A SYSTEMATIC REVIEW

MOBILE OR WEB-BASED INTERVENTION FOR SMOKING CESSATION

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ABSTRACT

Smoking is the most preventable cause of illness and premature death worldwide. Because of the danger of smoking, smoker must try to quit smoking. The purpose of this research is to determine the effect of mobile and web based intervention on smoking cessation programme. This study was used systematic review with literature search using online reference databases: ProQuest, Sciencedirect and SCOPUS. The keyword that used in this research was mobile intervention, phone intervention, apps intervention, web-based intervention, and smoking cessation. Studies will be a part of this research if they had randomized controlled trial design with mobile or web-based intervention for smoking cessation programme. The review of 25 that met the criteria showed intervention group with mobile or web-based has the ability to stop smoking better than the control group or comparison group. Smoking cessation is also influenced by the focusing of mobile or web-based intervention provided, so that it can provide benefits for all smoker to better understand the strengths and effects that therapy must undergo

Keywords: *mobile intervention, phone intervention, apps intervention, web-based intervention, smoking cessation*

INTRODUCTION

World Health Organization (WHO) state that tobacco kills more than 5 million people per year and is projected to kill 10 million by 2020, of which 70% of victims come from developing countries dominated by men by 700 million, especially in Asia. WHO estimates 1.1 billion world smokers aged 15 years and over, which is one third of the total world population. Indonesia is ranked 5th in cigarette consumption in the world after China, the United States, Japan and Russia [1]. Among adolescents aged 15-19 years, around 38.4% of men and 0.9% of women are smokers. That age is those who sit in the third grade junior high school (SMP), high school (high school), and the beginning of college. Generally the group is teenagers who start smoking to show that they are adults [2]. People start smoking since young and don't know the risks regarding the addictive dangers of cigarettes [3].

Smoking increases the respiratory long term condition problem such as asthma and Chronic Obstructive Pulmonary Disesae (COPD). Nicotine addiction causes people even with severe lung conditions to continue smoking and therefore requires behavioural and pharmacological treatment. The annual Quality and Outcomes Framework (QOF) smoking returns suggests that up to one in four people with

common long-term conditions continue to smoke[4].

Studies consistently show a discrepancy between desire to quit and success in doing so. It is harder the more addicted a smoker is. Primary care clinicians know that smoking cessation results in better outcomes but the provision of advice and therapy is often patchy because of beliefs that it is too difficult to achieve, too time consuming and concerns about the safety of stop smoking medicines. Only 5% of smokers who want to quit smoking actually access a stop smoking service each year, even if they do a higher stop rate will occur[5].

The rapid increase in the number of people owning a mobile phone has led to the incorporation of mobile health (mHealth) interventions into traditional health practices. Mobile phones are an important tools for smoking cessation programe because they are flexible, accessible, and low cost method for delivering health promotion interventions. Mobile or web based interventions allow for the conveyance of information, triggers, and support whenever clients carry a mobile phone. In addition, these interventions can be scaled to large populations and personalized to meet individual needs. The application of mobile and web-based interventions has shown improved outcomes in smoking cessation [6].

There is some evidence that the use of mobile and web based intervention can promote smoking cessation. Barkesville et.al. (2018) say that Crush the Crave (CTC) was feasible for delivering cessation support but was not superior to a self-help guide in helping motivated young adults to quit smoking. [7]

The main purpose of this research is to determine the effect of mobile or web-based intervention on smoking cessation programme.

METHODS

(1) Design

The design used a systematic review, synthesis of results found by comparing mobile or web-based intervention with usual care for smoking cessation programe.

(2) Search Strategy

This systematic review includes original articles that discuss the effect of mobile or web-based intervention on smoking cessation. A systematic literature search was carried out in a number of major databases such as Proquest, Sciencedirect and Scopus. The keyword developed by PICOT framework (P: Smoking people, I: mobile intervention, phone intervention, apps intervention, web-based intervention, C:-, O: smoking cessation, T: 2016-2019). A full of literature search and study selection process in accordance with the PRISMA guidelines. Articles will be a part of this study if they had randomized controlled trial design with mobile or web-based intervention for smoking cessation programme..

(3) Sample

The search results obtained 370 articles and 25 articles meet the inclusion criteria. Each study contains mobile or web-based intervention for smoking cessation. Studies that use another intervention are excluded from this research.

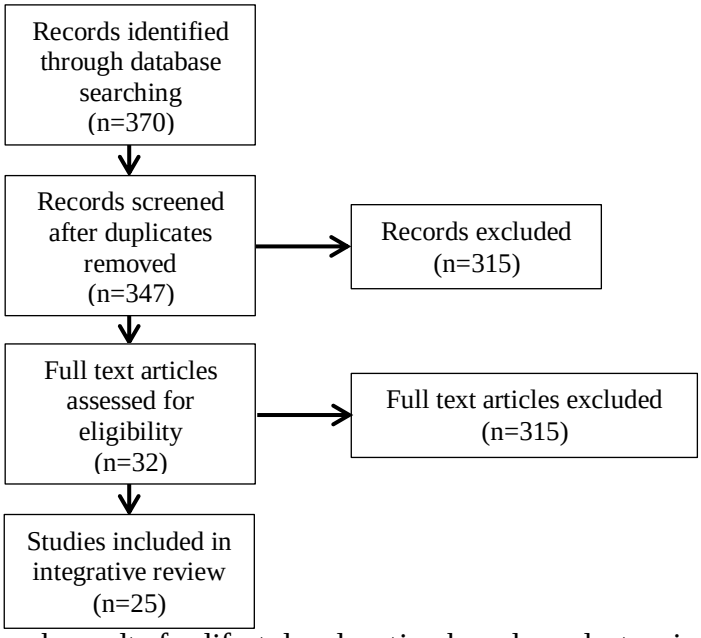

Figure. 1: flow diagram of search results for lifestyle education based on electronic media for diabetes management according with the PRISMA guidelines.

