ORIGINAL ARTICLE

Self-assessment of Clinical Competence on Sexual Health by Iranian Medical Interns: A Framework for Curriculum Revision

Kambiz Abachizadeh[1]*, Fatemeh Etesam[1], Reza Shekarriz-Foumani[1], Aliasghar Keramatinia[2]

[1]Department of Health and Community Medicine, School of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran

[2]Center of Cancer Research, Medical School, Shahid Beheshti University of Medical Sciences, Tehran, Iran

Corresponding Author: Kambiz Abachizadeh, E-mail: k.abachizadeh@sbmu.ac.ir

ARTICLE INFO

ABSTRACT

Background: The sexual medicine education in medical faculties has been a challenging issue worldwide in recent decades. Most of medical students are dissatisfied for their sexual health education which indicates an emergent need for curriculum revision. The nobility of the study was to reveal medical students' competency gaps on sexual medicine. **Methods:** This cross-sectional study was conducted at a large, public medical school, topped the national ranking for its excellence in education. The target population was medical interns in their 6th and 7th year of their course. With a census sampling approach, all eligible students were included. To develop the questionnaire, the framework of ESSM (European Society for Sexual Medicine) syllabus of sexual medicine 2012 was employed after being examined by an expert panel to meet the criteria of content coverage. Recruiting 10 participants, a pilot was conducted to assess the criterions of validity and reliability. Finally a 35 item questionnaire was developed including three domains; "male sexual problems", "female sexual problems" and "common to both sexes sexual problems" with 17, 9, and 9 items, respectively. Students were asked to answer each item in a five-level Likert scale. The total score was standardized to convert scores to a range of 0-100 making it easy to interpret. In addition, a single question on the general competency was asked. Analytical statistics were used appropriate to data type and distribution (t test, one-way ANOVA). Study protocol was approved by research executive and ethics board of the institution. **Results:** 152 of 260 eligible students participated, with mean age of 25.0 (SD=2.3), of whom 54% were females. The standardized total competency score was 22.3 (95% CI: 20.4-24.2). Regarding to not only total but also different domains scores, there was no significant difference in different grades (PV>0.05). The female students' competency was significantly higher in the domain of "female sexual problems" and "common sexual problems, but not in the domain of "male sexual problems". None of the interns believed that they are competent enough to manage patients with sexual problems by themselves. **Conclusions:** We magnificently attained that medical students' clinical competency on sexual medicine is poor. Medical education system of Iran would not be able to deal with this challenge unless it provides with a comprehensive curriculum revision.

INTRODUCTION

Talking about Sex-related concerns have been a taboo for many centuries in most of communities.[1,2] Following the fading of the taboo, it has been increasingly needed to deal with sexual problems of individuals by professionals from different disciplines, especially health care providers.[3] Consequently, managing people who suffer from sexual problems by medical doctors as the main health care providers has been receiving particular attention in recent decades. Majority of the patients tends to meet their doctors to achieve appropriate sexual care along with other regular cares.[4] However, owing to deficient education, most medical students and doctors are not satisfied with their competency to handle such patients.[5-7] Indeed, giving attention to sexual health is a critical need in medical colleges.[4]

There is significant evidence from different countries such as United States, United Kingdom, Canada, Brazil that medical education in different parts of the world that medical students reported being underprepared to adequately competent to address their patients' sexual concerns.[6,8-10] Nevertheless, based on search on different electronic databases, to our knowledge, there are no publications that systematically assess educational needs of medical students on sexual medicine, not only in Iran but also in other south Asia countries.

Along with passivity of medical education systems, increasing demand for sexual health care, and newly emerged

expectations, dealing with this challenge has become a major concern of policy makers and health care providers.[11] Furthermore, particular attention to other social, cultural, and even religious aspects of sexual health in addition to medical aspects should be paid whenever an educational system intends to plan for a curriculum improvement.[12]

In Iran, prevalence of sexual dysfunctions in both males and females is considerable ranging from 20 to 40%.[13-15] In response to this need, national plan for improving sexual health has been developed recently which emphasizes need for appropriate sexual health care for all the people nationwide and consequently heightened competency among physicians.[16] To achieve this goal, reform of sexual medicine curriculum is critical.[17] The first step to improve the curriculum is evidence-based educational needs assessment to assist policy-makers select the best choices.[18] In spite of the fact that sexual medicine education in medical faculties is deficient worldwide, considering significant cultural and social differences in Iran, we decided to design and implement a study to clarify the Iranian medical students' educational needs on sexual medicine and make a framework for curriculum revision.

