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Overview of Students' Knowledge Levels Regarding Adolescent Reproductive Health at Senior High School 1 Tasikmalaya, Indonesia

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ABSTRACT

Background: Adolescence is significantly associated with psychological development accompanied by sexual developments which together make teenagers more prone to risky behavioral problems. Reproductive health education is important as a provision of knowledge for adolescents regarding reproductive anatomy and physiology, the process of fetal development, and various reproductive problems.

Aims: To determine students' understanding of adolescent reproductive health at Senior High School 1 Tasikmalaya, Indonesia.

Methods: This research method was quantitative research using descriptive observational methods which was conducted in May 2024 at Senior High School 1 Tasikmalaya. The instrument used was questionnaire. The number of samples used based on calculations using the Slovin's formula was 282 people. This research used stratified random sampling.

Results: The finding of this research showed that 97.54% of the students had a high level of knowledge regarding reproductive health. Based on the puberty indicator, 92.61% of them demonstrated a high level of knowledge. In comparison, 67.61% had a high level of knowledge about reproductive organs, while only 2.11% were found to have low knowledge. Based on the reproductive health care indicator, 88.38% of the students possessed a high level of knowledge. On the pregnancy and sexual behavior indicators, 88.73% also demonstrated a high level of knowledge, while 0.71% was classified as having low knowledge.

Conclusion: The level of knowledge of the students regarding adolescent reproductive health at Senior High School 1 Tasikmalaya was primarily classified in the high category.

Keywords: Adolescent reproductive health, Knowledge, Puberty, Pregnancy, Sexual behavior.

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1. Introduction

Reproductive health refers to a state of total physical, mental, and social well-being in all areas pertaining to the reproductive system, its operations, and its processes (Muharrina et al., 2023). Reproductive health education for adolescents is important as a provision of knowledge regarding reproductive anatomy and physiology, the process of fetal development, pregnancy, reproductive problems such as sexually transmitted diseases and their impacts, as well as the development of healthy reproductive behavior to prepare these young individuals to engage in healthy reproductive functions (Barroroh, 2021).

Poor knowledge of sexual reproductive health among adolescent may results in an elevation of the prevalence of HIV/AIDS-related deaths, high prevalence of sexually transmitted infections, high percentage of teenage girls subjected to intimate partner violence, either sexual or physical, unsafe abortions among adolescents, and the risk of death and morbidity (Hapsari A, 2019).

In 2021, 14,117 cases of sexually transmitted infections were recorded in West Java Province with 45 cases in Tasikmalaya City (Ministry of Health, 2024). The Ministry of Health of Indonesia noted that the number of HIV cases in Indonesia was projected to reach 515 thousand cases from January to September 2023. Based on the data from the HIV/AIDS Information System, a total of 8,307 HIV cases were recorded in West Java from January to October 2023, in addition to 1,853 AIDS cases. The figure has increased sharply when compared to the same period in 2022. In 2022, HIV cases were recorded at 8,620 and 392 AIDS cases. The Tasikmalaya City AIDS Control Commission reported that there were 117 HIV/AIDS cases in Tasikmalaya City as of October 2023.

Data from BKKBN (Kristianto, 2023) reveals that there has been an increase in the birth rate among adolescents as evidenced by the age-specific fertility rates (ASFRs) in women aged 15-19 years, which reached 20.49 per 1,000 women of childbearing age in 2021, and this figure rose to 26.64 per 1,000 women in 2022. This data underscores the poor reproductive health conditions of adolescents, especially related to early marriage and births at a young age. One significant contributing factor to these issues is the inadequate knowledge about reproductive health among adolescents (Izah N, 2019).

According to research by Yunengsih (2021), exposure to pornography has an impact on the sexual behavior of adolescent. Based on the results of interviews with the counseling teachers at Senior High School 1 Tasikmalaya, there was an increase in the incidence of students viewing pornographic images compared to previous years. In addition, students were also found to bring cigarettes to school. Senior High School 1 Tasikmalaya has a reproductive health program for adolescents that starts in the 10th grade. This program is a collaboration with dr. Soekardjo Tasikmalaya Regional General Hospital and the local health center on its implementation, but its success has never been evaluated.

Previous research by Ningrum (2018) measured the levels of knowledge at SMA X Tasikmalaya regarding maintenance of reproductive health. Lismayanti et al (2022) have conducted a study on giving counseling about adolescent reproductive health in Mulyasari, Tamansari, Tasikmalaya but the participants' level of knowledge has not been evaluated. The aim of this study was to assess the reproductive health knowledge among adolescent at Senior High School 1 Tasikmalaya. The scope of the study included not only reproductive health care, but also knowledge related to puberty, reproductive organs, pregnancy, and sexual behavior.

