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The Factors Affecting the Awareness of Young People on Sexual Transmitted Infections (STIS): Knowledge, Attitude and Environment

Natasha Dzulkarnine, *Nur Aizureen Anwar, Muna Wadhiha Mohd Fauzi, Suhaila Mohamed, Shamsul Azreen Shukur
Faculty of Business and Management, Universiti Teknologi MARA, Cawangan Selangor, Kampus Puncak Alam, Selangor, Malaysia
natasyad@uitm.edu.my, *nuraizureen@uitm.edu.my, muna@uitm.edu.my, suhaila423@uitm.edu.my, shamsulshukur@uitm.edu.my
Corresponding Author: Nur Aizureen Anwar

Abstract: The outbreak of sexually transmitted infections (STIs) in the nation is not something new; in fact, the issue has been around for many years and has been steadily becoming worse over that time. The problem becomes more crucial as each year; an increasing number of cases will be reported in Malaysia and throughout the world. In some cases, symptoms of STIs may not even be present. This can mean that a person might get infected by another person who might appear healthy without knowing they have already been infected with STIs; therefore, this article aims to investigate the knowledge, attitudes, and environment as the factors that influence awareness of Sexual Transmitted Infections (STIS) among the 227 of youths. A survey was conducted, and the data was analyzed using regression analysis. The result revealed that knowledge, attitude, and environment had a significant influence on sexually transmitted infections. In addition, the environmental factor reported had the most significant influence. The finding implies that external roles, such as those of the government, schools, and universities, should be provided with more facilities and programs to sustain and improve awareness among the youth group. Furthermore, increasing youth awareness may change individual behavior and attitude toward a good, healthy lifestyle.

Keywords: *Sexually Transmitted Infections (STIs), Knowledge, Attitude, Environment, Lifestyles*

1. Introduction and Background

Sexually Transmitted Infections (STIs) have become a significant public health in Malaysia, especially among youth. STIs are a type of infection that is passed from person to person through sexual activity. STIs, also known as Sexually Transmitted Diseases (STDs), are caused by bacteria, viruses, and parasites that can spread through sexual intercourse, blood transfusions, or the use of contaminated needles. STIs or STDs are spread through the vagina, oral and oral sex. The most reported STIs are Chlamydia, Gonorrhea, Syphilis, Trichomoniasis, M genitalium HIV, and Human papillomavirus (HPV). Depending on the type of infection, significant symptoms could be visible, or there might not be any physical manifestations. Hence, the infections could silently be transmitted among healthy-looking people. The past years have highlighted a rise in cause for concern regarding an increased number of STIs in terms of cases, treatments, and deaths in Malaysia.

Several media in Malaysia reported an increased incidence or undetected cases of Syphilis, Hepatitis C, and HIV infections. The substantial increase in STIs has provoked this alarming information. In fact, according to the STIs Department in the Federal Health Ministry, there were 131,830 cases of STIs, with Syphilis disease representing most cases and patients, especially among young people. With this situation, one of the problems that many researchers have identified is a lack of awareness even though many initiatives and programs have been provided to young people (Zhang et al., 2013) despite all the advancements in technology and easy access to information such as internet and social media platforms including Instagram, X and Tiktok, the current generation might not be equipped with the awareness of STIs among young people. In addition, undeniably, the influence of peers, lifestyle, and risky behavior contributed to the spreading of infections (Simanjuntak, Keperawatan, & Rebo, (2023). Young people have an open social lifestyle and yielding on the impact of the STIs. Apart from that, the lack of conversation led to young people's misunderstanding and ignorance in taking preventive action. Therefore, the study aims to measure the knowledge, attitudes, and environmental factors influencing awareness of STIs among young people.

2. Literature Review

In this literature review, there was a comprehensive discussion on previous researchers' awareness, knowledge, and environment towards sexually transmitted infections to develop the hypotheses of this study.

Awareness towards Sexual Transmitted Infections (STI)

STIs spread as a public health problem worldwide. People should be aware of it to prevent the disease from spreading fast and create a healthier society. Although the disease spreads worldwide, the evidence shows that most people, especially young people, are unaware of the implications and the prevention. Shinkre et al. (2023) state that young people, specifically young people, have low awareness of STIs. This, in turn, risks increasing their social stigma and hinders the people's ability to control sexual diseases. Even though most young people have a positive attitude towards sexual health issues, their knowledge of STIs is limited. Overall, this means STI cases among youth are probably increasing, and some contributing factors include knowledge, attitude, and environment. According to certain studies, one factor that contributes to an absence of information is a gap in awareness regarding STIs. It has been mentioned by Anwar et al. (2010) that this is the case, and people's misconceptions and lack of awareness about the most common non-HIV STIs put them at greater risk for negative consequences caused by their sexual behavior. Furthermore, there could be a need for more concern regarding STIs because they might be viewed as easily treatable. In addition, Folasayo et al. (2017) pointed out that the majority of young people lacked an awareness of the potential implications that could result from their behavior. Therefore, the hypothesis proposed as follows:

H1: There is a relationship between knowledge and awareness of STIs.

