CORRELATION BETWEEN KNOWLEDGE OF SEXUALLY TRANSMITTED INFECTIONS AND PREVENTION BEHAVIOR OF STI TRANSMISSION AMONG NURSING STUDENTS

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Abstract

Sexually Transmitted Infections (STIs) are diseases that can be transmitted through sexual intercourse with multiple partners, either vaginally, orally, or anally. Infected partners can also transmit STIs to their partners. In 2023, STI cases in Pontianak City will reach 220 cases. In Indonesia, young men and women aged 15 to 24 years have relatively low knowledge about STIs, and insufficient knowledge increases the risk of unsafe sexual behavior. This study aims to determine the correlation between the level of knowledge about STIs and behavior in preventing STI transmission. This research is quantitative using a correlational and *cross-sectional design*. The sampling technique used was *total sampling* with a population of 92 students of the Class of 2023 Nursing Study Program at Tanjungpura University. The instruments used 2 questionnaires, STI Knowledge and STI Transmission Prevention Behavior. The STI Knowledge questionnaire has a valid test value of 0.361 and a reliability test value of 0,767. In contrast, the STI Transmission Prevention Behavior questionnaire has a valid test value of 0,358 and a reliability test value of 0,777. The analytical method used is the *Spearman Rank.* The results that the correlation test showed a significant correlation between the level of STI knowledge and STI transmission prevention behavior with a Sig value (2-tailed), namely ρ = 0,039 and *correlation coefficient.* The positive correlation result was obtained, namely r = 0,216, meaning that the higher the level of STI knowledge, the higher the behavior to prevent STI transmission. It is hoped that this research will be able to change behavior related to STI prevention, starting by increasing knowledge of STIs. Good knowledge can be the basis for information to change behavior in preventing STIs so that good STI prevention behavior can occur. Future researchers are expected to be able to analyze environmental factors and information related to STI prevention or research related to the same topic but different subjects that are not health students. They can also compare health and non-health students' knowledge regarding STIs.

Keywords: College students, knowledge, Sexually Transmitted Infections, transmission preventionbBehavior

INTRODUCTION

Sexually Transmitted Infections (STIs) are diseases that can be transmitted through sexual contact. Partners who are not infected with STIs are more vulnerable if they have sexual relations with partners who are infected with STIs that are transmitted vaginally, orally, or anally. Bacteria, viruses, parasites, or fungi cause STIs. The main transmission of STIs occurs through sexual contact with an infected person. STIs are dangerous because they can cause infections in the reproductive organs and damage the immune system. If not treated properly, the infection can spread and result in long-term illness, infertility, or even death (Subiyantoro et al. 2018).

STIs greatly impact sexual and reproductive health worldwide. WHO (2023) claims there will be 374 million new infections in 2020. Hairuddin et al. (2022) Indonesia is among the top five most at risk of STIs in Asia with the total number of STI cases handled in 2018 from 430 STI services being 140,803. The number of STI cases reported according to West Kalimantan Province Diskominfo data in 2021 was 390 cases. The Pontianak City Health Office said 2023 there will be 220 STI cases (Rini et al. 2023).

Internal factors, such as age, education, knowledge about STIs, marital status, employment as a commercial sex worker, and individuals at high risk who frequently change sexual partners and do not have unprotected sexual intercourse, are some of the factors that influence the increase in the incidence of STIs. In Indonesia, young men and women aged 15-24 years have relatively low knowledge about STIs. For example, 35% of women and 19% of men know about gonorrhea, 14% of women and 4% of men know about genital herpes, and knowledge about other STIs is only 1% (Rahmawati et al. 2018). Knowledge about STIs is critical in preventing the spread of this disease. Low knowledge about STIs increases the risk of unsafe sexual behavior (Sitepu, 2021).