2. Methods

Study design

This is quantitative research using descriptive observational methods. This research is a cross-sectional study conducted at Senior High School 1 Tasikmalaya. This research has been approved by the Ethics Commission of the Faculty of Medicine, Universitas Swadaya Gunung Jati (ethical approval no.33/EC/FKUGJ/V/2024).

Population and Sample

The sample of the study was students in the 10th and 11th grades at Senior High School 1 Tasikmalaya. Based on the Slovin's formula, the target of samples was 282 students, comprising 141 students in the 10th grade and 141 students in 11th grade. The study used stratified random sampling to ensure representation across grades and other relevant strata. Inclusion criterion for this study was currently enrolled students in the 10th and 11th grades at Senior High School 1 Tasikmalaya, and the exclusion criterion was students who were sick. The final sample size was 284 students, with the following age distribution: one student aged 14, 41 students aged 15, 127 students aged 16, 111 students aged 17, and four students aged 18. The gender composition included 100 male students and 184 female students. This study was conducted in May 2024 at Senior High School 1 Tasikmalaya.

Measurements

To obtain the data, this study used a questionnaire containing 22 questions regarding puberty (5 questions), reproductive organs (6 questions), reproductive health care (5 questions), and pregnancy and sexual behavior (6 questions). The questionnaire had been tested for its validity and reliability and was used to collect data on respondents' characteristics, such as age, sex, and grade, and knowledge of reproductive health. The levels of knowledge were assessed based on the responses provided in the questionnaire. A score of 1 was assigned for correct responses, and a score of 0 was given for incorrect responses. The scoring was based on the number of the questions, divided by three categories: high, moderate, and low. Reproductive health knowledge was in the high category for scores between 15 and 22, moderate for scores between 8 and 14, and low for scores between 0 and 7. Knowledge about puberty and reproductive health was considered high with scores of 4 to 5, moderate with scores of 2 to 3, and low with scores of 0 to 1. Knowledge about reproductive organ and pregnancy and sexual behavior deemed high with scores of 5 to 6, moderate with scores of 3 to 4, and low with scores of 0 to 2.

Data Collection Procedure

Data was collected after ethical approval was granted. The questionnaires were distributed to the students in the classroom through the class leader. Informed consent was given orally and in writing on the questionnaire. To maintain anonymity, respondents were advised not to write their name on the questionnaire paper.

Data Analysis

The statistical analysis used in this study was univariate descriptive analysis. A textual table was used to present the research findings. Statistical analysis used was univariate analysis. Validity and reliability tests using SPSS is declared valid and reliable with Cronbach's alpha >0,7.

3. Results

Using the stratified random sample method, 284 respondents who met the inclusion and exclusion criteria were included in the study. Age, sex, and grade were used to describe the study's respondents' characteristics. The primary data used in this study was gathered directly from the respondents via questionnaires. As shown in Table 1, the majority of the respondents were 16 years old (44.72%). The number of female respondents was greater than that of their male counterparts, with the female respondents comprising 184 individuals (64.79%) and the male respondents consisting of 100 individuals (35.21%). The respondents of this study were students from the 10th and 11th grades, with a total of 141 students (49.65%) in the 10th grade and 143 students (50.35%) in the 11th grade.

Table 2 shows the variations in the understanding of reproductive health among students at Senior High School 1 Kota Tasikmalaya based on their grades. Of the 141 students in the 10th grade, 95.04%, or 134 students, showed a thorough understanding of reproductive health. Meanwhile, in the 11th grade, all 143 students exhibited a high level of reproductive health knowledge.

Table 1. Respondent's Characteristics

Variables	n	%
Age		
14 years old	1	0.35%
15 years old	41	14.44%
16 years old	127	44.72%
17 years old	111	39.08%
18 years old	4	1.41%
Sex		
Male	100	35.21%
Female	184	64.79%
Grade		
10 th grade	141	49.65%
11 th grade	143	50.35%
Total	284	100%

Index: n = number, % = percentage

Table 2. Reproductive Health Knowledge Distribution

Grade	Level of Knowledge			Total
	High	Moderate	Low	
10 th grade	134 (95.04%)	7 (4.96%)	0	141 (100%)
11 th grade	143 (100%)	0	0	143 (100%)
Total	277 (97.54%)	7 (2.46%)	0	284(100%)

