject of 'ethics' in nursing during this period had as their focus 'etiquette' (not ethics) and prescribing behaviours traditionally expected of the proverbial 'good woman', such as submission, obedience, silence, self-sacrifice, and self-restraint – a stance that did not change until well after the second world war (Lemin 1999; Johnstone 1993).

The earliest mention of the notion 'nursing ethics' can be found in a 1903 report published in the inaugural issue of *Una*. The report was of a lecture on 'nursing infectious fevers' by Miss Martha D Farquharson, then Matron of the Bendigo Hospital (1902-1913) and previously Lady Superintendent of the Melbourne Hospital (1895-1900), Matron of Melbourne's Alfred Hospital (1890-1895), and who had also been a member of the provincial council of the International Council of Nurses (ICN) in 1900. In this lecture, Miss Farquharson speaks of her 'life pleasure' in instructing nurses, 'not only in the theory and practice of your profession but also in the ethics of nursing and in the etiquette that should exists between you yourselves in hospital and between your medical attendants, and you and your patients in hospital and private nursing' (Farquharson 1903, p.3). While this statement also stands as probably the first in the Australian nursing literature that hints at a recognised distinction between 'ethics' and 'etiquette' and the relationship between the 'theory' and 'practice' of ethics, nothing more is said about these topics in Farquharson's address.

Three years later, the *ANJ* published its first article on 'Ethics in Nursing'. The article, originally presented as an address to members of the local Branch of the ATNA, was written by Miss Edith Best (1906), Matron of the Children's Hospital, Brisbane. Its contents were in keeping with the conservative conventions of the day apropos extoling the imperatives of the 'moral or the character side of nursing' and the virtues of 'ministering women' qua nurses.

In the decades following the publication of these inaugural articles the theme of 'moral manners' and of the 'moral imperatives' of nurses upholding the virtues of the ideal 'good women' were constantly reiterated (the characteristics of a 'virtuous nurse' commonly reiterated in articles published in the journals are listed in table 1).

It is important to clarify that many of the contributions on the subject of ethics in nursing (e.g., editorials, lectures, commentaries and articles) published respectively in the *ANJ* and *Una* during this period stopped short of presenting an authentic Australian perspective or indeed the 'voice' of Australian nurses. There are two reasons for this. First, contributions by Australian nurses were at best limited, with many of the articles published being written by doctors and hospital superintendents (Lemin 1999). Second, many of the early articles appearing in the Australian journals were in fact reprints from their sister journals in other countries including the USA, Canada, the UK and New Zealand (e.g., *American Nurses Journal*, *Pacific Coast Journal,* *Canadian Nurse*, *Trained Nurse and Hospital Review*, the *Queen's Nurses Magazine*, *The Trained Nurse*, *Nursing Mirror and Midwives Journal, and Kai Tiaki*) as well as from medical journals (e.g. JAMA, and the *British Medical Journal*) (Johnstone 2015a, 2015b; Lemin 1999).

Table 1: Characteristics of the 'virtuous nurse'.*

Characteristics of the 'virtuous nurse'		
absolute loyalty (to doctors/hospitals)	gentleness	prudence
absolute obedience (to doctors/hospitals)	good fellowship (with fellow nurses)	quietness
abstinence (from drugs, alcohol and sex)	good manners	refinement
altruism	good temper	respectful (of authority)
bravery	good will	secrecy
charity	grace	self-command
chastity	healthfulness	self-control
cheerfulness	helpfulness	self-reliance
cleanliness (morally and physically)	honesty	self-respect
common sense	honour	self-restraint
compliance (with authority)	hopefulness	self-sacrifice
conscientiousness	ideal womanliness	silence (particularly 'controlled tongues')
compassion	kindness (in word, deed and manner)	spirit of service to humanity
courtesy	love (of patients)	strength (of body, mind, character)
culture (education)	loyalty (to doctors/hospital)	submission
discretion	ministering	sympathy
discipline	nobility of character	tact
empathy	obedience	trustworthiness
endurance (physical and mental)	patience	unselfishness
fidelity	perseverance	versatility
forbearance	pleasing and attractive manner(s)	willingness (to serve, to obey, to oblige)
gentle demeanour	pitiful	womanliness

*Source: Johnstone (1993). Reprinted with permission.

