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Analysis of Knowledge, Attitude and Practices regarding Sexually Transmitted Infections among post-secondary students Thailand

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ABSTRACT

Knowledge, Attitude and Practices regarding Sexually Transmitted Infections among post-secondary students in the faith-based institution and public institutions were studied. Over 700 participants were selected randomly from three different universities. The survey outcome measures including biodata and socio-economic status, moral and religious beliefs, sex and sexuality, STI knowledge and their screening. The students who responded ranged in age from 15 to 27+ years old across all four undergraduate levels. Most respondents (86%) were female and aged 19-22 years old (88%). The respondents were Muslim (66%) or Buddhist (34%) and considered themselves conservative (29%), moderate (66%) or liberal (5%). Although 55% and 97% of respondents showed that there were sexual health discussions at their university, and their university had programs that teach about the pros and cons based on religion, respectively, over 82% reported curiosity about sex and STIs. Almost all students (97%) know what an STI is and can correctly identify the most publicized STIs. However, their attitudes toward sexual relationships suggest unsafe sexual behavior. Almost half of the respondents think that one must have sex more than one time to catch an STI and overall, 34% say sex is ok as long as it does not lead to an STI or pregnancy while 51% said that promoting safe sex is more important than promoting abstinence. Some respondents also have some falsely held beliefs such as STIs can be spread by touching and insects. This study concludes that knowledge about sexually transmitted infections and programs delivered at tertiary institutions surveyed did not reduce risky behavior among the students. New methods of equipping students, with the knowledge and greater access to confidential advice and counseling may bring about better integration of awareness and knowledge to the student lifestyle.

Keywords: Sexual awareness, sexual knowledge, sex education, sexual intercourse.

INTRODUCTION

Sexually transmitted infections (STI) have been a problem in Thailand especially among groups of people who are sexually active and careless in prevention of diseases. Such groups include commercial sex workers and ill-informed young people. Culture, knowledge and participatory programs for students are important factors shown to be effective in reducing

the risk of getting STI among Thai secondary school students. Since these factors are shown to decrease the incidence and prevalence of STIs, it should follow that a well planned and executed program that incorporates a good moral environment and provides instructive and practical educational programs in the faith-based schools should have great success in preventing STI and promoting sexual health. The goal of this study is to understand the effect of religion or religious environment on knowledge, attitude, and practice with respect to STI among university students.

LITERATURE REVIEW

Health issues are a major concern of all communities large and small, wealthy and poor. Many religious organizations are involved in health promotion campaigns and some have invested in health education programs and even health infrastructure such as hospitals and clinics (Kagawa, Anglemyer & Montagu, 2012). The Seventh-day Adventist Church (SDA) has more than 170 hospitals and sanitariums and 420 clinics and dispensaries around the world (Adventist Organizational Directory, 2019). Many SDA educational institutions however do not have programs that provide information or training on sexuality or sexual health. Specifically, many religious organizations including the SDA Church have not developed significant/sufficient programs to address the issue of sexually transmitted infections (STIs) or sexual health. This probably is due to the moral and theological imperatives that suggest that a "Christ-like" individual should have "appropriate" sexual relations and therefore not have STIs or problems of sexual health (Seventh-Day Adventist Church, 2015; Tucker, 2013; McFarland, Uecker, & Regnerus, 2011).

Anything that is positively enriching and that enhances personality, communication and love is worth investing in especially for religious organizations. However, this has not been the case for sexual health. Very little emphasis is place on sexual health education beyond, in most cases, what is imparted at the home or in churches. In a general search for information from the SDA church yielded only one result from the Health Ministries Department of the General Conference of SDA. The WHO suggests that education is an important and integral part of any sexual health policy or plan of action. It is the intention of this project to ascertain how well faith-based post secondary institutions in Thailand are addressing this issue.

