

The Effect of Lung Cancer Prevention Education on Adolescent Smokers with Knowledge Deficits Using Audiovisual Media

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ABSTRACT

Purpose: Lung cancer is a malignant disease and remains one of the leading causes of death worldwide. One of the primary risk factors for lung cancer is smoking. Among adolescents, smoking habits are becoming increasingly common, influenced by peer pressure, media exposure, and lack of awareness about the health risks. This trend presents a significant challenge for healthcare providers, particularly nurses, to deliver effective health education aimed at lung cancer prevention. Enhancing adolescents' knowledge and awareness through appropriate health education methods is essential to encourage healthy behaviors and reduce the risk of lung cancer in the future. **Method:** This study utilized a descriptive research design with a case study approach. The subjects consisted of 32 students from SMPN 07 Cibitung who met the inclusion criteria: adolescents who had never received information regarding the dangers of smoking and who voluntarily agreed to participate in the study from beginning to end. Audiovisual media was used as the primary educational tool during the intervention. **Results:** The findings showed a notable improvement in the knowledge of the respondents after the health education was delivered. Of the 32 participants, 6 respondents (19%) achieved a moderate level of knowledge, while the majority—26 respondents (81%)—demonstrated a good level of knowledge regarding lung cancer prevention and the dangers of smoking. **Conclusions:** The results indicate that the use of audiovisual media in health education is effective in increasing adolescents' knowledge about lung cancer prevention. This method can be considered a valuable tool for nurses and educators in promoting healthy lifestyles and preventing smoking-related diseases among young people.

Keywords: Audiovisuals, lung cancer, smokers, teenagers

Introduction

In today's era, smoking has become a common habit for many Indonesian citizens, without considering the dangers of cigarette smoke to themselves and those around them. In addition, the increasing number of Indonesians using vehicles contributes to air pollution, which leads to certain diseases, one of which is lung cancer. Lung cancer is a malignancy in the lungs caused by genetic changes in the epithelial cells of the respiratory tract, resulting in uncontrolled cell proliferation. This malignancy can originate from the lungs themselves (primary) or from other organs (metastasis), (Junita & Linda, 2020). According to the World Health Organization (2022), the leading cause of cancer-related deaths in 2020 was lung cancer, with 1.80 million deaths. The number of tobacco smokers in Indonesia is among the highest in the world, with a large proportion of young smokers aged 14-15 years.

According to the Global Cancer Observatory (2022), the death rate from lung cancer in Asia in 2022 reached 7.8%, with a population of 1.85 million deaths, ranking third. In Indonesia, in 2022, the death rate from lung cancer reached 14.1%, with a population of 38,904 deaths. The prevalence of active smokers in Indonesia continues to rise. The 2023 Indonesian Health Survey (SKI) conducted by the Ministry of Health (Kemenkes) estimates that the number of active smokers reached 70 million, with 7.4% of them being smokers aged 10-18 years. The group of children and adolescents represents the most significant increase in the number of smokers. Based on data from the 2019 Global Youth Tobacco Survey (GYTS) in Asia, the prevalence of smoking among schoolchildren aged 13-15 years increased from 18.3% (2016) to 19.2% (2019). Meanwhile, the 2023 SKI data shows that the age group 15-19 years represents the largest group of smokers (56.5%), followed by the age group 10-14 years (18.4%). The prevalence of adolescent smokers aged 15-24 years in Bekasi in 2022 was 11.56% (Central Statistics Agency of Bekasi Regency, 2022).

According to research by Indra and Dwi (2022) in the Journal of Medicine and Health, risk factors that increase the likelihood of lung cancer include behaviors, substances, and conditions. Most cancers are the result of multiple risk factors. Smoking is the largest risk factor for lung cancer. Men are more frequently affected by lung cancer than women; however, the incidence of lung cancer in women is also relatively high. According to Dewi & Kartika (2022) in the Journal of Comprehensive Science, the high intention of adolescents to experiment in life, along with many engaging in negative behaviors such as smoking, is a reason why they become regular smokers and eventually develop a nicotine addiction. In addition, cigarette advertisements are designed to be attractive and creative, with themes of friendship and togetherness, which can influence people to smoke. Smoking is seen as a symbol of masculinity, being trendy, optimistic, creative, critical, and a source of pride, which encourages adolescents to smoke.

