Self-evaluation of Sexual History Taking Skills Among Medical Students in Southern Thailand

Thareerat Ananchaisarp, M.D.*, Jirayu Likitkamchorn,, Jirapat Jitsaard,**, Natthanit Srisuriya,**, Natvara Panichkittikul,**, Porramat Chuthong,**, Pongsakorn Khanphakdee,**, Peraya Tekasakul,**, Rossawan Sahuankeaw,**, Sarawut Piyarattanayothin,**, Panya Chamroonkiadtikun, M.D.*, Chonnakarn Jatchavala, M.D., MSc.*****

**Department of Family and Preventive Medicine, **Fifth-year medical student, Faculty of Medicine, ***Department of Psychiatry, Faculty of Medicine, Prince of Songkla University, Songkhla 90110, Thailand.*

ABSTRACT

Objective: Sexual health is an important issue in a holistic approach in general clinical practice. Inappropriate sexual history taking could lead to improper clinical management. This study aimed to examine perceptions of practice, attitudes toward sexual history taking and their associated factors among final year medical students in southern Thailand.

Materials and Methods: This cross-sectional survey was conducted between September and October 2022, using a self-reported questionnaire via Google forms. The self-reported questionnaire consisted of questions related to the practice and attitude toward sexual history taking (α = 0.90 and 0.71, respectively), as well as perceptions of the undergraduate medical training on taking a sexual history (α = 0.91). Descriptive data analysis and multiple logistic regression was conducted by using Program R.

Results: Of 91 participants, most were male and Buddhist (54.9% and 87.9%). In general, most medical students rated their proficiency in sexual history taking skills as fair-to-good across all aspects. The majority showed a positive attitude toward sexual history taking (68.1%) and reported that contraception was the main reason that they usually have such discussions with female patients (36.3%), while the prevention of sexual transmitted diseases (STDs) was the most common issue during annual examinations, and when with patients with suspected STDs (27.5% and 49.5%). Male medical students and those who perceived good-to-very good knowledge and well-to very well-trained skills of sexual history taking were significantly associated with more regular sexual history taking. [adjusted OR (95%CI) = 4.51(1.19-17.11) and 5.3 (1.51-18.65), respectively] Moreover, students with a good attitude toward sexual history taking were significantly associated with a perceived good-to-very-good training in both history taking and communication skills.

Conclusion: Most medical students exhibited a positive attitude toward sexual history taking, and they stated that birth control and STDs symptoms were typically the primary subjects they discussed with patients in general. There was a significant association between being male, a perception of good knowledge and well-trained skills, and a more consistent practice of sexual history taking. Additionally, medical students who displayed a good attitude towards taking sexual history significantly showed a perception that they had received sufficient training in both the areas of history taking and communication skills.

Keywords: Clinical practice; medical history taking; sexual health; undergraduate medical education (Siriraj Med J 2023; 75: 784-793)

Corresponding author: Chonnakarn Jatchavala
E-mail: jchonnak@medicine.psu.ac.th
Received 29 August 2023 Revised 27 September 2023 Accepted 30 September 2023
ORCID ID:http://orcid.org/0000-0001-9765-2184
https://doi.org/10.33192/smj.v75i11.264811

All material is licensed under terms of the Creative Commons Attribution 4.0 International (CC-BY-NC-ND 4.0) license unless otherwise stated.

INTRODUCTION

Sexual problems and their consequences, such as, sexually transmitted diseases (STDs), teenage pregnancy, and sexual dysfunction are important global issues. Thus, sexual history taking by health care providers can be very beneficial for both early detection and proper management, not only for mentioned sexual health issues but also holistic care, such as family relationships, which can be helpful in many aspects of medical treatment.[1-3] Although sexual history taking was known of being needed and expected by most patients, a study in the US found that only 58.0% of general practitioners (GPs) had asked their patients about their sexual activities.[4] Whereas 12.0-34.0% of them regularly took a complete sexual history, 76.0% of American GPs would take sexual history when their patient chiefly complained of sexual related issues.[5]

These incomplete clinical practices may lead to misdiagnosis of sexual-related diseases, especially STDs, teenage pregnancy, and erectile dysfunction, which are global public health concerns nowadays. The common reasons why most physicians have not taken a sexual history, were their lack of confidence and inexperience. A study discovered that the reason may be insufficient training and practice during their time at medical school.[6,7] 56.0% of American GPs reported that they were inadequately trained for sexual history taking according to their undergraduate medical curriculum. Another study in regard to Malaysian medical students found that about half of them felt uncomfortable discussing sexual issues with their patients.[6]