In the past 15-20 years, many young people in Thailand have failed to learn or understand how they can be acquire or be infected with AIDS; neither have they viewed themselves as being at risk, nor considered their sexual behaviors as risky. Adolescence, the period of sexual experimentation, is often a period of multiple sexual companions. Thianthai (2004)'s in-depth interview study among 15-19 year-old young adults in Thailand shows that they screened their potential sexual partners using based on whether they through that individual was a "good girl" or "good boy" and was thus

HIV/AIDS-free. They also related sexuality with love or sexual relationships, promiscuity and virginity. As a result, awareness of sexually transmitted diseases, especial HIV/AIDS, was poor. Also, socioeconomic status was shown to play a significant role in the sexual activity of the study population for example, less education men were likely to become sexually active earlier and less likely to use condoms. (Mahay et al., 2000).

In Asian families and educational systems, the discussion about sex and prevention of STIs does not usually take place between parents and adolescents, or between the instructors and students. Meechamnan et al. (2014) indicated that when parents did speak with their children about sex and sexuality the parents gave inadequate information about sex and AIDS to their adolescents. Young people rarely discuss sex with their parents because they are fearful of their parent's negative judgment. The parents believe that not speaking about sex will prevent their children from sexual activities. Feelings or embarrassment and lack of confidence of parents and teachers are also barriers to communication of sexual education. With this missing education on sexual health and lack of communication in families, the risk of STI in Asian young adults is greatly increased. The study by Khawcharoenporn et al. (2016) among Thai university students showed that approximately 27% of 1801 students had little knowledge about STIs. Among this group, 0.8% was diagnosed with HIV-infection, and 75% of this students are homosexual. The study also revealed that an outreach HIV prevention program with HTC was possible and would be beneficial in identifying HIV risk and infection among the university students. The knowledge on sexual health, therefore, is an important factor in the prevention of such life-threatening STIs. Besides that, socioeconomic class and geographic location are one of the many factors influencing the incidence of STI among the 15-24 age group as well (Jongsthapongpanth & Bagchi-Sen, 2010). However, a study in India showed that education on sexual health from family and school increased knowledge and understanding of STI among 88 % polytechnic college girls from the low socioeconomic class. Furthermore 94.4 % of the girls were Hindu (Mamilla & Goundla, 2019). The program was successful even in a religious background. Other studies that focus on sexual health; knowledge, attitudes and behavior among university students in different countries seem to support this concept (Aygor et al., 2017; Saracoglu et al., 2014).

Religious belief influences decision making when it comes to premarital sex and thus the prevention of STI. Faith-based institutions can be good places for health promotion. Public Health best practices on preventing STI include teaching adolescents to use condoms and discussing homosexual behavior in a non-judgmental manner. However, abstinence until marriage is strongly promoted and preferred by many religious schools instead. This is not the same across all religious groups as some group's beliefs also have more "relaxed" views on sexuality. Chin and Neilands (2016) found that religious organizations generally agreed that STI workshops should teach adolescents about condoms and

condom use and keep a nonjudgmental attitude towards homosexuality however, they suggested the primary message should remain abstinence until marriage.

Collectively, these studies draw attention to the need for understanding the knowledge, attitude, and practice among university students within faith-based university so that SDA institutions of learning may take best practice and incorporate specific guidance and belief into educating young people on sex, sexuality and sexually transmitted diseases.

METHODS

This study was primarily carried out using a questionnaire prepared from WHO core instruments and adolescent health manual as reference based on the area of sexual and reproductive behavior and the Illustrative Questionnaire for interview-Surveys with Young People (Cleland, Ingham, & Stone, 2001; Cleland, 2001.). The questionnaire included 5 sections, 1) biodata and socioeconomic status, 2) Moral and Religious Beliefs, 3) Sex and Sexuality, 4) Knowledge on STI, and 5) Screening Knowledge. The survey was prepared in English, translated into Thai and back translated into English to maintain meaning. In addition, the English version was translated by two individuals to correctly maintain meanings of the questions. Cronbach's alpha value was tested to validate the survey questionnaire.

