

Action stage of Changes in Smoking Behavior in Health Students in Kupang City

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Abstract. Health students are individuals who have a higher level of education and knowledge in the health field. However, around 37.3% of students in Indonesia, including health students, are smokers. This study described changes in smoking behavior based on the action stage on health students in Kupang City in 2021. This type of research was qualitative with in-depth interview techniques. This study recruited nine health students who had a desire to change smoking behavior. This study found that four behavioral change processes (management contingency, helping relationships, counter conditioning, and stimulus control) play an essential role in the smoking cessation process in the action stage. Thus, the smoking behavior intervention needs to pay attention to the involvement of the four change processes. Interventions should also direct smokers to start the preparation phase for change, as a strong foundation for smokers to initiate changes in smoking behavior.

Keywords: *Action stage, smoking, health students*

Abstrak. Mahasiswa kesehatan adalah individu yang memiliki tingkat pendidikan dan pengetahuan yang lebih di bidang kesehatan. Namun, sekitar 37,3% mahasiswa di Indonesia, termasuk mahasiswa kesehatan, adalah perokok. Penelitian ini menggambarkan perubahan perilaku merokok berdasarkan tahap aksi pada mahasiswa kesehatan di Kota Kupang tahun 2021. Jenis penelitian adalah kualitatif dengan teknik wawancara mendalam. Penelitian ini merekrut 9 mahasiswa kesehatan yang memiliki keinginan untuk mengubah perilaku merokok. Penelitian ini menemukan bahwa empat proses perubahan perilaku (manajemen kemungkinan, dukungan, situasi pengganti, dan kontrol stimulus) berperan penting dalam proses berhenti merokok di tahap aksi. Dengan demikian, intervensi perilaku merokok perlu memperhatikan keterlibatan ke-4 proses perubahan dalam tahap aksi untuk mendorong perokok dapat berhenti merokok secara total. Intervensi juga perlu mengarahkan perokok untuk memulai tahap persiapan perubahan, sebagai dasar yang kuat bagi perokok untuk memulai perubahan perilaku merokok.

Kata kunci: *Tahap aksi, perilaku merokok, mahasiswa kesehatan*

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Introduction

Students are late teens who should have academic and professional skills in applying, developing, or creating science to help solve problems in their environment, including in health behaviors (Anwar, 2017). However, more than 1/3 (37.3%) Indonesian students, including health sciences students such as medicine, public health, and nursing, are smokers with a percentage of 61.3% men and 15.5% women (WHO, 2014). Previous research has found that nearly half (48.4%) of medical students of Andalas University once smoked (Yosantaraputra et al., 2014). Similar research on health students in Samarinda and Banjarmasin showed smoking behavior in most male students (39.86%) and that the majority of respondents started smoking at the age of >10 years (Irianty & Hayati, 2019; Badar, 2015).

Individuals who have higher education, especially in health or who always read health information, will have better knowledge about health. Good health knowledge will enable the individual to respond or act positively to the information received by making it happen in healthy behavior (Putri & Maemunah, 2017). Previous research related to modeling smoking behavior among health students shows the desire of smoker students to quit smoking (Irianty & Hayati, 2019; Trisnowati, 2017; Salawati & Amalia, 2010). The desire to quit smoking is based on awareness to become a role model for the community when becoming health workers, self-awareness, illness, and prohibited parents or families (Irianty & Hayati, 2019; Salawati & Amalia, 2010). Changes in smoking behavior are essential to control the adverse effects of smoking behavior in adolescents. Smokers can show their intention to stop smoking by taking concrete actions at the action stage of changing smoking behavior.

According to the transtheoretical model, action is the fourth stage or period of a person acting to stop certain addictive behaviors (Saputra & Sary, 2012). Furthermore, change processes at the action stage, namely management contingency, helping relationships, counter conditioning, and stimulus control will be essential for smoking cessation. The result can then be a reference to create a

strategy to defend changes in smoking behavior based on the readiness conditions of each smoker (Kholid, 2018).

