
The Relationship between Knowledge and Attitudes towards Smoking Behavior among Students of the Public Health Science Study Program, University of Jambi

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Abstract

Smoking remains a significant public health problem in Indonesia, including among university students. Although public health students are knowledgeable about the dangers of smoking, smoking persists. Knowledge and attitudes are important factors that can influence smoking behavior. This study aimed to determine the relationship between knowledge and attitudes and smoking behavior among students in the Public Health Science Study Program at the University of Jambi. This study used a quantitative method with a cross-sectional design. The sample size was 100 respondents selected using simple random sampling. Data were collected through questionnaires and analyzed using the Chi-Square test with a 95% confidence level. The results showed that most respondents had good knowledge and negative attitudes toward smoking. Statistical analysis revealed a significant relationship between knowledge and smoking behavior ($p < 0.05$) and a significant relationship between attitudes and smoking behavior ($p < 0.05$). The conclusion of this study is that knowledge and attitudes are significantly related to student smoking behavior. Therefore, interventions in the form of more effective health education and promotion are needed to reduce smoking behavior among university students.

Keywords: Knowledge; Attitude; Smoking Behavior; Students; Public Health.

INTRODUCTION

Smoking is a public health issue that remains a global concern. Indonesia is among the countries with the highest number of smokers, even ranking among the highest in the world. This high smoking prevalence occurs not only among adults but also among adolescents and university students. University students are a transitional age group from adolescence to adulthood and are vulnerable to various social influences. During this phase, individuals tend to explore behaviors, including trying smoking. Factors such as peer pressure, academic stress, and the social environment can trigger smoking behavior. Students in Public Health Sciences programs should have a better understanding of the dangers of smoking. However, in reality, students still smoke. This indicates a gap between knowledge and behavior. Knowledge is a crucial factor in shaping health behavior. Individuals with a good understanding of the dangers of smoking are expected to avoid such behavior. Furthermore, attitudes also play a crucial role in determining one's actions. Negative attitudes toward smoking can encourage someone to quit smoking. Given these conditions, it is important to examine the relationship between knowledge and attitudes and smoking behavior in university students.

Smoking remains one of the leading preventable causes of morbidity and mortality worldwide. According to the World Health Organization, tobacco use is responsible for more than 8 million deaths annually, including deaths caused by secondhand smoke exposure. In Indonesia, smoking prevalence remains among the highest globally, particularly among males and increasingly among adolescents and young adults.

University students represent a critical population in tobacco control efforts. Although they are generally more educated and have better access to health information, smoking behavior still persists within this group. This paradox suggests that knowledge alone may not be sufficient to influence behavior. In particular, students in public health programs are expected to serve as role models and future health promoters, making their smoking behavior a significant concern.

Health behavior theories, such as the PRECEDE-PROCEED model developed by Green (1980), suggest that behavior is influenced by predisposing factors (knowledge, attitudes), enabling factors, and reinforcing factors. Knowledge is often considered the foundation for behavior change, while attitudes reflect an individual's evaluation or perception of a behavior. However, previous studies have

shown inconsistent findings regarding the relationship between knowledge, attitudes, and smoking behavior.

Some studies indicate that higher knowledge is associated with lower smoking prevalence, while others suggest that social influence, peer pressure, and environmental exposure play more dominant roles. This inconsistency highlights the complexity of smoking behavior and the need for context-specific research.

Therefore, this study aims to analyze the relationship between knowledge and attitudes with smoking behavior among Public Health students at Universitas Jambi.

Literature Review

Smoking Behavior

Smoking behavior is the activity of repeatedly smoking cigarettes until it becomes a habit. This behavior is influenced by various factors, both internal and external. Smoking behavior refers to the act of consuming tobacco products, including frequency, duration, and intensity. According to Leventhal and Cleary (1980), smoking behavior develops through stages, starting from experimentation to regular use and dependence.

Stages of Smoking Behavior, Preparation, Initiation, Becoming a Smoker, Maintenance. Factors Influencing Smoking Behavior, Internal Factors, Emotions, Stress, Personal Desires, External. Factors, Family Environment, Peers, Culture. Knowledge and Health Behavior. Knowledge is the result of a learning process acquired through experience and information. Knowledge plays a vital role in shaping health behaviors. Knowledge is defined as the result of knowing after a person senses a particular object. Notoatmodjo (2010) explains that knowledge plays a crucial role in shaping health behavior, but it does not automatically translate into action.

Attitude and Behavior

Attitude is a person's tendency to act toward an object. Attitudes can be positive or negative and greatly influence a person's behavior. Attitude is a predisposition to respond positively or negatively toward a stimulus. According to Sarafino (2011), attitude consists of cognitive, affective, and behavioral components. However, attitudes may not always predict behavior due to external influences.