Knowledge towards Sexual Transmitted Infections (STIs)

Young people's knowledge, or lack thereof, about STIs plays a critical role in the spread of infections. Inadequate sexual education, coupled with misconceptions, stigma, and the influence of peer norms and social media, creates an environment where risky behaviors thrive. Improving access to comprehensive sexual health education and providing clear, accurate information about STI prevention and treatment are essential steps in reducing the spread of STIs among young people. This could be explained as many young people lack access to comprehensive sexual education, which covers not only abstinence but also contraception, condom use, and STI prevention. In many educational settings, sex education is either omitted or focused solely on abstinence, leaving young people uninformed about safer sexual practices. A study by the Guttmacher Institute found that youth who received comprehensive sex education were significantly less likely to engage in risky sexual behaviors compared to those who received abstinence-only education. Without this vital knowledge, young people are more likely to engage in unprotected sex, increasing the risk of STI transmission.

Attitude towards sexually transmitted Infections (STIs)

Young people's attitudes toward sexually transmitted infections (STIs) can significantly decrease by adopting a positive attitude that is based on openness, a willingness to learn about sexual health, and a dedication to safe sexual practices (Sham, Yaakub, Fawati, Fatinni, & Azamuddin, 2020). On the other hand, a negative attitude is commonly a tendency to stigmatize and discriminate against people with STIs which might lead to delayed diagnosis and treatment. It is commonly known that various circumstances, including their friends, can impact young university people's risky attitudes. This is further supported by a study conducted by Folasayo et al. (2017). Peers have an impact on risky behaviors such as drinking alcohol, using drugs and watching pornographic movies. While a positive attitude alone cannot guarantee complete protection from STIs, it can be a decisive factor in promoting safer sex practices, encouraging early diagnosis and treatment, and reducing stigma associated with STIs. Somehow, their attitude is influenced by their age. As they get older, with increased knowledge and awareness, they show better attitudes (Zin et al., 2019). Therefore, the hypothesis proposed as follows:

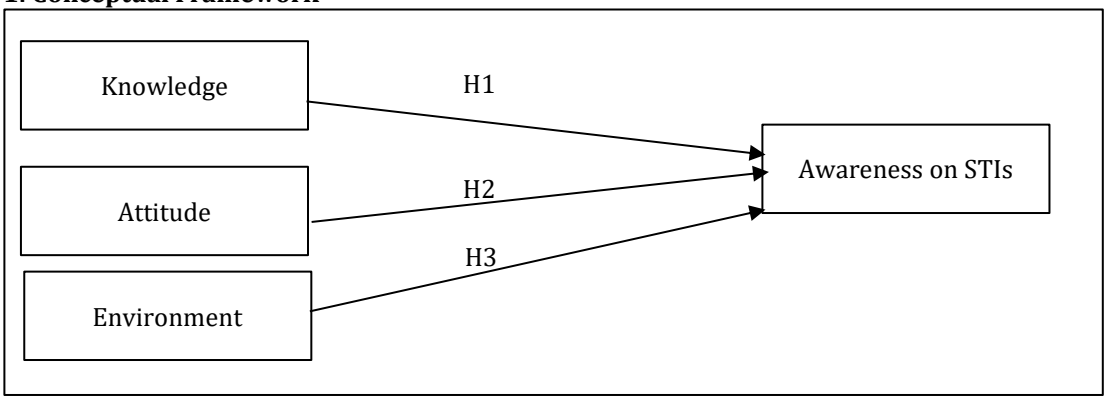
H2: There is a relationship between attitude and awareness towards STIs.

