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Sexual knowledge based on Islamic values and sexual risk behaviors of HIV/STIs among Thai Muslim army conscripts: A cross-sectional study

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Abstract

Background: Sexually transmitted infections (STIs), including human immunodeficiency virus (HIV), are commonly associated with conflict areas. In Thailand, conflict situations have occurred from 2004 until the present in three Muslim-majority southernmost provinces, including Yala, Pattani, and Narathiwat. However, Islam provides strict guidelines on sexuality. Therefore, those who strictly practice Islam will have lower sexual risk behavior.

Objective: This study aimed to examine the relationship between Islamic values-based sexual knowledge, sociodemographic factors, and risk for HIV/STIs among Thai Muslim army conscripts in the unrest situation area.

Methods: A cross-sectional study was conducted between May and July 2020. Data were collected using a validated questionnaire among 421 participants. Descriptive statistics and Chi-square were used to examine the association among variables.

Results: 57.5% of Muslim army conscripts had poor sexual knowledge based on Islamic aspects, and the participants showed high-risk profiles for HIV/STIs (32.5%). Marital status, hometown, smoking and drinking status, and Islamic values-based sexual knowledge were significantly associated with the risk of HIV/STIs ($p < 0.05$).

Conclusion: Participants with poor sexual knowledge according to Islamic values, smokers, single-status, alcoholic drinkers, and non-three southernmost provinces' hometowns had higher risks of HIV/STIs. Thus, it is suggested that nurses and public health professionals implement sexual health promotion and prevention for HIV/STIs. In addition, misperceptions of Islamic aspects toward sexual behavior should receive immediate adjustments.

Keywords

HIV infection; Islam; Military personnel; Muslim; sexual risk behavior; sexually transmitted diseases; Thailand

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Background

Separatist violence in Thailand's Muslim-majority southern provinces, Yala, Pattani, and Narathiwat, has been ongoing since January 2004 (Crisis Group Asia Report, 2012; Hinojar, 2012). This region lies between Buddhist Thailand and the Malay Muslim states of northern Malaysia (Pathan, 2012). From January 2004 to October 2021, 7,294 died, and more than 13,550 were injured due to the violence (Deep South Watch, 2021; Jitpiromsri et al., 2018). A recent report indicates that as of January 2020, there were 7,085 dead and more than 13,233 people injured in total (Deep South Watch, 2020). Security personnel have been deployed to the area to support a peace settlement. Among the security forces are army conscripts deployed to ensure security (Pathan, 2012) and reduce violence (Crisis Group Asia Report, 2012).

Sexually transmitted infections (STIs) are commonly found

in conflict situations (Korzeniewski et al., 2020), and high-intensity border and domestic conflict can damage sexual health (Chuemchit et al., 2018). In World War I and II, gonorrhea was the most common STI that removed soldiers from duty. Likewise, STIs were also prevalent in the military environment of the Korean War, Vietnam War, and United Nations peacekeeping operations. STIs have often been higher in conflict areas than in peaceful ones (Korzeniewski et al., 2020).

HIV is an STI that can lead to acquired immune deficiency syndrome (AIDS), which impairs or damages the immune system (Kapila et al., 2016). Young and sexually active army conscripts have a considerably high risk of STIs (Surit et al., 2017). From 2005 - 2011, HIV among Thai army conscripts was approximately 0.5% (Sakboonyarat et al., 2021). The Thailand government has set a goal of ending the AIDS epidemic in the country by the year 2030 (Muccini et al., 2019), but a 2018 survey of 36 military units found that the prevalence

of HIV in new army conscripts had doubled compared to the previous study in 2011 (Sakboonyarat et al., 2021). The prevalence of HIV among men who have sex with men (MSM) in the general population had increased from 19.2% in 2005 - 2006 to 34.0% in 2010, remaining stable until 2016 and then reaching approximately 17.2% in 2018 (Pattanasin et al., 2020). In a military environment, HIV/STIs should be a concern not only for male conscripts and their female sex partners but also between male conscripts and other males (Korzeniewski et al., 2020; Surit et al., 2017).