However, no current studies on sexual history taking in undergraduate medical education were conducted in Thailand, and there is a small amount of reported research in regard to low-and middle-income countries. Most relevant studies were from other countries where medical curriculum, cultures and contexts were different from Thailand, and especially southern Thailand.[6,7] Some parts of this region have been dubbed by the media as South border provinces (SBP) because of their complicated political and religious conditions which leads to ongoing violence and insurgency since 2004.[8] Hence, background and perspectives found from many previous studies on medical doctors, who studied or worked within these areas may be different from other regions of country.[9] For these reasons, this study aimed to examine clinical practices and attitudes toward sexual history taking among medical students in southern Thailand, as well as their associated factors. The researchers explored the Thai undergraduate medical curriculum in sexual health, especially Thai medical students' practice and attitude toward sexual history taking, which are the primary processes of sexual health care in clinical practice. Moreover, medical students' perceptions on undergraduate training could feed-back to the institute for developing medical education, which focuses on real-life educational content.

MATERIALS AND METHODS

Design and participants

This study used a cross-sectional design and was approved by the Human Research Ethics Committee of the Faculty of Medicine, Prince of Songkla University (REC 65-296-9-1). The participants were final-year medical students at the Prince of Songkla University (PSU).

Study sample and sampling

$$n = \frac{Np(1-p)z^2_{1-\frac{\propto}{2}}}{d^2(N-1)+p(1-p)z^2_{1-\frac{\propto}{2}}}$$

The sample size was calculated based on the primary objective using the finite population proportion as: Due to the limited information reported on attitudes, practice, and perception on training toward sexual history taking among medical students; the researchers used prevalence = 0.5 for maximized sample size and alpha (α) = 0.05 for the margin of error (d).

The calculated sample size was 91 medical students. We invited all the 118 medical students who studied at PSU medical school. 92 students enrolled to the survey, but one of them withdraw her/himself before the survey was completed.

Data collection

The survey was circulated among the final year medical students, via google form, during September and October 2022. The form of the questionnaire was designed for participants to be anonymous and distributed by the unit of student affairs, faculty of Medicine, Prince of Songkla university, Thailand.

Measurements

Literature regrading undergraduate medical education, and the medical curriculum on sexual health was reviewed by all authors as per the core concept of the primary aims, before the rest of the co-authors reviewed studies on practices, attitude toward sexual history taking and medical students' perceptions or perspectives on their undergraduate training, regarding the issue of sexual health for the main objectives of this study.

The self-reported questionnaire consists of 4 parts as below:

1) Participants' characteristics; gender, sexual orientation, age, ethnicity, religion, grade point average (GPA), and romantic relationship status

2) Attitude toward sexual history taking consisted of 5 questions (five-point scales: 1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, 5 = strongly agree):

2.1 Importance of sexual history taking in general practice

2.2 Impact of sexual history taking on clinical management

2.3 Preference of patients to discuss on their sexual history from physician's question

2.4 Importance of confidentiality of patients 'sexual history

2.5 Preference of medical students on duration of time taking sexual history

The Likert scale was the grouped attitude toward sexual history taking into three groups by using Best's criterion: good (high level, score = 19-25), fair (moderate level, score = 12-18) and poor (low level, score = 5-11) attitude.

3) Practice on sexual history taking consisted of 15 questions (five-frequency scale: always [100%], usually [75-99%], often [50-75%], rarely [<50%] and never [0%])

4) Perceptions about the undergraduate medical training on taking a sexual history consisted of 9 questions about their knowledge, skills in sexual history taking and confidence on their communication skill. (There were five-rating scales: very high, high, moderate, low, and very low). The first draft of the questionnaire was tested for content validity by three experts in sexual health. The Item Objective Congruence Index (IOC) was calculated for each question and re-adjusted until the IOC value > 0.5. Then, the questionnaire was re-tested for its reliability by 30 final-year medical students in other medical schools in southern Thailand. The Cronbach's alpha coefficient were 0.71 for the second part, 0.90 for the third part, and 0.91 for the last part of questionnaire.

Statistical analysis

All data were analyzed by the R program. Descriptive analysis was used to analyzed baseline characteristics, practice on sexual history taking and perception on undergraduate medical training of sexual history taking. The mentioned parts were presented as frequency and percentages, while multiple logistic regression was used to analyze factors associate with practice, attitude toward sexual history taking and perceptions on undergraduate medical training. A p-value =< 0.05 is considered statistically significant.

