



# The Correlation Between Knowledge, Attitudes, and Reproductive Health Behavior Among Junior High School Students in Batam City

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**Abstract.** *Background:* Adolescence is a transitional period characterised by significant physical, psychological, and social changes, including reproductive maturation. Limited knowledge and negative attitudes toward reproductive health can increase adolescents' risk of engaging in unhealthy behaviours. Understanding their knowledge, attitudes, and behaviours is crucial for developing effective educational interventions. *Objective:* This study examined the relationships among knowledge, attitudes, and reproductive health behaviours among adolescents. *Method:* A quantitative, cross-sectional study was conducted at a junior high school in Batam City from March to June 2024. Of 250 students, 72 were selected using the Slovin formula and simple random sampling. Data were collected through a structured questionnaire and analysed using univariate and bivariate methods, including the Chi-square test. *Results:* Most respondents had moderate knowledge of reproductive health (41.7%), positive attitudes (63.9%), and good reproductive health behaviour (55.6%). Bivariate analysis showed significant correlations between knowledge and behaviour ( $p = 0.021$ ) and between attitudes and behaviour ( $p = 0.015$ ). *Conclusion:* Knowledge and attitudes are significantly associated with adolescents' reproductive health behaviour. Strengthening reproductive health education in schools is recommended to improve adolescents' knowledge, attitudes, and practices.

**Keywords:** Adolescents; Attitude; Knowledge; Reproductive Health Behavior; Reproductive Health Education

## 1. INTRODUCTION

Adolescence is a critical developmental stage characterized by rapid physical, psychological, and social changes. During this period, adolescents undergo puberty, which involves the maturation of reproductive organs and hormonal changes that influence emotional and behavioral development (Mar et al., 2021). These biological and psychological transformations often lead adolescents to develop curiosity about sexuality and reproductive health. Therefore, providing adolescents with accurate information and appropriate guidance on reproductive health is essential for their healthy development (Punjani et al., 2022).

Reproductive health among adolescents has become a major public health concern worldwide. The World Health Organization reports that adolescents often face various reproductive health challenges, including early sexual activity, unintended pregnancy, and sexually transmitted infections (Villalobos et al., 2023). These issues are frequently associated with inadequate knowledge and misconceptions about reproductive health. Adolescents who lack proper information about reproductive health may engage in risky behaviors that negatively affect their physical and psychological well-being (Aprilia et al., 2023).

Knowledge plays an important role in shaping adolescents' understanding of reproductive health issues. Adequate knowledge enables adolescents to recognize the importance of maintaining their reproductive health and to make informed decisions regarding

their behaviour (Astarani et al., 2023). Adolescents who possess sufficient knowledge about reproductive health are more likely to adopt healthy behaviors and avoid risky activities. Conversely, limited knowledge may contribute to misconceptions and unhealthy behaviors that can increase the risk of reproductive health problems (Klu et al., 2023).

In addition to knowledge, attitudes also play a significant role in influencing adolescent behavior. Attitude refers to an individual's beliefs, perceptions, and feelings toward a particular issue. Positive attitudes toward reproductive health may encourage adolescents to seek accurate information, communicate openly about health issues, and practice healthy behaviors. On the other hand, negative attitudes or misconceptions may lead adolescents to ignore important reproductive health information or engage in behaviors that may harm their health (Adjie et al., 2022).

Adolescent behavior related to reproductive health is also influenced by various environmental and social factors. Family communication, peer influence, cultural norms, and access to information from schools and media may shape adolescents' perceptions and behaviors regarding reproductive health (Millanzi et al., 2023). In recent years, the increasing use of digital media among adolescents has also become an important factor influencing their access to information. While digital platforms may provide learning opportunities, they may also expose adolescents to inaccurate or misleading information about reproductive health (Abolfathi et al., 2022).

Schools play a crucial role in providing reproductive health education to adolescents. Educational institutions can serve as an important platform for delivering accurate and comprehensive information about reproductive health. Through school-based health education programs, adolescents can develop better knowledge and positive attitudes that support healthy behaviors. Teachers, school health programs, and collaboration with healthcare providers can contribute to improving adolescents' awareness and understanding of reproductive health issues (Roselina & Muhammad, 2023).