A preliminary study conducted at one of Kupang's Health Sciences educational institutions in February-March 2020 found that 30% of the 200 health students were smokers. Preliminary interview results showed that four out of six people had intended to quit smoking and had tried to quit smoking. Based on this background, this study aims to find out the description of the stage of the action of changes in smoking behavior in smokers' health students in Kupang City in 2021.

Method

This research employed qualitative research with a phenomenological approach. The research participants were nine university students from three health universities in Kupang City, selected using purposive sampling and snowball sampling techniques. First, with the purposive sampling technique, participants should be student smokers who desired to quit smoking or have and are trying to quit smoking within the last year, recruited from researchers' friendship networks. Then with snowball sampling techniques, the researchers seek information about the following participants based on information provided by previous participants. The total number of participants was nine participants.

The data collection technique used in this study was in-depth interviews in which each interview took around an hour and was recorded with the knowledge and approval of participants. The interviews started with open-ended questions and continued with probing questions. Researchers explored participants' thoughts, feelings, and experiences in the process of quitting smoking. The research instrument in qualitative research was the researcher as the main instrument and an interview guide and observational notes. Data collection continued until achieving data saturation. All interview results were put in transcript forms and analyzed with interactive data analysis techniques consisting of data reduction activities, data presentation, and conclusion drawing and testing. Finally, the validity of the data is examined based on the criteria of the degree of trust, namely triangulation. Source

triangulation becomes a technique of validity of data used by researchers in this study by comparing data obtained from each source or participant.

Result

Participants in this study are nine health majoring students who are still actively studying at three health-related universities in Kupang City. The nine participants are male and come from Nusa Cendana University, Citra Bangsa University, and Nusantara College of Health Sciences in Kupang City. The average age of participants was 20-24 years. The average age of first smoking while in junior high and high school was because of friends' invitation, experimental attempts, stress relief, and personal intention to smoke. However, in the end, the action led to addiction, so the participant decided to continue smoking.

All participants have taken the action of quitting smoking. Six participants went through the preparatory stage, where their intentions and commitment to stop smoking were formed and become their strong foundation to initiate changes in smoking behavior. Four of the six participants (participants 2, 6, 7, and 9) were still quitting smoking and were transitioning between the action and maintenance stages. In comparison, the other two participants (participants 1 and 3) have terminated their smoking behavior by persisting in not smoking for one year and one and a half years without relapse. Meanwhile, three other participants did not go through the preparatory stage. The three other participants admitted to quitting smoking because they wanted to quit when they discovered that their fellow smokers had quit smoking. Here was the participant's expression 5:

"When I see other people quit smoking and it works, whereas I can't, I end up trying to quit,.." (participant 5)

The three participants who did not go through the preparatory stage failed to survive not to smoke. Participants can only survive not smoking for at least one week. The two participants said the failure was due to a lack of intent and preparation to change smoking behavior. As a result, the participant stated that he was unable to refrain from the influence of cigarettes. Here is what participants 5 and 8 said:

"... quits for just one week. After that go back to smoking because you can't help yourself. Cravings are hard to stop. Maybe his intentions were lacking. Always fail. One week of quitting then relapsed." (participant 5)

"I in this semester has three times tried to quit smoking. But when I got back together with a smoker friend, I was affected to go back to smoking. Most people stay away from smoking for a week." (participant 8)

Participant 4, one of the three participants who did not go through the preparatory stage, stated that his smoking cessation action lasted for. Participants were able to survive because of coughing blood experience, besides living with parents while quitting smoking. The parental support kept him afloat, but after recovering and not staying with the parents, participant 4 returned to smoking. The absence of honest intentions and preparations to quit smoking makes the act of quitting smoking not last long and fails despite having done the right strategy. Here is an excerpt of the participant interview 4:

"I once threw away a cigarette because I had a cough of blood. For 6 months I quit smoking. I stopped by reducing cigarettes until it stopped completely. But after that, I smoked again. Which made me last because I lived with my parents. People in my house don't smoke. I went back to smoking because I was surrounded by friends who were smokers and no longer lived with my parents, (I) wanted to smoke because of personal intentions." (participant 4)

