



The Relationship between Knowledge Level and Attitudes towards Sexually Transmitted Infectious Diseases

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Abstract

Sexually Transmitted Infections (STIs) are infectious diseases that can be transmitted from one person to another through sexual contact. Cases of sexually transmitted infections (STIs) continue to increase, the phenomenon of increasing and spreading cases of sexually transmitted infections that occur in high risk groups is very fast, one of those most at risk is teenagers, because teenagers are a transition period from childhood to older age. As they mature, teenagers will become more curious about everything, including sexual matters. To determine the relationship between knowledge and attitudes towards sexually transmitted infections. This type of research uses the approach used is a cross sectional study. The research was conducted at the Indonesian Muslim University, Campus II Jalan Urip Sumoharjo KM.05, Faculty of Medicine, with the research taking place from May 2022 to October 2023. Based on the research results, it shows that the respondents studied in this study tend to have good knowledge about sexually transmitted infections. The respondents studied in this study tended to have a good attitude towards sexually transmitted infections. There was a significant relationship between knowledge and attitudes towards sexually transmitted infections among students of the 2021 Class of Indonesian Muslim University Makassar Medical Education Study Program.

Introduction

Lack of sexual knowledge among teenagers will lead to negative behavioral implications such as unwanted pregnancies, the occurrence of sexually transmitted infections and so on. As a first step in prevention, increasing teenagers' knowledge about reproductive health must be supported by clear and firm communication, information and education materials regarding the causes and consequences of sexual behavior (Emilia & Prabandari, 2019). Apart from that, it needs to be informed about what to do and equipped with information about the service facilities available. Because currently information about reproductive health is disseminated with unclear and unfocused messages, especially targeting sexual behavior (Djama, 2017).

According to data from the World Health Organization (WHO) in 2018, there are now more young people in the world than ever before. (Judge, 2020). Of the world's 7.2 billion people, more than 3 billion are under 25 years old, or 42% of the world's population. About 1.2 billion of these teenagers are aged between 10 and 19 years. According to the 2015 census, Indonesia's population was estimated to reach 266.91 million in 2019, with the 10-19 age group being the largest at 44.34 million (Susilowati, 2016).

Sexually Transmitted Infections (STIs) are infectious diseases that can be transmitted from one person to another through sexual intercourse (Rodiyah & Andayani, 2022). Cases of sexually transmitted infections (STIs) continue to increase, the phenomenon of increasing and spreading cases of sexually transmitted infections that occur in high risk groups is very fast, one of those most at risk is teenagers, because teenagers are a transition period from childhood to older age. As they mature, teenagers will become more curious about everything, including sexual matters (Diananda, 2019). Teenagers can engage in free association due to ineffectiveness when using electronic media such as smartphones, and also lack of supervision from parents regarding the use of smartphones so that children are free to use them without any supervision or restrictions from parents. Another problem is that sexually transmitted infections are a result of deviant sexuality through sexual intercourse, which is currently the world's concern and commitment to prevention and treatment (Rahayu, 2021).

The National Population and Family Planning Agency (BKKBN) explains that teenagers range in age from 10 to 24 years and are not married (Fatkhiyah et al., 2020). Adolescence is divided into 3 stages based on age, namely 11-14 years which is called early adolescence, 14-16 years which is called middle adolescence, and 17-20 years which is also called late adolescence. In boys, this change is marked by the development of sexual organs, namely the start of growth of pubic hair, changes in voice and also the first ejaculation through wet dreams. For young girls, puberty is marked by menarche (first menstruation), changes in the chest, growth of pubic hair and also pelvic enlargement (Khamidah, 2021). Sexually transmitted diseases are caused by bacteria, fungi, viruses and parasites that enter and reproduce in the body and are transmitted through sexual contact (Zatalini & Wulandari, 2018). Several types of STIs will damage the reproductive organs if left untreated, even without causing symptoms such as pain, itching or discharge. The risk of STIs is greater if vaginal, oral or anal sexual intercourse occurs with multiple partners (Saenong & Sari, 2021).

