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Original Article

Knowledge and Attitudes Toward Sexually Transmitted Diseases Among Undergraduates at KIU, Sri Lanka: A Cross-Sectional Study

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Abstract

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Background: Sexually Transmitted Diseases (STDs) have become a significant global concern due to their devastating impact on women, men, and infants. For instance, more than one million new cases of STDs are reported daily worldwide, with the majority being asymptomatic. Therefore, understanding the knowledge and attitudes toward these infections is essential.

Objective: To assess the knowledge and attitudes toward STDs among undergraduates at KIU, Sri Lanka.

Methodology: A descriptive cross-sectional study was conducted among 390 undergraduates at KIU, and the ethical approval was obtained from the Ethics Review Committee of KIU (KIU/ERC/2021/202). Data were collected using a pre-tested, self-administered questionnaire consisting of 48 items. The data were analyzed using SPSS version 25.0 using descriptive statistics. For the total knowledge score, a score below 90 was considered poor, 90-106 was categorized as moderate, and 106-154 as good. In the attitude section, scores below 20 indicated a poor attitude, 20-22 indicated a moderate attitude, and 22-24 indicated a good attitude.

Results: Of the participants, 68% (n=265) were female, 75% (n=294) were aged 21-25, and 46% (n=180) were Buddhists. Most of the participants (85%, n=332) were single, studied biology (70%, n=273) and were in health sciences (74%, n=287). Additionally, 65% (n=252) were unemployed, with 57% (n=222) in other jobs. The primary sources of STD knowledge were school (77%, n=299), internet (75%, n=292), and social media (71%, n=278). Among the 390 participants, 34% (n=133) demonstrated good knowledge, while 44% (n=171) showed good attitudes toward STDs.

Conclusion: Undergraduates of KIU showed a good level of knowledge and attitudes toward STDs. However, the results emphasize the need for targeted educational interventions, particularly for non-health science students, for more comprehensive STD awareness and safer sexual practices.

Keywords: Attitudes, Knowledge, Sexually Transmitted Infections, Sri Lanka, Undergraduates

Introduction

Sexually Transmitted Diseases (STDs), also known as Sexually Transmitted Infections (STIs), are infections caused by bacteria, viruses, or parasites primarily transmitted through sexual contact. STDs can also be passed from mother to child during pregnancy, childbirth, or breastfeeding. Common symptoms include vaginal discharge, urethral discharge or burning, genital ulcers, and abdominal pain. Mother-to-child transmission can lead to severe consequences such as stillbirth, neonatal death, low birth weight, prematurity, sepsis, pneumonia, neonatal conjunctivitis, and congenital abnormalities (CDC, 2024).

Globally, over one million STDs are recorded daily, with many cases being asymptomatic (WHO, 2021). The World Health Organization (WHO) estimates that each year there are approximately 374 million new infections involving one of four STDs: chlamydia (129 million), gonorrhoea (82 million), syphilis (7.1 million), and trichomoniasis (156 million) (WHO, 2021).

Individuals aged 16-24 years, particularly those pursuing higher education and living away from their families for extended periods, are at a higher risk of contracting STDs (Karthijekan, Gnanaselvam & Josepha, 2014). These individuals often reside in hostels or guest accommodations, exposing them to diverse sociocultural backgrounds and potentially engaging in risky sexual behaviors such as unprotected sex and having multiple sexual partners (Subbarao & Akhilesh, 2017). The WHO highlighted in 2005 that education level significantly impacts knowledge about STDs. Although university students typically have higher education levels, their knowledge on STDs can vary based on their field of study, such as Arts, Law, Medicine, etc., leading to different risk factors among students (Karunaratne, 2017).

Understanding the knowledge, attitudes, and behaviors related to STDs among young people is crucial for developing effective prevention and elimination strategies. However, in Sri Lanka, issues related to reproductive and sexual health have not received adequate attention, and awareness programs, including family planning, are primarily targeted at married individuals (Batagalla & Manathunge, 2020). A study by Perera and Abeysena (2020) revealed that knowledge and attitudes toward reproductive health outcomes need improvement in Sri Lanka. Therefore, the current study aims to evaluate the knowledge and attitudes of STDs among undergraduates at KIU, Sri Lanka.

Methodology

A descriptive cross-sectional study was conducted among undergraduates at KIU in Sri Lanka, enrolled in various study programs. Participants were selected through random sampling, ensuring that every student had an equal opportunity to be included in the study, with a total of 390 participants enrolled. Data were collected using a pre-tested 10% of the sample size (35 students). A validated and reliable self-administered questionnaire used in the study was adapted from several studies (Dorji et al., 2022; Mansor et al., 2020; Oluwole et al., 2020).