The action of quitting smoking was conducted by seven participants using strategies to reduce the number of cigarettes consumed and the frequency of smoking and deliberately saving to reduce the expenditure of buying cigarettes. The participants realised that quitting smoking spontaneously without a strategy of reducing the number of cigarettes was difficult. Here is an excerpt of the participant's interview:

"I reduce cigarettes, which are usually 5 to 2 cigarettes only. Stopping spontaneously is very difficult especially if you are addicted." (participant 8)

"... I set aside money for it to reduce the amount of money spent on cigarettes. I then only smoke twice a day. In morning and afternoon while drinking coffee, one cigarette each." (participant 7)

Two other participants carried out a different strategy. If the seven previous participants carried out a strategy of reducing the number of cigarettes smoked,

participants 3 and 9 decided to stop smoking behavior completely. Here is an excerpt of the interview between the two participants:

"There is no strategy. Stop right away. Once there is an intention, immediately stop smoking without any reduction efforts" (participant 3)

"No preparation" (participant 9)

Both participants argued that the strategy to reduce cigarette numbers was ineffective at resisting smoking cravings and addictions. The act of quitting smoking should be based on solid intentions and not just imitate other friends who quit smoking. In addition, the experience of coughing up blood became a powerful stimulus for participants 3 to be able to quit smoking. Here is an excerpt of the participant's statement:

"If it has stopped, it is better to stop next. Total stop. If you go back to smoking, you will continue to smoke again. The coughing experience had made me think that this was God's rebuke. If I continue to smoke, I will experience more severe pain. So I decided to quit." (participant 3)

"Intention is the most important part. There must be the intention to earnestly stop... Now I strongly intend to stop. Quitting smoking requires intent and struggle. If anyone offers cigarettes, we should be able to restrain ourselves." (participant 9)

This research specifically investigated four change processes experienced by participants to quit smoking. Here are the details of the change process:

1. Contingency Management

Management is likely to change towards the maintenance stage of behavioral change by rewarding healthy behaviors or reducing rewards for unhealthy behaviors. For example, the self-reward given by participants consisted of buying healthier foods using money usually used to buy cigarettes and giving rewards to themselves for successfully quitting smoking. Here is an excerpt of the interview results:

"Every day eats as good as meat. So the money for cigarettes is used to buy good food." (participant 1)

"Reward yourself by saying "it can be!" (participant 5)

2. Helping Relationships

Helping relationship is a process of change characterized by efforts to find and get support from trusted people in maintaining changes in smoking behavior. The support of closest people, such as parents, friends, and girlfriends, was a driving factor for six out of nine participants in stopping their smoking behavior. Here is one excerpt from the interview:

"So during courtship, my girlfriend made an impact by ordering me to stop smoking. Because of my love for her, I tried to change. In addition, mama once reprimanded me while looking in the teary eyes and it was touching. Then there are Christian Students Community (PMK) friends who accept me for who I am."
(participant 1)

3. Counter Conditioning

Counter conditioning in smoking behavior is a process of behavior change with alternative behaviors that support behavior change. For example, seven out of nine participants carry out smoking cessation strategies by exercising, saving, gardening, consuming sweets, milk, or aqua instead of smoking behavior. Sports activities, saving, gardening, and consuming sweets, milk, or aqua aim to distract them from cigarettes, reduce sour taste and reduce the aroma of cigarettes in the mouth. Here is an excerpt of the interview results:

"I reduce cigarettes by doing other activities that make me not focus on cigarettes, for example by exercising, usually afternoon running." (participant 1)

"Perhaps the first, drink milk every day, replace cigarettes with sweets or drink bottled aqua water in place of cigarettes. The goal is to get rid of the sour taste and aroma of cigarettes in the mouth." (participant 4)

"Another business is saving money and looking for other activities, such as gardening." (participant 5)

4. Stimulus Control

Stimulus control in smoking behavior change is a process of change by removing things that stimulate smoking behavior. Four of the nine participants described the act of removing lighters and ashtrays that became the participant's stimulus for smoking. Then there was the effort to stay away from the association of friends who smoke not to be a stimulus for participants to return to smoking. Here is an interview excerpt:

"If I want to quit smoking, I reduce the time to meet with other smokers' friends. I avoided the gathering..." (participant 1)

"I once threw away a lighter. Three ashtrays I had, I gave to another friend. It became a stimulus for smoking..." (participant 4)

Discussion

The stage of action is the first six months the individual takes action to quit smoking behavior. The results showed that all participants had taken action to quit smoking. Six participants performed a smoking cessation action with a strong commitment as they went through the preparatory stage. Meanwhile, three other participants took action to stop smoking without a firm commitment. Two participants (participants 1 and 3), who went through the preparatory stage, managed to quit smoking for more than six months, while the other four participants were still in the process of quitting during the first six months (participants 2, 6, 7, and 9). In contrast, three participants (participants 4, 5, and 8) who did not go through the preparatory stage relapsed.

This research found a contradiction between participants' knowledge and their behavior. Although smokers' knowledge of the dangers of smoking is well categorized, because of psychological feelings that assume that smoking behavior benefits, then smokers tend to find it challenging to stop smoking behavior. Participants explicitly stated that smoking helped them reduce stress, sought inspiration, and facilitated socialization with other fellow smokers. These psychological feelings plus the addictive effects and social effects of fellow smokers became obstacles for smokers in this study to change smoking behavior.

The smoker's environment had a significant influence on the three participants returning to smoking. Environmental factors, i.e. the influence of fellow smokers, can be the most substantial factors that inhibit changes in smoking behavior in individuals. The inability of smokers to stop smoking behavior is influenced by the desire to smoke because they see a friend smoking, influenced by fellow smokers, and gain acceptance in the association of smokers (Deve, Romeo, & Ndoen, 2019). The biggest obstacle to quitting smoking is fellow smokers (Wibowo, 2017). The

influence of the social environment that forms smoking habits will first be the most decisive inhibitory factor in the efforts to change smoking behavior (Safitri *in* Rohayatun et al., 2015)

This study also indicated that the absence of a preparatory stage played an essential role in participants' relapse. The preparatory stage is vital to demonstrate an individual's intention and commitment to change smoking behavior. The desire to smoke is greater than the intention to quit smoking. The act of quitting smoking is based only on the feeling of trial and error because it sees other smokers who manage to quit smoking. As a result, smokers would be more likely to ignore the driving factors of behavioral change, such as knowledge of the dangers of smoking, experiences of smoking pain, economic losses due to cigarettes, and the close people support at this stage of action. Similarly, the application of smoking cessation strategies can be ineffective for smokers to change their smoking behavior.

The study mainly found that participants experienced the following four change processes in the action stage:

1. Contingency Management

Contingency management is rewarding oneself when successfully conducting healthy behaviors and punishing if conducting unhealthy behaviors. For example, participants rewarded themselves for successfully stopping smoking by praising or treating themselves with healthier and tastier foods.

Having recognition is a motivation that encouraged participants to be more enthusiastic about quitting smoking. In addition, rewards can help smokers to see cigarettes as less attractive. As a result, this new view will ultimately help smokers reduce the frequency of smoking and maintain smoking cessation from relapse (Wibowo & Christiana, 2016)

2. Helping Relationships

Helping relationships is the support that individuals receive from others when doing healthy behaviors. The results showed that most participants received support from close people, such as parents, friends, spiritual groups, and girlfriends

when quitting. In addition, the support had a positive influence on the process of changing smoking behavior in participants.

The supports received by participants at the action stage included information support, emotional support, and reward support. Information support included providing advice, guidance, and advice from those closest to the participant to quit smoking. Smokers will more quickly receive informational support from those closest to them, shaping their intentions and actions to change behavior (Yulianti, 2019). Reward support received by participants was from the nearest person as long as the participant is quitting smoking. Reward support occurred through positive expressions or positive rewards for participants, encouragement to continue to quit smoking, and agreement on participants' feelings and thoughts in various strategies implemented to quit smoking. Emotional support encompassed empathy, attention, and willingness to listen and understand when the participant needed a friend for sharing. Emotional support will provide a sense of comfort for smokers not to think about smoking again (Deve, Romeo, & Ndoen, 2019; Yulianti, 2019). All forms of support will reduce the psychologically adverse effects of quitting smoking, such as anxiety, stress, and discomfort.