In 1953 the *Australasian Nurses Journal* changed its name to the *Australian Nurses Journal* thus enabling it to retain its *ANJ* acronym. In 1976 the *ANJ* and *Una* merged to become the *Australian Nursing Journal* (rebadged in 2013 as the *Australian Nursing and Midwifery Journal* (*ANMJ*)), the official journal of the Australian and Nursing Midwifery Federation (formerly the RANF and ANF). In keeping with its longstanding commitment to addressing issues of relevance to the Australian nursing profession, in 2008, just over 100 years after the first article on nursing ethics was published in *Una*, the journal began publishing its first regular (bi-monthly) column on the subject of 'ethics in nursing'. Since debuting in the February 2008 issue of the *ANJ* (now the *ANMJ*), over 50 essays on a wide range of ethical issues relevant to Australian nurses and to the nursing profession as a whole have been published under this segment.

CODES OF ETHICS, POLICIES AND POSITION STATEMENTS

The development and ratification of the International Council of Nurses (ICN) *Code of International Nursing Ethics* in 1953 marked a significant turning point in the nursing ethics debate in Australia and saw the emergence of a more sophisticated level of thinking on the nature and importance of ethics in nursing. An example of this can be found in the reported comments contained in an address by Miss I S Hall MBE, given to nurses at a graduation ceremony at Sydney Hospital; she is reported to have stated:

> *"nurses should be encouraged to do some thinking about moral principles [...] Nurses are professional people and among essential qualities of members in a profession is a certain breadth of vision of liberty of thought" (Hall 1959, p.74).*

From 1953 until the mid-1970s, the ICN Code (the latest revision of which was undertaken in 2012) emerged as a dominant focus of attention in journal articles published on nursing ethics during this period. The issues considered ranged from how to teach the Code, to how to ensure it was seen as an 'integral part of nursing practice' and not merely a printed document (ANJ 1953, pp.251-253; see also Hughes-Ford 1976; Aydelotte 1973; Lancaster 1962; Swaby 1960; Hall 1959; Haines 1957).

Despite recognising the importance of having a professional code of ethics for nurses, the Australian nursing profession was relatively slow compared to its counterparts in other countries in adopting its own national code of ethics, which did not occur until 1993. Countries that were among the first to adopt their own national codes of ethics included Liberia (1949), the USA (1950), Poland (1973), Canada (1980), the UK (1982), Ireland (1983), Norway (1983), and New Zealand (1987) (Sawyer 1989). One explanation for this is that, like the nursing profession in other countries, the Australian nursing profession had primarily relied on the ICN *Code for nurses* for guiding the ethical practice of nursing (Sawyer 1989). This was so even though the ICN had encouraged its ICN member states in 1977 to devise their own national codes for administration within their own respective cultural and jurisdictional boundaries (Esterhuizen 1996).

The impetus for change in Australia eventually came from two key sources: the findings and recommendations of a working party established by the Royal College of Nursing, Australia (RCNA) in 1990 (now the Australian College of Nursing); and the independent evaluation in 1990 of a list of competencies expected of the beginning registered nurse, which had been developed and endorsed by the then Australian Nurse Registering Authorities Conference (ANRAC) (Grealish 2012).

NURSING ETHICS WORKING PARTY (NEWP)

A significant although little-known initiative undertaken during the early 1990s was the establishment by the RCNA of a Nursing Ethics Working Party (NEWP) to consider the College's role in relation to nursing ethics. Operating under the acronym NEWP, the working party began to address its Terms of Reference (presented in table 2) in 1990 and presented its final report and recommendations to the RCNA Council in May 1991 (RCNA 1991). Among the recommendations made by the NEWP was that an Australian *Code of Ethics* be developed and that the ethics education needs of nurses be formally reviewed and addressed as a matter of priority. In making these recommendations, NEWP noted that a key obstacle to improving the ethical competencies of nurses was a 'paucity of literature and research' formally addressing key issues of concern (RCNA 1991, p.21). Issues of particular concern identified by NEWP are summarised in table 3.

Table 2: RCNA Nursing Ethics Working Party (NEWP) Terms of Reference

To make recommendations to Council regarding:

- mechanisms through which the collective experience of nursing can be gathered, recorded and shared
- mechanisms through which policy decisions can be monitored and reviewed for their implications for nurses and nursing practice
- structures through which individuals, groups or the profession as a whole can consult on ethical issues
- ways in which the professional stance of nurses on ethical issues can be enunciated and communicated to the public
- ways to improve nurses' knowledge in ethical issues and skill in ethical discussion and decision making (RCNA 1991).