A study conducted during this violence crisis showed a high prevalence of HIV/STIs among military personnel. However, despite the importance of religious belief for sexual health, lack of studies on this topic in Thailand (Hayee et al., 2021). The three southernmost provinces of Thailand are Muslim majority areas. People respect and strengthen their belief in Islam. Therefore, it is hypothesized that people with more strengthening practices in Islam have lower sexual health risk behavior. This study investigated the association between participants' sociodemographic characteristics, religious-based sexual knowledge, and risk of HIV/STIs among Muslim army conscripts. Preventing HIV/STIs, nursing practice in sexual health promotion concerning norms, beliefs, cultural background, and religion is needed (Aling et al., 2021). The study findings could support the development and implementation of nursing practice in health promotion by conducting religious-based programs to reduce sexual risk behaviors among army recruits in Thailand and civil Muslims.

Methods

Study Design

This was a cross-sectional design study conducted between May and July 2020 among Muslim army conscripts.

Samples/Participants

According to Thai laws, 21-year-old males were subjected to conscription. The study population was Muslim army conscripts working in Yala, Pattani, and Narathiwat, and for security reasons, no accurate number was obtained for Muslim army conscripts. The sample size was therefore calculated using the Cochran formula for an unknown population (Cochran, 2007), and it was intended to recruit 421 Muslim army conscripts. The sample inclusion criteria were army conscripts who follow Islam, were deployed in one of the deep three southernmost provinces of Thailand, military unit located in the city area, and consented to participate in this study.

Instruments

Steps for novel instrument development and recommended sample size were based on Gunawan et al. (2021). The comprehensive tool developed for this study was described elsewhere. Briefly, related literature was reviewed. Then, researchers consulted with an Imam and a health academician to make a questionnaire draft. Second, all questionable points were assessed by 5 Imams residing in the study area. They made a consensus on each item according to Islamic values-based sexual knowledge. Then, 15 Muslim army conscripts from non-research areas assessed whether they understood the meaning of each item. Instrument corrections were made due to participants' recommendations. After that, the content

validity evaluation of the questionnaires was approved by five experts, including experts with respect to Islam. An index of item objective congruence was used for item validation that ranged from 0.6 - 1.0. Finally, the research tools were tested on 67 Muslim army conscripts in another province to calculate reliability. Kuder-Richardson 20 was used to calculate the reliability of Islamic values-based sexual knowledge, with a coefficient of 0.887 (Singkun et al., 2021).

The validated research questionnaires consisted of three parts: Part I: Demographic characteristics, consisting of the eight items age, education level, marital status, birthplace, province of the station, smoking behavior, drinking behavior, and substances used.

Part II: Islamic aspects-based sexual knowledge, containing 22 items, including both basic and conditional sentences. Participants reported their sexual knowledge based on Islamic aspects. Four possible answers to each item were permitted (*Halal*), disapproved (*Makruh*), forbidden (*Haram*), and unsure. Disapproved (*Makruh*) refers to behavior that Muslims may do that is not absolutely forbidden according to Islamic rules. While such actions are not considered sins, Muslims should avoid participating in such behavior. Correct answers received 1 point, and no points or penalties were given for wrong or unsure answers. The score was converted to a percentage and categorized into three levels according to the Bloom cut-off point (Bloom, 1968). Total points were converted to a percentage and grouped into levels: good knowledge (80.0-100.0%), moderate knowledge (60.0-79.9 %), and poor knowledge (less than 60.0 %).

Part III: Sexual risk behaviors of HIV/STIs. In this part, participants reported whether they had had a sexual experience in their lives (yes or no). In addition, those who had had an experience of sexual intercourse reported sexual encounters within the previous three months (yes or no), the number of sexual partners, and whether a condom was used. Finally, self-reported sexual risk behaviors of HIV/STIs were compared to marital status, and the respondents were grouped into two those with high and low risks for HIV/STIs. High risk for HIV/STIs was considered for those with inconsistent condom use among single respondents and married respondents with multiple sexual partners. While the low risk for HIV/STIs was assumed for those without experience of sexual intercourse, who did not have sexual intercourse within the last three months, and who used a condom at every instance of sexual intercourse, whether single or married with multiple sexual partners, and married respondents with sexual intercourse only with their wives.