3. Counter Conditioning

Counter conditioning is the process of change by replacing unhealthy behavior with alternative behaviors that support behavior change. For example, in this study, the alternative behavior of smokers was to consume more sweets, milk, and mineral water than usual. Other alternative behaviors included saving, exercising, and gardening.

The process of replacing smoking behavior with alternative behavior allowed participants to maintain smoking cessation efforts. Alternative behaviors will give smokers a grace period to smoke again to reduce the amount of cigarette consumption per day. This effort can make smokers last longer in activities without smoking even though previously very addicted to cigarettes (Ilham, 2015; Elfa, 2016 *in* Sari et al., 2019).

4. Stimulus Control

Stimulus control is the process of change by removing things that stimulate unhealthy behavior or adding reminders to improve healthy behavior. For example, the participant's action in this change process is to remove ashtrays and lighters that can stimulate the desire to smoke. In addition, another measure is to limit or avoid association with smokers.

Stimulus control can be an effective process of change if smokers control what stimulates smoking behavior. Determining the right stimulus control strategy will significantly determine the success of maintaining changes in smoking behavior. The results showed that spending time with fellow smokers became the most significant stimulus to relapse. Fellow smokers appear to be likely as a stimulus to smoking and an obstacle to smoking cessation. The difficulty of refusing offers of cigarettes from fellow smokers makes smokers who are in the action stage of changing smoking behavior choose to stay away from the association of their fellow smokers (Amaliah et al., 2018). Therefore, efforts to reduce the intensity of meeting with fellow smokers are stimulus control strategies considered appropriate by participants to maintain changes in smoking behavior.

Conclusion

This study found that four behavioral change processes, namely management contingency, helping relationships, counter conditioning, and stimulus control, play an essential role in the smoking cessation process in the action stage. The process of change that occurs at the stage of action becomes a defense for participants in this study to quit smoking. Thus, interventions of changes in smoking behavior need to pay attention to the involvement of the four processes of change in the stage of action to encourage smokers can altogether quit smoking. Interventions also need to direct smokers to go through the stage of preparing for change. The intention and commitment to action formed in the preparation stage will become a foundation for smokers to initiate changes in smoking behavior.

Suggestion

Health students as agents of change are also good role models in health behavior to the community. Cooperation between the government and health officials is necessary to facilitate information and policies on smoking cessation strategies. Health practitioners, in particular, can improve the use of mass media and social media to disseminate information about smoking behavior in the community.