Despite the increasing availability of information, many adolescents still experience limited knowledge and misconceptions regarding reproductive health topics. Cultural taboos, lack of open communication about reproductive health within families, and limited access to structured reproductive health education may contribute to this issue (Leekuan et al., 2022). As a result, adolescents may rely on unreliable sources of information, such as peers or unverified internet sources, which may lead to misunderstandings about reproductive health.

In Indonesia, adolescent reproductive health remains an important issue that requires continuous attention. Urban areas such as Batam City are experiencing rapid social and

technological development, which may influence adolescents' exposure to various sources of information and social influences. These changes may affect adolescents' perceptions, attitudes, and behaviors related to reproductive health.

Examining the correlation among knowledge, attitudes, and reproductive health behaviours among adolescents is essential for developing effective educational programs and interventions. Identifying the factors that influence adolescent reproductive health behaviour enables schools and healthcare professionals to design strategies that foster comprehensive knowledge, positive attitudes, and responsible behaviours. Accordingly, this study analyses the correlation between knowledge, attitudes, and reproductive health behavior among junior high school students in Batam City.

## **2. RESEARCH METHODS**

### **Research Design**

This study used a quantitative research approach with a cross-sectional design. The cross-sectional design was chosen to determine the correlation between knowledge, attitudes, and reproductive health behavior among adolescents at one point in time.

### **Research Setting and Period**

This study was conducted at a junior high school in Batam City, Indonesia. The research was carried out from March to June 2024.

### **Population and Sample**

The study population comprised all students enrolled at the junior high school, totalling 250 individuals. The sample size was calculated using the Slovin formula with a 10% margin of error, rounded up to 72 respondents. Simple random sampling was employed, ensuring that each member of the population had an equal probability of selection.

### **Research Variables**

Independent variables: Knowledge about reproductive health and Attitudes toward reproductive health. Dependent variable: Adolescent reproductive health behaviour.

### **Data Collection**

Data were collected through a structured questionnaire administered to participants. The instrument included sections on demographic characteristics, reproductive health knowledge, attitudes toward reproductive health, and reproductive health behaviours.

Knowledge was measured using multiple questions related to reproductive health concepts. Attitudes were measured using Likert-scale statements. Behavior was assessed based on respondents' self-reported actions related to reproductive health.

### **Research Instrument**

The research instrument used in this study was a structured questionnaire designed to measure adolescents' knowledge, attitudes, and reproductive health behavior. The questionnaire consisted of four sections:

### **Respondent Characteristics**

This section collected demographic information such as age, gender, and grade level.

### **Knowledge of Reproductive Health**

Knowledge was measured using multiple-choice questions related to reproductive health concepts, including puberty, reproductive organs, personal hygiene, and prevention of risky sexual behavior. Each correct answer was scored one, and incorrect answers were scored 0. The total score was categorized into good, moderate, and poor knowledge levels.

### **Attitudes Toward Reproductive Health**

Attitudes were measured using statements related to reproductive health using a Likert scale, consisting of strongly agree, agree, disagree, and strongly disagree. Higher scores indicated more positive attitudes toward reproductive health.

### **Reproductive Health Behavior**

Behavior was assessed through several questions related to adolescents' practices in maintaining reproductive health, such as personal hygiene, seeking reproductive health information, and avoiding risky behaviors.

Before data collection, the questionnaire was tested for validity and reliability to ensure the accuracy and consistency of the instrument. The validity test was conducted using the Pearson Product-Moment correlation, while the reliability test was performed using Cronbach's Alpha, with a reliability coefficient of  $\geq 0.70$  considered acceptable.

## Data Analysis

Data analysis was conducted using SPSS. Univariate analysis described respondent characteristics and the distribution of each variable. Bivariate analysis assessed the correlation between knowledge, attitudes, and reproductive health behavior among adolescents. The Chi-Square test was applied at the 0.05 significance level.