Data Collection

Self-administered questionnaires were used to collect the data from May to July 2020. All Muslim army conscripts were presented with the questionnaire by a squad leader at each security checkpoint. The questionnaire items were repeated in an interview to clarify confusing answers from the participants.

Data Analysis

IBM SPSS Statistics for Windows, version 25 (IBM Corp., Armonk, NY, USA) was used. Data were analyzed using descriptive statistics (frequency, percentage, mean, and standard deviation) and Chi-square was used to test for the

association between the variables and the risk for HIV/STIs behavior. A significant level was set at a p -value of <0.05 .

Ethical Consideration

This study is part of a Doctoral of Philosophy dissertation entitled "The Comparative Effectiveness of Shell and Sauce Model and Islamic Based Education on Sexual Risk Behaviors Prevention among Muslim Army Conscripts in the Three Deep Southern Provinces of Thailand" by the College of Public Health Sciences, Chulalongkorn University. It was approved for human ethics research by the Ethics Review Committee for Research Involving Human Research Subjects, Health Science Group, Chulalongkorn University (Protocol code; 271.1/62). In addition, the protocol, research tools, information sheet, and informed consent form were approved.

Results

A total of 421 completed questionnaires were returned and included in the data analysis. **Table 1** shows that most participants were 22 years old or younger (74.3%) with a secondary school education (65.1%) and single marital status (79.8%). The birthplaces were relatively evenly split between the three southernmost provinces and all other provinces (52.7% and 47.3%, respectively). Respondents were deployed in Yala, Pattani, and Narathiwat provinces at proportions of 37.3%, 34.9%, and 27.8%, respectively. Half were active smokers (50.4%), more than a third were active consumers of alcohol (37.5%), and a small minority were substance users (2.4%).

Table 1 Sociodemographic characteristics of the subjects who participated in this study ($n = 421$)

| Demographic characteristics | Frequency | % |
|---------------------------------------|-----------|------|
| Age of recruitment | | |
| 21 - 22 years old | 313 | 74.3 |
| > 22 years old | 108 | 25.7 |
| Education level | | |
| Did not study in the education system | 7 | 1.7 |
| Primary school | 55 | 13.1 |
| Secondary school | 274 | 65.0 |
| Vocational study | 61 | 14.5 |
| Bachelor's degree and above | 24 | 5.7 |
| Marital status | | |
| Single | 336 | 79.8 |
| Married | 85 | 20.2 |
| Birthplace | | |
| Three southernmost provinces | 222 | 52.7 |
| Other provinces | 199 | 47.3 |
| Deployment province | | |
| Yala | 147 | 34.9 |
| Pattani | 157 | 37.3 |
| Narathiwat | 117 | 27.8 |
| Smoking status | | |
| Do not or quit smoking | 209 | 49.6 |
| Active smoker | 212 | 50.4 |
| Drinking status | | |
| Do not drink/ Had been drunk | 263 | 62.5 |
| Active drinker | 158 | 37.5 |
| Use of substances | | |
| Do not use/Stop using | 411 | 97.6 |
| Currently use | 10 | 2.4 |