RESULTS

Demographic data

Of 91 medical students who participated in the study, most of participants were male (54.9%), with a median age of 23.0 years old (23.0, 24.0). Most of them were Thai, Buddhist and identified that their sexual orientation is heterosexual (96.7%, 87.9% and 78.0%). 72.5% of the students stated their grade point average (GPA) as between 3.01 and 4.00. More than half of the participants were single, without a current romantic relationship (63.7%) (Table 1).

Attitudes towards sexual history taking among Thai medical students

Approximately two-thirds of our participants had a high level of attitude toward sexual history taking (68.1%) and no one had a low level of attitude. Most of the participants had a strong-to-very strong agreement that sexual history taking is important for general practice (83.4%) and it significantly affected medical care (64.9%). In addition, confidentiality about the patient's sexual history was the most critical issue (94.5%). However, 74.7% of them moderately-to-highly agreed that it took time for them to take sexual history in general, in an unpredictable manner. (Fig 1)

Practice on sexual history taking among medical students

To survey on the clinical practice, the questionnaire asked how many percent of patient consultations incorporated the taking of sexual history. Contraceptive methods were the most frequently incorporated questions asked of patients with any chief complaints (36.3% in female patients and 17.6% in male patients). During visits for annual checkups and patients with suspected sexually transmitted diseases (STDs), the most frequently asked question was about preventive methods for sexually transmitted infections. (27.5% and 49.5% respectively However, approximately half of medical students rarely-to-never asked about their partner's gender (48.2%) and sexual activity patterns for patients who were suspected STDs (57.2%). Whereas sexual dysfunction symptoms had rarely-to-never been asked by the medical students for general patients who came with other chief complaints (61.6%) (Table 2).

Overall, most medical students assessed their ability to conduct sexual history taking as moderate-to-good in all areas, including communication skills. Approximately two-thirds of the participants perceived that, they had skills which were well-to-very-well trained and good-to-very good knowledge in discussing and advising on

TABLE 1. Participants' demographic data.

Characteristic	Number (%)
Age [Median (Q1, Q3)]	23 (23,24)
Sex assigned at birth	
Male	50 (54.9)
Female	41 (45.1)
Sexual orientation	
Heterosexual	71 (78.0)
Non-heterosexual[a]	17 (18.7)
Non specified	3 (3.3)
Race	
Thai	88 (96.7)
Cambodian/Chinese	3 (3.3)
Religion	
Buddhism	80 (87.9)
Muslim, Christian, Irreligious	10 (11.0)
Non specified	1 (1.1)
GPA	
3.01-4.00	66 (72.5)
2.01-3.00	18 (19.8)
Non specified	7 (7.7)
Marital status	
Single	58 (63.7)
In relationship	28 (30.8)
Non specified	5 (5.5)

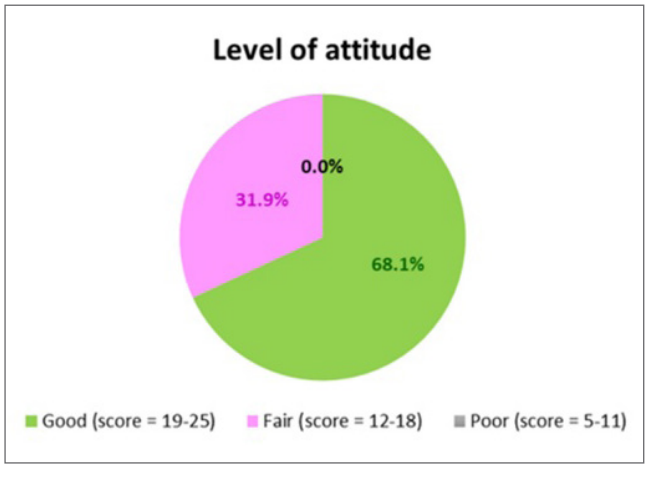


Fig 1. Attitude toward sexual history taking among Thai medical students.

contraception (64.9% and 67.1% respectively), while sexual dysfunction was the topic most perceived having a moderate-to-poor skill and knowledge as (69.3% and 70.4%) However, 57.2% of them perceived their own communication skill on sexual history which were good-to-very good. (Table 3).