(4) Inclusion Criteria

Inclusion criteria in the literature are studies using the Randomized Controlled Trial (RCT) method on the effect of mobile or web based intervention on smoking cessation with a limitation of the years used for the past 4 years (2016-2019). RCT design studies must meet the PICO criteria among the population used are man more than 18 years old and have smoke daily activity. Interventions in the use of mobile or web based intervention can include mobile intervention or phone intervention or apps intervention or web based intervention. Comparison in research consists of at least minimum 2 groups, namely the intervention group and the control group. The outcome produced is a measurement of smoking cessation. All research uses English.

RESULTS

(1) Characteristics of Systematic Review Literature

From 25 articles, data collection was carried out in United States as many as 12 articles, China 5 articles, Thailand 1 article, France 1 article, Netherlands 1 article, Australia 1 article, Sweden 1 article, Canada 1 article, Spain 1 article and UK 1 article. The number of participants in each article is more than 200 participants. All articles involve smoker that get mobile intervention or phone intervention or apps intervention or web based intervention for smoking cessation. All articles are articles with randomized control trial research design with measurement results in the form of smoking cessation based on the mobile intervention or phone intervention or apps intervention or web based intervention**.**

(2) Mobile or Web Based interventions

The 25 articles discuss about mobile or web based intervention to support smoking cessation. There are so many kind of intervention, such as mobile app, email intervention, computerized intervention, web based programe intervention, text massage intervention, whats app intervention, twitter intervention or chat based intervention. All of the intervention was used to increase smoking cessation ability on people.

This mobile or web based intervention was given to respondent minimum for 1

months and maximum for 1 year. After they get intervention, respondent get some questionair to measure smoking cessation. There are some study in the article that measure in a periodic time, for the example in 3 month, 6 month, 9 month and 12 month. The dose of intervention was various, most study give intervention everiday when another study give one a week.

(3) Smoking Cessation Measuring Tools

Smoking cessation is measured by questionaire. Another test to measure smoking cessation are Fagerström Test of Nicotine Dependence (FTND) to measure demographics and smoking history, Heaviness of Smoking Index (HSI) to measure the level of tobacco dependence, or CO monitor and mouth pieces (Bedfont Scientific Ltd).

(4) Effect of Mobile or Web Based Intervention to Smoking Cessation

Results Analysis of 25 articles that used mobile or web-based intervention for smoking cessation can be seen in the result of each article. Changes in scores in each of the experimental and control groups significantly measured by smoking cessation (questionnaire) Research results and journal characteristic can be seen in table1.

DISCUSSION

(1) Mobile or Web Based Intervention

Mobile apps (eg, WhatsApp, Facebook Messenger, and WeChat) are popular and inexpensive alternatives for interactive messaging. The population-based survey found that adults exposed to health information from instant messaging smoked less and were more physically active than those who were not exposed, suggesting that instant messaging might be a viable way of promoting preventive behaviours [8]. Web-assisted tobacco interventions have the potential for low-cost reach to millions of smokers. They can be effective in aiding cessation, especially when compared with self-help booklets or no interventions [9].

(2) Smoking Cessation

Planning to quit smoking was not easy. Smoking cessation (also known as quitting smoking or simply quitting) is the process of discontinuing tobacco smoking. Tobacco smoke contains nicotine, which is addictive and can cause dependence. Nicotine withdrawal often makes the process of quitting difficult [10]. The principle model of successfuly quitting smoking was the strong will and determination of the smokers themselves. The reasons to stop smoking were also health, religious organisation, and, family factors. Health factors are related to disease suffered by the informants such as hypertension, fever, cough and headache. A religious organisation factors are related to religious organization that prohibits to smoke [11]

(3) Effect of Mobile or Web Based Intervention to Smoking Cessation

Changes in scores in the experimental and control groups occurred significantly. This means that in the experimental group given mobile or web-based intervention is effective to increase smoking cessation ability, conversely in the control group that was not given mobile or web-based intervention there was no increase in quality of life [12]

The effectiveness of mobile or web-based intervention can be seen from the differences in the ability of the respondent to quite smoking in the intervention and control groups. Increased ability of smoking cessation in respondent who received mobile or web-based intervention was significantly higher than the increase in ability in the group who did not get intervention. This proves that mobile or web-based intervention has a positive impact on respondent ability to improve smoking

cessation ability. In addition, through this intervention the patient increases personal abilities especially increasing the effectiveness of the patient's self, hardiness and resourcefulness [7].

CONCLUSION

Mobile and web-based intervention is a new way to do nursing intervention in this digitalization era. Many evidence based proved that mobile and web based intervention is suitable or match with people in 4.0 era. So in furthermore, we must improve the use of mobile and web-based on do some intervention.

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