Table 2 Sexual knowledge based on Islamic aspects ($n = 421$)

| Statement | Frequency (%) | | | |
|---|---------------------------|-------------------------|----------------------|------------|
| | Permitted (Halal) | Disapproved (Makruh) | Forbidden (Haram) | Not sure |
| Married couple having vaginal sexual intercourse | 329 (78.1) | 34 (8.1) | 7 (1.7) | 51 (12.1) |
| Married couple having oral sexual intercourse | 113 (26.8) | 140 (33.3) | 65 (15.4) | 103 (24.5) |
| Married couple having anal sexual intercourse | 43 (10.2) | 53 (12.6) | 238 (56.5) | 87 (20.7) |
| Kissing in married couples | 251 (59.6) | 93 (22.1) | 24 (5.7) | 53 (12.6) |
| Hugging and caressing in a married couple without insertion | 257 (61.0) | 94 (22.3) | 20 (4.8) | 50 (11.9) |
| Withdrawal method for sexual intercourse in married couples | 106 (25.2) | 156 (37.1) | 63 (15.0) | 96 (22.8) |
| Having sexual intercourse before marriage | 33 (7.8) | 75 (17.8) | 249 (59.1) | 64 (15.2) |
| Having sexual intercourse with other women not one's own wife | 34 (8.1) | 62 (14.7) | 276 (65.6) | 49 (11.6) |
| Men having sexual intercourse with men | 38 (9.0) | 65 (15.4) | 252 (59.9) | 66 (15.7) |
| Use of withdrawal method during sexual intercourse outside of marriage | 49 (11.6) | 51 (12.1) | 253 (60.1) | 68 (16.2) |
| Masturbating with other men | 36 (8.6) | 90 (21.4) | 218 (51.8) | 77 (18.3) |
| Masturbating with other men with a condom used | 36 (8.6) | 86 (20.4) | 239 (56.8) | 60 (14.3) |
| Having foreplay with men without insertion | 40 (9.5) | 91 (21.6) | 198 (47.0) | 92 (21.9) |
| Healthy married couple using a condom during sexual intercourse | 120 (28.5) | 96 (22.8) | 103 (24.5) | 102 (24.2) |
| Married couples using a condom to prevent pregnancy | 57 (13.5) | 110 (26.1) | 171 (40.6) | 83 (19.7) |
| A condom is used when either partner has an STI | 154 (36.6) | 112 (26.6) | 52 (12.4) | 103 (24.5) |
| Regarding adverse effects of pregnancy, a married couple using a condom during sexual intercourse | 222 (52.7) | 82 (19.5) | 54 (12.8) | 63 (15.0) |
| Married couple using a condom during anal sexual intercourse | 54 (12.8) | 84 (20.0) | 190 (45.1) | 93 (22.1) |
| Using a condom during vaginal sexual intercourse with other women apart from one's own wife | 49 (11.6) | 82 (19.5) | 202 (48.0) | 88 (20.9) |
| Using a condom during oral sexual intercourse with other men | 44 (10.5) | 92 (21.9) | 187 (44.4) | 98 (23.3) |
| Using a condom during anal sexual intercourse with other men | 45 (10.7) | 81 (19.2) | 213 (50.6) | 82 (19.5) |
| Married couple using a condom in oral sexual intercourse | 72 (17.1) | 155 (36.8) | 107 (25.4) | 87 (20.7) |
| Level of sexual knowledge based on Islamic aspects | n (%) | | | |
| Good (18 - 22 points) | 61 (14.5) | | | |
| Moderate (14 - 17 points) | 118 (28.0) | | | |
| Poor (less than 14 points) | 242 (57.5) | | | |

Note: Bold italic response was consistent with a judgment or a consensus among Imams in the area

Table 2 presents the participants' sexual knowledge relevant to Islamic aspects. Most participants correctly reported that Islam granted permission for vaginal sexual intercourse among married couples (78.1%) and that caressing without insertion was also allowable (61.0%). However, most did not correctly identify that Islam disapproves of the withdrawal technique between married couples in sexual intercourse (37.1%) or the use of a condom used for oral sexual intercourse in married couples (36.8%). Most were correct in answering that having sexual intercourse with another female apart from one's own wife (65.6%) and using the withdrawal technique in sexual intercourse with others (60.1%) were forbidden. Most did not correctly respond to an item regarding whether to have oral sexual intercourse among married couples (disapproved) and to use condoms when either side of the married couple had an STI (forbidden) (24.5%). The items that were most commonly answered correctly regarded having vaginal sexual intercourse in a married couple, having sexual intercourse with women other than one's own wife (65.6%), and just hugging and caressing without insertion in a married couple (61.0%).