Factors associated practice and attitude toward sexual history taking in an undergraduate medical curriculum

This part of questionnaire asked participants directly for the perception of all skills trained under the curriculum of undergraduate medical education. According to the attitude toward sexual history taking, no significant associated factor was found. However, males and students who perceived good-to-very good knowledge and skills as well-to-very well-trained; were statistically significantly associated with usually-to-always sexual history taking in patients with symptoms leading to the suspicion of STDs {[adjusted OR (95%CI) = 4.51 (1.19-17.11)] and [adjusted OR (95%CI) =5.3 (1.51-18.65)]}. In addition, a perception of good-to-very good skill and knowledge on sexual history taking and sexual health also was associated with more regular sexual history taking in general patients with any chief complaint [adjusted OR (95%CI) = 4.85 (1.43-16.41)] (Table 4).

Regarding perceived knowledge and skills of sexual history taking among medical students, perception of well-to-very well-trained skills regarding the curriculum, and perceived good-to-very good communication skill were statistically significant associated factors. [adjusted OR (95%CI) = 4.93 (1.5-16.22) and 3.45 (1.22-9.73), respectively (Table 5).

DISCUSSION

To take sexual history must involve questions of sexual behavior, sexual function, sexual orientation, gender identity, sexual health risks, contraceptive uses and protection of transmitted diseases.[1,10] This study covered the questions that should be asked in most general practices and inquired regarding the confidence of medical students about their trained skills and knowledge, in the context of feedback to the Thai curriculum of medical degrees (M.D.). Moreover, this survey is the first study to precisely examine sexual history taking among Thai medical students, particularly those studying in southern Thailand, in the past 10 years.

Compared with a Malaysian study, agreement on the importance of sexual history taking and patients' confidentiality were found to be similar.[6] In addition, they also showed the same opinion of hesitancy due

TABLE 2. Sexual history taking practice among medical students.

Sexual history topic	Frequency of asking patients [number (%)]				
	Always (100%)	Usually (75-99%)	Often (50-75%)	Rarely (<50%)	Never (0%)
Visit for annual examination					
Number of partners in the previous year	7 (7.7)	9 (9.9)	14 (15.4)	37 (40.7)	24 (26.4)
Sex assigned at the birth of patient's partner	6 (6.6)	8 (8.8)	18 (19.8)	28 (30.8)	31 (34.1)
Preventive method of sexually transmitted infection	25 (27.5)	16 (17.6)	20 (22.0)	17 (18.7)	13 (14.3)
Visit with symptoms of suspected sexually transmitted infection					
Sexual orientation	13 (14.3)	11 (12.1)	23 (25.3)	23 (25.3)	21 (23.1)
Number of partners in the previous year	20 (22.0)	20 (22.0)	18 (19.8)	19 (20.9)	14 (15.4)
Frequency of having sexual intercourse	19 (20.9)	15 (16.5)	27 (29.7)	18 (19.8)	12 (13.2)
Sex assigned at the birth of patient's partner	11 (12.1)	17 (18.7)	19 (20.9)	23 (25.3)	21 (23.1)
Patient's sexual activity patterns such as vaginal, anal, oral	10 (11.0)	16 (17.6)	13 (14.3)	24 (26.4)	28 (30.8)
Preventive method of sexually transmitted infection	45 (49.5)	21 (23.1)	11 (12.1)	9 (9.9)	5 (5.5)
History of having sexually transmitted infection	45 (49.5)	19 (20.9)	12 (13.2)	10 (11.0)	5 (5.5)
History of having sexual abuse	4 (4.4)	10 (11.0)	16 (17.6)	24 (26.4)	37 (40.7)
Visit with any chief complaint					
Methods of contraception in the female of reproductive age	33 (36.3)	31 (34.1)	11 (12.1)	14 (15.4)	2 (2.2)
Methods of contraception in the male of reproductive age	16 (17.6)	16 (17.6)	12 (13.2)	28 (30.7)	19 (20.9)
Problems of sexual dysfunction	4 (4.4)	13 (14.3)	18 (19.8)	27 (29.7)	29 (31.9)
Current medications used which may impact sexual dysfunction	8 (8.8)	14 (15.4)	20 (22.0)	23 (25.3)	26 (28.6)

