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Research Article

Level of Knowledge, Attitude, and Behavior of Students at SMA Negeri 13 Medan on Prevention of Sexually Transmitted Infections

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ABSTRACT

Background: Sexually Transmitted Infection (STI) is a contagious disease that has been a health problem around people all over the world because the incidence rate of sexually transmitted diseases (STDs) tends to increase. **Objective:** This research objects to know the level of knowledge, attitudes and behavior of SMA Negeri 13 Medan students regarding STI prevention. **Methods:** This is descriptive research with cross-sectional design. The sampling technique is done by stratified random sampling with questionnaire as data collection tool and the data analysis was carried out using descriptive statistics. **Results:** The results showed that the knowledge level of SMA Negeri 13 Medan students about preventing STI was mostly in the good category (54.2%), attitudes were in the good category (93.7%), and behaviors were in the moderate category (47.9%). **Conclusion:** Most of students have a good knowledge level, good attitude level, and moderate behavior level towards STI prevention.

Keywords: adolescence, attitude, behavior, knowledge, sexually transmitted infection

1. Introduction

Sexually transmitted infections (STIs) are infectious diseases that are still a public health problem worldwide because the incidence of sexually transmitted diseases (STDs) tends to increase [1]. According to the World Health Organization (WHO), more than one million cases of STIs are found every day worldwide and most are asymptomatic. Every year there are an estimated 374 million new infections with 1 in 4 STIs, namely chlamydia with 129 million cases, gonorrhea with 82 million cases, syphilis with 7.1 million cases, and trichomoniasis with 156 million cases [1, 2]. In Indonesia, based on data from the Directorate General of STI Disease Prevention and Control for the period January–March 2021, the total number of cases of STIs with diagnosis based on a syndromic approach amounted to 7,364 cases, while based on laboratory examination amounted to 11,133 cases [1,2]. The cumulative number of HIV cases reported up to March 2021 was 427,201 people, with DKI Jakarta as the province with the highest number of HIV cases at 71,471 people while North Sumatra was in seventh position with 22,025 people [1, 2].

The cumulative number of AIDS cases reported up to March 2021 was 131,417 people, where Papua as the province with the highest number of AIDS cases, namely 24,483 people while North Sumatra was in seventh position with a total of 4,499 people [1, 2]. Based on data from the Central Bureau of Statistics in North

Sumatra in 2019, the district/city that ranked first with the highest number of HIV AIDS and STD cases was Medan City with 7,225 HIV AIDS cases and 5,132 STDs [1-3].

According to UNICEF, of the 40 million people living with HIV/AIDS, more than a quarter are aged between 15 and 24 years, half of new HIV infections occur in adolescents aged 19 years and every three minutes, one adolescent contracts HIV.[4] In Indonesia, the number of People Living with HIV AIDS (PLWHA) found in the period January–March 2021 was 7,650 people, 69% were male and 31% were female. As many as 19% of the number of PLWHA found were adolescents and young adults [3, 4].

Adolescence is a transition period where a person switches from childhood to adulthood. At this time adolescents have a great sense of curiosity, like adventure and challenge but without careful consideration of the risks that will be faced. According to the Indonesian Ministry of Health based on the Demographic and Health Survey, especially the Adolescent Reproductive Health component, the largest proportion dated for the first time at the age of 15-17 years [1, 2]. About 33.3% of adolescent girls and 34.5% of adolescent boys started dating when they were not yet 15 years old. At this age, it is feared that they do not have adequate life skills, so they are at risk of having unhealthy dating behavior, namely premarital sex. From the same survey, it was found that the reasons for premarital sexual intercourse were mostly due to curiosity (57.5% of men), it just happened (38% of women) and forced by a partner (12.6% of women). This reflects adolescents lack of understanding about healthy life skills, the risks of sexual relationships and the ability to refuse relationships they do not want. This lack of understanding can lead to pregnancy at a young age and a high risk of contracting STIs [6]. Based on the above background, the researcher is interested in examining "Level of Knowledge, Attitudes, and Behavior of Students at SMA Negeri 13 Medan about the Prevention of Sexually Transmitted Infections".