According to the 2017 BKKBN, as many as 14% of married women and 2% of married men who have had sexual relations experienced STIs or their symptoms in the last 12 months. Based on marital status, the highest prevalence of STIs or their symptoms occurs in unmarried women (20%). Based on age, women aged 15-19 years (21%) while married men aged 20-24 are the group with the highest prevalence of experiencing STIs or their symptoms (4%) (Saenong & Sari 2021). Based on research by Mustikasari (2014), with the title *The Influence of Knowledge on Adolescents' Attitudes towards Infectious Diseases Due to Sexual Intercourse in Man Mojokerto* with a sample size of 210 respondents who stated that 48 respondents were in the good category (22.9%), the fair category was 130 respondents (61.9%) and in the less than category there were 32 respondents (15.2%). And Marlina Rahma's research in 2018, with the title *The Relationship Between Sexuality Knowledge and Adolescent Sexual Behavior at SMA Negeri 1 Subang* with a sample size of 293 respondents who stated the good category, namely 109 respondents (32.7%), the sufficient category, namely 170 respondents (58%) and those included in the poor category were 14 respondents (4.8%) (Desitavani & Rohmah, 2017).

Based on the data and previous research above, the author is interested in conducting research with the title *The Relationship between Knowledge Level and Attitudes towards Sexually Transmitted Infections in Students of the 2021 Class of Indonesian Muslim University Makassar Medical Education Study Program*.

Methods

This type of research uses the approach used, namely "cross sectional study" where data is collected at a certain time. This research is a descriptive analytical survey research, aimed at determining the level of knowledge and attitudes of 2021 Indonesian Muslim University Medical Education Study Program students regarding sexually transmitted infections. The place of research was carried out at the Indonesian Muslim University, Campus II Jalan Urip

Sumoharjo KM.05, Faculty of Medicine. The research was carried out from the time the researcher determined the title, which took place from May 2022 to October 2023.

Result and Discussion

This research was conducted at the Indonesian Muslim University Campus II Jalan Urip Sumoharjo KM.05 Faculty of Medicine based on the approval of the Ethics Commission with Number 281/A.1/KEPK-UMI/VII/2023. This type of research is descriptive analytical research, namely the relationship between the level of knowledge and students' attitudes towards sexually transmitted infections in students at the 2021 Class of Indonesian Muslim University Makassar Medical Education Study Program. Research respondents were obtained from students in the Medical Education Study Program at the Indonesian Muslim University Makassar class of 2021, namely 277 people who were adjusted to the inclusion criteria and exclusion criteria.

Characteristics of Research Subjects

Characteristics of respondents based on age

The frequency distribution of students in the Medical Education Study Program at the Indonesian Muslim University in Makassar, class of 2021, which is 277 people based on age, can be seen in the table below.

Table 1. Frequency Distribution of Respondent Characteristics by Age

Age (Year)	Frequency (n)	Percent (%)
18	1	4
19	68	24,5
20	156	56,3
21	51	18,4
22	1	4
Total	277	100

Based on table 1, it can be seen that the most age group of respondents is 20 years old as many as 156 people (56.3%), followed by the age group of 19 years as many as 68 people (24.5%), then the age group of 21 years as many as 51 people (18.4%), and the lowest group of respondents aged 18 years as many as 1 person (4%) and respondents aged 22 years as many as 1 person (4%).

Characteristics of respondents by Gender

Table 2. Frequency Distribution of Respondents' Characteristics by Sex

Gender	Frequency (n)	Percent (%)
Man	71	25,6
Woman	206	74,4
Total	277	100

Based on table 2, it can be seen that most of the respondents were women, namely 206 people (74.4%), while the group of respondents was male as many as 71 people (25.6%).

Knowledge of sexually transmitted infections

Table 3. Frequency Distribution of Test Results Knowledge Level of IMS

Knowledge of sexually transmitted infections	Frequency (n)	Percentage (%)
Good	264	95,3
Not Good	13	4,7

Based on the table above, there were 264 respondents (95.3%) with good categories regarding knowledge about sexually transmitted infections and the remaining 13 respondents (4.7%) with poor categories.

Attitude to sexually transmitted infections

Table 4. Frequency distribution of attitude test results towards STIs

Attitudes About Sexually Transmitted Infections	Frequency (n)	Percentage (%)
Good	241	87
Not Good	36	13

Based on the table above, there were 241 respondents (87%) with a good category regarding attitudes towards sexually transmitted infections and the remaining 36 respondents (13%) with a poor category.