to time-consuming process of sexual history taking, which may be a part of normal Asian culture, regarding discussing sensitive issues such as sexual function.[6] For these reasons, socio-cultural context should be embedded into not only sexual history taking skill, but other sensitive topics such as taking the history of psychiatric symptoms. In addition, sexual health should be embedded in both preventive care and medical treatment.[1,4] However, less than half of medical students regularly took a sexual history during annual check-up visits, whereas most of them regularly asked the patients with suspected sexually transmitted diseases. Approximately half of the medical students did not ask about the history of sexual abuse and related behaviors in these patients. While contraception is a common topic in doctor-patient discussions, the students tended to discuss it more with female patients than with male patients. These results may give feedback on the undergraduate curriculum of preventive medicine to enhance sexual health into the Thai medical education. Even though no factor associated with attitudes toward sexual history taking was found, male gender and perception on knowledge and skill regarding trained curriculum of Thai M.D. were associated factors of such practices. We can imply that the results showed the significance of appropriate teaching and training on sexual health in Thailand. Most of Thai medical students perceived their knowledge and skill on sexual history taking as fair-to-poor. Thus, further

TABLE 2. Perception of knowledge and skills of sexual history taking regarding medical curriculum.

	Perception of knowledge and skills [number (%)]				
	Very good	Good	Fair	Poor	Very poor
Perception of knowledge					
Knowledge of sexual history taking adequate for diagnosis and treatment of disease	8 (8.8)	36 (39.6)	41 (45.1)	6 (6.6)	0 (0.0)
Knowledge in screening, diagnosis, and treatment of sexually transmitted infection	8 (8.8)	41 (45.1)	38 (41.8)	4 (4.4)	0 (0.0)
Knowledge of diagnosis and treatment of sexual dysfunction	4 (4.4)	23 (25.3)	39 (42.9)	18 (19.8)	7 (7.7)
Knowledge of contraception	20 (22.0)	41 (45.1)	27 (29.7)	3 (3.3)	0 (0.0)
Perception of trained skills					
Skill in sexual history taking adequate for diagnosis and treatment of disease	9 (9.9)	28 (30.8)	39 (42.9)	14 (15.4)	1 (1.1)
Skill in screening, diagnosis, and treatment of sexually transmitted infection	7 (7.7)	42 (46.2)	33 (36.3)	9 (9.9)	0 (0.0)
Skill in diagnosis and treatment of sexual dysfunction	6 (6.6)	22 (24.2)	34 (37.4)	19 (20.9)	10 (11.0)
Skill in advising contraception	14 (15.4)	45 (49.5)	25 (27.5)	7 (7.7)	0 (0.0)
Perception of Communication skills	9 (9.9)	43 (47.3)	32 (35.2)	7 (7.7)	0 (0.0)

development on sexual health and associated clinical skills regarding the undergraduate medical curriculum should be more focused on this. Furthermore, 42.8% of medical students perceived their communication skills as fair-to-poor, and this perception was significantly associated to knowledge and skills of sexual history taking.

Communication skills themselves are critical for medical practice because it is essential for building trust and rapport with patients who are often anxious and stressed, especially when they visit health care providers for sensitive issues such as psychological and sexual-related problems.[11] Moreover, providing high-quality care needs good-to-very good communication skills for gathering accurate and complete patients' information. Medical doctors must be able to communicate effectively with patients to obtain their health information, as well as clearly communicate with them for proper self-care.[12] Thus, this skill may not influence only the skill of sexual history taking but may influence the general skills of medical practices.

However, these medical students have studied their clinical practice during the COVID-19 pandemic (the fourth-to sixth years regarding the curriculum). This globally challenging situation has presented a struggle in regard to communication in general. Medical students faced challenges communicating with patients, colleagues, and medical instructors. The uses of tele-medicine and other remote teachings for undergraduate medical education may assist them for more effective communication skill. A previous study on history taking among medical students at the same medical school reported that 91% of them showed confidence on history taking in psychiatric practice in 2017-2018, whilst this study found only 42.8% reported self-assurance on the same topic.[11,12] Although they engage in history taking on different issues, both are vulnerable, and their dissimilarities of prevalence could reveal the communication skill struggles during the pandemic.[13] For these reasons, medical educators should provide more training and resources, such as remote classroom, case-based learning, and simulation, to help the students to improve their communication skills in the context of the COVID-19 pandemic and beyond.[14]

TABLE 4. Factor associated with practice and attitude toward sexual history taking among medical students.