2. Methods

The type of research used in this study is descriptive research with a cross-sectional design. This research was conducted from September to October 2022 at SMA Negeri 13 Medan. The population used in this study were XII grade students at SMA Negeri 13 Medan, totaling 432 people. The samples used in this study were some students of class XII SMA Negeri 13 Medan. In this study, there were inclusion and exclusion criteria. The inclusion criteria consisted of XII grade students of SMA Negeri 13 Medan and were willing to become respondents, while the exclusion criteria were if the respondent did not complete the entire questionnaire.

The sample size for this study was calculated using the Slovin formula. Based on the calculation of the formula, the minimum number of samples used in this study was 82 people. Then the minimum number of stratified sample members (levels) is divided based on the student's majors using the proportional allocation formula. There are 12 classes included in this study, which are XII MIA 1, XII MIA 2, XII MIA 3, XII MIA 4, XII MIA 5, XII MIA 6, XII MIA 7, XII MIA 8, XII MIA 9, XII MIS 1, XII MIS 2, and XII MIS 3. Each class consists of 36 students. Based on the results of calculations using the proportional allocation formula, 7 students are selected for each class with a total of 84 plus 1 respondent for each class as a backup if there is missing data so that the final sample size used in this study is 96 people.

The sampling technique used stratified random sampling, which is a sampling technique that provides equal opportunities for each member of the stratified population to become a sample, so that all students with their grade levels have the same opportunity to become research samples [7]. Respondents were selected by drawing using a random number generator from the randomnumbergenerator.org site and the number selected through the site was matched with the serial numbers of students in the attendance book found in each class.

The data obtained from this research are primary data and secondary data. Primary data was obtained directly using a questionnaire as a data collection tool consisting of questions related to the research title. The questions in the questionnaire consisting of 21 questions have been tested for validity and reliability using SPSS adopted from Syiva's research [8]. The secondary data was obtained from the school related to the number of students in SMA Negeri 13 Medan. Aspects of measuring the level of knowledge, attitudes, and behavior about STI prevention using Azwar's classification.[9] Based on the results of these measurements, the level of knowledge is good if 6-8 out of 8 questions are correct, medium if 3-5 out of 8 questions are correct, and less if 0-2 out of 8 questions are correct. While attitudes are good if scored 24-32 out of a total score of 32, medium if correct 16-23 out of a total score of 32, and less if correct 8-15 out of a total score of 32. While behavior is good if 4-5 out of 5 questions are correct, medium if 2-3 out of 5 questions are correct, and less if correct 0-1 of 5 questions.

3. Results

The characteristics of respondents based on age showed that the number of female respondents was 69.8% compared to 30.2% of male respondents.

3.1. Knowledge Level

The frequency distribution of respondents' answers based on the level of knowledge about STI prevention can be seen in the following table.

Table 1. Frequency distribution of respondent's answers based on knowledge level

No.	Question	Correct		Wrong		Total	
		n	%	n	%	n	%
1	Definition of STI	46	47,9	50	52,1	96	100
2	Causes of STIs	61	63,5	35	36,5	96	100
3	STI transmission	91	94,8	5	5,2	96	100
4	STI symptoms	79	82,3	17	17,7	96	100
5	STIs are not transmitted by	68	70,8	28	29,2	96	100
6	Sexually transmitted diseases	58	60,4	38	39,6	96	100
7	STI prevention	51	53,1	45	46,9	96	100
8	Condom function	64	66,7	32	33,3	96	100

Based on the table 1, it can be seen that the question based on the level of knowledge about STI prevention that most respondents answered correctly was question number 3, namely about the transmission of STIs with the number of correct 91 people (94.8%) and wrong 5 people (5.2%), while the question most answered incorrectly by respondents was question number 1, namely about the definition of STIs with the number of correct 46 people (47.9%) and wrong 50 people (52.1%).