The questionnaire included sections on socio-demographic data, knowledge, and attitudes toward STDs. These questions covered respondents' awareness of symptoms, modes of transmission, prevention, and control of STDs. Each correct response in the knowledge section was awarded 2 points, while incorrect responses, including "false" and "do not know," received 0 points. The attitudes section consisted of 10 items. If "agree" was the correct response, it was scored as 3 points, while "disagree" and "do not know" were scored as 2 points and 1 point, respectively. Knowledge scores were categorized as follows: less than 90 indicated poor knowledge of STDs, scores between 90 and 106 indicated moderate knowledge, and scores between 106 and 154 were considered good knowledge. For attitude

scores, a score of less than 20 indicated a poor attitude, 20 to 22 indicated a moderate attitude, and 22 to 24 indicated a good attitude.

Descriptive statistics were used to analyze the data using Statistical Package for Social Sciences (SPSS) version 25. Ethical approval was obtained from the Ethics Review Committee of KIU (KIU/ERC/2021/202).

Results

Demographic characteristics

Most of the participants in this study were female (67.9%, n=265) aged between 21-25 years (75.4%, n=294). Among the 390 participants, 46.2% (n=180) were Buddhist and reported being single (85.1%, n=332). In terms of residence, over half of the participants resided at home (52.6%, n=205). Academically, 47.4% (n=185) attended mixed-gender schools, and 71.5% (n=273) pursued biology as their primary A/L stream. The highest proportion of the participants were enrolled in health sciences (73.6%, n=287), with 30.3% (n=108) currently in their 1st year of study. Nearly, 64.1% (n=252) of the participants were unemployed, while those employed largely work in non-health care fields (84.6%, n=330).

Table 1: Demographic characteristics of the participants (N=390).

Demographic factors	Frequency (n)	Percentage (%)
Gender		
Female	265	67.9
Male	125	32.1
Age		
18-20	26	6.7
21-25	294	75.4
26-30	70	17.9
Religion		
Buddhist	180	46.2
Islam	124	31.8
Catholic	47	12.1
Hindhu	39	10.0
Marital status		
Single	332	85.1
Married	52	13.3
Divorced	3	0.8
Living together	3	0.8
Residence		
Home	205	52.6
Hostel	178	45.7
Other	7	1.0
School attended		
Mixed	185	47.7
Girls'	139	35.6
Boys'	65	16.7

A/L academic stream		
Bio science	273	70.0
Commerce	77	19.8
Art	20	5.1
Mathematics	16	4.1
Technology	4	1.0
Current faculty		
Health science	287	73.6
Non-health science	103	26.4
Academic year		
1st year	108	27.7
2nd year	56	14.4
3rd year	84	21.5
4th year	142	36.4
Employment status		
Employed	138	35.4
Unemployed	252	64.6

Levels of knowledge and attitude

According to Table 2, the primary source of knowledge regarding STDs was school, with 76.9% (n=299) of participants responding it as a key source, followed by the internet (75.1%, n=292) and social media (71.5%, n=278). The most answered sources of STDs' spread were intercourse after postpartum and unclean water (77.7%, n=303), respectively. Other sources included viruses (71.1%, n=301), blood transfusion (70.1%, n=298), bacteria (66.4%, n=259), which indicated a combination of accurate and inaccurate understanding among the participants regarding STD transmission. The most frequently answered symptom was painful ulcers (71.9%, n=280), followed by itching in the genital area (69.8%, n=272) and sore throat (69.5%, n=271). Majority of the participants (76.9%, n=300) have mentioned the usage of condoms as one of the best ways to protect from STDs. Meantime, nearly 81% (n=317) of the participants, responded that reduction in the spread of acquired immunodeficiency syndrome (AIDs) as the main benefit of preventing STDs.

Table 2: Basic information about STDs

Description	Frequency (n)	Percentage (%)
^aSources of knowledge		
School	299	76.9
Internet	292	75.1
Social media	278	71.5
Friends	221	56.9
Newspaper	208	53.3
Television	207	53.1
Awareness programme	207	53.1
Healthcare worker	170	43.6
Parents	145	37.4
^aSpread of STDs		
Intercourse after postpartum	303	77.7
Unclean water	303	77.7
Virus	301	77.1
Blood transfusion	298	76.4
Bacteria	259	66.4
Needle stick injury	250	64.1
Unprotected intercourse during menstruation	234	60.0
Poor hygiene	205	52.6
Fungus	147	37.7
^aSigns and symptoms of STDs		
Painful ulcers	280	71.9
Itching in genital area	272	69.8
Sore throat	271	69.5
Warts in penis/vulva/cervix etc.	263	67.5
Fever	247	63.5
Lower abdominal pain	242	62.2
Discharge from penis/vagina	239	61.5
Loss of weight	224	57.6
Burning sensation while urinating	214	54.9
Feel of weak	209	53.6
Failure to urinate	200	51.5
Painless ulcers	195	50.0
Pain during intercourse	182	46.7
Abnormal inter-menstrual bleeding	166	42.6
Best way of protecting from STDs		
Usage of condoms	300	76.9
Having vaccine before sexual intercourse	48	12.3
Having vaccine before and after sexual intercourse	42	10.8
^aBenefits of preventing STDs		
Reducing the spread of AIDs	317	81.3
Maintaining a healthy sexual life	306	78.5
Protecting public life	272	69.7
Reducing problems related to reproductive system	268	68.7
Delivering a healthy child	256	65.6

^aMultiple responses allowed

The mean knowledge score regarding STDs among the undergraduates was 96.45 ± 16.88 whilst the mean attitude score towards STDs was 20.53 ± 2.77 . According to Table 3, 34.10% (n=133) and 43.85% (n=171) of the participants demonstrated good level of knowledge and attitude, respectively. Even though, it highlights that knowledge level is fairly distributed across the three levels, a larger proportion of respondents had a good attitude compared to poor or moderate attitudes.