Table 3: Key issues identified by the RCNA Nursing Ethics Working Party 1991

- The nurse's ability to act as an effective ethical negotiator, mediator, and decision-maker
- The ethical and legal content of nursing curricula across Australia
- The adequacy and appropriateness of courses (both nursing and non-nursing) designed to improve nurses' ethical and/or legal knowledge and decision making skills
- The awareness of nurses reading the ethical and legal dimensions and implications of nursing practice (RCNA 1991).

ANRAC COMPETENCIES

Coinciding with the work of the RCNA, in 1990, an independent evaluation of the list of competencies expected of the beginning registered nurse endorsed by ANRAC indicated 'many of the practising nurses had difficulty in assessing the ethical aspects of the competencies' due in large to their 'inability to identify ethical issues in the workplace' (Kelly and Woodruff 1995, pp.93-94). These findings, together with a recommendation made by NEWP that nurses needed education and guidance on ethical decision-making in practice, convinced ANRAC a code of ethics for Australian nurses was needed (Kelly and Woodruff 1995, p.94). To this end, in 1991, ANRAC commissioned the distribution of a discussion paper on a code of ethics for Australian nurses that would complement the competency standards (Kelly and Woodruff 1995). In 1993, following a prolonged period of consultation with nurses and nursing organisations around Australia (including state and federal professional associations, industrial and regulating authorities), the final version of the *Code of ethics for Australian nurses* was adopted and disseminated under the auspices of the then Australian Nursing Council Inc. (ANCI), the Royal College of Nursing, Australia (RCNA), and the Australian Nursing Federation (ANF) (Australian Nursing and Midwifery Council 2002). The 1993 *Code* was reviewed in 2002 and again in 2008. Significantly, in response to the changing social, cultural and political environments that nurses were working in, the 2008 review resulted in a radical revision and rewriting of the Code (Nursing and Midwifery Board of Australia (NMBA 2008). The Code is, once again, under review.

It should be noted that although Australia was relatively slow to develop its own national code of ethics, Australian nurses were not bereft of guidance on ethical issues. What may not be widely known is prior to the publication of the 1993 Code of ethics for Australian Nurses, Australian nursing organisations had nonetheless been active in adopting a suite of policies and positions statements on issues that their members faced and which were perceived as not being covered by the ICN Code of ethics (Sawyer 1989). A list of the policies and position statements 'active' prior to the adoption of the Australian code is presented in table 4. Although some of these position statements have since been rendered obsolete and are no longer available, most have been and remain the subject of regular review, updating and reaffirmation (see, for example, the ANMF suite of policies and position statements available via its homepage at http://anmf.org.au/pages/anmf-policies). In several instances, commensurate with the ongoing emergence of issues relevant to the profession and practice of nursing, entirely new policies and position statements have been adopted – some examples of which are presented in table 5.

NURSING ETHICS PEDAGOGY AND PRAXIS

Nursing ethics pedagogy and the teaching of ethics to nurses were topics rarely mentioned in the early journals. The first article on the subject titled 'Teaching ethics to probationer', published in *Una* in 1917, was a reprint from the US journal *The Trained Nurse* (The Trained Nurse 1917). Aside from an article by a French nurse in the aftermath of the second world war, in which a plea was made for nurses to be given 'a strong moral education' (Clamageran 1948), the topic of nursing ethics education received little coverage until the 1980s when 'references to the need for courses and the teaching of ethics' became more frequent (Lemin 1999, p.65).

Table 4: Examples of ANMF nursing organisations' policies and position statements adopted or endorsed pre-1993 Australian Code of ethics*

- Biomedical research involving human subjects (1984)
- Children's rights (1986)
- Detainees and prisoners (1986)
- Disabled persons (1986)
- Dying - Assuring quality of care for those who are dying (1986)
- Family planning (1986)
- Female circumcision (1983)
- Health care and quality of life (1986)
- Health hazards (1986)
- HIV/AIDS and the nursing profession (1987)
- Human rights (1983)
- International nursing migration (1986)
- Nuclear disarmament (1983)
- Nuclear war (1986)
- Nursing care of the elderly (1984)
- Nursing research (1986)
- Patient rights (1984)
- Policy making and planning (role of the nurse in)(1983)
- Refugees and displaced persons (1984)
- Safe-guarding the human environment (1986)

*Source: ANF (1989) Index to policy and position statements 25 March, 1988. *In Ethics: Nursing perspectives*, Volume 2 (pp.84-86). North Fitzroy, VIC: ANF.