Table 2. Frequency distribution based on knowledge level

Knowledge level	Frequency	Percentage (%)
Good	52	54,2
Medium	34	35,4
Less	10	10,4
Total	96	100

Based on the table 2, it can be seen that the level of knowledge about STI prevention is divided into 3 categories of knowledge level. The highest level of knowledge was in the good category, 52 people (54.2%), followed by the moderate category, 34 people (35.4%), and the poor category, 10 people (10.4%).

Table 3. Frequency distribution of knowledge level based on gender

Gender	Knowledge Level						Total	
	Good		Medium		Less			
	n	%	n	%	n	%	n	%
Male	19	19,8	8	8,3	2	2,1	29	30,2
Female	33	34,4	26	27,1	8	8,3	67	69,8
Total	52	54,2	34	35,4	10	10,4	96	100

Based on the table 3, it can be seen that the level of knowledge based on gender in male respondents there are 19 people with good results (19.8%), 8 people with moderate results (8.3%), and 2 people with poor results (2.1%). Whereas in female respondents there were 33 people with good results (34.4%), 26 people with moderate results (27.1%), and 8 people with poor results (8.3%).

Table 4. Frequency distribution of knowledge level based on class

Class	Knowledge level						Total	
	Good		Medium		Less			
	n	%	n	%	n	%	n	%
XII MIA 1	5	5,2	2	2,1	1	1	8	8,3
XII MIA 2	5	5,2	3	3,1	0	0	8	8,3
XII MIA 3	6	6,3	2	2,1	0	0	8	8,3
XII MIA 4	5	5,2	2	2,1	1	1	8	8,3
XII MIA 5	8	8,3	0	0	0	0	8	8,3
XII MIA 6	5	5,2	3	3,1	0	0	8	8,3
XII MIA 7	2	2,1	3	3,1	3	3,1	8	8,3
XII MIA 8	7	7,3	1	1	0	0	8	8,3
XII MIA 9	3	3,1	4	4,2	1	1	8	8,3
XII MIS 1	4	4,2	3	3,1	1	1	8	8,3
XII MIS 2	2	2,1	3	3,1	3	3,1	8	8,3
XII MIS 3	0	0	8	8.3	0	0	8	8,3
Total	52	54,2	34	35,4	10	10,4	96	100

Based on the table 4, it can be seen that the class that has a good level of knowledge is mostly found in class XII MIA 5, namely as many as 8 people (8.3%), while moderate knowledge is mostly found in class XII MIS 3, namely as many as 8 people (8.3%), and less knowledge is mostly found in class XII MIA 7 and XII MIS 2, namely 3 people each (3.1%).

3.2. Attitude

The frequency distribution of respondents' answers based on attitudes about STI prevention can be seen in the following table.

Table 5. Frequency distribution of respondents' answers based on attitude

No.	Question	Strongly Agree		Agree		Disagree		Strongly Disagree	
		n	%	n	%	n	%	n	%
1.	I will seek information about the development of STIs among teenagers.	35	36,5	54	56,3	7	7,3	0	0
2.	I will not have sex before marriage because of the risk of STI transmission.	85	88,5	11	11,5	0	0	0	0
3.	Pain during micturition should be brought to the doctor.	58	60,4	38	39,6	0	0	0	0
4.	Teenagers don't need sex education.	8	8,3	11	11,5	18	18,8	59	61,5
5.	I will make efforts to prevent myself, my family and my closest community from being infected with STIs by living a healthy life.	70	72,9	20	20,8	6	6,3	0	0
6.	STI counseling/seminars should be included in the school curriculum.	42	43,8	51	53,1	2	2,1	1	1
7.	Changing partners can increase the risk of contracting STIs.	69	71,9	23	24	2	2,1	2	2,1
8.	Using a condom during sex can prevent STI transmission.	25	26	46	47,9	20	20,8	5	5,2

Based on the table 5, it can be seen that the question based on attitudes about STI prevention that most respondents answered correctly was question number 2, namely about not having sex before marriage because it can risk STI transmission, while the lowest was question number 8, namely about using condoms during sex can prevent STI transmission.