Environment towards Sexual Transmitted Infections (STIs)

The environment role refers to a person's surroundings, whether physically, mentally, or spiritually. Adeniyi et al (2014) stated that in the context of fresh undergraduates, 86% of the respondents agreed that exposure to a new environment was the reason behind their change in sexual relationships. For instance, the environment is the personality of people they meet, the setting or location of their workplace, the type of job

they are performing, and others. Meanwhile, studies have also been conducted in low-income neighborhoods where 32.1% of the respondents had one or more STIs (Boyer et al., 2018). Living conditions could also be classified as environmental factors that lead to STI. Therefore, the hypothesis proposed as follows:
H3: There is a relationship between environment and awareness of STI

Figure 1: Conceptual Framework



3. Research Methodology

A survey was conducted on a large population of 2167 young people, including categories of young people from a local university who applied cluster sampling to identify the sample from five programs: Event Management, Insurance, Finance, Retail Management, and International Business. Next, the researcher will choose a random sample of the cluster, incorporating all members of the chosen clusters into the sample. This type of sampling is often used when it is difficult or expensive to contact individuals directly, and it can also reduce the amount of time and money required to collect data from 227 samples. An online survey with a link was shared with the respondents, and the data collected was further analyzed using regression analysis to identify the most significant influence of the three factors mentioned above on STI awareness.

Most respondents are female, representing 65.2% of the total, while males comprise 34.8%. This gender distribution indicates a higher representation of females in the sample. Table 1 presents the results for the demographic factors. Next, the age distribution shows that a significant proportion of respondents fall within the age range of 22-24 years old, representing 77.1% of the total. Those aged 19-21 constitute 19.4%, and those aged 25 and above make up 3.5%. This suggests a concentration of respondents in the early to mid-20s age group. In addition, there are five programs, and the result indicates that the highest number of respondents from the program Finance is 25.1%, followed by International Business, with 23.3% having the highest representation. They continued with the insurance program with 23.3% of respondents, and the other courses were event management with 14.1% and retail management with 13.2%, contributing to the overall diversity in the sample. The majority of the respondents in Semester 5 represented a percentage of 64.3%, indicating a concentration of participants in the final year of their academic program. Semester 3 also has a significant representation with 19.8%, while Semesters 1,2 and 4 had comparatively lower percentages with 3.1%, 3.1%, and 9.7%, respectively.

Furthermore, the marital status shows that respondents are single, accounting for 97.8%, while married respondents constitute only 2.2%. Finally, 69.6% of the respondents reside within the college, while 30.4% are non-residents. Non-residents are further categorized into Family with 11.5% and friends with 18.9% in their living arrangement as NR.

Table 1: Demographic Factors

Demographic Factors		Frequency, n	Percentage, %
Gender	Male	79	34.8
	Female	148	65.2
	Total	227	100
Age	19-21	44	19.4
	22-24	175	77.1
	25 above	8	3.5
	Total	227	100
Program	BA236 - Event Management	32	14.1
	BA241 - Insurance	55	24.2
	BA242 - Finance	57	25.1
	BA245 - Retail Management	30	13.2
	BA246 - International Business	53	23.3
	Total	227	100
Semester	Semester 1	7	3.1
	Semester 2	7	3.1
	Semester 3	45	19.8
	Semester 4	22	9.7
	Semester 5	146	64.3
	Total	227	100
Marital Status	Single	222	97.8
	Married	5	2.2
	Total	227	100
Current Residency	Resident (Staying in college)	158	69.6
	Non-Resident (NR)	69	30.4
	Total	227	100

4. Results and Discussion

Descriptive Analysis

The analysis aims to explore the understanding of STIs among young people by categorizing the list of diseases to the group of STIs. The result shows the frequency and percentage of the disease as in Table 2. The most common type of STI that young people acknowledged is HIV/AIDS, which was selected by 204 young people, representing an 89.9% response rate. However, the question that received the most minor responses from the young people was tuberculosis. Only 14 young people agreed that tuberculosis is classified as an STI, which is a percentage of 6.2%. Next, the second biggest total of young people who answered is Syphilis, with 119 young people agreeing that Syphilis is one of the types of STIs with a percentage of 52.4%. The third highest number of young people who answered is Gonorrhoea, with 98 young people responding at a rate of 43.2%.

Table 2: Knowledge of Categories of STIS

Categories	Frequency		Percentage	
	No	Yes	No	Yes
HIV/AIDS	23	204	10.1	89.9
HPV	142	85	62.6	37.4
Chlamydia	148	79	65.2	34.8
Syphilis	108	119	47.6	52.4
Gonorrhea	129	98	56.8	43.2
Genital Herpes	144	83	63.4	36.6
Trichomoniasis	181	46	79.7	20.3
Tuberculosis	213	14	93.8	6.2
Hepatitis B	172	55	75.8	24.2
Hepatitis C	197	30	86.8	13.2

The following analysis, a descriptive analysis, was conducted to categorize the symptoms of STIs, as shown in Table 3. There were 7 common symptoms of STIs listed. as painful urination, with 159 young people agreeing that it is one of the symptoms percentage of 70%. In contrast, genital warts received the least number of answers, with only 43 young people, accounting for a mere 18.9% of the total. Next, the second highest chosen answer is genital rash, where 122 young people agreed with a percentage of 53.7%, followed by the third highest answer, which is unusual genital discharge, with 117 young people who answered with a percentage of 51.5%.