METHODS

The study was conducted in Shahid Beheshti Medical University (SBMU), Tehran, Iran, in 2016. The university awarded the first rank of country for excellence in medical education according to the reports of Ministry of Health.[19] The target population was medical interns in their 6th and 7th year of their course (12th, 13th, and 14th term). In Iran, the medical degree course is seven years (14 terms). All students receive teaching on genitourinary system in their basic science courses in firs two years of education, then courses on urology, gynecology and obstetrics both in their 4th and 5th year as extern and in 6th and 7th year as intern. There is no distinct course for teaching sexual medicine.

With a census sampling approach, all eligible students were included. To our knowledge and search, there was no previously developed scale to measure medical students' competency on sexual medicine. To develop the new scale, we used the framework of ESSM syllabus of sexual medicine 2012 which was examined modified in an expert panel including public health and different clinical specialists to fulfill content coverage. A pilot test-retest study with 15 students was performed to assess different aspects of validity and reliability of the scale. Intra-class coefficient was more than 0.09 and Cronbach's alpha coefficient of internal consistency was more than 0.8 for the whole questionnaires and domains. Pilot participants were excluded from the final analysis. The final self-administered scale consisted of 35 items, which required approximately eight minutes to answer and was approved by local committee.

Thirty-five items of the questionnaire were arranged in three domains; "male sexual problems", "female sexual problems", and "common sexual problems". Participants were asked to answer each item in a five level Likert scale as follows:

1- I haven't received any education
2- I have received inadequate education

3- I have adequate knowledge but not clinical experience
4- I am able to handle related patients under an expert's supervision
5- I am able to handle related patients by myself.

Therefore, after summing score of items in different domains, the range of scores for the domain of "male sexual problems", "female sexual problems" and "common issues in sexual health" was "17-85", "9-45", "9-45". The range was "35-175" for total score. This ranking method of clinical competence was adopted from the work of Wass et al.[20] Main focus areas of different domains are listed below:

• Male sexual problems: erectile dysfunctions, ejaculatory/ orgasmic disorders, premature ejaculation, andrological emergencies, micropenis, contraception in males, etc.
• Female sexual problems: female sexual arousal disorders, sexual desire disorders, sexual pain disorders, etc.
• Issues common to both males and females: sexually transmitted diseases, sexual rehabilitation, 'cancer and sexuality', sexual addiction, etc.

Standardized Competency level (ranged from 0 to 100) was calculated for the total score to make it to interpret easily using the following formula.

$$\text{Standardized value} = \frac{\text{achieved Value} - \text{Minimum Value}}{\text{Maximum Value} - \text{Minimum Value}} \times 100$$

For example if the total score is 115, the standardized value would be 50.

Regarding to demographic information, only data on gender, age, and term of study was taken. At the end, three question asking the students on their overall self-perceived competency level was obtained on a five-point scale ranging from no competence (scoring one) to complete competent (scoring five) towards three different domain.

Statistical Package for the Social Sciences (SPSS) version 16.0 was used for statistical analysis. Numerical variables were reported as a mean (standard deviation). Independent two-sample t-test and One-way ANOVA were employed to compare means of different groups considering data types and distribution. The statistical significance was set on a p-value <0.05.

The protocol of the study was approved initially by executive and next by ethical research board of medical school of Shahid Beheshti University of Medical Sciences.

RESULTS

A total of 152 of the 260 medical students participated in the study (Response rate = 58.4%) and completed the survey who were mostly females (54%). The mean (SD) of the respondents' age was 25.0 (2.3). From the total of 152 participants, 62 (40.8%), 34 (22.4%), 56 (36.8%) were studying in 12th, 13th, 14th term, respectively.

Competency Scores before Standardization

The mean of self-perceived competency scores of medical students on sexual medicine before standardization were 66.3 (95% CI: 63.5-68.9) in a range between 37 and 127.

The score of three domains and the total score for male and female students and in different grades are displayed in table 1.