Table 6. Frequency distribution based on attitude

Attitude	Frequency	Percentage (%)
Good	90	93,7
Medium	6	6,3
Less	0	0
Total	96	100

Based on the table 6, it can be seen that attitudes about STI prevention are divided into 3 attitude categories. The most attitudes were in the good category, namely 90 people (93.8%), followed by the moderate category, namely 6 people (6.2%), and the poor category, namely 0 people (0%).

Table 7. Frequency distribution of attitudes based on gender

Gender	Attitude						Total	
	Good		Medium		Less			
	n	%	n	%	n	%	n	%
Male	29	30,2	0	0	0	0	29	30,2
Female	61	63,5	6	6,3	0	0	67	69,8
Total	90	93,7	6	6,3	0	0	96	100

Based on the table 7, it can be seen that attitudes based on gender in male respondents there are 29 people with good results (30.2%), 0 people with moderate results and poor results (0%). Whereas in female respondents there were 61 people with good results (63.5%), 6 people with moderate results (6.3%), and 0 people with poor results (0%).

Table 8. Frequency distribution of attitude by class

Class	Attitude						Total	
	Good		Medium		Less			
	n	%	n	%	n	%	n	%
XII MIA 1	8	8,3	0	0	0	0	8	8,3
XII MIA 2	8	8,3	0	0	0	0	8	8,3
XII MIA 3	7	7,3	1	1	0	0	8	8,3
XII MIA 4	8	8,3	0	0	0	0	8	8,3
XII MIA 5	8	8,3	0	0	0	0	8	8,3
XII MIA 6	8	8,3	0	0	0	0	8	8,3
XII MIA 7	6	6,2	2	2,1	0	0	8	8,3
XII MIA 8	8	8,3	0	0	0	0	8	8,3
XII MIA 9	8	8,3	0	0	0	0	8	8,3
XII MIS 1	8	8,3	0	0	0	0	8	8,3
XII MIS 2	5	5,2	3	3,1	0	0	8	8,3
XII MIS 3	8	8,3	0	0	0	0	8	8,3
Total	90	93,7	6	6,3	0	0	96	100

Based on the table 8, it can be seen that classes that have a good attitude are found in 9 classes, namely XII MIA 1, XII MIA 2, XII MIA 4, XII MIA 5, XII MIA 6, XII MIA 8, XII MIA 9, XII MIS 1, and XII MIS 3, namely 8 people in each class (8.3%), while the most moderate attitude is found in class XII MIS 2, namely 3 people (3.1%), and no one has a poor attitude about STI prevention.

Table 9. Frequency distribution of attitudes based on knowledge level

Knowledge level	Attitude						Total	
	Good		Medium		Less			
	n	%	n	%	n	%	n	%
Good	51	53,1	1	1	0	0	52	54,2
Medium	34	35,4	0	0	0	0	34	35,4
Less	5	5,2	5	5,2	0	0	10	10,4
Total	90	93,7	6	6,3	0	0	96	100

Based on the table 9, it can be seen that many respondents with good knowledge have good attitudes, namely 51 people (53.1%), moderate attitudes 1 person (1%), and there are no people with poor attitudes. Respondents with moderate knowledge who have good attitudes are 34 people (35.4%) and there are no people with moderate and poor attitudes. Respondents with less knowledge who have good attitudes are 5 people (5.2%), moderate attitudes are 5 people (5.2%), and there are no people with poor attitudes.

3.3. Behavior

The frequency distribution of respondents' answers based on behavior regarding STI prevention can be seen in the following table.

Table 10. Frequency distribution of respondents' answers based on behavior

No.	Question	Yes		No		Total	
		n	%	n	%	n	%
1.	Have you been looking for information on how to prevent STIs?	37	38,5	59	61,5	96	100
2.	Have you ever attended a health counseling/workshop on how to prevent STIs?	14	14,6	82	85,4	96	100
3.	Will you stay away from your friends/family who have an STI?	45	46,9	51	53,1	96	100
4.	Have you ever looked for information on behaviors that put you at risk for STI transmission?	49	51	47	49	96	100
5.	Do you avoid shaking hands with people with STIs?	38	39,6	58	60,4	96	100

Based on the table 10, it can be seen that the question based on behavior regarding the prevention of STIs that most respondents answered Yes was question number 4 with a total of 49 people (51%), while the question most answered No by respondents was question number 2 with a total of 82 people (85.4%).