Table 5: Policy and position statements endorsed by ANMF since 1994*

Policies
- Conscientious objection (E: 1994; R&R: 1996, 2004, 2007, 2011)
- Privacy (E: 2014)
- Whistleblowing (E: 2004; R&R: 2007, 2011, 2014)

Position statements
- Child abuse and neglect (E: 2007; R&R: 2010, 2013)
- Climate change (E: 2011)
- Organ and tissue donation for transplantation (E: 1994; R&R: 1996, 2005, 2008, 2011)
- Voluntary euthanasia/assisted suicide (E: 2007; R&R 2009, 2012)

* E- Endorsed
*R&R – Reviewed and Re-endorsed

The rise in interest in nursing ethics pedagogy in the journals during the mid-to-late 1980s is unsurprising given that the period in question coincided with the transfer of Australian nurse education from the hospital to the higher education sector (i.e., colleges of advanced education and universities). The transfer, which occurred circa 1985-1993, was enabled following the passage of legislation in August 1984 and the provision of funding from the Australian Commonwealth Government (Mason 2013). It was during this period that unprecedented attention was given to the subject of professional nursing ethics in the curricular of both undergraduate and post-graduate nursing programs and demand for 'locally grown' (as opposed to USA and UK authored) texts and references began to grow. This period also saw the first national distance education course on 'Ethics and nursing' for registered nurses being offered. Administered by the Distance Education Division of the then RCNA (which became the Australian College of Nursing in 2012 following the merger between its two predecessors, the RCNA and the NSW College of Nursing), the course was offered between 1990 and 1992 (RCNA 1992, 1990). After this period the course was discontinued due to decreasing demand as nurses took up opportunities to study ethics via the new tertiary nurse education programs which had been established following the transfer of nursing education to the higher education sector.

Another significant milestone achieved during this period was the publication of the first comprehensive text book on nursing ethics written from an Australian perspective and published by an Australian-based imprint of Harcourt Brace Jovanovich Group (Australia). The work *Bioethics: a nursing perspective*, first published in 1989, instantly became a bestselling nursing title and today is regarded internationally as a classic in the field (Johnstone 1989). Revised editions of the work were published respectively in 1994, 1999, 2005, and 2009. A 6th revised edition of the work was published in 2016 (Johnstone 2016), marking its 27th year of being in print. Other Australian books on nursing ethics published over the past two decades include Hawley's (1997) *Ethics workbook for nurses* (one print run only and now out of print), and Atkins, de Lacey and Britton's *Ethics and law for Australian nurses* (first published in 2011 and published as a second revised edition in 2014) (Atkins et al 2014).

NURSING ETHICS LEADERSHIP

The achievement of key milestones in operationalising nursing ethics in Australia during the 1980s and 1990s would not have been possible had it not been for the progressive initiatives lead by Australia's lead national nursing organisations, in particular the RANF/ANF (now the ANMF) and the new schools of nursing that were established following the transfer of nursing education from the hospital to the higher education sector. Notwithstanding the findings and recommendations of commissioned reports on nursing (e.g., the much touted Marles (1988) report *The study of professional issues in nursing*, and the Monash University, Centre for Human Bioethics (1988) report *The ethical, legal and social dilemmas in nursing*), it was primarily due to the efforts of Australia's peak nursing organisations and schools of nursing which, during the 1990s, saw an unprecedented number of workshops, seminars and conferences being organised specifically on the subject of ethical issues in Australian nursing (e.g., RANF 1987; ANF 1989; School of Nursing, Phillip Institute of Technology 1988, 1989, 1991). This period also saw the establishment in 1996 of the RCNA inaugural Nursing Ethics Society open to members of the RCNA (now the Australian College of Nursing). As nurse academics from around Australia pursued higher degrees and completed minor and major theses on nursing ethics-related topics, nursing ethics research and scholarship began to increase.