Self-assessment of Clinical Competence on Sexual Health by
Iranian Medical Interns: A Framework for Curriculum Revision

25

Table 1. The comparison of competency scores of students before standardization

	N (%)	Domain of "male problems (17-85)	PV	Domain of "female problems" (9-45)	PV	Domain of "common problems" (9-45)	PV	Total score (35-175)	PV
Gender									
Male	70 (46)	31.9 (29.9-33.9)	0.231	14.7 (13.7-15.7)	0.001	16.2 (15.2-17.2)	0.028	62.8 (59.3-66.4)	0.022
Female	82 (54)	33.6 (31.6-35.7)		17.6 (16.2-18.9)		17.9 (16.8-19.0)		69.1 (65.1-73.1)	
Grade									
12th Term	62 (41)	32.3 (30.6-34.1)	0.560	15.5 (14.4-16.6)	0.276	16.7 (15.8-17.6)	0.268	64.6 (61.3-67.8)	0.312
13th Term	34 (22)	32.1 (28.5-35.7)		16.1 (13.8-18.3)		16.6 (14.6-18.5)		64.8 (57.6-71.8)	
14th Term	56 (37)	33.9 (31.2-36.6)		17.2 (15.5-18.8)		17.9 (16.5-19.4)		69.0 (64.0-73.9)	

The total score of female students obtained higher than their male peers do. Further analysis shows that this higher score is due to the higher score of female students in two domains: "female sexual problems" and "common sexual problems" but not in the domain of "male sexual problems". Furthermore, the results show that there is no significant difference between different grades neither in total score nor in three domains.

Competency Scores after Standardization

The mean of standardized total competency scores (converted to the range of 0-100) was 22.3 (95% CI: 20.4-24.2).

Figure 1 as the histogram of the standardized total competency scores shows that nearly all the participants report their competency lower than 50%. Interestingly, a minority of students believe that their competency is a little more than zero.

Total standardized scores for different genders and grades s are shown in Figure 2 and 3, respectively. The females competency score was significantly higher than males (24.3 versus 19.9, F= 5.36, PV=0.022). Figure 4 presents the percentage of overall competency scores of students in three domains.

DISCUSSION

The sexual medicine education of Iranian medical students is in an alarming status. Assessing different domains shows that the situation is more unfavorable regarding the domains of "female sexual problems" and "sexual problems common for both sexes" implying that these issues have been neglected in curricula, especially issues such as 'cancer and sexuality', 'sexual addiction', 'gender identity disorders', and 'sexual rehabilitation'. None of participated medical students in our study perceived that they are completely competent on handling people suffering from sexual problems. In addition, absence of significant difference of competency level of students in different terms (12th, 13th, and 14th) identifies ineffectiveness of educational system
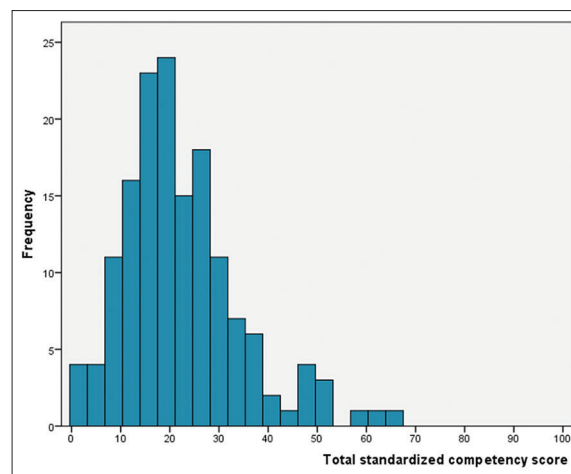

Figure 1. Distribution of total standardized competency scores among all participants

Figure 2. Comparison of standardized total competency scores between males and females

to improve students' competency level during internship courses.