Factor	High level of attitude toward sexual history taking			Usually to always in practice in sexual history taking								
				Visiting for annual examination			Visiting with suspected STDs			Visiting for any chief complaint		
	Crude OR (95% CI)	Adjusted OR (95% CI)	P-value	Crude OR (95% CI)	Adjusted OR (95% CI)	P-value	Crude OR (95% CI)	Adjusted OR (95% CI)	P-value	Crude OR (95% CI)	Adjusted OR (95% CI)	P-value
Sex assigned at birth												
Female	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Male	0.8 (0.33-1.96)	0.67 (0.25-1.81)	0.425	0.66 (0.2-2.15)	0.31 (0.07-1.42)	0.131	3.39 (1.12-10.26)	4.51 (1.19-17.11)	**0.027***	0.87 (0.33-2.32)	0.8 (0.24-2.64)	0.715
Sexual orientation												
Non-heterosexual[a]	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Heterosexual	0.87 (0.27-2.76)	0.73 (0.21-2.55)	0.624 (0.35-24.44)	2.93	4.02 (0.35-46.88)	0.266	0.64 (0.2-2.11)	0.39 (0.1-1.55)	0.181	1.36 (0.35-5.32)	1.4 (0.28-7.07)	0.682
Non specified	0.83 (0.06-11.42)	0.59 (0.02-17.03)	0.757	8 (0.35-184.36)	477955878. 01 (0-Inf)	0.993	1.2 (0.09-16.44)	0.69 (0.02-22.76)	0.835	9.33 (0.62-139.57)	12038553 9.03 (0-Inf)	0.992
Race												
Thai	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Cambodian/ Chinese	0.93 (0.08-10.73)	1.81 (0.13-25.98)	0.663	0 (0-Inf)	0 (0-Inf)	0.996	1.7 (0.15-19.73)	3.24 (0.23-45.51)	0.383	0 (0-Inf)	0 (0-Inf)	0.994
Religion												
Buddhism	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Others[b]	0.51 (0.14-1.85)	0.44 (0.1-1.87)	0.268 (0.07-4.84)	0.57	0.46 (0.04-5.69)	0.542	0.71 (0.14-3.59)	1.84 (0.27-12.54)	0.534	1.29 (0.31-5.38)	2.43 (0.39-15.10)	0.341
GPA												
3.01-4.00	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
2.01-3.00	0.68 (0.23-2.02)	0.69 (0.21-2.33)	0.551	1.45 (0.34-6.14)	1.34 (0.23-7.82)	0.747 (0.28-3.4)	0.97	0.61 (0.13-2.78)	0.524	1.06 (0.3-3.73)	0.79 (0.17-3.61)	0.766
Non specified	1.09 (0.19-6.08)	1.31 (0.19-9.12)	0.783	2.9 (0.48-17.52)	1.37 (0.17-11.32)	0.772	1.36 (0.24-7.73)	1.18 (0.14-10.01)	0.88	2.79 (0.56-13.92)	0.82 (0.12-5.62)	0.836

TABLE 4. Factor associated with practice and attitude toward sexual history taking among medical students. (Continue)

Factor	High level of attitude toward sexual history taking			Usually to always in practice in sexual history taking								
				Visiting for annual examination			Visiting with suspected STDs			Visiting for any chief complaint		
	Crude OR (95% CI)	Adjusted OR (95% CI)	P-value	Crude OR (95% CI)	Adjusted OR (95% CI)	P-value	Crude OR (95% CI)	Adjusted OR (95% CI)	P-value	Crude OR (95% CI)	Adjusted OR (95% CI)	P-value
Marital status												
Single	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
In a relationship	0.59 (0.23-1.53)	0.49 (0.17-1.4)	0.18	2.89 (0.87-9.61)	4.45 (0.95-20.96)	0.059	1.15 (0.4-3.31)	1.04 (0.31-3.49)	0.956	2.67 (0.95-7.47)	3.61 (1.00-13.02)	0.05
Non specified	0.57 (0.09-3.74)	0.62 (0.06-6.29)	0.689	0 (0-Inf)	0 (0-Inf)	0.992	0.87 (0.09-8.43)	0.82 (0.06-11.51)	0.88	1.2 (0.12-11.91)	0 (0-Inf)	0.993
Attitude toward sexual history taking												
Low-to-moderate				Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
High				1.67 (0.42-6.58)	1.82 (0.35,9.56)	0.481	1.67 (0.55-5.11)	1.45 (0.41-5.13)	0.562 (0.55-5.11)	1.67	1.75 (0.47-6.53)	0.407
Perception of received knowledge and skills of sexual history taking												
Very low to moderate	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
High to very high	2.76 (0.84-9.04)	3.48 (0.97-12.52)	0.056	4.52 (1.33-15.33)	3.01 (0.74,12.24)	0.123	3.99 (1.4-11.36)	5.3 (1.51-18.65)	**0.009***	5.32 (1.85-15.32)	4.85 (1.43-16.41)	**0.011***

[a]Non-heterosexual = Homosexual, Bisexual, and Pansexual

[b]Religion: others = Muslim, Christian, Irreligious, and Non specified

TABLE 5. Factor associated with the perception of knowledge and skills of sexual history taking regard to medical curriculum.