In research by Indah (2021) with the title *The Effect of Health Education on Knowledge About the Dangers of Smoking Using Audiovisual Media Among Students of SMPN 8 Padang Sindimpuan*, involving a population of 198 people and a sample of 66 students from SMPN 8, the majority of respondents were male (60.6%) and female (39.4%). This research aims to increase students' awareness of the dangers of smoking, so they can avoid smoking behaviors among adolescents. Based on the research prior to health education, it was found that, of the 66 respondents, the majority (43.9%) had insufficient knowledge of the dangers of smoking, while 50% had adequate knowledge. The results of this research showed that health education has an impact on students' knowledge of the dangers of smoking. Based on surveys conducted at SMPN 07 Cibitung, a case was found where nine male students were caught smoking in the school area before school started. These students were called by the student affairs teacher and given a sanction

to write a statement that they would no longer smoke. If they violated this rule again, they would be summoned with their parents and expelled from the school.

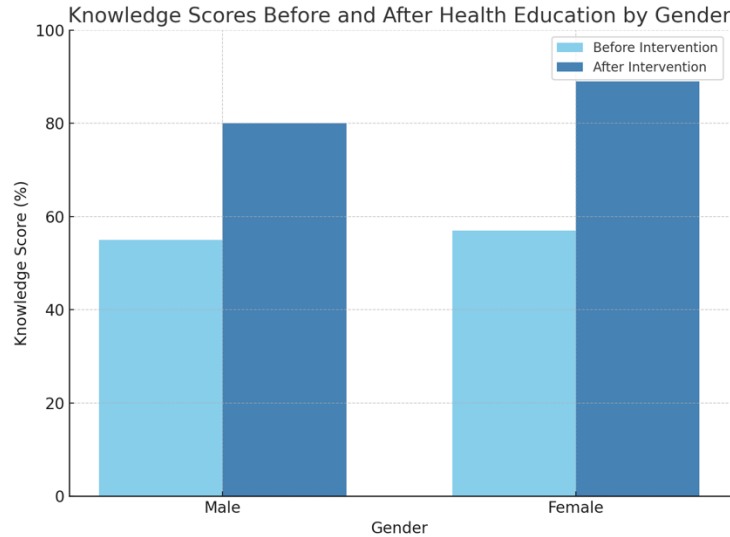
The role of nurses in reducing the high proportion of death rates due to smoking requires innovative intervention approaches to prevent smoking among adolescents. One of the efforts to reduce smoking addiction among adolescents is to modify the method of delivering information and education through audiovisual media about the dangers of smoking to increase knowledge, build self-awareness, and help adolescents understand their environment. This aims to increase knowledge and develop a positive attitude towards preventing and reducing smoking addiction, so that nurses can play a curative role by providing education on the prevention of lung cancer in adolescent smokers with knowledge deficits, using audiovisual media. The expected outcome is that the respondents will be able to apply lung cancer prevention methods for adolescent smokers at SMPN 07 Cibitung. Based on the prevalence data, the researcher is interested in conducting a case study titled "The Effect of Health Education on Lung Cancer Prevention in Adolescent Smokers with Knowledge Deficits Using Audiovisual Media."

Method

The instrument used in this study is a questionnaire developed by Ali Ma'ruf (2019), which focuses on assessing adolescents' knowledge regarding lung cancer caused by smoking. The questionnaire consists of 15 multiple-choice questions, where respondents are required to select one of the four available options (a, b, c, or d). Tolong translate ke dalam bahasa indonesia. The knowledge level of respondents will be measured using a predefined scoring system. The scoring system for assessing knowledge is as follows: "Good" knowledge is indicated by a score of 76-100%, corresponding to 12-15 correct answers. "Adequate" knowledge is indicated by a score of 56-75%, corresponding to 9-11 correct answers. "Poor" knowledge is indicated by a score of less than 55%, corresponding to 1-8 correct answers. This scoring system allows for the categorization of the respondents' knowledge levels, providing insights into the extent of their understanding of the relationship between smoking and lung cancer. By utilizing these categories, the study aims to identify adolescents who may have insufficient knowledge about the dangers of smoking, thereby highlighting areas where targeted educational interventions are needed. In addition to evaluating knowledge, the questionnaire also serves as a tool to measure the effectiveness of educational programs in improving awareness about lung cancer and its link to smoking. The data collected will be analyzed statistically to assess the impact of health education interventions on the adolescents' understanding, ultimately guiding strategies for better prevention and health promotion in this demographic.

Results

Based on the data obtained from 32 respondents, there was a difference in the scores before and after the health education intervention, with an average score of 55% before the intervention and an average score of 84% after the intervention.



