A Transtheoretical Model in Controlling Smoking Behavior in Junior High School Students in Palu City, Indonesia: A Systematic Review

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Abstract

Objective: The average child first tries and is accustomed to smoking when sitting in seventh and eighth grade junior high school (SMP) or around the age of 12-13 years. In TTM Model (Transtheoretical Model), there are 5 stages of TTM. The purpose of this systematic review is to develop a model of transtheoretical in controlling smoking behavior in junior high school students in Palu City, Indonesia.

Method: This research used a systematic literature review. Various references were collected from online database including reports, journals, and books in the last 10 years. The journals were mostly from the scholarly journals. The articles were screened according to the research objectives. The keywords used are transtheoretical model and smoking behavior in junior high school students.

Results: This study showed that the use of a transtheoretical model is very effective in controlling smoking behavior in junior high school students. There are 5 stages of TTM, namely pre-contemplation (contemplation to stop smoking), contemplation (contemplation to stop smoking in the next 6 months), preparation (contemplation to stop smoking in the next 30 days), action (already stopped smoking in 6 months), and maintenance.

Conclusions: This paper concludes that a model using transtheoretical is effective for control smoking behavior in junior high school students. Further recommendation will be provided.

Keywords: *Transtheoretical Model; Smoking; Students.*

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Introduction

Smoking behavior has become a culture in the Indonesian nation. Teenagers, adults, even children are familiar with these deadly objects.Very massive exposure to cigarettes can negatively affect the quality of life of 83.4 million Indonesian children. There is already plenty of evidence that shows that children are targeted

by the cigarette industry to make them loyal customers in the future. In addition to influencing health, the impact of cigarette consumption can also erode the economy and cause social impacts.

The school environment is considered important to be intervened because the school setting is considered more efficient in carrying out actions, very good for developing emotional, academic, cognitive, and other behaviors that support health. The average child first tries and is accustomed to smoking when sitting in seventh and eighth grade junior high school (SMP) or around the age of 12-13 years. Due to including early adolescents, they try smoking because of high curiosity, as well as environmental influences and peers who are very strong in their age. This shows that child smokers are increasingly caused by regulations or policies that are still obtuse.

In TTM Model (Transtheoretical Model), there are 5 stages of TTM, namely pre-contemplation (not thinking to stop smoking), contemplation (thinking to stop smoking in the next 6 months), preparation (thinking to stop smoking within the next 30 days), action (has stopped smoking in 6 months), and maintenance (has stopped smoking for more than 6 months)[1].

WHO (World Health Organization) data in 2015 shows that the prevalence of active smokers in the world currently reaches 17.4%. The National Basic Health Research (Riskesdas) data in 2018 shows that the prevalence of Indonesian smokers in the population aged 10-18 years continues to increase, namely in the Riskesdas data in 2013 of 7.2%, 2016 National Circular Survey data of 8.8% and in the data Riskesdas in 2018 increased to 9.1%. The data presented shows that there is an increase in the prevalence of smokers aged ≥ 10 years in Central Sulawesi, by 30.7% with the number of smokers every day at 26.2% and smokers sometimes at 4.5%.

Data related to age starting smoking every day for ages 10-14 years, the city of Palu ranks third largest in Central Sulawesi at 13.5%. Many factors cause the interest of junior high school students to buy and consume cigarettes in Palu City.

Seeing the problem above, the researcher was interested in conducting research on how a transtheoretical model in controlling smoking behavior in junior high school students in Palu City, Indonesia?. The purpose of this systematic review is to develop a model of transtheoreticalin controlling smoking behavior in junior high school students in Palu City, Indonesia.

Method

This research uses literature review. Literature sources of this review are generally obtained by searching through the internet in various national and international journals, and e-books. Generally the journal is indexed by Google Scholar, Scopus, Elsevier, Science Direct, and others. Generally the literature collected is in accordance with the themes raised and published in the last 10 years and some longer journals and textbooks for additional literary needs. About 150 articles and using English are reviewed. The transtheoretical model is the main guide, and smoking behavior in junior high school students are in addition. The articles were filtered and found as many as 100 articles in accordance with the purpose of the study. The keywords used are transtheoretical model and smoking behavior in junior high school students.