The participants were students in a faith-based university from both Thai and English programs, and the public university with religious group of students. These two groups represent both a majority Buddhist and majority Muslim university in Thailand. Approximately 800 participants were randomly recruited from freshmen, sophomores, juniors and seniors. Letter of permission to do survey in every school was sent to the responsible administrator prior of the survey process. Data were analyzed using SPSS software and results expressed in percentages for frequencies. We examined how religious belief affected knowledge, attitudes and practices with respect to STI

RESULTS

Demographic and Background Information on Respondents

We received 779 usable surveys from those we issued to the various institutions. This is the number we used to determine percentages and frequencies where there were non-respondents or unclear responses in the survey. For most questions we reported the total of usable responses.

Figure 1 shows that most respondents were female and there were much fewer males. Their age distribution was 15-18 (10%), 19-22 (88%), and a few 23-26-year-olds (1%). All respondents were Thai and almost exclusively from the South of Thailand.

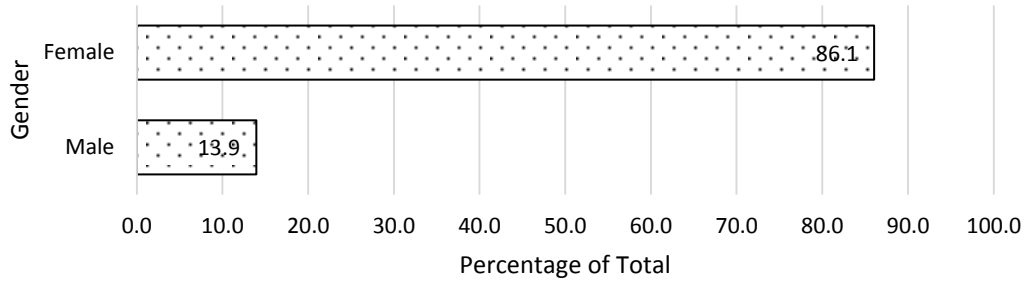

Figure 1. The gender distribution of survey respondents. The majority of the respondents to the survey were female.

The largest number of respondents was in the first year of study i.e. freshman class (57%), but all four years of study were represented in the respondents (sophomore, 24%; junior, 16%; senior, 4%) (Figure 2). Most students surveyed were majoring in Science and Technology (86%) and an almost equal number in AS or Education (8 and 5% respectively).

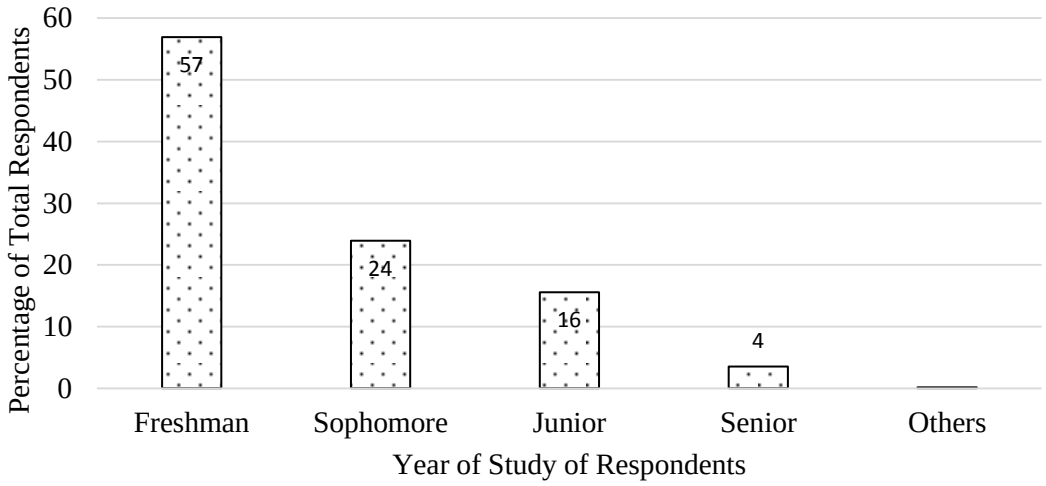

Figure 2. The year of study of survey respondents. Most survey respondents (57%) were freshman, 24% sophomores, 16% juniors and 4% seniors).