The results of research by Ellis (2019) said that sexual behavior among students shows that students are a high-risk population who have a higher risk of contracting and transmitting STIs. Risky sexual behavior in college students includes frequently changing partners, sexual activity under the influence of psychoactive substances, inconsistent use of condoms, etc (Subotic et al. 2022). Additionally, it is a period characterized by the search for self-identity, followed by young people gaining autonomy, and also engaging in sexual activity. Knowledge about STIs is fundamental in preventing the spread of this disease(Hairuddin et al. 2022).

Students aged 18 to 21 have more unfavorable attitudes regarding sexually transmitted diseases than students of other ages. This is caused by the search for identity and the influence of friendships in their environment, both of which contribute to unfavorable behavior related

to sexually transmitted diseases (Subiyantoro et al. 2018). Research shows that many factors contribute to risky sexual behavior among college students. It has been observed that childhood abuse, poor mental health, alcohol use, drug use, partner violence, or sexual coercion are significantly correlated with risky sexual behavior (Yi et al. 2018).

Some behaviors that can reduce the risk of STIs include using condoms, reducing the number of sexual partners, choosing sexual partners very carefully, and having regular health checks (de Wit et al. 2023). According to Johnson et al. (2021), they were told that individuals who take active steps to protect themselves, such as taking regular STI tests and adopting safe sexual practices, have a lower risk of being infected with an STI. Recent research by Brown, et al., (2022) highlights the importance of building a supportive environment and facilitating STI-prevention behavior. These factors may include easy access to condoms, health screening services, and also social support from friends and family. This study aims to analyze the correlation between knowledge about STIs and behavior to prevent STI transmission among nursing students in the class of 2023 at Tanjungpura University.

METHODS

Correlation analysis is the type of research used in this research. This research was designed in a *cross-sectional*. Researchers researched Tanjungpura University nursing study program students on March 1, 2023. This research used a sampling technique using *Total Sampling* with 92 respondents from the Class of 2023 Nursing Study Program at Tanjungpura University. This research instrument consists of two questionnaires, STI Knowledge and STI Transmission Prevention Behavior. The STI Knowledge questionnaire has a valid test value of 0.361 and a reliability test value of 0.767. In contrast, the STI Transmission Prevention Behavior questionnaire has a valid test value of 0.358 and a reliability test value of 0.777. Bivariate analysis was carried out using the *Spearman Rank* and data are processed with the SPSS program. This research has passed an ethical review with letter number 1565/UN22.9/PG/2024 which considers research ethics in the form of informed consent, autonomy, justice, beneficence and nonmaleficence, privacy, anonymity, and confidentiality. This analysis aims to prove the existence of a correlation between knowledge and behavior to prevent STI transmission. A value of $\rho<0.05$ indicates that there is a correlation, while a value of $\rho \geq 0.05$ suggests that there is no correlation.

RESULTS

Knowledge of STIs in Nursing Students

Table 1. Distribution of STI Knowledge (n = 92)

STI knowledge	Frequency	Percentage%
Good Knowledge	80	87
Bad Knowledge	12	13
Total	92	100%

Based on Table 1, it is known that most respondents had a good level of STI knowledge, 80 respondents (87%) and 12 respondents (13%) had bad STI knowledge.

Behavior to Prevent STI Transmission in Nursing Students

Table 2. Distribution of Infection Prevention Behavior (n = 92)

STI Transmission Prevention Behavior	Frequency	Percentage%
Good Behavior	74	80.4
Bad attitude	18	19.6
Total	92	100%

Table 2 shows that 74 respondents (80.4%) in this study had good infection-prevention behavior and 18 respondents (19.6%) had bad infection-prevention behavior.