Table 11. Frequency distribution based on behavior

Behavior	Frequency	Percentage (%)
Good	18	18,8
Medium	46	47,9
Less	32	33,3
Total	96	100

Based on the table 11, it can be seen that behavior about STI prevention is divided into 3 categories of behavior. The most behavior is in the moderate category, namely 46 people (47.9%), followed by the less category, namely 32 people (33.3%), and the good category, namely 18 people (18.8%).

Table 12. Frequency distribution of behavior by gender

Gender	Behavior						Total	
	Good		Medium		Less			
	n	%	n	%	n	%	n	%
Male	8	8,3	10	10,4	11	11,5	29	30,2
Female	10	10,4	36	37,5	21	21,9	67	69,8
Total	18	18,8	46	47,9	32	33,3	96	100

Based on the table 12, it can be seen that behavior based on gender in male respondents there are 8 people with good results (8.3%), 10 people with moderate results (10.4%), and 11 people with poor results (11.5%). While in female respondents there were 10 people with good results (10.4%), 46 people with moderate results (47.9%), and 32 people with poor results (33.3%).

Table 13. Frequency distribution of behavior by class

Class	Behavior						Total	
	Good		Medium		Less			
	n	%	n	%	n	%	n	%
XII MIA 1	2	2,1	5	5,2	1	1	8	8,3
XII MIA 2	2	2,1	6	6,3	0	0	8	8,4
XII MIA 3	1	1	4	4,2	3	3,1	8	8,3
XII MIA 4	0	0	5	5,2	3	3,1	8	8,3
XII MIA 5	3	3,1	3	3,1	2	2,1	8	8,3
XII MIA 6	2	2,1	6	6,3	0	0	8	8,4
XII MIA 7	2	2,1	2	2,1	4	4,2	8	8,4
XII MIA 8	1	1	5	5,2	2	2,1	8	8,3
XII MIA 9	4	4,2	3	3,1	1	1	8	8,3
XII MIS 1	0	0	2	2,1	6	6,3	8	8,4
XII MIS 2	1	1	2	2,1	5	5,2	8	8,3
XII MIS 3	0	0	3	3,1	5	5,2	8	8,3
Total	18	18,8	46	47,9	32	33,3	96	100

Based on the table 13, it can be seen that the class that has the most good behavior is in class XII MIA 9, namely 4 people (4.2%), while the most moderate behavior is in class XII MIA 2 and XII MIA 6, each of which is 6 people (6.3%), and the least behavior is in class XII MIS 1, namely 6 people (6.3%).

Table 14. Frequency distribution of behavior based on knowledge level

Knowledge Level	Behavior						Total	
	Good		Medium		Less			
	n	%	n	%	n	%	n	%
Good	12	12,5	27	28,1	13	13,5	52	54,2
Medium	5	5,2	13	13,5	16	16,7	34	35,4
Less	1	1	6	6,3	3	3,1	10	10,4
Total	18	18,8	46	47,9	32	33,3	96	100

Based on the table 14, it can be seen that respondents with good knowledge who have good behavior are 12 people (12.5%), moderate behavior 27 people (28.1%), and less behavior 13 people (13.5). Respondents

with moderate knowledge who have good behavior are 5 people (5.2%), moderate behavior 13 people (13.5%), and less behavior 16 people (16.7%). Respondents with poor knowledge who have good behavior are 1 person (1%), moderate behavior 6 people (6.3%), and less behavior 3 people (3.1%).

4. Discussion

4.1. Knowledge Level

From the data results, the level of knowledge of students of SMA Negeri 13 Medan about STI prevention is in the good category (54.2%). In this study, although the average knowledge of respondents was in the good category, there were still many respondents who did not know the definition of STIs where in addition to diseases suffered due to unsafe sexual behavior, STIs can also be transmitted by mothers to their babies through the process of giving birth and breastfeeding, if the mother suffers from sexually transmitted diseases [8-10]. In line with that, the question of STI transmission can be transmitted through sperm or vaginal fluid during sexual intercourse was answered correctly by most respondents.