Most respondents were religious (89%) and either Muslim (66%) or Buddhist (34%). They reported that they were from religious families (97.3%) who attended religious gatherings (97.3%). A few considered themselves conservative (29%) while most responded that they

were moderate (66%). At least 75% attended a religious gathering once a month while 39% attended weekly.

Knowledge Regarding Sexually Transmitted Infections

Over 80% of respondents were curious about sex and STIs and 48% reported that their institution did not discourage talking about sex whereas 22% felt that the school discouraged it and 45% of students either did not know or indicated that there were no sexual health discussions that took place at their university.

The students were asked what some possible male and female symptoms of STIs could be. There were large differences in the symptoms associated with STI in the different genders e.g. abdominal pain was considered a symptom in females by 98% of respondents but only by 6% as a symptom in males (Table 1). Others were smelly discharge (37% for males and 77% for females), genital warts (67% for males and 38% for females). The respondents seem to correctly identify the most commonly known symptoms but failed to identify unseen or less commonly known symptoms that are associated with chronic illness but not asymptomatic illness.

Table 1. **Summary of respondent's association symptoms of STI in different genders.**

	Respondent's perception of STI symptoms	
Possible symptoms	In males (%)	In females (%)
Abdominal pain	6	98
Dripping urine	67	54
Smelling discharge	37	77
Pain on urination	41	71
Redness	43	70
Swelling	68	42
Genital sores	51	59
Genital warts	67	38
Blood in urine	32	76
Weight loss	46	70
Impotence	87	24
No symptoms	60	30
Other symptoms	39	56

Attitudes and Practices Regarding Sex

Attitudes towards sex are heavily influenced by society and religious belief. Both Islam and Buddhism have strong thoughts on sex. These thoughts seem to be reflected in the students' responses in Table 2.

Table 2. **Summary of some attitudes of survey respondents towards sex**.

Attitude Towards Sex	**Percentage of respondents**				
	Strongly disagree	Disagree	Don't know	Agree	Strongly agree
Sex is ok as long as it does not lead to STI or pregnancy.	22	23	21	28	6
Sex is human nature, not good or bad.	11	14	25	43	7
Promoting safe sex is more important than abstinence.	9	16	23	37	14
There is nothing wrong with paying for sex.	43	31	19	4	4
Paying for sex is good way to build relationships.	9	9	9	55	18
If you are going to have sex use a condom.	6	9	16	48	21

Although only eleven students (1%) responded to the question on paying for sex to build relationships, 73% of them agree or strongly agree that paying for sex is a good way to build relationships. This indicates that these 74% believe that there is something wrong with paying for sex.

The student's sexual practices indicate that they engage or would engage in sex for emotional reasons primarily but some also do so for physical pleasure (42%), increased self-esteem (34%), pressure from partner or friends (31), or for financial reasons (22%) (Table 3).

Table 3. **Summary of sexual practices reported by survey respondents.**

Sexual Practices	**Percentage of respondents**

	Strongly disagree	Disagree	Don't know	Agree	Strongly agree
I have sex to enhance emotional closeness	4	6	24	50	16
I have sex to feel and express love	3	7	22	51	17
I have sex for physical pleasure or excitement	7	13	38	31	11
I have sex because of physical attraction	6	11	33	36	14
I have sex to increase self esteem	16	16	33	25	9
I have sex because of pressure from friends and my partner	14	20	34	24	7
I have sex competition with others	29	26	26	15	5
I have sex to collect partners	47	15	22	10	5
I have sex to receive financial support	31	19	29	15	7

Most of the respondents (97%) know what an STI and correctly identified STIs from a list that included non-sexually transmitted infections such as tetanus, pneumonia, and bronchitis. Only 3% correctly identified Herpes Simplex Virus as an STI. The respondents also correctly identified male and female symptoms of STI.

When it came to ways to avoid infection with an STI, most students correctly selected actions that should be taken to stop infections from spreading (Table 4). There were however some actions that students did not correctly identify with infection control which are possible transmission routes. These can be seen in Table 4 and include avoiding blood, having sex with non-prostitutes, and homosexual intercourse.