Table 3. Level of Knowledge Based on the Indicator

Knowledge Level		Grade		Total
		10 th grade	11 th grade	
Puberty	High	125 (88.65%)	138 (96.50%)	263 (92.61%)
	Moderate	16 (11.35%)	5 (3.50%)	21 (7.39%)
	Low	0	0	0
Total		141 (100%)	143 (100%)	284 (100%)
Reproductive organs	High	86 (60.99%)	106 (74.12%)	192 (67.61%)
	Moderate	51 (36.17%)	35 (24.48%)	86 (30.28%)
	Low	4 (2.84%)	2 (1.40%)	6 (2.11%)
Total		141 (100%)	143 (100%)	284 (100%)
Reproductive health care	High	119 (84.40%)	132 (92.31%)	251 (88.38%)
	Moderate	22 (15.60%)	11 (7.69%)	33 (11.62%)
	Low	0	0	0
Total		141 (100%)	143 (100%)	284 (100%)
Pregnancy and sexual behavior	High	119 (84.40%)	133 (93.01%)	252 (88.73%)
	Moderate	20 (14.18%)	10 (6.99%)	30 (10.56%)
	Low	2 (1.42%)	0	2 (0.71%)
Total		141 (100%)	143 (100%)	284 (100%)

Table 3 shows differences in knowledge levels of each indicator based on the students' grades. The proportion of students in the 11th grade that demonstrated high levels of knowledge surpassed that of the students in the 10th grade with the highest percentage being in the puberty indicator. These results indicate that students in the 11th grade demonstrated higher levels of knowledge about puberty, reproductive organs, reproductive health maintenance, and pregnancy and sexual behavior compared to students in the 10th grade.

4. Discussion

The findings of this study revealed that reproductive health knowledge in students of Senior High School 1 Tasikmalaya was in the high category, with 97.54% of the students having an extensive understanding about reproductive health, while only 2.46% students demonstrating a moderate level of knowledge. All students in the 11th grade had high levels of knowledge regarding reproductive health, with 95% of 10th graders also achieving high levels of knowledge. These results indicate that most respondents had adequate knowledge about adolescent reproductive health, with 11th grade students demonstrating better knowledge compared to 10th grade students.

The findings of this study are in line with those of the study by Az-zuhra et al. (2021) on the assessment of reproductive health knowledge in adolescents in Banda Aceh City. In their study, it was observed that 181 adolescents, accounting for 89.2%, possessed a high level of reproductive health knowledge, while 22 adolescents, or 10.8%, had a low level of reproductive health knowledge. The results of this study are also in line with those of the research conducted by Yarza et al. (2019) which was conducted at Senior High School 1 Surakarta, with 93.3% of the respondents showing a high level of reproductive health knowledge and 6.7% classified in the low category.

During puberty, sexual hormones will begin to mature, which causes physical changes in adolescents. In general, high school students have experienced puberty and encountered physical changes. In addition to their experiential learning, the role of information is also important in enhancing a person's knowledge. It is essential for every teenager to acquire knowledge about physical and mental changes, and sexual maturity. Information from health professionals about physical changes during puberty and reproductive organs is also vital. Such knowledge will enable teenagers to better understand and overcome various challenges they may encounter during this important developmental stage.

Sources of knowledge about reproductive health include textbooks, school, health practitioners, online sources such as educational articles and videos, and parents or family. Research conducted by Thaha et al. (2021) showed a significant influence of information from media, health education, and the role of parents on adolescents' knowledge about reproductive health. In addition, personal experience of the development of reproductive organs can also influence the level of knowledge about reproductive organs.

Freud posits that during adolescence, individuals enter a genital stage, which is the last stage of psychosexual development. The genital stage is the period of sexual awakening during which an individual outside the family becomes the source of sexual pleasure. This begins at puberty, which involves secondary growth of the genitals, the emergence of libido, and this libido begins to be used in its sexual role. This can influence adolescents in the development of their knowledge of sexual behavior (Utami, 2018).

The reproductive health program at Senior High School 1 Tasikmalaya has been provided to the students from the 10th grade onward. Students in the 11th grade possessed a greater level of knowledge than those in the 10th grade. This can be attributed to the fact that students in the 11th grade have received more information in the program focusing on adolescence reproductive health.

The findings of this study contribute to existing knowledge about reproductive health, especially about the level of knowledge about puberty, reproductive organs, reproductive health care, and pregnancy and sexual behavior. Large size of sample and the use of stratified random sampling add the strength of this study. This study is limited by its cross-sectional nature, and self-reported data. As its focus was only two grades within a single high school, the findings of this study cannot be generalized to other students in different grades and schools.

5. Conclusion

The level of knowledge of adolescent reproductive health among students at Senior High School 1 Tasikmalaya was mostly in the high category. Health professionals and teachers should strengthen the provision of knowledge about reproductive health as a promotive and preventive program to improve health, especially concerning the reproductive system. Future studies should add more indicators, such as nutrition, menstruation, source of reproductive health knowledge, and more. Longitudinal studies should be carried out to track changes

in knowledge over time, which can include broader age range and a greater number of schools.

Conflict of Interest

Regarding the findings and research, the authors state that there is no conflicts of interest.

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