## Ethical Considerations

The study complied with established ethical principles for health research. Approval was granted by the institutional ethics committee, and authorization was obtained from school authorities before data collection commenced. Participants received information regarding the study's purpose, procedures, potential benefits, and possible risks. Participation was voluntary, and individuals retained the right to refuse or withdraw at any time without penalty. Informed consent was obtained from all participants. To maintain confidentiality, names were omitted from questionnaires, and all data were kept strictly confidential and used solely for research purposes. The study was structured to prevent any physical or psychological harm to participants.

## Results

### Characteristics of Respondents

**Table 1.** Distribution of Respondents Based on Characteristics (n=72)

Characteristics	Frequency (n)	Percentage (%)
<b>Age</b>		
12 years	18	25.0
13 years	27	37.5
14 years	20	27.8
15 years	7	9.7
<b>Total</b>	72	100
<b>Gender</b>		
Male	33	45.8
Female	39	54.2
<b>Total</b>	72	100

The results show that most respondents were 13 years old (37.5%). Based on gender, the majority of respondents were female (54.2%).

### Knowledge of Reproductive Health

**Table 2.** Distribution of Respondents Based on Knowledge of Reproductive Health

Knowledge Level	Frequency (n)	Percentage (%)
Good	28	38.9
Moderate	30	41.7
Poor	14	19.4
<b>Total</b>	<b>72</b>	<b>100</b>

The results indicate that most respondents had moderate knowledge (41.7%), followed by good knowledge (38.9%) and poor knowledge (19.4%).

### Attitudes Toward Reproductive Health

**Table 3.** Distribution of Respondents Based on Attitudes Toward Reproductive Health

Attitude	Frequency (n)	Percentage (%)
Positive	46	63.9
Negative	26	36.1
<b>Total</b>	<b>72</b>	<b>100</b>

The results show that the majority of respondents had positive attitudes toward reproductive health (63.9%).

### Reproductive Health Behavior

**Table 4.** Distribution of Respondents Based on Reproductive Health Behavior

Behavior	Frequency (n)	Percentage (%)
Good	40	55.6
Poor	32	44.4
<b>Total</b>	<b>72</b>	<b>100</b>

The results indicate that 55.6% of respondents had good reproductive health behavior, while 44.4% showed poor behavior.

## Correlation Between Knowledge and Reproductive Health Behavior

**Table 5.** Correlation Between Knowledge and Reproductive Health Behavior

Knowledge	Good Behavior	Poor Behavior	Total	p-value
Good	21	7	28	<b>0.021</b>
Moderate	14	16	30	
Poor	5	9	14	
<b>Total</b>	40	32	72	

The results of the Chi-Square test showed a p-value of 0.021 (<0.05), indicating a significant correlation between knowledge and reproductive health behavior among adolescents.

## Correlation Between Attitudes and Reproductive Health Behavior

**Table 6.** Correlation Between Attitudes and Reproductive Health Behavior

Attitude	Good Behavior	Poor Behavior	Total	p-value
Positive	31	15	46	<b>0.015</b>
Negative	9	17	26	
<b>Total</b>	40	32	72	

The Chi-Square test showed a p-value of 0.015 (<0.05), indicating a significant correlation between attitudes and reproductive health behavior among adolescents.

## Discussion

Adolescence is a critical developmental stage characterized by rapid physical, psychological, and social changes. During this period, adolescents experience the maturation of reproductive organs and hormonal changes that may influence their curiosity and behavior related to reproductive health. Therefore, adequate knowledge, positive attitudes, and responsible behavior are essential for maintaining adolescents' reproductive health.

The findings of this study revealed that most respondents had a moderate level of knowledge regarding reproductive health. This result indicates that although adolescents have been exposed to some information related to reproductive health, their understanding may still be limited. The moderate level of knowledge among adolescents may be influenced by several factors, including limited access to accurate information, insufficient reproductive health education in schools, and inadequate communication with parents regarding reproductive health issues.