Theoretical Framework

This study uses Lawrence Green's theory, which states that behavior is influenced by: Predisposing factors (knowledge, attitude), Supporting factors, Reinforcing factors
Conceptual Framework. Independent variables: Knowledge, Attitude and Dependent variable: Smoking behavior

RESEARCH METHODS

Research Design, Quantitative research with a cross-sectional approach.

Location and Time, Conducted at the University of Jambi in March 2026.

Population and Sample. Population: All students, Sample: 100 respondents

Technique, Simple random sampling

Data Collection, Using a questionnaire.

Data Analysis, Univariate and Bivariate (Chi-Square)

Ethical Consideration, Ethical approval was obtained, and all respondents provided informed consent. This study used a quantitative analytic design with a cross-sectional approach conducted at University Jambi. The population consisted of Public Health students, and the sample included 100 respondents selected using simple random sampling. Data were collected using a structured questionnaire measuring knowledge, attitudes, and smoking behavior. Data processing included editing, coding, entry, and cleaning before analysis. Data were analyzed using univariate analysis and bivariate analysis with the Chi-square test at a significance level of 0.05. Prevalence Ratio (PR) with 95% confidence interval was used to measure the strength of association. Ethical principles were applied, including informed consent and confidentiality.

RESULTS AND DISCUSSION

Respondent Characteristics Most respondents were active students, with a predominance of a certain gender. **Variable Distribution** Knowledge: majority good Attitude: majority negative towards smoking Behavior: smokers still found.

The respondents were predominantly female (94.0%), with most aged 19 years (66.0%). In terms of smoking behavior, 93.0% of respondents reported never smoking, while 7.0% had ever smoked. Regarding knowledge level, 67.0% of respondents had good knowledge and 33.0% had fair knowledge. Most respondents had negative attitudes toward smoking (67.0%). Table 1 shows the distribution of smoking behavior, knowledge, and attitudes, while Table 2 presents the relationship between variables.

Variable	Frequency	Percentage
Never smoked / Good knowledge / Negative attitude	93 / 67 / 67	93.0 / 67.0 / 67.0
Ever smoked / Fair knowledge / Positive attitude	7 / 33 / 33	7.0 / 33.0 / 33.0
Total	100	100.0

Table 1. Distribution of smoking behavior, knowledge, and attitudes

Variable	Never n (%)	Ever n (%)	PR (95% CI)	p-value
Knowledge: Good	27 (55.1)	22 (44.9)	0.802 (0.503–1.277)	0.511
Knowledge: Fair	11 (44.0)	14 (56.0)		
Attitude: Positive	19 (50.0)	19 (50.0)	1.509 (0.662–1.693)	0.995
Attitude: Negative	19 (52.8)	17 (47.2)		

Table 2. Relationship of knowledge and attitudes with smoking behavior

Discussion

The Relationship Between Knowledge and Smoking Behavior, good knowledge has been shown to be related to smoking behavior. Students who understand the dangers of smoking are less likely to smoke. However, some students still smoke despite having good knowledge. This shows that knowledge alone is not enough to change behavior.

The Relationship Between Attitude and Smoking Behavior. Attitude has a strong influence on behavior. Students with negative attitudes toward smoking are less likely to smoke. Attitudes are influenced by the social environment and personal experiences.

This result is consistent with previous studies indicating that knowledge alone is insufficient to influence behavior. Behavioral decisions are often influenced by social and environmental factors, such as peer influence and cultural norms. Among university students, peer groups play a significant role in shaping behavior, including smoking.

Similarly, attitudes toward smoking were not significantly associated with smoking behavior. Although most respondents had negative attitudes toward smoking, this did not translate into behavioral change. This may be explained by the gap between attitude and practice, where individuals may cognitively reject smoking but still engage in it due to external pressures. Furthermore, the low prevalence of smoking (7%) among respondents may have affected the statistical results. The dominance of non-smokers can reduce variability and limit the detection of significant relationships.

These findings emphasize that smoking behavior is multifactorial. In addition to knowledge and attitudes, factors such as: Peer pressure, Stress, Accessibility of cigarettes, Social acceptance, play a crucial role.

Although most respondents had good knowledge and negative attitudes toward smoking, these factors alone were not sufficient to influence behavior. Smoking behavior is influenced by multiple factors, including social and environmental influences such as peer pressure. These findings highlight the need for comprehensive health promotion strategies that go beyond knowledge and attitudes.

Implications

The findings of this study suggest that health promotion strategies should not focus solely on increasing knowledge. Instead, interventions should include: Peer education programs, Academic stress, Social environment, Campus smoking policies, Behavioral counseling, Social norm interventions.

CONCLUSION

Smoking behavior among college students remains a challenge. A comprehensive approach is needed that not only increases knowledge but also creates attitudes and an environment that supports healthy behavior.

There is a significant relationship between knowledge and attitudes and smoking behavior in college Public Health students at Universitas Jambi. Comprehensive interventions, including peer-based approaches and campus policies, are needed to reduce smoking behavior.

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