Table 4. **Knowledge about Avoiding Sexually Transmitted Infections.**

Action/Practice	Percentage of Respondents
Abstain from sex	84
Avoid blood	24
Having sex with virgin	22
Avoid injections	45
Use condoms	83
Avoid sex with many people	53
Have sex with non-prostitutes	15
Avoid homosexual intercourse	3
Have only one sexual partner	52
Don't have sex with drug addicts	49
Don't have sex with prostitutes	50
I don't know	7
Other	0

Although respondents correctly identified some actions/practices that are necessary to avoid getting an STI, Table 4 shows that many respondents did not know many actions/practices that are associated with getting infected. In Table 5 results show that students believed many incorrect or inaccurate statements about transmission of STI. Casual touching and insect bites are rarely routes of STI transmission however at least one quarter of respondents indicated that they believed they were common transmission routes.

Table 5. **Some commonly held perceptions about the transmission of STIs.**

	Percentage of Respondents Reply	
Possible Mechanisms of How STIs spread	Yes	No
STIs are spread by touching	26	74
STI are spread through needles	79	21
STIs are spread by traditional healers	8	92
It is possible to tell if someone has an STI by looking at them	12	88
STI can be transmitted by insects	27	73

In an unexpected response, 42% of respondents said that one had to have sexual intercourse more than once to get an STI and 2% reported that they had had an STI in the last 12 months. Of those who responded to the question asking where they would go if they found out they had an STI, 28% would tell a friend, 26% would go to a teacher, 25% to the nurse, 13% to a pharmacist/pharmacy and 8% to a traditional healer. The greatest percentage of respondents said they would be uncomfortable consulting anyone about an STI (38%), but for those who were comfortable with consulting people, 37% would consult the school nurse, 13% a teacher, 10% an advisor at school, and only 1% an administrator or dorm dean. A worryingly large number of respondents (29%) suggested that it is possible to find out if someone has an STI by observation (Table 6).

Table 6. **The ways one can find out if they have an STI. Table 6 shows the responses from the students about how someone could find out if they have an STI.**

How can someone find out if they have an STI?	**Percentage of respondents**
Go for a test	89
Go to health facility in school	24
Go to counseling in school	17

How can someone find out if they have an STI?	Percentage of respondents
Only observe the signs and symptoms	29

The motivation for going for testing is a major driver for any health-conscious person. A student might face either hindrances or encouragement to take a test to find out their STI status. Respondents answered why someone should go for a test (Table 7) and why someone would not go for a test (Table 8).

Table 7. **Possible reasons to go for an STD test.**

Reasons	Percentage of respondents
Planning for the future	85
Protect your partner	32
Feeling sick	30
Other	1

Table 8. **Possible reasons to not go for an STD test.**

Reason	Percentage of respondents
Being absent from school	43
Planning for the future	35
Protect your partner	47
Feeling sick	20
Other	9

DISCUSSION

The study was conducted to find out the level of knowledge, attitude and practices regarding sexually transmitted infections among post-secondary students in two faith-based universities in Thailand. Knowledge is expected to transform attitudes and practices but current global and local trends indicate a rise in STI among young people even as knowledge has improved. Just over half of the respondents (57%) were first year students so we can assume their knowledge of STI is a combination of what they learned in high school, what they have picked up from news, pop culture, or friends and family. Additionally, 86% of the respondents were in the field of Science and Technology and so we also assume that they are taught about STIs during the course of studies.

In this study, 89% of the respondents reported that they are religious with the majority (66%) being Muslim while 34% were Buddhist. This is important because attitudes towards sex and sexuality are heavily influenced by religion however this study reveals that students

identifying as either Buddhist or Muslim have similar knowledge about STIs and share views on sexuality. Overall 80% of respondents were curious about sex which is expected of young adults especially if they do not learn about sex or sexuality from home (Meechamnan et al. 2014) where the information may be inaccurate or incomplete. Almost half the respondents (48%) reported that their school did not discourage talking about sex but there were no active programs to educate students about sex and/or sexuality. In contrast, 22% felt that the school discourage any talk about sex. In such situations many young people may seek out advice from their friends, social media or popular culture (Tanmunkongvorakul et al., 2011).