Knowledge plays an important role in shaping adolescents' understanding of reproductive health and guiding their health-related decisions (Raj et al., 2023). Adolescents who possess adequate knowledge about reproductive health are more likely to recognize the importance of maintaining personal hygiene, understanding the changes that occur during puberty, and avoiding risky behaviors (Anggraini, 2022). However, when adolescents have insufficient knowledge, they may rely on unreliable sources of information, such as peers or social media, which may lead to misconceptions regarding reproductive health.

In addition to knowledge, attitudes toward reproductive health also play an important role in influencing adolescents' behaviour (Brunelli et al., 2022). The results of this study showed that the majority of respondents had positive attitudes toward reproductive health. Positive attitudes reflect adolescents' perceptions and beliefs regarding the importance of maintaining reproductive health and avoiding behaviors that may negatively affect their well-being (Pihahay & Soripet, 2023).

The formation of attitudes is influenced by several factors, including knowledge, social environment, cultural values, and exposure to health information. Adolescents who receive adequate reproductive health education and support from their families and schools are more likely to develop positive attitudes toward reproductive health (Yunara, 2023). Positive attitudes can encourage adolescents to adopt healthy behaviors, seek reliable health information, and avoid risky activities (Nurmala et al., 2021).

The findings of this study also indicated that more than half of the respondents demonstrated good reproductive health behavior. Healthy reproductive behavior among adolescents includes maintaining personal hygiene, seeking appropriate health information, and avoiding risky sexual behaviors. However, the presence of respondents with poor reproductive health behavior suggests that some adolescents may still lack sufficient awareness or motivation to practice healthy behaviors.

The bivariate analysis showed a significant correlation between knowledge and reproductive health behavior among adolescents. This finding supports the concept that knowledge is a fundamental determinant of health behavior. According to health behavior theories, individuals who have adequate knowledge about health issues are more likely to adopt preventive behaviors and make informed decisions regarding their health (Fanning, 2019).

Adolescents who understand reproductive health concepts are more likely to practice healthy behaviors, such as maintaining reproductive hygiene and avoiding activities that may pose risks to their reproductive health (Solehati et al., 2022). Therefore, improving adolescents' knowledge through school-based reproductive health education programs is essential to

promote healthy behaviour (Setyandari & Rahayuningsih, 2023). Furthermore, this study also found a significant correlation between attitudes and reproductive health behavior. Adolescents with positive attitudes toward reproductive health were more likely to demonstrate responsible reproductive health behavior. This finding highlights the important role of attitudes in shaping adolescents' behavioral intentions and actions.

Attitudes influence how individuals respond to information and situations related to health. When adolescents perceive reproductive health as an important aspect of their well-being, they are more likely to adopt healthy behaviors and avoid activities that may endanger their reproductive health (Chandra-Mouli & Akwara, 2020). Conversely, negative attitudes may lead to a lack of concern about reproductive health issues and increase the likelihood of risky behaviors.

The findings of this study emphasize the importance of strengthening reproductive health education programs for adolescents. Schools, families, and health professionals should collaborate to provide accurate and comprehensive information about reproductive health. Educational interventions that focus on improving both knowledge and attitudes may contribute to the development of healthy reproductive behaviors among adolescents (Usonwu et al., 2021).

Despite its contributions, this study has several limitations. First, the cross-sectional design limits the ability to establish causal correlations between variables. Second, the use of self-reported questionnaires may introduce response bias, as respondents may provide socially desirable answers. Future research is recommended to use longitudinal designs and explore additional factors that may influence adolescents' reproductive health behavior.

### **3. CONCLUSION AND RECOMMENDATION**

This study concludes that adolescents at the junior high school in Batam City generally have moderate knowledge, positive attitudes, and relatively good reproductive health behavior. The findings also indicate that there is a significant correlation between knowledge and attitudes with reproductive health behavior among adolescents. These results suggest that improving adolescents' knowledge and fostering positive attitudes toward reproductive health are important factors in promoting healthy behavior. Therefore, it is recommended that schools collaborate with health professionals to strengthen reproductive health education programs for adolescents to improve their knowledge, attitudes, and healthy reproductive practices.

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