Correlation between STI Knowledge and STI Transmission Prevention Behavior in Nursing Students

Table 3. Correlation between STI Knowledge and STI Transmission Prevention Behavior

STI knowledge	Behavior Prevention STI transmission				Total		*ρ value*	r
	Good		Bad					
	f	%	f	%	f	%		
Knowledge Good	67	83.8	13	16.2	80	100.0	0.039	0.216
Knowledge Bad	7	58.3	5	41.7	12	100.0		

Description: *Spearman test Rank*

Table 3 shows that respondents in this study had good knowledge of STIs, 67 respondents (83.3%) had good infection-prevention behavior, while 13 respondents (16.2%) had bad infection-prevention behavior.

Respondents with bad knowledge about STIs had good infection prevention behavior, totaling 7 respondents (58.3%), and those with bad infection prevention behavior, totaling 5 respondents (41.7%).

Results of correlation testing using the Spearman test Rank are obtained by the Correlation value the coefficient is 0.216 which indicates that the two variables have a weak correlation and the direction of the correlation is positive. The resulting ρ value is 0.039, smaller than the α value, namely 0.05 (<0.05), which means there is a correlation between STI knowledge and behavior to prevent STI transmission.

DISCUSSION

Description of the Level of Knowledge of STIs

Based on the results of this research, it was found that most respondents had good knowledge of STIs, 80 respondents (87%), and 12 respondents had bad knowledge of STIs (13%). This is in line with Laksmi's (2021) research, which found that the understanding of the 2019 USU FK new students regarding STIs was in the moderate or quite good category because material about the human reproductive system was included in biology lessons in middle and high schools. Respondents in this study showed knowledge about the meaning of adolescents and the transmission of STIs obtained from STI posters about adolescent reproductive health found in print or electronic media.

This is supported by research by Puspita (2017), which states that knowledge is essential to know what is happening around them. With expertise, a person can receive and access more information, especially about preventing STIs. The theory that knowledge influences a person's attitudes and behavior toward disease prevention is supported by the results of this research (Notoatmodjo, 2014). In addition, according to research by Wulandari (2021), a person's attitude toward STI prevention is correlated with the level of knowledge to determine a person's attitudes and behavior in preventing STI transmission.

Previous research shows that more women and men do not know the symptoms of STIs in the 15 – 19 year age group compared to the 2024 year age group (Aulia and Utami, 2022). From the research results of Nopitasari et al al., 2020 UMM students had a good level of knowledge as many as 101 respondents (94.3%). This is because they have various sources of information, including from schools/universities and the Internet.

Notoatmodjo (2014) states that knowledge results from sensing a particular object. The five senses, consisting of smell, taste, hearing, and sight, carry out sensing. According to Sinaga et al (2018) research, education increases a person's insight or knowledge. Generally, a person with a higher level of education has more knowledge than a person with a lower level of education. Knowledge itself is acquired through both formal and informal education.). Knowledge consists of facts and theories that enable a person to solve problems. Direct experience and other people's experience are the two main sources of knowledge (Mularsih, 2020).

Students have sufficient knowledge about STIs. This is because they get good sources of information from the Internet, schools, and books. Knowledge can be defined as the ongoing information a person needs to understand their experiences. Experience can also increase

knowledge due to getting additional information which can develop their understanding of a knowledge. Knowledge can also influence teenagers to maintain or develop new attitudes. Extensive knowledge can be useful, as knowledge about STIs can help a person take appropriate action, especially to prevent transmission of STIs.

Description of Behavior to Prevent STI Transmission

Based on the results of this study, show that the majority of respondents had good transmission-prevention behavior, 74 respondents (80.4%) and 18 respondents (19.6%) had bad transmission-prevention behavior. This is in line with research conducted by Kora et al. (2016), who found that low STI knowledge in adolescents increased the likelihood of unsafe sexual behavior 1.7-fold, which increased the risk of contracting an STI.

This aligns with research (Otampi et al., 2020) involving high school teenagers in Banyuwangi District which found that 57.0% of respondents showed good HIV-AIDS prevention behavior. Knowledge is not the only thing that influences good behavior. Personal experiences, emotions, media, educational institutions, the influence of other people considered important, and culture are several different factors (Deviani, 2017).