In addition, **Table 2** shows the sexual knowledge level based on Islamic aspects among Muslim army conscripts deploying in the conflict area of the three southernmost provinces of Thailand. The results indicated that 57.5% had a

poor level of sexual knowledge, 28% had a moderate level of sexual knowledge, and only 14.5% had a good level of sexual knowledge according to Islamic aspects.

Table 3 Sexual risk behavior of HIV/STIs ($n = 421$)

| Sexual risk behavior of HIV/STIs | n (%) | Risk for HIV/STIs |
|---|------------|-------------------|
| Never had sexual intercourse | 61 (14.5) | Low risk |
| Have sexual intercourse experience | 360 | |
| Sexual intercourse within the last three months | | |
| <i>Married</i> | 85 | |
| • Sexual intercourse with the wife only | 53 (12.6) | Low risk |
| • No sexual intercourse | 13 (3.1) | Low risk |
| • Have more than one sexual partner | 19 | |
| ◦ Condom used every time | 7 (1.7) | Low risk |
| ◦ Inconsistent condom use | 12 (2.8) | High risk |
| <i>Single</i> | 275 | |
| • No sexual intercourse | 84 (19.9) | Low risk |
| • Condom used every time | 66 (15.7) | Low risk |
| • Inconsistent condom use | 125 (29.7) | High risk |

Note: None of the married subjects had more than one wife

Table 4 Factors associated with sexual risk behavior of HIV/STIs ($n = 421$)

| Factors | Sexual risk behavior of HIV/STIs | | df | χ^2 | p -value |
|--|----------------------------------|------------|------|----------|--------------------|
| | Low risk | High risk | | | |
| Age of recruitment | | | | | |
| 21 - 22 years | 214 (68.4) | 99 (31.6) | 1 | 0.462 | 0.496 |
| > 22 years | 70 (64.8) | 38 (35.2) | | | |
| Education level | | | | | |
| Not study and primary school | 38 (61.3) | 24 (38.7) | 3 | 5.517 | 0.138 |
| Secondary school | 193 (70.4) | 81 (29.6) | | | |
| Vocational study | 41 (67.2) | 20 (32.8) | | | |
| Bachelor's degree and above | 12 (50.0) | 12 (50.0) | | | |
| Marital status | | | | | |
| Single | 211 (62.8) | 125 (37.2) | 1 | 16.468 | <0.001 |
| Married | 73 (85.9) | 12 (14.1) | | | |
| Hometown | | | | | |
| Three southernmost provinces | 160 (72.1) | 62 (27.9) | 1 | 4.554 | 0.033 |
| Other provinces | 124 (62.3) | 75 (37.7) | | | |
| Deployment province | | | | | |
| Yala | 91 (61.9) | 56 (38.1) | 2 | 3.309 | 0.191 |
| Pattani | 112 (71.3) | 45 (28.7) | | | |
| Narathiwat | 81 (69.2) | 36 (30.8) | | | |
| Smoking status | | | | | |
| Do not or quit smoking | 162 (77.5) | 47 (22.5) | 1 | 19.110 | <0.001 |
| Active smoker | 122 (57.5) | 90 (42.5) | | | |
| Drinking status | | | | | |
| Do not drink/ Had been drunk | 190 (72.2) | 73 (27.8) | 1 | 7.309 | 0.007 |
| Active drinker | 94 (59.5) | 64 (40.5) | | | |
| Substance used | | | | | |
| Do not use/Stop using | 276 (67.2) | 135 (32.8) | 1 | 0.734 | 0.510 ^a |
| Currently use | 8 (80.0) | 2 (20.0) | | | |
| Islamic values-based sexual knowledge | | | | | |
| Good (18 - 22 points) | 58 (95.1) | 3 (4.9) | 2 | 107.385 | <0.001 |
| Moderate (14 - 17 points) | 112 (94.9) | 6 (5.1) | | | |
| Poor (less than 14 points) | 114 (47.1) | 128 (52.9) | | | |

Table 3 presents the risk for HIV/STIs categorized by participants' behaviors. Among the 421 subjects, 61 subjects

(14.5%) never had sexual intercourse in their lifetime. These were classified as low risk. However, inconsistent condom use

in married and single respondents, reported by 29.7%, was classified as high-risk behavior.