Table 3: Levels of knowledge and attitude toward STDs (N=390).

	Knowledge	Attitude
Poor	125 (32.05%)	103 (26.41%)
Moderate	132 (33.85%)	116 (29.74%)
Good	133 (34.10%)	171(43.85%)

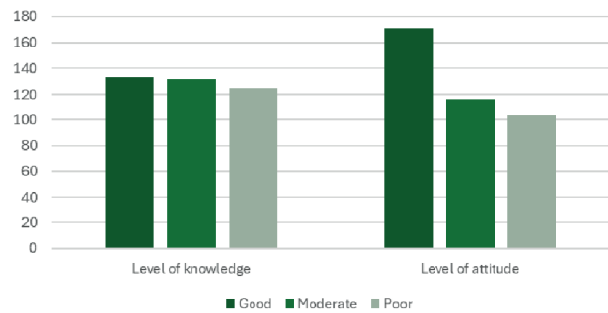


Figure 1: Comparison of knowledge vs. attitudes towards STDs among the study participants (N=390).

Discussion

This study aimed to assess the knowledge and attitudes among the undergraduates at KIU, Sri Lanka, regarding STDs. The results revealed a good level of knowledge among participants, with 34.1% demonstrating high knowledge and 43.85% expressing positive attitudes toward STDs. These findings contrast with a similar study conducted at Eastern University, Sri Lanka, where a lower knowledge level (42.3%) was reported. Additionally, a study by Perera and Abeysena (2020) found a good level of knowledge among participants in the biological science stream (36.7%), which aligns with the current findings. This similarity may be attributed to the educational background related to STDs within students in the biology stream (Perera & Abeysena, 2020). However, while the students showed a reasonable understanding of STDs, the findings suggest that further education is needed, particularly regarding lesser-known STDs such as syphilis, gonorrhea, and chlamydia.

A comparison with previous studies highlights both consistencies and discrepancies. The finding that human immunodeficiency virus (HIV)/AIDS is the most frequently identified STD aligns with research conducted in Brazil (Caetano et al., 2010) and India (Jain et al., 2016). However, despite this awareness, many undergraduates exhibited limited knowledge about other prevalent STDs, such as syphilis and gonorrhea, consistent with studies conducted in Thailand (Svensson & Waern, 2013) and Sri Lanka (Perera & Abeysena, 2020). This gap in comprehensive awareness, particularly among

non-health science students, underscores the need for targeted educational programs.

In terms of information sources, nearly 77% of participants identified school as their primary source of knowledge about STDs, followed by the internet (75.1%) and social media (71.5%). However, parental involvement was significantly lower, with only 37.4% of participants receiving information from their parents. This finding contrasts with similar undergraduate studies conducted in Sri Lanka (Jayathilaka et al., 2024), where parents were the main source of information. These discrepancies highlight cultural barriers to discussing sexual health within families, raising concerns about the availability of accurate information for students outside formal education settings.

Participants demonstrated a good understanding of the serious signs and symptoms associated with STDs, with a majority recognizing painful ulcers as a potential complication. Additionally, 76.9% of students identified condom use as an effective preventive measure, indicating strong awareness of safe sexual practices. However, only 12.3% of students recognized vaccination as a preventive method, pointing to significant gaps in knowledge about the availability of vaccines, particularly the HPV vaccine, which is provided free of charge to teenage girls in Sri Lanka (Jayathilaka et al., 2024). This lack of awareness contrasts with findings from a study conducted in Riyadh, Saudi Arabia, where medical and health science students were more likely to favor condom use over vaccination (AlQumayzi et al., 2020).

The study also revealed that a significant number of students expressed concerns about acquiring STDs, aligning with findings from studies conducted in Ghana (Rondini & Krugu, 2009) and Australia (Fagan & McDonnell, 2010). Notably, KIU undergraduates indicated a belief that more information about STDs should be accessible to young people. This suggests that young students in an urban setting have an interest in expanding their knowledge about sexual health and STDs.

Conclusion

In conclusion, this study reveals that undergraduates at KIU demonstrate a good level of knowledge and attitudes toward STDs. However, gaps remain concerning lesser-known STDs and preventive measures like vaccination. The findings highlight the importance of targeted educational programs, especially for non-health science students, to address these deficiencies. Overall, expanding the access to comprehensive sexual health education is essential for better awareness and safer sexual practices among young adults.

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Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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