THE FUTURE OF AUSTRALIAN NURSING ETHICS

Australian nursing ethics has an uncertain future. Reasons for this are both complex and multifacted and include, but are not limited to: the lack of a strategic nationally cordinated agenda for progressing nursing ethics in Australia, the legacy of historical deficits in nursing ethics pedagogy and praxis (comprehensively considered in Johnstone 2015b), and the lack of a critical mass of nursing scholars with formal education and grounding in the theoretical foundations of moral philosophy and a substantive track record of peer reviewed publications on nursing ethics. While it is acknowledged that many nurses have a strong interest in and 'passion' for nursing ethics, this is not the same as – and should not be mistaken for – expertise in the discpline, as has sometimes been the case.

Arguably one of the most pressing issues facing the Australian nursing profession at this time is how best to address the deficits in nursing ethics pedagogy and praxis. Although the Australian Nursing and Midwifery Accreditation Council (ANMAC) *Registerd Nurse Accreditation Standards* requires teaching and learning approaches that promote 'ethical practice and leadership skills expected of registered nurses' (ANMAC 2012, Standard 2.4i) and program content that 'supports the development and application of knowledge and skills in legal and ethical issues in health care and research' (ANMAC 2012, Standard 4.4d), a cursory search of Australia's 37 university programs offering undergraduate and postgraduate nursing courses reveals significant disparities in the approaches taken to meet these standards. For example, where as some university programs have discrete subjects/units addressing 'ethical issues in health care', others have none with content being 'sprinkled' through the curriculum (in one case, anecdotally reported to be as little as four hours over the entire three year Bachelor of Nursing program). Still others have units that combine the content of law and ethics, which risks limiting the depth of inquiry that is otherwise warranted for these distinct subject areas. There is also variation in the level of offerings in a course, ranging from ethics being situated as a core subject to being offered as an elective only; offered in undergraduate, but not postgraduate courses, and vice versa; and a taking a 'generic' approach (i.e., for health care professionals generally) as opposed to a nursing-specific approach (i.e., for nurses only) to the content being taught.

Unfortunately it is beyond the scope of this present article to explore this issue in the depth that is warranted, suffice to say that unless the issue of nursing ethics pedagogy and praxis is comprehensively addressed at a national level, the moral competency of Australian nurses will stand in doubt (see also Johnstone 2015d). More worryingly, it will leave Australian nurses vulnerable to being ill-prepared for the major ethical challenges that lay ahead, such as those posed by antimicrobial resistance (Johnstone, in press), climate change, peak oil, pandemic-influenza, and the potentially catastrophic health inequalities associated with these things (Johnstone 2016). Ultimately, the professional ethics of Australian nurses – and what they 'can do, actually do, and ought to do' – will rest on whether and what response Australia's national nursing organisations responsible for setting the agreed ethical standards of the profession will give to this issue.

CONCLUSION

Nursing ethics in Australia, as in other countries, stands as an 'enduring and intimate concern of the profession' (Fowler 2010, p.31). Despite the operationalisation of Australian nursing ethics having a slow start, an Australian perspective on nursing ethics has gained a noticeable presence in the international arena with Australian nursing scholars making a significant contribution to the field. A notable example of this can be found in the Sage major reference work titled *Nursing ethics* (three volumes) curated by Johnstone (2015a, 2015b, 2015c). This work, which spans 127 years and encompasses more than 1,000 pages of pioneering articles on nursing ethics, has the distinction of being the first of its kind in the world (ANMJ 2015).

The Australian nursing profession is committed to achieving the ever expanding moral goals of the profession and practice of nursing. There is, however, room for improvement in regard to the development and practice of nursing ethics in Australia. To this end, the advancement of nursing ethics in Australia warrants being situated as a strategic priority – in education, research, scholarship and practice. Meanwhile, it would be both timely and instructive for a robust program of collaborative, comparative international and interdisciplinary nursing ethics scholarship, research and critique to be progressed. This would help to ensure that the nursing profession in Australia is appropriately positioned to not only meet the moral challenges that it will face in the future, but also contribute to global discourses on how best to meet these challenges.

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A nurses' guide to mixed methods research

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research methodology, qualitative research, quantitative research, mixed methods, triangulation, evidence based practice (EBP).

ABSTRACT

Objective

This article provides a breakdown of the components of mixed methods research methodology. The intention of the article is to simplify the terminology and process of mixed methods research to enable novice readers of research to have a better understanding of the language and concepts involved. The Survey method, using both qualitative and quantitative research methods, will be used to explain the principles of mixing methods.