Table 4 shows the association between subject characteristics and risk for HIV/STIs using Chi-square. The results found that participants' marital status, home base provinces, smoking and drinking status, and Islamic values-based sexual knowledge were potential factors significantly associated with their risky behavior of HIV/STIs ($p < 0.05$). According to the results, we can observe that the strongest associated factors with a high risk of sexual behavior related to HIV/STIs were poor sexual knowledge according to Islamic aspects, followed by marital status, cigarette smoking, alcoholic drinking, and the subjects' home base.

Discussion

Our study found that sexual knowledge according to Islamic aspects was associated with risk for HIV/STIs. Poor knowledge clearly increases the risk for HIV/STIs among the Muslim army conscript. This finding is similar to studies showing that individual factors related to knowledge of sexual behavior in Islamic doctrines could increase the rate of condom use to lower the risk for HIV/STIs (Haddad et al., 2018). Our study also found that active smokers had a high risk for HIV/STIs, which is consistent with the previous study of male youths in Malaysia (Farid et al., 2014). This may be because active smokers are more likely to use alcohol and drug, which could lead to unprotected sexual intercourse (Dickson-Gomez et al., 2017; Myers et al., 2007; Yu et al., 2013). Smoking is harmful and prohibited by Islam, which calls upon worshippers to look after their health (World Health Organization, 2000). To lower smoking rates, such as through an antismoking campaign, awareness of religious beliefs should be exploited (Ghouri et al., 2006).

Those with sexual abstinence and participants with good sexual knowledge had a lower rate of HIV/STIs prevalence rate. These may have been practicing Muslim functioning under religious constraints that lead to a lower risk for and prevalence of HIV/STIs (Gray, 2004; Piriyaart et al., 2020).

Although most participants had finished secondary school (65.1%), the majority had a low level of sexual knowledge based on Islamic aspects, which is inconsistent with a study in Malaysia that found a high level of sexual knowledge in similar circumstances (Barmania & Aljunid, 2016). This may be because most of our participants attended general school, not Islamic school. In public school, only general sexual knowledge is provided, while Islamic school focuses more on Islamic aspects of sexual knowledge, which benefits students (Alomair et al., 2020a, 2020b). On the other hand, STIs could be prevented if the traditional norms (Haberland, 2015) and rules of Islam were applied to Muslims (Hamdi, 2018).

The questionnaire results indicated a variation in sexual knowledge based on Islamic principles. Oral sexual intercourse in married couples is controversial in parts of Thailand and other countries (Dotson-Blake et al., 2012; Halstead, 1997; Kerwin et al., 2014). However, most participants (62.1%) considered engaging in oral sexual intercourse acceptable. In addition, this group featured oral sexual intercourse with their friends and sexual partners, which was significantly associated with an increase in the number of sexual partners (Dotson-Blake et al., 2012) and

consequently with premarital sexual intercourse (Kerwin et al., 2014) including lifting the risk of HIV/STIs.

Surprisingly, in face-to-face interviews, a misconception of Islamic rules regarding oral sexual intercourse, condom use, and withdrawal methods with other sexual partners apart from the wife was not considered sex outside marriage. Some participants asserted that sperm did not pass into the vagina in the withdrawal method. This incorrect belief could lead these participants to have a high risk for HIV/STIs because they will have sexual intercourse more frequently and have larger numbers of sexual partners. Such attitudes should receive immediate modification and adjustment.