Factor	Perception of good-to-very good knowledge in sexual history taking			Perception of well-to-very well trained skills in sexual history taking			Perception of good to very good communication skills		
	Crude OR (95% CI)	Adjusted OR (95% CI)	P-value	Crude OR (95% CI)	Adjusted OR (95% CI)	P-value	Crude OR (95% CI)	Adjusted OR (95% CI)	P-value
Sex assigned at birth									
Female	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Male	1.53 (0.62-3.77)	1.46 (0.52-4.14)	0.476	1.67 (0.62-4.54)	1.73 (0.53-5.69)	0.365	2.25 (0.96-5.25)	1.89 (0.72-4.92)	0.195
Sexual orientation									
Non- heterosexual[a]	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Heterosexual	4.08 (0.86-19.28)	3.93 (0.77-20.11)	0.101	3.12 (1.00-9.74)	3.4 (0.88-13.06)	0.075	1.54 (0.53-4.45)	1.33 (0.40-4.41)	0.645
Non specified	15 (0.90-251.05)	30.92 (0.88-1082.66)	0.059	10955952.55 (0-Inf)	95485553.51 (0-Inf)	0.993	17607780.88 (0-Inf)	6597424.74 (0-Inf)	0.994
Race									
Thai	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Cambodian/ Chinese	0 (0-Inf)	0 (0-Inf)	0.989	4603341.41 (0-Inf)	9492087.19 (0-Inf)	0.994	1.52 (0.13-17.39)	1.58 (0.12-20.98)	0.78
Religion									
Buddhism	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Others[b]	0.78 (0.19-3.18)	1.07 (0.2-5.72)	0.935	0.44 (0.11-1.68)	0.58 (0.1-3.23)	0.533	0.38 (0.10-1.41)	0.46 (0.09-2.22)	0.331
GPA									
3.01-4.00	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
2.01-3.00	3.12 (1.06-9.22)	3.23 (0.95-10.94)	0.06	2.78 (0.58-13.34)	2.82 (0.5-15.84)	0.238	2.3 (0.74-7.19)	3.1 (0.82-11.73)	0.096
Non specified	4.17 (0.84-20.62)	1.96 (0.32-11.98)	0.467	2.08 (0.23-18.56)	1.1 (0.09-13.51)	0.941	1.18 (0.24-5.69)	0.97 (0.14-6.71)	0.974
Marital status									
Single	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
In a relationship	2.15 (0.83-5.57)	2.4 (0.75-7.63)	0.138	1.46 (0.47-4.57)	1.89 (0.47-7.5)	0.367	1.16 (0.47-2.88)	1.23 (0.43-3.55)	0.701
Non specified	1.91 (0.29-12.57)	0.58 (0.04-7.58)	0.677	1.27 (0.13-12.35)	0.34 (0.02-6.21)	0.47	13631830.37 (0-Inf)	14890688.05 (0-Inf)	0.991
Attitude toward sexual history taking									
Low-to-moderate	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
High	1.73 (0.64-4.68)	2.61 (0.82-8.27)	0.104	3.6 (1.28-10.09)	4.93 (1.5-16.22)	**0.009***	2.58 (1.04-6.36)	3.45 (1.22-9.73)	**0.019***

[a]Non-heterosexual = Homosexual, Bisexual, and Pansexual
[b]Religion: others = Muslim, Christian, Irreli¬gious, and Non specific

Limitations and suggestions

This study has a cross-sectional design. It is useful for gathering information on specific topics such as the sexual history taking on medical students in southern Thailand. Even though more than half of medical students in southern Thailand have studied at the Prince of Songkla university, this study was conducted at a single centre. Thus, this study may not be representative for all Southern-Thai medical students. Another limitation is the temporal sequence of events because all data was collected at a single point in time. So, it was difficult to establishing a cause-and-effect relationship, especially when the survey was done during the COVID-19 pandemic. The first recommendation for further studies should be to conduct multi-center surveys that include all clinics, such as those that offer rehabilitation services.[15] In addition, a time-series study may be beneficial in following the outcomes of curriculum development.