Although most respondents are religious and belong to religious groups that do not promote sexuality especially among young people, Table 2 shows that 34% of respondents agreed it is ok to have sex as long as it doesn't lead to pregnancy. Furthermore, 50% of respondents agreed that sex is human nature and neither good nor bad. These attitudes towards sex suggest an openness to sexual practice but the question did not specify if this was an opinion they held for their own sexuality or if they believed that others could do this for themselves. A significant majority of respondents agreed that if one is going to have sex then they should use a condom (69%). This suggests that they know that using a condom can prevent sexually transmitted disease and/or pregnancy but could also mean that the respondents are liberal in the view of what others can do by themselves even though the respondents may not themselves engage in sex.

The reasons given for why people should or would have sex vary. The reasons why a person engages in sex points to their attitude towards sex and its role in relationships. Most respondents seem to have a responsible attitude towards sex and believe it enhances emotional closeness and is an expression of love, however the reasons that some respondents feel that one would have sex are worrying; they feel that of their friends/acquaintances, 22% have sex for financial support, 20% have sex to compete with others, 31% have sex due to peer pressure, 34% to increase self-esteem, and 50% have sex because of sexual attraction. These reasons suggest that although the students may know about the physical act of sex and its consequences they may not understand the depth of sexuality even though they are religious. This where faith-based teachings on sexuality become important. Young people need to know how deeply sexual relations affect a person not only physically but also spiritually. Gentle and none forced sharing about the purpose of sex in our lives can purposefully help to change attitudes towards sex and sexuality.

Students showed good knowledge about STI in our study as they have in others (Khawcharoenporn et al., 2016). Similarly, some practices that are known to be associated with increased risk of STI burden were incorrectly identified by many respondents as not being risk factors. This suggests that the students have a general knowledge of STIs that would be expected of anyone who follows the general news because there are some well-known STIs and behavior that is associated with acquiring an STI. From Table 4 we see that only 24% of respondents know that avoiding blood may keep them safe from STI and less than half (45%) know to avoid injections and sharp objects associated with drug use etc. We would also expect people with good knowledge about STI to know that high risk groups such as men who have sex with men, drug addicts, prostitutes and people who have multiple sexual partners are high risk individuals for STI. For all these categories only about half of the respondents correctly identified these as high risk. Some other perceptions still persist including that one can contract an STI through touch or by insects. While both are possible, it is highly unlikely that this will occur in casual contact or with most insects.

Students did know where to go to have a test to determine if they have an STD if they were unwell and suspected that they were ill but only 24% would do this at their school and only 17% would seek counseling at school. With numbers so low it is worrying that students may not even go take a test. The reasons why students would not visit a school clinic or counselor may help us to better develop programs to meet the students' needs in situations where students do need either testing or counseling or both. This is especially concerning because 29% of students indicate that one can know they or someone else has an STI by observing signs and symptoms. For STI's that are asymptomatic while they are infectious this could lead to spreading or serious complications due to lack of medical treatment because of students inability to seek medical help. Reasons given in Table 7 are good reasons to go for a health check and should not be used to not determine ones STI status. If we improve services at schools and provide counseling that is caring, compassionate and redemptive then all reasons not to go to get tested in Table 8 would be resolved. Testing could assure students, and save their time since tests could be done at school. The counseling associated with the testing can also encourage them towards a better future, more meaningful relationships and freedom from illness.

Conclusion

Our study shows that the knowledge held by undergraduate students at select Thai universities is lacking in depth because it did not significantly change the behavior and attitudes of the students towards risky sexual practices that can lead to acquisition of STI. It also suggests the need to understand why the knowledge held by the students is not put to use. We hope to take the lessons learned from this study to develop an educational program to improve our handling of sex and sexuality at faith-based schools to have a better health and spiritual outcome..

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