One of several factors that influence behavior is predisposing factors, namely factors that facilitate or predispose someone's behavior, such as their knowledge and attitudes. Human behavior consists of attitudes, which are shown or manifested by attitudes. A person tends to act towards something in a way that shows that they like or dislike that something (Aslia, 2017).

Knowledge can influence respondent behavior, respondents with low levels of knowledge are dominated by bad behavior. Knowledge, attitudes, and actions are manifestations of human experience and their interactions with their environment which shape human behavior. In other words, behavior is how someone responds to stimuli from within and outside.

Correlation between STI Knowledge Level and STI Transmission Prevention Behavior

The results of this study indicate that students' level of knowledge and transmission prevention behavior are related. The results showed that most respondents had good knowledge about preventing transmission, and a few showed poor infection-prevention behavior. According to the Spearman test results Rank, a Sig (2-tailed) value of 0.039 (<0.05) indicates that Ha is accepted and H0 is rejected. Correlation Value The coefficient of 0.216 indicates that the two variables have a weak correlation and the direction of the correlation has a positive correlation. This shows that knowledge is positively correlated with transmission prevention behavior.

This is in line with Massa and Ali's (2023) research on teenagers at SMA Negeri 1 Tomohon, which showed that of the 39 or 42.4% of teenagers with poor knowledge, 28 people, or 30.4% had poor STI prevention. Good STI prevention was 11 people or 12%, and poor STI prevention was 37 people or 40.2g%.

Research conducted by Sukmasari et al. (2018) found a significant correlation between patient knowledge about STIs and the actions they took to prevent STIs with p=0.049. This shows that most people who know about STIs also behave to prevent transmission. Knowledge can't relate to action and produce positive results directly. Therefore, to respond to knowledge resulting from sensing, a good attitude is needed to change or shape actions or behavior.

According to Lawrence Green (1980) in Notoatmodjo (2014), three factors influence a person's behavior. Predisposing factors come from knowledge, attitudes, beliefs, beliefs, values, etc. Enabling factors come from the physical environment and the community's availability of facilities and infrastructure or health facilities. Driving or strengthening factors come from the environment in life (Notoatmodjo 2014).

A person with a good STI level tends to have a supportive attitude towards sexually transmitted diseases. Knowledge and attitudes motivate a person to act, whether supportive or less supportive so that a person tends to carry out supportive behavior, namely preventing STIs. Improving knowledge of reproductive health would be an alternative way to deal with a lack of understanding of reproductive health and would enhance their awareness in performing health practices to prevent reproductive issues. Knowledge of reproductive health is an important factor in determining health behavior. Lack of information would lead to negative attitudes and misperceptions about physiological processes and risks of unhealthy behavior do not want to behave hygienically (Solehati, et al. 2018).

One way to prevent STIs in adolescents is to increase public knowledge about STIs through health education and seeking more in-depth information about STIs. In conclusion, more knowledge about STIs means more preventive measures. In conducting this research there are limitations. This study uses Cross-Sectional methods, which means it is performed only once. Data collection involves questionnaires, which tend to be objective, so the truthfulness of respondents in answering questionnaires significantly influences the data provided.

CONCLUSION

Based on the results and discussion in this research, there is a significant correlation between STI knowledge and behavior to prevent STI transmission. The higher the level of

knowledge about STIs, the better the STI prevention behavior shown by students. Efforts to increase STI prevention behavior can start by increasing knowledge about STIs among students. Effective health education and adequate information about STIs can help change behavior to be more positive in preventing STI transmission. It is hoped that good student knowledge can become a provision/basis for changing behavior in preventing STIs so that good STI prevention behavior can occur. Future researchers are expected to be able to analyze environmental factors and information related to STI prevention or research related to the same topic but different subjects that are not health students. They can also compare health and non-health students' knowledge regarding STIs.

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