CONCLUSION

This study on medical education aimed to examine the perception of practice, attitude toward sexual history taking and their associated factors among the final year medical students in southern Thailand. Most participants were male and Buddhists. Most of them showed a good attitude towards sexual history taking and reported that contraception was the primary topic discussed with patients. The prevention of sexually transmitted diseases (STDs) was the most common issue for both annual examinations and patients with suspected STDs. Male medical students who perceived good-to-very good knowledge and well-to-very well-trained skills in sexual history taking were significantly associated with more regular sexual history taking. Additionally, Thai medical students with a positive attitude towards sexual history taking were significantly associated with good training of their skills in both history taking and communication.

ACKNOWLEDGEMENTS

This research was a part of the project by the second to the tenth co-authors for their Family Medicine and Community Medicine III, IV program as a section of their undergraduate medical curriculum, in the academic year of 2022. All authors would like to thank Mr. Kittisak Choomalee and Ms. Kruewan Jongborwanwiwat for their helpful statistical support. Finally, we also deeply appreciate Mr Athanasios Maniatis from the International Affairs Unit, in the faculty of Medicine at the Prince of Songkla University for his assistance in manuscript revision.

REFERENCES

1. World Health Organization. Sexual health [Internet]. Geneva: WHO; 2006 [cited 2022 Aug 2]. Available from: https://www.who.int/health-topics/sexual-health
2. Brookmeyer KA, Coor A, Kachur RE, Beltran O, Reno HE, Dittus PJ. Sexual history taking in clinical settings: a narrative review. Sex Transm Dis. 2021;48(6):393-402.
3. Zannoni R, Dobberkau E, Kaduszkiewicz H, Stirn AV. Addressing sexual problems in German primary care: a qualitative study. J Prim Care Community Health. 2021;12:21501327211046437.
4. Verhoeven V, Bovijn K, Helder A, Peremans L, Hermann I, Van Royen P, et al. Discussing STIs: doctors are from Mars, patients from Venus. Fam Pract. 2003;20(1):11-5.
5. Wimberly YH, Hogben M, Moore-Ruffin J, Moore SE, Fry-Johnson Y. Sexual history-taking among primary care physicians. J Natl Med Assoc. 2006;98(12):1924-9.
6. Ariffin F, Chin KL, Ng C, Miskan M, Lee VK, Isa MR. Are medical students confident in taking a sexual history? An assessment on attitude and skills from an upper middle income country. BMC Res Notes. 2015;8:248.
7. Ashton MR, Cook RL, Wiesenfeld HC, Krohn MA, Zamborsky T, Scholle SH, et al. Primary care physician attitudes regarding sexually transmitted diseases. Sex Transm Dis. 2002;29(4):246-51.
8. Jatchavala C, Vittayanont A. Post-traumatic stress disorder symptoms among patients with substance-related disorders in the restive areas of south Thailand insurgency. Songkla Med J. 2017;35(2):121-32.
9. Jatchavala C, Pitanupong J. Resilience in medical doctors within the areas of the Southern Thailand insurgency. Siriraj Med J. 2019;71(3):228-33.
10. Planned Parenthood. Sexual Orientation [Internet]. Washington, DC: Planned Parenthood Federation of America [cited 2022 Oct 9]. Available from: https://www.plannedparenthood.org/learn/sexual-orientation/sexual-orientation
11. Jatchavala C, Pitanupong J. Self-perceived incompetence in psychiatric practice of practitioners from Southern Thailand: one year following graduation. Walailak J Sci & Tech. 2021;18(12):10408.
12. Jatchavala C, Sangkool J. A survey concerning the psychiatric practices of medical doctors, who graduated from Prince of Songkla University in 2017. J Ment Health Thai. 2019;27(1):52-64.
13. Nagendrappa S, de Filippis R, Ramalho R, Ransing R, Orsolini L, Ullah I, et al. Challenges and opportunities of psychiatric training during COVID-19: early career psychiatrists' perspective across the World. Acad Psychiatry. 2021;45(5):656-7.
14. Orsolini L, Jatchavala C, Noor IM, Ransing R, Satake Y, Shoib S, et al. Training and education in digital psychiatry: a perspective from Asia-Pacific region. Asia Pac Psychiatry. 2021;13(4):e12501.
15. Rittirong P, Thirapatarapong W, Thanakiatpinyo T. Patients' Need for Sexual Counseling in the Cardiac Rehabilitation Service. Siriraj Med J. 2023;75(7):522-8.