The findings of our study support the idea of deficient sexual health education in medical faculties and consistent
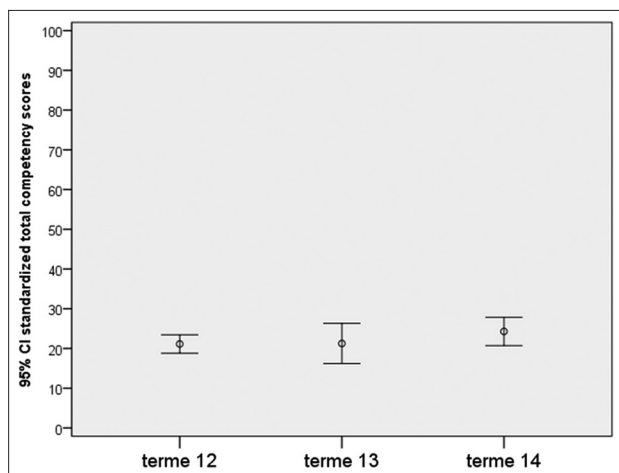
Figure3. Comparison of standardized total competency scores between different grades of students
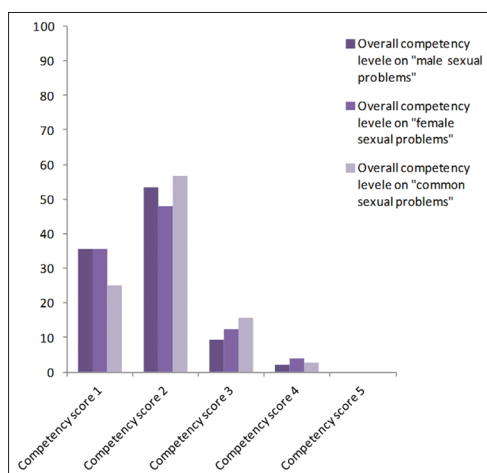

Figure 4. Percentage of overall competency scores of students in three domains

with results of similar studies. A study in Brazil states that the teaching of sexuality is in a nonstandard and fragmented fashion for health care with an organic and pathologic bias, not adequately focusing on social aspects of sexual health and consequently recommends for change.[10] Other experience from UK demonstrates considerable lack of skill of medical students on discussing HIV testing and risk assessment and suggests integration of core national learning outcomes into undergraduate curricula as a key step of reducing inconsistency in undergraduate education.[7] Recently findings presented at the Summit on medical school education in sexual health points out that Canada and United States have a large number of poor sexual health education indicators.[21] Other experience from Germany claims lack of knowledge of medical students about several aspects of sexual health such as psychosexual development.[22] In brief, it seems there is a consensus on lack of sexual health teaching in medical faculties globally.

The low competency level of medical students on sexual medicine in Shahid Beheshti University of medical Sciences can be generalized to other Iranian Universities since this medical university is one of the top rank medical universi-

ties in Iran. In latest report of Iran Ministry of Health on ranking medical universities, SBMU won the first rank for excellence in education. It should be mentioned that the ratified medical education curricula provided by Ministry of Health is uniform among different medical Universities in Iran. Therefore, we don't expect the competency level would be higher in other medical universities and consequently, the gap in sexual medicine education is a countrywide concern.

In our study, the response rate of 58% was reasonable for a study of this type, furthermore, we don't expect the students who didn't participate in the study have higher competency level. It should also be considered that measuring self-perceived assessments gives no indication of actual competency, however, due to very low self-perceived competency level of students participated in our study, its rational to conclude that their actual competency level is unfavorable.

The key strengths of our study were providing a newly developed valid and reliable scale to measure self-perceived competency on sexual health. Developed scale considering its acceptable validity and reliability indicators can be used in other similar studies. It should be considered that about half the items of the scale are related to the domain of 'male sexual problems'. An explanation is that dealing with "male sexual problems" such as erectile dysfunction or ejaculatory disorders is still prominent in the science of sexual health. It implies the need for new approach to female sexual problems.

CONCLUSIONS

This is the first study in country that systematically assessed self-perceived competency level of medical interns towards sexual health. Although the findings are limited in terms of response rate, participants from single medical faculty, and assessing self-perception as a substitute for actual skills, it magnificently revealed the low competency level of medical Iranian medical students similar to students of other countries and an emergent need for revision of sexual health curriculum.

Taken together, to deal with the challenge of sexual medicine education, we recommend an evidence-based, multi-disciplinary and inter-sectorial approach which uses several educational models to revise the sexual medicine curriculum. The cooperation of different scientists such as clinicians (urologists, gynoecologysts, psychologysts, nurses, etc), public health and community medicine experts and even sociologists and experts from religious sectors because of the role of cultural and social factors should be considered.