Primary Argument

Australian nurses work in an environment where evidence-based practice is mandatory. Understanding the research process and terminology used may benefit nurses to implement research in their day-to-day practice. Gaining knowledge of the different approaches used in mixed methods research is paramount if nurses are to base their care on research which has utilised this style.

Conclusion

As mixed methods are used in nursing, social and behavioural research it is essential that nurses understand the methodology. The main components of mixed methodology will, therefore, be discussed in a systematic, logical order.

INTRODUCTION

Currently the Nursing and Midwifery Board of Australia include a requirement for nurses to evaluate and implement research in their care (Borbasi and Jackson 2012, p.22; Nursing and Midwifery Board of Australia 2013a). All nurses are expected to be actively involved in implementing or undertaking research (Borbasi and Jackson 2012, p.22) as a major goal of nursing research is to improve health care and outcomes (Moxham 2015; Benner 1984). Evidence based or 'best practice' nursing in Australia is supported by the Joanna Briggs Institute (Chang and Daly 2012). As evidence based practice and research are threaded through professional work and study in the health sciences (Wright-St Clair et al 2014, p.5) nurses, particularly novice nurses, may benefit from a discussion that helps them understand the sequence of a research paper (Moxham 2015) using mixed methods.

The emergence of mixed methods, which was considered a third methodological movement, began during the 1980's (Tashakorri and Teddie 2003). The first and second movements were quantitative methodology and qualitative methodology. Mixed methods are also known as 'multi-methodology' or 'triangulation' and are considered to have high validity due to the variation in data collection (Bulsara 2015; Taket 2013). Mixed methods research is further defined by Jirowong et al (2014, p.360) as research that 'systematically combines the collection and analysis of both qualitative and quantitative data in the same study'. This style of research allows investigators to combine both numeric and narrative data in their analysis (Lewis, 2013 p.166). Mixing methods offers a richer explanation than single use of either qualitative or quantitative methods as it can draw on the strength of each approach and overcome their weaknesses (Lewis 2013, p.167; National Institutes of Health 2011). The range and description of how methods can be mixed is extremely wide (Wurtz 2015; Taket 2013) therefore this paper will address mixed methods very broadly.

THE MIXED METHODS RESEARCH PAPER

The rationale behind using a mixed methods approach

Many authors and investigators have discussed the rationale behind combining qualitative and quantitative research methodology. The following discussion provides a breakdown of the main reasons for using mixed methods.

Mixed methodology can answer a research question from a number of perspectives and ensures there are no, or fewer, 'gaps' to the information collected (Bulsara 2015; Jirojwong et al 2014). Pre-existing assumptions from the researcher are less likely to occur, and inferences made stronger, as different approaches can yield broader information given that one method may not be able to provide all the information required (Bulsara 2015; Jirojwong et al 2014). As Wurtz (2015) explains, using mixed methods can provide a deeper understanding of behaviour, or a better idea of the meaning behind what is occurring. Most significantly mixed method research can include culture in the design by giving a voice to everyone involved in the behaviour being examined (Wurtz 2015). As Taket (2013) further explains, mixed methods can empower research participants by providing appropriate means for them to choose how and whether to participate. For example, a self-completion questionnaire excludes those who do not have the ability to read or write (Taket 2013), however, if an interview is also included in the methodology, they may be able to participate with greater autonomy (Liamputtong 2013, p.326).

There are six categories of Mixed Method Designs (Wurtz 2015) described in the grid at the end of this paper. Creswell and Plano Clark (2011, pp.69 - 101) agree there are six major designs but attribute several differing names to those given by Wurtz (2015).

In brief, a mixed methods study is not two separate studies addressing a specific issue but one study that employs different methods to address a specific research question or hypothesis (Jirojwong et al 2014, p.281).

Survey Method

The Survey Method will be used as an example of how qualitative and quantitative frameworks can be used together to research subjects. A survey is defined as a data collection tool to gather information about individuals (Privitera 2014). It may aim to collect factual information (quantitative data) and/or opinions of individuals through interviews (qualitative data). Surveys may be wholly quantitative but using mixed methods allows for greater depth. It is one of the most commonly used methods in social science research (Hamer and Collinson 2014).