The results of this study are in accordance with the results of research by Pandjaitan et al and research by Rahayu and Elliana where the level of knowledge about STIs is in the good category, as many as 50% and 63% [9, 11, 12]. However, it is not in accordance with several studies such as research conducted by Syiva and research by Marmi and Margiyati found that the level of knowledge about STIs is in the moderate category, as many as 41.5% and 57.6% [8-13]. Sriyatin's research found that the level of knowledge about STIs was in the poor category, which was 55% [14]. The different research results are due to the level of knowledge influenced by various factors, namely the level of education, information, culture, experience and socio-economics [15].

The results of data on the level of knowledge based on gender obtained the results of men with a good level of knowledge as many as 19 people (19.8%) while women as many as 33 people (34.4%) with a male proportion of 29 people (30.2%) and a female proportion of 67 people (69.8%). This means that 65% of men have a good level of knowledge while only 49.3% of women have a good level of knowledge about STI prevention. The difference in the proportion of men and women is because the sampling was carried out using random sampling technique and the respondents were selected by drawing using a random number generator and the number of male class XII students was less, namely 189 people (43.8%) compared to female students, namely 243 people (56.2%). In accordance with the above research, in Septiani and Ervina's research, the results of men with a good level of knowledge were 41 people (58.8%) and women as many as 6 people (17.6%), this shows that men have a better level of knowledge than women [15, 16]. Septiani and Ervina suggested that male adolescents have higher knowledge because a male personality is more likely to be open with peers compared to women who have a closed personality and tend to be embarrassed to tell about sexually transmitted diseases [16].

4.2. Attitude

From the data results, the attitude of students of SMA Negeri 13 Medan about STI prevention is in the good category (93.7%). There were no respondents who had poor attitude. In this study, the attitude question about STI prevention that was answered most correctly was the question about not having risky sex. The good attitude of the respondents was in line with their good level of knowledge on STIs.

The results of this study are in accordance with the results of Pandjaitan et al's research and Susanti and Ismayanti's research which found that attitudes towards STIs were in the good category, as many as 71% and 73.2% [11, 17]. The results of this study differ from research conducted by Marmi and Margiyati who found that attitudes towards STIs were in the moderate category, namely as many as 65.5% and 34.5% of respondents who had a good attitude towards STIs, but no respondents had a poor attitude towards STIs [13].

The results of attitude data based on gender obtained the results of men with a good attitude as many as 29 people (30.2%) while women were 61 people (63.5%) with a proportion of 29 men (30.2%) and 67 women (69.8%). This means that 100% of men have a good attitude while 91% of women have a good attitude about STI prevention. Based on the results of this study, men and women both have a good attitude.

The results of attitude data based on the level of knowledge can be seen that many respondents with good knowledge have a good attitude, namely 51 people (53.1%), moderate attitude 1 person (1%), and there are no people with a lack of attitude. Respondents with moderate knowledge who had a good attitude were 34 people (35.4%) and there were no people with moderate and poor attitudes. Respondents with less knowledge who had a good attitude were 5 people (5.2%), a moderate attitude of 5 people (5.2%), and there were no people with a lack of attitude. From this study it can be concluded that not all who have a less knowledge level will have a less attitude as well. According to Marmi and Margiyati in their research on SMA IT Abu Bakar

Yogyakarta students, attitudes are not solely influenced by knowledge factors, but due to various other factors such as experience, education, age, beliefs, social, economic, culture and so on [13].

4.3. Behavior

From the data results, the behavior of students of SMA Negeri 13 Medan about STI prevention is in the moderate category (47.9%). In this study, the behavioral question about STI prevention that was answered most with Yes was the question about whether the respondents had ever sought information about behaviors at risk of STI transmission. This shows that some respondents already have good initiative in seeking information about STI prevention. The behavior of respondents in this moderate category is not in accordance with the knowledge of respondents in the good category, because in addition to being influenced by knowledge factors, behavior is also influenced by various other factors such as experience, education, age, beliefs, social, economic, cultural, and so on [8].