The relationship between knowledge and attitude

Table 5. The Relationship Between Knowledge and Attitudes Toward Sexually Transmitted Infections

Variable		Attitude to sexually transmitted infections				Total		(p value)
		Good		Not Good				
		n	%	n	%	n	%	
Knowledge of sexually transmitted infections	Good	233	96,7	8	3,3	241	100	0,018
	Not Good	31	86,1	5	13,9	36	100	

Based on table 5 above, it can be seen that after statistical calculations with the *Chi-Square* Test on the Relationship Between Knowledge and Attitudes towards Sexually Transmitted Infections in students of the Medical Education Study Program, Universitas Muslim Indonesia showed that in the sample there were 36 respondents with poor knowledge. Where 5 respondents have a bad attitude and 31 respondents have a good attitude. While the number of respondents with good knowledge was 241 respondents. Where 8 respondents have a bad attitude and 233 respondents have a good attitude.

Discussion

Based on table 1 regarding the distribution of respondents based on age among students in the Medical Education Study Program at the Indonesian Muslim University of Makassar class of 2021, it was found that the highest age group was 20 years old with 156 people (56.3%), followed by the 19 year old group with 68 people. (24.5%), then the 21 year old group was 51 people (18.4%), and the lowest group was 18 year old respondents (4%) and 1 person aged 22 years (4%).

Based on table 2, it can be seen that the majority of respondents were female, namely 206 people (74.4%), while the group of respondents was male as many as 71 people (25.6%). In accordance with Saenong (2020) research on sexually transmitted infections, it was stated that 28.6% of the respondents were male and 71.4% female at the Muhammadiyah University Jakarta. Meanwhile, in contrast to research according to Aditya Ramadhani and Meida L. Ramadhani in 2020 regarding sexually transmitted infections, it was stated that 55.3% of teenage students at Karya Bhakti Brebes Vocational School were male and 44.7% female respondents (Saenong & Sari, 2021; Ramadhani, 2020). In this study, 99.6% of respondents knew the meaning of STIs. This shows that students in the Indonesian Muslim University

medical education study program know that STIs are diseases that are transmitted mainly through sexual intercourse. In accordance with research conducted by Marini C. Pandjaitan at Brother Don Bosco High School Manado, 98% of respondents knew the meaning of STIs. This may be because they receive reproductive health education from school to university. So understanding STIs is something that is easy for them to answer.

There are more than 30 types of germs that cause STIs which are grouped into several groups, namely bacteria, viruses, protozoa and fungi. In this study, respondents were asked to answer the causes of STIs which were classified as bacteria. The results obtained were 84.8%. These results are not much different from research conducted by Pandjaitan et al. (2017) at Brother Don Bosco High School, Manado, which stated that 54% of teenagers could correctly answer the causes of STIs.

The results of this study stated that 84.8% of respondents were familiar with the bacteria that cause and symptoms of candidiasis infection. These results are not much different from research conducted by Handayani & Sudarmiati (2012) which found that 48% of teenagers knew that candidiasis generally involves a milky discharge from the vagina.

Even though in this study respondents were not asked to name the types of STIs one by one, at least 94.9% of respondents knew the symptoms of syphilis, 83.8% of respondents knew the symptoms of genital herpes and 62.5% of respondents knew the cause of gonorrhea. This shows that teenagers can differentiate between types of STIs and can determine the type of STI based on the symptoms. This is in accordance with research conducted by Pandjaitan et al. (2017) at Brother Don Bosco High School, Manado, which found that 83% of teenagers could correctly answer the type of STI. So this can show that teenagers' knowledge about types of STIs is relatively good.

The results of this study stated that 71.8% knew how STIs were transmitted, namely not only through anal means, namely through sexual intercourse with a partner who was infected with STIs. Apart from that, there were 77.3% of teenagers who answered correctly the impact of STIs. Marini C. Pandjaitan also found that 97% of teenagers knew how STIs were transmitted and 63.1% of teenagers knew the impact of STIs. With the high level of knowledge among teenagers about how this STI is transmitted and the impact, it is hoped that it can prevent them from having casual sex which can cause them to contract STIs.

In this study, there were still many teenagers who chose not to be around people who had sexually transmitted infections. This is shown by the fact that 49.1% of teenagers strongly agree and only 6.5% of teenagers who strongly disagree will stay away from people who have sexually transmitted infections. This shows that there are still teenagers who have negative attitudes towards people who have sexually transmitted infections. In this study, it was also found that 93.3% of teenagers who were exposed to a sexually transmitted disease would follow the doctor's orders in treating sexually transmitted infections. This shows that almost all teenagers respond positively to people who have symptoms of sexually transmitted infections and have a caring attitude so that the disease does not get worse. From this study, only 4% of teenagers agreed not to approach casual sex to prevent sexually transmitted infections. This is in accordance with Pandjaitan et al. (2017) research which found that only 12% of teenagers agreed to free sex. Even though only 4% of teenagers disagree with not having pre-marital sexual relations, it is important to pay special attention to parents and the government so that teenagers can act to avoid sexual relations before marriage.