Sex outside of marriage should be clarified among these participants. Misperceptions and misunderstandings should be eliminated (Najimudeen, 2020). A suitable cultural program for sexual behavior improvement should be provided (Abdi et al., 2021) because Islam is a highly practical religion, and Muslims are influenced by Muslim scholars and religious leaders (Abdi et al., 2021; Barmania & Aljunid, 2016; Hamdi, 2018). Appropriate and correct behaviors should be presented to allow these recruits to practice Islam according to the Quran.

More single Muslim army conscripts (76.4%) had had premarital sexual intercourse than seen in a report in the United States, indicating that 53.8% of unmarried Muslim youths had had sexual intercourse (Ahmed et al., 2014). In addition, more than a fifth of married participants in this study reported sexual intercourse outside marriage (22.3%), which is contrary to Islamic rules (Alomair et al., 2020b; Hamdi, 2018; Inhorn, 2007). These behaviors bring a high risk for HIV/STIs. This finding could be brought to bear to shape the viewpoints of Muslim males restrained by politics, culture, and religious beliefs (Abdi et al., 2021). In addition, all Muslims who follow religious practices regarding forbidden sexual behavior could protect themselves from HIV/STIs (Alomair et al., 2020a, 2020b).

Human beings can learn to control their sexual drives and desires to develop ethical practices because sexual relations are considered holy behaviors with legal sexual partners through relationships through lawful Islam (Assad et al., 2016; Hamdi, 2018). The best way to avoid STIs is to practice abstinence (Wannarit, 2022), followed by masturbation. Masturbation is considered a sin and forbidden in Islam (Assad et al., 2016; Inhorn, 2007). However, views differ on different religious beliefs in other parts of Thailand and other countries (Albobali & Madi, 2021; Inhorn, 2007). However, those who have sexual intercourse outside marriage, which goes against Islamic rules, should have a more social responsibility to protect themselves and others from contagious diseases (Singkun, 2021). In addition, these participants should be encouraged to increase their condom use (Cumber & Tsoka-Gwegweni, 2016), although this practice is controversial (Najimudeen, 2020; Speed & Cragun, 2021).

The participants' responses indicate that one-third had a high risk for HIV/STIs. Sexual and reproductive health is a sensitive issue (Najimudeen, 2020). However, Islamic rules should be used to teach Muslims appropriate sexual behavior (Hamdi, 2018; Hayee et al., 2021). In addition, the strongest religiosity has a significant inhibiting effect on risky sexual behavior (Ahmed et al., 2014; Dotson-Blake et al., 2012).

Although this study found several factors associated with HIV/STIs risk, some limitations must be addressed. First, the questionnaire identified education levels that asked only about the participants' general education, omitting any Islamic education. This may lead to the misclassification of Islamic knowledge related to sexual behavior. Second, the recruitment of participants in this study was conducted at security checkpoints that were clustered in city centers. This may affect the generalizability of the results to remote outer areas. However, the magnitude of sexual risk behavior could more easily be observed in the city area than in the remote outer regions.

Conclusion

The study explored knowledge of Islamic precepts on sexuality among Muslim army conscripts deploying in the conflict area of the three southernmost provinces of Thailand. Most subjects had a poor level of knowledge according to Islamic principles. One-third of reported sexual behaviors related to high risk for HIV/STIs. Smoking and Islamic values-based sexual knowledge were associated with increased risk behavior for HIV/STIs. The strongest association predictive variable was knowledge of Islamic doctrines on sexual behaviors. This study provides crucial knowledge for health promotion in public health and nursing practice in a strongly religious belief community.

Further study related to sexual health education is encouraged to strengthen the sexual knowledge based on Islamic principles among Muslim army conscripts in the southernmost provinces of Thailand. Sexual health education in specific Muslim majority areas should be created and implemented with the collaboration of healthcare providers and leaders of religious communities. The roles of nurses and public health professionals are necessary in sexual health promotion to achieve the level of expected knowledge and sustainability in order to lower the risky behavior for HIV/STIs in the population at large.

Declaration of Conflicting Interest

The authors declared no conflicts of interest in relation to this work.

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Authors' Contributions

All authors contributed equally to this study.

Authors' Biographies

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Data Availability

Not Applicable.

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