Table 3: Symptoms of STIs

Symptoms	Frequency		Percentage	
	No	Yes	No	Yes
Unusual Genital Discharge	110	117	48.5	51.5
Painful Urination	68	159	30	70
Genital or Anal Growths	161	66	70.9	29.1
Genital Rash	105	122	46.3	53.7
Abnormal Vaginal Bleeding	117	110	51.5	48.5
Genital or Anal Itching	127	100	55.9	44.1
Genital or Anal Blisters/Sores	144	83	63.4	36.6
Genital Warts	184	43	81.1	18.9

Next is the descriptive analysis of the activities that can lead to STIs, as shown in Table 4. 3 activities led to STIs being identified. The highest option being answered is having sexual contact with many partners, with 207 young people agreeing that it is one of the activities that lead to STIs, with a percentage of 91.2%. In contrast, taking drugs and alcohol received the least number of answers, with only 74 young people accounting for a mere 32.6% of the total. Next, the second highest chosen answer is unprotected sexual intercourse, where 198 young people agree with the percentage of 87.2%.

Table 4: Activities lead to STIs

Activities	Frequency		Percentage, %	
	No	Yes	No	Yes
Unprotected sexual intercourse	29	198	12.8	87.2
Having sexual contact with many partners	20	207	8.8	91.2
Taking drugs and alcohol	153	74	67.4	32.6

Reliability Analysis

The reliability analysis was conducted to analyze the internal consistency of the constructs that were aligned with the intent to measure. The assumption underlying reliability as the Cronbach alpha values greater than 0.708 indicates that the construct has high internal consistency. For Table 5, the result shows that the reliability analysis of knowledge with 8 items was 0.902, attitude with 6 items was 0.844, environment with 6 items was 0.836, and awareness with 4 items was 0.736. The result concluded that all constructs were highly reliable, as shown in Table 5.

Table 5: Reliability Analysis

Constructs	No of Item	Cronbach Alphas Values	Results
Knowledge	8	0.902	High
Attitude	6	0.844	High
Environment	6	0.836	High
Awareness	4	0.736	High

Pearson Correlation

A Pearson correlation was conducted to investigate the relationship of knowledge, attitude, and environment towards awareness. In the Pearson correlation, there could only be a positive relationship between the IV and DV by +1.0, and vice versa; there could be a negative correlation between the two variables by -1.0. By taking the number of respondents of 227. Furthermore, the correlation strength relations are based on Hair et al. (2010). The findings can be seen in the table above. Shows a positive high correlation (r = 0.621) between knowledge and young people's level of awareness. According to the r, knowledge shows that the higher the knowledge of sexually transmitted infection, the higher the awareness of young people. Additionally, the relationship is significant at the 0.000 level compared to the 0.05 significance level. In addition, the attitude had a value of r = 0.636, which indicates a positively high correlation. It shows that attitude had a significant influence on awareness regarding sexually transmitted infections among young people. Furthermore, the variable also shows a significant relationship at 0.000. Finally, the relationship between environment and awareness shows a positive high relationship (r = 0.672). In other words, the environment highly affects young people's awareness of the sexually transmitted infection issue. In correspondence to that, the significance value of the variable also shows a significant relationship at the 0.000 level.

Table 6: Pearson Analysis

Variables	Coefficient Value	Result
Knowledge -> Awareness	0.621*	High, Positive, Significance
Attitude -> Awareness	0.636*	High, Positive, Significance
Environment -> Awareness	0.672*	High, Positive, Significance

Regression Analysis

A regression analysis was conducted to analyze the three factors of knowledge, attitude, and environment influencing awareness of STIs among young people. The R square value was 0.557, which indicates that 55.7 percent of the awareness of STIs is explained by knowledge, attitude, and environment, and the balance of 43.7% may be explained by other factors that were not included in this study. For example, in an article by Kassie et al. (2020), prevention can be included as one of the factors affecting the awareness of STI among Preparatory School Young people in West Gojjam Zone, Ethiopia. The ANOVA result shows the F Value was 95.639, and the significance value was less than 0.05, indicating that the model is fit for regression analysis. In the coefficient table, the result of knowledge (β= 0.239, $p<0.05$), attitude (β= 0.294, $p<0.05$), and environment (β= 0.339, $p<0.05$) indicates that all variables had positive and moderate relationships on awareness of STIs. In addition, all variables were significant, as the p-value was less than 0.05. The interesting result, as shown in Table 7, found that the environment had the most influence on awareness of STIs among young people.

