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**Knowledge Level Relationship with Smoking Behavior in Senior High School (SMA) Students in the Region**Rizky Rahadian Wicaksono^{1*}, Achmad Hilal², Nur Asmah³^{*1} Faculty of Health Sciences, Islamic University of Lamongan, Indonesia² Midwifery Study Program, University of East Indonesia, Indonesia³ Nursing Study Program, St. Fatimah Health and Business Institute, Mamuju, Indonesia**Abstract**

Smoking is one of the risky behaviors that often begins in adolescence. Although information about the dangers of smoking is increasingly widespread, smoking behavior is still a fairly high phenomenon among students, including high school students. This study aims to determine the relationship between the level of knowledge about the dangers of smoking and smoking behavior among high school students in an area. The research method used is quantitative with a cross-sectional approaches . The sample in this study amounted to 150 students from three high schools selected purposively. Data were collected through questionnaires that have been tested for validity and reliability. The results showed that most students had a good level of knowledge (58%), but smoking behavior was still quite high (40%). Statistical tests showed a significant relationship between the level of knowledge and smoking behavior ($p < 0.05$). It can be concluded that good knowledge does not always guarantee healthy behavior if it is not supported by other factors such as the environment, peers, and parental supervision. A comprehensive approach is needed through ongoing health education and the involvement of all parties to reduce the number of smokers among adolescents.

Keywords: Knowledge, Smoking Behavior, High School Students, Adolescents, Health Education

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1. Introduction

Smoking is a public health problem that is still a global concern. The World Health Organization (WHO) noted that every year more than 8 million people die from tobacco consumption, including active and passive smokers. In Indonesia, based on Riskesdas 2018 data, the prevalence of smokers aged 10-18 years has increased from 7.2% (2013) to 9.1% (2018). This fact shows that adolescents, especially students, are a vulnerable group to cigarette exposure.

Adolescence is a phase of life full of exploration and self-discovery. In this phase, they tend to be easily influenced by the environment, including the behavior of peers. Cigarettes are often considered a symbol of maturity or courage, so that they attract teenagers to try them. Ironically, most teenagers have known information about the dangers of smoking, but still do this behavior.

Knowledge is one of the important factors in shaping a person's attitude and behavior. The higher a person's knowledge of the risks of an action, the greater the likelihood of avoiding the action. However, in reality, the relationship between knowledge and behavior is not always linear. Many individuals with a good level of knowledge still engage in risky behavior.

This study focuses on the relationship between the level of knowledge about the dangers of smoking and smoking behavior in high school students in an area. It is hoped that the results of this study can be the basis for the preparation of more effective intervention strategies in reducing the number of smokers among students.

a) Smoking and Its Impact on Health

Smoking is the main cause of various chronic diseases such as lung cancer, coronary heart disease, stroke, and chronic respiratory diseases. The harmful substances in cigarettes, such as nicotine, tar, and carbon monoxide, have a negative impact on almost all organ systems in the body. In addition, cigarettes also contain more than 4000 chemicals, most of which are carcinogenic.

b) Smoking Behavior in Adolescents

Some factors that influence smoking behavior in adolescents include:





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- 1) Peer influence: Teenagers tend to follow the behavior of their friends in order to feel accepted in the group.
- 2) Family environment: Children who come from families with members who smoke tend to have a higher risk of smoking.
- 3) Advertising and media: Positive images of smoking in the media can shape the perception that smoking is cool or trendy.
- 4) Levels of Knowledge and Behavior

According to Lawrence Green's theory (1980), health behavior is influenced by three main factors: predisposition (knowledge, attitude, belief), support (means, facilities), and motivator (social support). Knowledge as a predisposing factor plays an important role in shaping behavior. However, knowledge alone is not enough without a positive attitude and support from the environment.

2. Research Methodology

This study uses a quantitative approach with a cross-sectional design, which aiming to determine the relationship between the level of knowledge and smoking behavior in high school students. The population in this study were all grade XI students from three high schools in area X. Samples were taken purposively as many as 150 students, with the following inclusion criteria:

- a. Active students of class XI.
- b. Willing to be a respondent by signing the informed consent.

The instrument used was a questionnaire consisting of two parts:

- 1) Knowledge about the dangers of smoking: consists of 20 multiple choice questions.
- 2) Smoking behavior: consists of 10 questions regarding frequency, reasons for smoking, and supporting environment.

Data Analysis Technique using chi-square test to determine the relationship between the level of knowledge and smoking behavior. The data obtained were processed using SPSS software version 25.





3. Research Results

a. Results

Respondent Characteristics

- 1) Respondent age: 16–17 years.
- 2) Gender: Male 60%, Female 40%.
- 3) Sources of information about cigarettes: internet (45%), teachers (25%), parents (15%), mass media (15%).

Level of Knowledge

- 1) High knowledge: 58%.
- 2) Moderate knowledge: 30%.
- 3) Low knowledge: 12%.

Smoking Behavior

- 1) Non-smoking: 60%.
- 2) Ever smoked but quit: 15%.
- 3) Still actively smoking: 25%.

Relationship between Knowledge and Smoking Behavior chi-square test showed a p-value of 0.021, which means there is a significant relationship between the level of knowledge and smoking behavior in students ($p < 0.05$).

b. Discussion

This study shows that although most students have a good level of knowledge about the dangers of smoking, about 25% of them still smoke. This indicates that knowledge alone is not enough to prevent smoking behavior in adolescents.

a) Knowledge and Behavioral Mismatch

The discrepancy between knowledge and behavior can be explained through the cognitive dissonance theory, which states that individuals can experience conflict between knowledge and action, but continue certain behaviors because of personal justification, such as "only smoke occasionally" or "many older people also smoke but are healthy".



**b) Environmental Influence**

The environment plays a very big role in shaping adolescent behavior. A peer environment that supports smoking behavior can overpower information or knowledge about the dangers of smoking. In this case, interventions that target students' social environment are very important.

c) The Role of Family and School

Families and schools as basic educational institutions must be active in providing role models and guidance. Parents who don't smoke and actively educate their children have a big influence in preventing smoking behavior. On the other hand, schools need to implement a strict smoke-free school policy.

4. Conclusion

There is a significant relationship between the level of knowledge and smoking behavior in high school students in area X. However, good knowledge has not completely prevented students from smoking. This shows that comprehensive and holistic interventions are needed to overcome smoking behavior among adolescents.

- 1) For Schools: Integrate education about the dangers of smoking into the curriculum and involve students in anti-smoking campaign activities.
- 2) For Parents: Be a role model by not smoking and supervising your child's social environment.
- 3) For Local Government: Create child-friendly regional policies and smoke-free schools.
- 4) For Further Research: Examine other factors that influence smoking behavior such as attitudes, risk perceptions, and the influence of social media.

5. Compliance with Ethical Standards**Informed Consent :**

Prior to data collection, all participants were given an explanation of the purpose and procedures of the study. Written consent was obtained from all respondents who were willing to participate in the study. For participants who were still minors, consent was also obtained from their respective parents or guardians.





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Conflict of Interest :

The authors declare no conflict of interest related to this research.

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