The results of this study are different from research conducted by Haryani found that attitudes about STIs are in the good category, which is 81.6% [18]. The results of this study are different from research conducted by Syiva found that attitudes about STIs are in the poor category, which is 59.6% [8]. According to Wulandari, respondents who have high knowledge but still have high-risk sexual behavior or have poor behavior because adolescents get information from the internet which is not necessarily all true. Misinformation about sex is easily obtained by teenagers and all things pornographic will control their emotional thoughts. Half and half knowledge not only encourage adolescents to dabble but can also lead to wrong perceptions in terms of sexuality [19].

The results of behavior data based on gender obtained the results of men with good attitudes as many as 8 people (8.3%) while women as many as 10 people (10.4%) with a proportion of 29 men (30.2%) and 67 women (69.8%). This means that only 27.6% of men have good behavior while only 14.9% of women have good behavior about STI prevention. Based on the results of the study men have better behavior than women.

The results of behavior data based on the level of knowledge can be seen that many respondents with good knowledge have good behavior, namely 12 people (12.5%), moderate behavior 27 people (28.1%), and less behavior 13 people (13.5%). Respondents with moderate knowledge who have good behavior are 5 people (5.2%), moderate behavior 13 people (13.5%), and less behavior 16 people (16.7%). Respondents with poor knowledge who have good behavior are 1 person (1%), moderate behavior 6 people (6.3%), and less behavior 3 people (3.1%). From this study it can be concluded that not all who have a good level of knowledge will have good behavior as well.

5. Conclusion

Based on the results and discussion, it can be concluded that the level of knowledge of students at SMA Negeri 13 Medan regarding the prevention of sexually transmitted infections (STIs) is mostly in the good category. The attitude of students toward STI prevention is predominantly good, while their behavior falls mostly into the moderate category. These findings indicate that while students have a strong understanding and positive outlook on STI prevention, there is still a need to further improve their preventive behaviors.

SMA Negeri 13 Medan is encouraged to actively involve students in extracurricular activities such as Youth Doctor and Youth Information and Counseling Center (PIK-R) programs, as well as to provide counseling on STI prevention to strengthen their understanding and behavior. Students are expected to maintain their good knowledge and attitudes while working to improve their preventive behaviors through self-initiative, seeking reliable information, and participating in educational activities. Parents are also expected to foster open communication about reproductive health to better educate their children. Finally, it is hoped that this study can serve as a valuable reference for future research on STI prevention efforts among adolescents.

6. Data Availability Statement

The datasets generated and analyzed during the current study are not publicly available due to privacy and ethical considerations but are available from the corresponding author upon reasonable request.

7. Ethical Statement

Sumatera Medical Journal (SUMEJ) is a peer-reviewed electronic internationaljournal. This statement clarifies ethical behavior of all parties involved in the act of publishing an article in Sumatera Medical Journal (SUMEJ), including the authors, the chief editor, the Editorial Board, the peer-reviewer and the publisher (TALENTA Publisher UniversitasSumatera Utara). This statement is based on COPE's Best Practice Guidelines for Journal Editors.

8. Author Contributions

All authors contributed to the design and implementation of this case report, data analysis, and finalizing the manuscript.

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11. Conflict of Interest

Authors declares no conflict of interest.

References

[1] World Health Organization. Sexually transmitted infections (STIs). 2021. Available from: https://www.who.int/news-room/fact-sheets/detail/sexually-transmitted-infections-(stis). Accessed on March 15, 2022.

[2] Direktorat Jenderal Pencegahan dan Pengendalian Penyakit. Laporan Perkembangan HIV AIDS & Penyakit Infeksi Menular Seksual (PIMS) Triwulan I Tahun 2021, Jakarta: Kementerian Kesehatan Republik Indonesia. 2021.