Based on the classification of gender, there was a difference in the knowledge levels between males and females. The average score before the health education intervention was 55% for males and 57% for females, while the average score after the health education intervention was 80% for males and 89% for females.

Discussion

Based on the results of the research conducted on the *Influence of Lung Cancer Prevention in Adolescent Smokers with Knowledge Deficit Using Audiovisual Media*, the researcher obtained data before and after health education was provided. This is in line with the theory stating that the goal of this study is to determine adolescents' knowledge regarding lung cancer prevention after being given health education.

Based on the results, the research shows that in Table 4.1, the characteristics of respondents based on age show that 19 respondents (55%) were 14 years old and 13 respondents (45%) were 15 years old. Adolescents in this age group typically have a great curiosity, and the earlier they receive information, the easier it is for them to absorb it. This level of knowledge refers to recalling what was learned or the stimuli that were received. One factor that can influence a person's knowledge is information.

To reduce the high proportion of death and illness rates due to smoking, innovative efforts in smoking prevention interventions for adolescents are required. One innovative method offered is health promotion through audiovisual media about the dangers of smoking to help adolescents better understand themselves and their environment (Bahtiar & Rahardja, 2017). The characteristics of respondents based on gender in Table 4.2 show that the majority were male, with 17 male respondents (53%) and 15 female respondents (47%). There was a difference in results before and after health education on lung cancer prevention in adolescent smokers using audiovisual media. Males achieved an average score of 55%, while females achieved an average score of 57%. After health education was provided, males achieved an average score of 80%, while females achieved an average score of 89%.

This research is in line with the study by Riandany Natakusuma Shabir (2020). The most prominent knowledge level based on gender was among females. More female adolescents became respondents with better knowledge results. This occurred because, in general, female adolescents

tend to understand information more quickly, especially information they perceive as important. Based on Table 4.3, the research results show that the knowledge level before health education had an average score of 55% (poor category), while the knowledge level after health education had an average score of 84% (good category).

The results of this study align with the research conducted by Elok Nuradita and Maryam (2013), where the knowledge level of students regarding the dangers of smoking before health education was mostly in the medium category, with 39 respondents (69.6%). After health education, the majority of students had high knowledge, with 33 respondents (58.9%). Based on the questionnaire results on knowledge levels in Table 4.2, it shows that 32 respondents experienced a significant increase in knowledge after receiving education on lung cancer prevention using audiovisual media, with an average score of 55% before the health education and an average score of 84% after the health education on lung cancer prevention through audiovisual media. This data aligns with the research conducted by Indah Lestari (2021), which reported an increase in average scores from the pretest (43.9%) to the posttest (50.0%). The knowledge level after health education through audiovisual media was higher than before the health education.

Health education is a form of independent nursing action to assist clients, both individuals and communities, in addressing their health issues through learning activities in which nurses act as educators (Indah Lestari, 2021). Based on research conducted by Sarmaida (2019), the influence of health counseling using audiovisual media on increasing motivation to quit smoking was more significant because it attracted people's attention, stimulating enthusiasm to obtain information and making it easier to absorb compared to printed media. This resulted in higher motivation scores in individuals who received counseling using audiovisual media compared to those who received counseling through printed media.

Based on the above explanation, it can be concluded that the 32 respondents showed a significant increase in knowledge after receiving health education through audiovisual media. There were 6 respondents in the adequate category and 26 respondents in the good category. This study is consistent with the research conducted by Indah Lestari (2021), Dewi Sartika, et al. (2022), and Fifiani Yuli Astuti (2023), where in all three studies, there was an increase in knowledge about the dangers of smoking among adolescents using audiovisual media.

Conclusion

Based on the research results and discussion in the previous chapter, the aim of the study has been achieved, showing that there is an effect of lung cancer prevention education on adolescent smokers with knowledge deficits using audiovisual media. The results revealed that before the health education was conducted, the knowledge level of the students at SMPN 07 Cibitung was as follows: 18 students (56%) had insufficient knowledge, and 14 students (44%) had adequate knowledge. After the health education on lung cancer prevention for adolescent smokers using audiovisual media, there was an increase in knowledge levels, with 6 students (19%) having adequate knowledge, and 26 students (81%) having good knowledge. From the research conducted at SMPN 07 Cibitung, it can be concluded that there is an effect on the knowledge level of adolescents after the health education on lung cancer prevention for adolescent smokers using audiovisual media. The knowledge level increased from insufficient and adequate categories to good. Therefore, the research on lung cancer prevention for adolescent smokers using audiovisual media can be recommended to enhance adolescents' knowledge.

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