Results

This study showed that the use of a transtheoretical model is very effective in controlling smoking behavior in junior high school students. The research on motivation and method for stopping smoking is based on the concept of the Transtheoretical Model (TTM) developed by Prochaska & Diclemente. There are 5 stages of TTM, namely pre-contemplation (contemplation to stop smoking), contemplation (contemplation to stop smoking in the next 6 months), preparation (contemplation to stop smoking in the next 30 days), action (already stopped smoking in 6 months), and maintenance.

The process of changing smoking cessation can be adapted through six stages of behavior changethrough a transteoritic model, which is a theory that ratesindividual readiness to act or behave healthily, and make a strategy or process of changeto help individuals through the stages of changeto the action and maintenance stage. According to this theory,individuals who are most likely to succeed in changing behavior are individuals who conduct business based on strategies that are appropriate to the readiness stage to replace. The basic theory of the transteoritic model isbehavior change is a process andeveryone is at a different level related to motivation and readiness to change. With regard to smoking behavior, this model identifies five stages of preparedness can be applied to all types of behavior change.

First, precontemplation can be defined as a state of individuals who do not have the desire to change behavior. Most individuals are onthis stage is not even aware that they have behavior problem. Thus, the individual is in stages this is very difficult to be motivated to change behavior. For example, a smoker refuses to put an end to smoking because he feels he does not have the smoking behavior problem that he maintainsso they don't have thoughts or considerations to stop smoking.

Second, contemplation is the condition of a person conscious or start thinking about the existence of a problem of behavior that is maintained, but not yet made commitment to action. At this stage, a smoker starts to think of a time when he has to end smoking behavior due to various negative effects of cigarettes began to be felt because they have not been able to make a commitmenttowards smoking behavior, they will look for the moment and the right conditions to motivate to stop smoke. The process of change that occurs at this stage includes consciousness raising, which is the condition of the individual who discover and learn new facts, ideas and tips that support change towards healthy behavior; dramatic relief, which is feeling negative feelings, such as fear or anxiety about the risk of implementationunhealthy behavior; environmental reevaluation, namely being aware of the negative influence of that behavior unhealthy or positive influence of healthy behavior in the environment around individuals; and self-reevaluation, namely realizing that behavior change is important as part of self identity.

Third, preparation, which is the stage when individuals intend to change behavior in the near future. At the stage, this smoker is ready to quit. Process of change what happens at this stage is self-liberation, the individual make a strong commitment to change. In some cases, smokers start to make plans to stop such as determining when to stop or reducing the amount of cigarette use. Some individuals begin to think of strategies that were carried out on her day must stop.

Fourth, action, as a stage when individuals begin change his behavior to resolve the problem. The act of changing behavior and the factors that support it requires a commitment totime and energy. Most individuals will prove themselves that he is able to put an end to smoking because they have prepared themselves with strategies to deal with the urge to smoke again. Smokers have taken action to quit and are still within the first six months of the smoke-free period. This stage involves several behavioral change processes, namely contingency management, namely increasing appreciation for new healthy behaviors and reduce appreciation towards unhealthy behavior; helping relationships, that is, seeking and using social support for healthy behavior change; counterconditioning, i.e. replace unhealthy thoughts and behavior with alternative behaviors that support change behavior; and stimulus control, which is to throw reminders that can lead individuals to get involved in unhealthy behavior and added a reminder that leads to healthy behavior.

Fifth, maintenance, which is the stage when individuals keep changing behavior from possible relapse (returning to behavior that has been abandoned). Smokers compare the benefits they have gained from stopping smoking with a desire to return to smoking. The process of behavior change at this stage is the same with the action stage. If someone is able to remain free of addictive behavior for more than six months, people it is assumed to have been in the maintenance phase of stopping smoking. Similarly, someone who has stopped smoking but is still on the first year of his smoking-free period.

The sixth, termination, is the last stage which can be applied to addictive behavior. On at this stage, unhealthy behavior will never be back and the individual has no fear relapse. Even though the individual feels depressed, anxious, bored, lonely, angry, or stressed, they are sure that they will not return to behavior old unhealthy as a solution problem. Relapse or recurrence is more a rule of addictive behavior, so the theoretical model describes the stages of change behavior.