Reference

- Amaliah, H. R., Widjanarko, B., & Jati, S. P. (2018). Studi analisis tahap pembentuk efikasi diri dalam upaya berhenti merokok pada klien klinik berhenti merokok di balkesmas wilayah Semarang. *Public Health Science Journal*, 10(2), 138–147. <https://doi.org/10.24252/as.v10i2.6052>
- Anwar, S. (2017). *Perilaku mahasiswa jurusan Ilmu Perpustakaan dalam menyelesaikan tugas-tugas mata kuliah*. (Thesis). Fakultas Adab dan Humaniora, UIN Allaudin, Makassar. [http://repositori.uin-alaudind.ac.id/4567/1/SAIFUL ANWAR.pdf](http://repositori.uin-alaudind.ac.id/4567/1/SAIFUL%20ANWAR.pdf)
- Badar. (2015). Perilaku merokok pada mahasiswa Diploma III Keperawatan. *Husada Mahakam*, 4(1), 1–10. <http://husadamahakam.poltekkes-kaltim.ac.id/ojs/index.php/Home/article/view/14>
- Deve, E. F., Romeo, P., & Ndoen, E. M. (2019). Faktor predisposisi dan pendorong perilaku merokok siswa remaja SMA. *Journal of Health and Behavioral Science*, 1(4), 207–215. <https://doi.org/10.35508/jhbs.v1i4.2105>
- Irianty, H., & Hayati, R. (2019). Gambaran perilaku merokok pada mahasiswa Fakultas Kesehatan Masyarakat (FKM) di Kampus XXX. *Ilmiah Manusia dan Kesehatan*, 2(2), 306–321. <http://jurnal.umpar.ac.id/index.php/makes>
- Kholid, A. (2018). *Promosi kesehatan dengan pendekatan teori perilaku, media, dan aplikasinya*. Jakarta: PT Raja Grafindo Persada
- Putri, R. M., & Maemunah, N. (2017). The role of education in improving the knowledge of children about the importance of vegetables. *Jurnal Keperawatan*, 8(1), 54–64. https://www.researchgate.net/profile/Ronasari-Putri/publication/326844035_Jurnal_Keperawatan/links/5b68cc97a6fdcc87df6d6077/Jurnal-Keperawatan.pdf
- Rohayaton, Saptiko, & Yanti, S. (2015). Faktor-faktor yang mendukung dan menghambat perokok untuk berhenti merokok di klinik berhenti merokok Puskesmas Kampung Bali Pontianak. *Jurnal Cerebellum*, 1, 266–276. <http://jurnal.untan.ac.id/index.php/jfk/article/view/21289>

- Salawati, T., & Amalia, R. (2010, January). Perilaku merokok di kalangan mahasiswa Universitas Muhammadiyah Semarang (smoking behaviour among students in UNIMUS). In *Prosiding Seminar Nasional & Internasional* (Vol. 2, No. 1)
- Saputra, A. M., & Sary, N. M. (2012). Konseling model transteoritik dalam perubahan perilaku merokok pada remaja. *Jurnal Kesehatan Masyarakat Nasional*, 8, 152–157. <http://dx.doi.org/10.21109/kesmas.v0i0.392>
- Sari, S. M., Trisna, T., & Rasyid, T. A. (2019). Konsumsi permen susu mempengaruhi penurunan konsumsi rokok pada remaja. *Jurnal Ners Indonesia*, 9(1), 191. <https://doi.org/10.31258/jni.8.2.191-202>
- Trisnowati, H., & Nurchasanah, S. (2017). Gambaran pemodelan perilaku merokok remaja. *Medika Respati*, 12, 113-129. <https://www.researchgate.net/publication/316738345>
- WHO. (2014). *Global Youth Tobacco Survey (GYTS) Indonesia report*. Retrieved from <https://apps.who.int/iris/handle/10665/205148> Tanggal 10 Maret 2021
- Wibowo, F. A. (2016). Penerapan strategi self-management untuk mengurangi frekuensi merokok pada siswa kelas VIII di SMP Negeri 16 Surabaya. *Jurnal BK UNESA*, 6(2), 1-7. <https://jurnalmahasiswa.unesa.ac.id/index.php/jurnal-bk-unesa/article/view/14673>
- Wibowo, M. (2017). Perspektif hambatan terhadap kemungkinan remaja berhenti merokok. *Unnes Journal of Public Health*, 6(2), 137-140. https://www.researchgate.net/publication/320102709_PERSPEKTIF_HAMBATAN_TERHADAP_KEMUNGKINAN_REMAJA_BERHENTI_MEROKOK
- Yulianti, I. D. (2019). *Identifikasi perilaku merokok, dukungan sosial dan motivasi berhenti merokok pada mahasiswa kesehatan*. (Unpublished Doctoral dissertation). Fakultas Ilmu Kesehatan, Universitas Muhammadiyah, Malang.
- Yosantaraputra Y., Yanwirasti, Y., & Abdiana, A. (2014). Gambaran pengetahuan dan sikap mahasiswa Fakultas Kedokteran Universitas Andalas tentang rokok. *Jurnal Kesehatan Andalas*, 3(3), 499–505. <https://doi.org/10.25077/jka.v3i3.189>