REFERENCES

1. Herzog D. Sexuality in Europe: a twentieth-century history. Cambridge University Press; 2011 Aug 18.

2. Foucault M. The history of sexuality: An introduction, volume I. Trans. Robert Hurley. New York: Vintage. 1990 Mar.

3. Gill KM, Hough S. Sexuality training, education and therapy in the healthcare environment: taboo, avoidance, discomfort or ignorance?. Sexuality and Disability. 2007 Jun 1;25(2):73-6.

4. Shindel AW. Sexuality education: a critical need. The journal of sexual medicine. 2015 Jul 1;12(7):1519-21.

5. Shindel AW, Baazeem A, Eardley I, Coleman E. Sexual health in undergraduate medical education: Existing and future needs and platforms. The Journal of Sexual Medicine. 2016 Jul 31;13(7):1013-26.

6. Coleman E. Sexual health education in medical school: a comprehensive curriculum. Virtual Mentor. 2014 Nov 1;16(11):903.

7. Estcourt C, Theobald N, Evans D, Lomax N, Copas A, David L, Edwards A, Fisher M. How do UK medical graduates rate their knowledge and skills in sexual health and HIV medicine? A national survey. International journal of STD & AIDS. 2009 May;20(5):324-9.

8. Parish SJ, Clayton AH. Continuing medical education: sexual medicine education: review and commentary (CME). The journal of sexual medicine. 2007 Mar 1;4(2):259-68.

9. Wittenberg A, Gerber J. ORIGINAL RESEARCH— EDUCATION: Recommendations for Improving Sexual Health Curricula in Medical Schools: Results from a Two-Arm Study Collecting Data from Patients and Medical Students. The Journal of Sexual Medicine. 2009 Feb 1;6(2):362-8.

10. Rufino AC, Madeiro A, Girão MJ. Sexuality education in Brazilian medical schools. The journal of sexual medicine. 2014 May 1;11(5):1110-7.

11. Dixon-Woods M, Regan J, Robertson N, Young B, Cordle C, Tobin M. Teaching and learning about human sexuality in undergraduate medical education. Medical education. 2002 May 1;36(5):432-40.

12. World Health Organization. Developing sexual health programmes: a framework for action, 2010.

13. Ramezani MA, Ahmadi K, Ghaemmaghami A, Marzabadi EA, Pardakhti F. Epidemiology of sexual dysfunction in Iran: A systematic review and meta-analysis. International journal of preventive medicine. 2015 Jan 1;6(1):43.

14. Basirnia A, Sahimi-Izadian E, Arbabi M, Bayay Z, Vahid-Vahdat S, Noorbala AA, Yousefi-Nooraie R, Rahimi-Movaghar A, Raisi F. Systematic review of prevalence of sexual disorders in Iran. Iranian Journal of Psychiatry. 2007;2(4):151-6.

15. Ghanbarzadeh N, Nadjafi-Semnani M, Ghanbarzadeh MR, Nadjfai-Semnani A, Nadjfai-Semnani F. Female sexual dysfunction in Iran: study of prevalence and risk factors. Archives of gynecology and obstetrics. 2013 Mar 1;287(3):533-9.

16. Damari B, Tabrizchi N, Riazi-Isfahani S. Designing a national plan for improving sexual health in Iran: An experience of an Islamic country. Medical Journal of the Islamic Republic of Iran. 2016;30:407.

17. Eardley I. EDITORIAL: A Curriculum for Sexual Medicine?. The journal of sexual medicine. 2009 May 1;6(5):1195-8.

18. Kern DE. Curriculum development for medical education: a six-step approach. JHU Press; 1998.

19. Shahid Beheshti Medical University (n.d.). Retrieved May 11, 2017, from http://en.sbmu.ac.ir/?fkey-id=&siteid=256&pageid=5382&newsview=38140

20. Wass V, Van der Vleuten C, Shatzer J, Jones R. Assessment of clinical competence. The Lancet. 2001 Mar 24;357(9260):945-9.

21. Coleman E, Elders J, Satcher D, Shindel A, Parish S, Kenagy G, Bayer CR, Knudson G, Kingsberg S, Clayton A, Lunn MR. Summit on medical school education in sexual health: report of an expert consultation. The journal of sexual medicine. 2013 Apr 1;10(4):924-38.

22. Turner D, Jopt K, Nieder TO, and Briken P. German medical students' interest in and knowledge about human sexuality in 1972 and 2012. J Sex Med 2014;11:1914–1926.