Abstract/Summary

An abstract or summary of a mixed methods paper using survey technique will provide a brief objective summary of the research report. The rationale and background of the study should be provided and also include the theoretical and methodological processes for gathering information (Borbasi and Jackson 2012).

Identifying the problem

Survey designs can use a hypothesis (Privitera 2014) or research question (Jirojwong et al 2014, p.273). A hypothesis is defined by Johnson and Hengstberger-Sims (2014, p.35) as a statement about the relationship between two or more variables (also known as factors or characteristics).Whilst a survey can be used as a measurement tool in many research designs, survey research specifically refers to the use of surveys to quantify, describe or characterise an individual or group (Privitera 2014).

Literature Search

The literature review is generally found in the introductory section of a research paper (Polit and Hungler 2013). The function of a literature search in mixed method research varies depending on the classification of the study. As a survey consists of many questions, or statements, to which participants respond, the literature may be used to inform the researcher of questions or approaches previously used.

METHODOLOGY

Design

The survey research design can be administered either in written form and/or through interview. The survey will include a series of questions or statements, called items, used in a questionnaire and /or interview to measure responses (Privitera 2014, p.226).

There are three types of questions or statements used in a survey, namely open-ended items, partially open-ended and restricted items (Privitera, 2014). The open-ended questions can be used in interviews on an individual basis, or within a focus group, to glean qualitative information. A focus group is based on group discussion to elicit the respondent's perceptions, opinions, beliefs and attitudes (Jirojwong et al 2014, p.359). The participants are able to express their views by interacting within a group discussing an issue or number of issues (Liamputtong 2013). Partially open questions have several set answers but allow the researcher to ask extra questions (Jirojwong et al 2014; Liamputtong 2013). An example of a restricted item, also known as a closed-ended item, includes restricted answer options and commonly uses a Likert scale (Privitera 2014). The Likert scale usually has between three and seven columns with options such as strongly agree, agree, not sure, disagree and strongly disagree. Whilst the Likert scale can be used to elicit responses regarding attitudes and beliefs, statistics can be produced from the responses as the responses can be assigned a numerical value (Jirojwong et al 2014, p.360).

Other response formats may include verbal rating scales where a range of verbal responses are provided and the participant circles the one that most closely mirrors their view, or visual analogue scales, which asks the respondent to mark a position on a line between 0 and 10 or 0 and 100 depending on the nature of the question (Liamputtong 2013, p.212)

Sample

The sample population is very variable in mixed methods research. It can vary from small groups to huge populations. Subjects of survey research may be called participants, informants or subjects. Samples may be selected using convenience (purposive) or probability (random) techniques which means the sample was specifically chosen to ensure the data gathered is 'information-rich' (Borbasi and Jackson 2012, p.135). The quantitative element will mean the sample can be larger but sampling decisions need to be based on the research question. As Lewis (2013 p.277) further explains, mixed methods research has at least two components, elements or phases which means drawing a sample is hard to specify but, very generally speaking, a qualitative (purposive) sample would be less than 30 and a quantitative (probability) sample would be greater than 50.

Concurrent designs (merging qualitative and quantitative research) include the need for adequate sample sizes and being consistent in analysis whereas sequential designs (one phase of qualitative research which then builds on quantitative research or vice versa) results in decisions needing to be made on choosing appropriate sampling and sample sizes for both phases (National Institutes of Health 2011). To put it simply, it is very hard to match qualitative data to quantitative data as investigators, who hold different philosophical positions, may find mixed methods research to be challenging because of the tensions created by their differing beliefs (National Institutes of Health 2011).

Ethics

Consent should be obtained after full explanation of the study's intent (Borbasi and Jackson 2012). All nursing research should consider ethics and potential harm (Nursing and Midwifery Board of Australia 2013b). For example, data collection from web surveys should be undertaken so identities cannot be accessed. Participants should be de-identified (Liamputtong 2013, p.30). The investigator is obliged to consider the implications of the proposed research for the participating subjects, their families and society (Burns and Grove, 2009). Permission for nursing research is sought from an ethics committee appropriate to the situation (Jirojwong et al 2014, pp.63-66; Elliott et al 2013, p.93). The ethical principles of autonomy, beneficence, non-maleficence and justice are widely acknowledged in contemporary regulatory research ethics frameworks (Liamputtong 2013, p.27).