[3] Badan Pusat Statistik. Jumlah Kasus Penyakit Menurut Kabupaten/Kota dan Jenis Penyakit di Provinsi Sumatera Utara. 2019. Available from: https://www.bps.go.id/indikator/indikator/view_data_pub/1200/api_pub/a05CZmFhT0JWY0lBd2g0cW80S0xiZz09/da_04/2. Accessed on March 15, 2022.

[4] Alfaro AC. Adolescence and Risk of Sexually Transmitted Infections. Journal of AIDS Clinical Research & STDs. 2019;6(24).

[5] UNESCO. Buku Suplemen Bimbingan Teknis Kesehatan Reproduksi: Infeksi Menular Seksual dan HIV/AIDS. Jakarta: UNESCO dan BKKBN. 2012.

[6] Kementerian Kesehatan RI. Situasi Kesehatan Reproduksi Remaja. Jakarta Selatan. 2015.

[7] Sugiyono. Metode Penelitian Kuantitatif, Kualitaif, dan R & D. Bandung: Alfabeta. 2016.

[8] Syiva TM. Tingkat Pengetahuan, Sikap, dan Perilaku Siswa-siswi SMA Tentang Pencegahan IMS pada SMAN 3 Medan. Skripsi. Universitas Sumatera Utara. 2016. Available from: https://repositori.usu.ac.id/handle/123456789/20080

[9] Azwar S. Penyusunan Skala Psikologi. 2 ed. Yogyakarta: Pustaka Pelajar. 2016.

[10] Shaw J, & Thornhill J. Systemic manifestations of sexually transmitted infections. Medicine. 2022;50(5).

[11] Pandjaitan MC, Niode NJ, & Suling PL. Gambaran Pengetahuan dan Sikap terhadap Infeksi Menular Seksual pada Remaja di SMA Frater Don Bosco Manado. Jurnal e-Clinic (eCl). 2017;5(2):150.

[12] Rahayu S, & Elliana D. Pengetahuan Dan Sikap Remaja Tentang Infeksi Menular Seksual (IMS) Dengan Perilaku Pencegahan Terhadap Ims Di Desa Baru Benua Kayong. Jurnal Ilmiah Kesehatan. 2022;15(1).

[13] Marmi & Margiyati. Pengetahuan, Sikap dengan Perilaku Siswi dalam Upaya Pengendalian Infeksi Menular Seksual. Jurnal Ilmu Kebidanan. 2014;1(1).

[14] Sriyatin. Gambaran Tingkat Pengetahuan Remaja tentang Infeksi Menular Seksual di SMK Mandiri Cirebon. Poltekkes Tasikmalaya. 2016;12(1).

[15] Astuti T. Faktor-Faktor yang berhubungan dengan kejadian IMS (Infeksi Menular Seksual) pada PSK (Pekerja Seks Komersial) di Puskesmas Prambanan Sleman D.I. Yogyakarta. Jurnal Ilmiah Kesehatan Ar-Rum Salatiga. 2018;2(2):4.

[16] Septiani S. & Ervina A. Hubungan Jenis Kelamin Dan Sumber Informasi Dengan Pengetahuan Remaja Mengenai Penyakit Menular Seksual (PMS). E-Jurnal Obstretika 2015;3(1):42.

[17] Susanti L, & Ismayanti. Hubungan Tingkat Pengetahuan Remaja dengan Sikap Remaja Dalam Pencegahan Penyakit Menular Seksual Siswa Siswi Kelas XI SMK Puja Bangsa Cikarang Utara Tahun 2014. Jurnal Kesehatan Bhakti Husada. 2016;2(2).

[18] Haryani H. Hubungan pengetahuan tentang infeksi menular seksual dengan perilaku seksual pada remaja di 3 SMA wilayah Kabupaten Sukabumi. Jurnal Medika Cendikia. 2014;1(1).

[19] Wulandari S. Hubungan pengetahuan dengan Perilaku Seksual Remaja pada Siswa/I di SMK N 1 Tandun Kabupaten Rokan Hulu. Maternity and Neonatal: Jurnal Kebidanan. 2020;8(1)43.