Discussions

The study results will provide valuable information regarding how each predictor variable is connected and path through adoption of smoking cessation behavior. By understanding mechanisms of behavior change, health professionals could develop effective smoking cessation interventions with consideration of roles of self-efficacy in the smoking cessation behavior change[2].

The students in the experimental group were given Transtheoretical Model-based planned education, and students in the control group were not given any education. As a result of last tests of the experimental and the control groups, it was observed that there was a statistically significant difference between measurements of "Social interaction and habit strength" (p=0.003),

which is a subscale of it and "Temptation scale total score" (p=0.004), "Being able to cope with the social environments and negative sense (p=0.03), "Being able to cope with the habit strength" (p=0.001), which are subscales of "Self-efficacy scale", "Processes of change scale" total score, and its subscales: "Conscious raising" (p=0.006), "Dramatic relief" (p=0.001), "Environmental reevaluation" (p=0.035), "Self-reevaluation" (p=0.007)[3].

As the change stages progressed, the scores of Decisional Balance sub scale Coping Pros and mean scores of the subscales Habit Strength and Weight Control of Self-Efficacy Scale scores increased in a statistically significant (p<.01)[4].This program has the potential to be applied as stand-alone practice or as part of more intensive interventions to promote substance use cessation[5].

Evidence for the validity of the TTM as it applies to tobacco use is strong and growing; however, it is not conclusive. Eight different staging mechanisms were identified, raising the question of which are most valid and reliable. Interventions tailored to a smoker's stage were successful more often than nontailored interventions in promoting forward stage movement. Stage distribution is well-documented for U.S. populations; however, more research is needed for non-U.S. populations, for special populations, and on other TTM constructs[6].

A TTM-based intervention programme was potentially effective in passive smoking prevention by improving knowledge, experiential and behavioural processes and self-efficacy among pregnant women and women with young children. A higher percentage of mothers with young children had progressed in stages of change post-intervention compared with pregnant women[7].

Given the relative ease of dissemination, these programs could be applied as stand-alone practices or as part of more intensive interventions[8].In Chinese high school students suggest tailored health education and practical interventions should be adopted to reduce sedentary time and thereby improve the efficacy of health promotion[9].

The results provide support to the advantages of increased self-efficacy and the role of decisional balance for the intervention program development for smoking cessation[10].This smoking cessation program increased self-esteem, attitude toward smoking, perceived control over smoking and decreased smoking per day among male high school students. Therefore, schools and parents should focus on developing these factors to encourage students to quit smoking[11].

Nearlytwo-thirdsof smokers in Turkey and more thantwo-thirds in Thailand were in the precontemplation stage during the last survey wave assessed. The proportion of smokers in the preparation stage increased in Turkey but declined in Thailand. Identifying stages of cessation helps guidepopulation-basedtargeted interventions to support smokers at varying stages of change toward quitting[12].

The program was effective in smoking cessation and influencing stages of change but did not change psychosocial factors such as self-efficacy and stress. It is suggested a program should be developed to change psychosocial variables on a long-term basis. It is also desirable to involve peers and families of adolescents who smoke when planning programs to enhance social support[13].

Furthermore, the results showed that measures of self-efficacy decreased, while temptation increased from precontemplation to action stages. The pros of smoking behavior increased toward action stage, while the cons decreased[14].A higher overall prevalence of adolescents in precontemplation stage for smoking cessation was observed. Such group displayed more unfavorable smoking-related behaviors and characteristics than adolescents in other stages. The evidence is limited due to the lack of studies in adolescents living in low-income countries[15].

Transtheoretic model is a significant tool for smoking cessation with its ability to use different models of behavior changes. This flexibilitaly of Transtheoretic model makes the model treatment of choice in different addictions. In this review we focus on the features of Transtheoretic model[16].

Conclusions

Based on the results of this study, it can be concluded that a model using transtheoreticalis effective for control smoking behavior in junior high school students. Further recommendation will be provided.

Ethical Clearance: No ethical approval is needed.

Source of Funding: Self

Conflict of Interest: Nil

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