More than half of teenagers have a good attitude in preventing sexually transmitted infections. This can be seen from this research, which found that 88.8% of teenagers strongly agreed that other people's free sexual experiences could be used as input to be careful not to contract sexually transmitted infections. 89.2% of teenagers strongly agree that it is very necessary to hear input from parents and those around them in order to avoid free sex.

The results of this research state that 47.7% of teenagers do not agree that western culture is legal in its promiscuity. Based on research conducted by Stillman et al. (2020), it is stated that every year there are around 2.3 million cases of abortion in Indonesia, of which 20% are abortions carried out by teenagers. So it can be assessed that the attitude of the respondents from this study has a good enough attitude to be aware of the development and globalization of western culture which can have a negative impact on teenagers in Indonesia.

Based on table 4, the percentage of respondents' knowledge about sexually transmitted infections was found to be 95.3% in the good category and 4.7% in the poor category. The results of this research are not much different from Saenong (2020) research on sexually transmitted infections, which stated that 86.6% of Muhammadiyah University Jakarta Medical Education students had good knowledge. This is possible because the samples in this study were medical students who had been exposed to more than sufficient knowledge about STIs. This is different from previous similar research, namely research by Zuliani et al. (2022) which stated that 58.7% of teenagers at Darul Ulum High School in East Java had sufficient knowledge about sexually transmitted infections. According to research by Tarigan (2019), 49.3% of teenagers from the GBKP Berestagi Masehi Private High School had less knowledge about sexually transmitted diseases. Based on this research, this research is not the same, this could be possible because the sample of this research is different from previous research. In this study, the results showed that the majority of teenagers had good knowledge, 96%.

There are many things that can influence a good respondent's attitude. Attitudes can be influenced by factors such as environment, work or culture. Adolescents' attitudes towards STIs are related to adolescents' responses to STIs. If a teenager has a positive attitude, he will be more selective in socializing and choosing friends, thereby reducing the risk of risky sexual behavior and sexually transmitted infections. Based on table 5 regarding the percentage of respondents' attitudes regarding sexually transmitted infections, it was found that there were 241 people (87%) in the good category and 36 people (13%) in the poor category. This is in line with the results of research by Saenong (2020) regarding sexually transmitted infections which stated that 2019 students of the Muhammadiyah University Jakarta Medical Education Study Program had a good attitude towards sexually transmitted infections, namely 90.5%.

Based on table 5, it is known that respondents who have poor knowledge about sexually transmitted infections tend to have poor attitudes towards sexually transmitted infections. Meanwhile, respondents with good knowledge tend to have a good attitude towards sexually transmitted infections. With a p-value of $0.018 < 0.05$, it can be said that there is a significant relationship between knowledge about sexually transmitted infections and attitudes towards sexually transmitted infections. Similar results were also shown by research conducted by Januario N. Dos which stated that knowledge and attitudes have an influence on adolescent sexual behavior. Having good knowledge has an impact on lowering the risk of transmitting STIs to teenagers.

As time goes by, coupled with increasingly sophisticated technology, promiscuity will become increasingly uncontrolled and will become more common. Knowledge of sexually transmitted infections is very necessary so that teenagers can protect them from promiscuity and premarital sex. Adolescence is a time when they experience changes and challenges in their lives. So if they do not have sufficient information or knowledge about reproductive health, especially those related to sexually transmitted infections, teenagers will be trapped in promiscuous sexual behavior before marriage. There is an inner response from within a person that is produced in the form of an attitude towards a known object due to the knowledge that a person has. So if someone's knowledge is good about something, they will certainly give a good response and attitude too. Adolescents who have good knowledge about STIs are expected to have the ability to control their sexual behavior.

Conclusion

Based on the results of research on the relationship between level of knowledge and attitudes towards sexually transmitted infections among students of the Medical Education Study Program at the Indonesian Muslim University of Makassar Class of 2021, it can be concluded that: (a) The respondents studied in this study tend to have good knowledge about sexually transmitted infections; (b) Respondents studied in this study tended to have a good attitude towards sexually transmitted infections; (c) There is a significant relationship between knowledge and attitudes towards sexually transmitted infections among students of the 2021 Class of Indonesian Muslim University Makassar Medical Education Study Program.

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