Table 7: Path Coefficient Analysis

Variable		B	Std. Error	BetaT	Sig
1	(Constant)	2.486	0.816	3.037	0.003
2	Knowledge	0.104	0.026	0.2393.995	0.000
3	Attitude	0.201	0.040	0.2944.993	0.000
4	Environment	0.226	0.042	0.3395.389	0.000

Discussion

The study aims to measure the knowledge, attitudes, and environmental factors that influence awareness of STIs among young people in UiTM Puncak Alam. The incidence of STIs has witnessed an increase in recent times. There is a need for the public to be aware of the various types of STIs so that individuals can take the necessary precautions to prevent infection and thereby reduce their prevalence. However, the focus of this study has not been on the prevention of STIs but rather on finding out whether young people are aware of the issue and whether they know the factors that can cause STIs. This issue has become more widespread these days due to a lack of information about the root of the problem. As a consequence of this, previous research has indicated that young people possess a limited level of information and awareness regarding prevalent STIs, including their associated symptoms and consequences Zhang et al., (2013). This finding indicates that

individuals in younger generations face a higher risk of STIs, which can result in severe health complications if not adequately treated, and may not consistently adopt suitable measures to safeguard their sexual well-being.

A descriptive analysis was tested to measure the level of knowledge and understanding of STIS among young people, and the result found that the knowledge possessed by young people was essential and that they were aware of STIS. However, the regression analysis was conducted, and it was found that knowledge, attitude, and environment significantly influence awareness. According to Folasayo and others (2017), the percentage of awareness of HIV/AIDS is the highest among young people regarding STIs, followed by Syphilis. This shows that the findings for these research objectives have been consistent with the literature review. Both HIV/AIDS and syphilis have the biggest number of responses from young people, according to this research study, which captures the same information Furthermore, the attitude has similar findings. This can be agreed by the findings of a prior study that revealed satisfactory levels of awareness and knowledge about STIs, along with a positive attitude towards those infected (Chaudhry, 2017). For the environment, this study supported (Boyer et al., 2018) that the environmental factor towards STIs (IV3) is reliable and valid, just as supported in the study regarding STIs conducted in an urban, low-income neighborhood.

5. Implication of Study

This study aims to research what are the factors that contribute to the levels of awareness among young people regarding sexually transmitted infections (STIs). This is because since STIs are a growing health issue among youths and people throughout the country, thus it aims to identify the prevalence and risk factors, which are knowledge, attitude as well and the environment that contribute to STIs, in proving what the level of awareness of STIs among the young people. Since young people in college are an appropriate or sizable population to conduct the study, it is essential to understand the factors that have been mentioned beforehand related to STIs. The purpose of the study is to validate the findings from previous research regarding STIs among our population and sample. Ultimately, this finding will benefit those young people to determine their levels of awareness towards STIs. Besides that, this awareness of STIs helps them develop those factors that contribute to STIs to increase their awareness. Aside from benefiting young people, this research can also give significance to health organizations and ministries as a benchmark to know the young people's awareness level. With the information obtained, the health ministry can plan any programs and initiatives to help increase young people's awareness regarding this issue. Furthermore, Not only the health ministry, the non-government organization that aims to help reduce the number of STIs and the stigma in Malaysia could also benefit from these studies.

Conclusion

In conclusion, based on our research objective, which is to determine the relationship between knowledge, attitudes, environment, and awareness among young people towards the spread of Sexually Transmitted Infections (STIs). This research shows that young people demonstrate a basic understanding of STIs even though the young people have gaps in specific knowledge and the factors that cause them. Their empathy towards infected people and worry about STIs show that knowing more might lead to caring more. Furthermore, the researcher gives some recommendations to young people in business and management to prevent STIs through continuous educational campaigns through sessions, workshops, and social media. Regular testing for sexually active individuals, alongside promoting PrEP for HIV prevention, should be actively encouraged. Hence, it is also crucial to collaborate with NGOs and government agencies to increase resources and information. In the end, helping young adults learn about STIs, choose responsible sexual behavior, and have healthy attitudes takes constant effort, but it's the key to a healthier future for everyone.

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