Pilot Study

A pilot study as a trial run of the research which is conducted on a small number of participants (Polit and Hungler 2013; Nieswiadomy 2012). The pilot study allows the researcher to assess the adequacy and feasibility of the intended research (Moxham 2015, p.35). With mixed methods research, using a survey technique, is important to identify problems or 'flaws' and strengthen the combination of qualitative and quantitative methodology by identifying practical and methodological issues (Bulsara 2015). Modifications can be made prior to the main study (Kim 2011).

Main Study

Issues of validity are challenging as qualitative and quantitative research have developed through different pathways (Jirojwong et al 2014, p.279). The essential component for the researcher is to ensure the research demonstrates the established research rigour required by each method (Teddie and Tashakkori 2009, cited in Jirojwong et al 2014). It is generally accepted that the qualitative or quantitative elements in a mixed methods study can have equal status or that one approach may be dominant.

In mixed methods research the investigators intentionally integrate and combine both qualitative and quantitative data rather than separate it. The challenge is how to integrate it (National Institutes of Health 2011). As Liamputtong (2013, p.339) states the combination of qualitative and quantitative data can produce a richer understanding of a number of different factors within a piece of research.

Analysis and Results

Investigators may use codes or colour coding to identify common themes. The codes can be counted and totals given for a response frequency (Bulsara 2015). This works well with survey questions and responses which generate figures but the data can also be considered qualitative if the researcher is seeking opinions and attitudes (Bulsara 2015). The main findings will be discussed according to which design was used (refer to GRID below). Issues may arise when analysing the data because of the combination of the qualitative and quantitative designs. This may mean the researcher has to gather more data or revisit databases (National Institutes of Health 2011).

Two articles in this series discuss this section in more depth, namely, A nurses' guide to Quantitative research (Ingham-Broomfield 2014) and A nurses' guide to Qualitative research (Ingham-Broomfield 2015).

Discussion/Recommendations

Whatever method is used in research papers, this section usually tries to clarify what the results mean. There should be an interpretation of the results, the study limitations and possible implications for further research to advance knowledge (Polit and Hungler 2013; Nieswiadomy 2012). The researcher will discuss problems encountered including the methodology chosen.

Conclusions of the research paper using mixed methods

Any research study design and findings need to be critiqued by the author(s) in the research study's discussion section. The investigators may discuss the complexity of the mixed methods approach. Most conclusions summarise the main points, review the research method, repeat the findings, discuss the limitations and offer suggestions for future research related to the subject researched (Nieswiadomy, 2012).

Reference list

The Reference List will contain research papers including books and other journal articles which may contain a selection of qualitative, quantitative and mixed methods sources to support the concepts outlined (Ingham-Broomfield 2014).

CONCLUSION

The methodological approach used in this paper has discussed mixed methods, using the survey method as an example, in a logical and systematic order. This paper has discussed the main components of mixed methods research for nurses who are new to this process and its terminology.

GRID

Quantitative (QUAN) and Qualitative (QUAL)

Category	Sequential Explanatory Design	Sequential Exploratory Design	Sequential Transformative design	Concurrent Triangulation Design	Concurrent Nested Design	Concurrent Transformative Design
Collection and analysis of data	QUAN stage followed by QUAL stage	2 stages -Priority given to QUAL data followed by QUAN	2 distinct stages –theoretical perspective used to guide the study	QUAL and QUAN data collection is concurrent – only one data collection phase	QUAL and QUAN data collection is concurrent	Guided by a specific theoretical perspective. QUAL and QUAN collected during the same phase
Priority given to which data	QUAN	QUAL	Whichever serves the theoretical perspective best	Ideally equal priority to both QUAL and QUAN	Either QUAL or QUAN dominate the design	Ideally equal priority to both QUAL and QUAN
Integration of data occurs during this research phase	Interpretive phase	Interpretive phase	Interpretive phase	Interpretive phase	Analysis phase mixes both QUAL and QUAN data	Analysis phase but can also occur in the interpretive stage
Purpose	QUAL results used to help explain QUAN results	QUAN data used to help interpret QUAL phase	Whichever serves the theoretical perspective best	Focuses on similarities and differences, with the primary purpose to support each other	QUAL used to better explain QUAN data	The purpose is to use methods that will best serve the theoretical perspective of the researcher

(Wurtz 2015; Lewis 2013)

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