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Website: www.jehp.net
DOI: 10.4103/jehp.jehp_378_19

Reproductive health self-care for female students: Educational needs assessment, Isfahan University of Medical Sciences 2018

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Abstract:

CONTEXT: Young people play major roles in the future of a society and face major challenges in the field of reproductive health during this period. Therefore, it is particularly important to investigate their educational needs for the reproductive health self-care.

AIMS: The present study aimed to provide a needs assessment and determine the educational needs of reproductive health self-care in female students.

SETTINGS AND DESIGN: Isfahan University of Medical Sciences. The present research was descriptive cross-sectional.

SUBJECTS AND METHODS: Data were collected from 96 female students who were selected using quota sampling and also 15 providers of reproductive health services. Data collection tool was a researcher-made questionnaire comprising two parts of the demographic information and the reproductive health needs assessment. The content and face validity were determined by the cooperation of ten reproductive health and adolescence health experts, and Cronbach's alpha coefficient was used to determine the reliability of the questionnaires.

STATISTICAL ANALYSIS USED: Data analysis was done by descriptive statistics (mean and frequency distribution) and one-sample *t*-test using the SPSS 20 version.

RESULTS: The total mean of needs for reproductive health education was 3.51 out of 5 in female students. Apart from the high-risk behavior, mean scores of other fields were significantly greater than the average (3). Three educational priorities included cervical cancer, violence against women, and ovarian cysts. In addition, among the popular educational methods, most people chose the non-attendance method and mostly mobile applications and then educational booklets.

CONCLUSIONS: Results indicated that female students had a great need for self-care education in different fields of reproductive health; hence, it seems essential to implement the educational programs in accordance with their needs by taking advantage of the available learning opportunities in universities, particularly universities of medical sciences for their health promotion and empowerment to acquire self-care skills. Furthermore, the present research emphasized the need to pay attention to education using the Internet applications.

Keywords:

Educational need, needs assessment, reproductive health, self-care, student

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Received: 30-06-2019
Accepted: 17-09-2019

Introduction

Currently, the Iranian population consists of 25% of youths, in which more than

36% are being educated in universities and higher education institutes.^[1] Considering their health needs is important because of their role in the future of our society, and the recent studies show serious challenges in the field of youth reproductive health.^[2]

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How to cite this article: Hashemi M, Kohan S, Abdishahshahani M. Reproductive health self-care for female students: Educational needs assessment, Isfahan University of Medical Sciences 2018. *J Edu Health Promot* 2020;9:17.

Reproductive health is a state of complete physical, mental, and social well-being in relation to reproductive system and its functionality,^[3] but the available training plans are not so effective and desirable for meeting the needs of youths' reproductive health, and there seems to need developing national programs for supporting the youths' well-being in this field.^[4] Various researches show that students' awareness in relation to the problems about the reproductive and sexual health is too low,^[5,6] and their families have weak roles in removing these problems, so the university authorities must provide some opportunities for resolving the problems of students' reproductive health.^[5] One of the most important strategies in this way is to train the students for acquiring knowledge and functional skills in order to follow self-care behaviors so that the individual's health can be promoted by accepting responsibilities and performing right health behaviors.^[7] Self-care is a set of trained, conscious, and targeted actions that are carried out by an individual to maintain and promote health, prevent diseases, treatment, and rehabilitation.^[8] Females can help to promote their own health, family, and the society by learning and acting the self-care techniques in dealing with common problems of the reproductive ages.^[9]

Since the first step in any educational planning such as the health promotion educational Program is to recognize and prioritize the educational needs,^[10] and Investigations showed that just a few and limited studies have been performed in the field of recognizing educational self-care needs of youths' reproductive health in the country, and the lack of knowledge about different nature of sexual and reproductive health needs in terms of sex, age, and different situations like remarkable changes happening in students' behavioral models in their educational period will reduce the effectiveness of educational programs in this field;^[11] so, because of the importance of adolescents and youths' health whose empowerment for self-care is one of the considered goals in The Ministry of Health and Medical Education^[12], the present study aimed to specify the educational needs of reproductive health self-care for female students in Isfahan University of Medical Sciences.

Subjects and Methods

In this cross-sectional study (descriptive-analytical), data were collected from the students who were selected using quota sampling method and from the providers of reproductive health services who were selected through targeted sampling. The research population included all the 18–29-year-old female university students in all majors and degrees and the sample size included 96 students according to the quota sampling method and confidence coefficient of 95%. For sampling, the population of female students was taken from the

educational assistant manager, and the quota of each college was determined. Then the study population were selected through convenient sampling method and were entered into the study after obtaining informed consent.

The group of reproductive health service providers comprised 15 reproductive and adolescent health-care teachers, the youth deputy health office experts in the province, midwives providing services in health centers, and employees of the university cultural deputy health office who were experiencing at least 1 year in the field of planning and implementing youth reproductive health services.

Data were collected using a researcher made questionnaire. After reviewing the available internal and external studies in the fields related to the subject and performing a semi-structured interview with ten students of the target group, the primary questionnaire was prepared. Its first section includes individual profile and some contextual variables such as age, major, grade, location, family's economic situation and also some questions about the resources for gaining information in the field of reproductive health problems, favorite method for participating in training plans, and different educational methods. The second section of the questionnaire includes 57 questions about educational needs assessment in 13 dimensions such as general information (5 questions), menstrual cycle (6 questions), sexually transmitted disease (4 questions), AIDS and hepatitis (4 questions), vaginitis (4 questions), urinary infection (4 questions), breast cancer (5 questions), cervical cancer (4 questions), ovarian cysts (4 questions), violence against women (3 questions), sexual health (6 questions), pregnancy (6 questions), and high-risk behaviors (2 questions).

These questions were classified as very low, low, moderate, high, and very high according to the Likert 5-point scale and the values 1–5 assigned to them for statistical comparison.

The judgment of ten experts and pundits in the field of reproductive health, adolescence, and gynecology-obstetrics was used for determining the face and content validity of the questionnaire. Cronbach's alpha coefficient ($\alpha = 0.98$) was used for determining the questionnaire reliability.

The study was approved by the Ethics Committee of Isfahan University of Medical Sciences, information privacy has been kept, and a written informed consent for participating in the research was obtained after the oral and written explanations by the researcher.

The research conducted in all the faculties in the Isfahan University of Medical Sciences, student and cultural

affairs deputy of the university, medical health centers, health deputy of Isfahan province, and the offices providing reproductive health services to the youths. The study has been performed from May to June 2018.

The obtained data from the SPSS version 20 software was evaluated and analyzed using the descriptive statistics (mean, frequency distribution, and percent) and one sample *t*-test in terms of the case in 95% confidence level.

Results

The age range of the students was 19–29 years old with an average age of 22.94 ± 2.32 . Of the participants, 48 students (50%) were studying BS, 13 (13.5%) MSc, and 35 (36.5%) PhD. Furthermore, 35 students (36.5%) resided in their private home, 2 (2.1%) in private dormitories, and 59 (61.5%) in the university dormitories.

They have reported their family economic status (based on self-reporting) as follows: 3 people (3.1%) excellent, 77 (80.2%) appropriate, 14 (14.6%) partly appropriate, and 2 (2.1%) inappropriate.

The providers' age range of the reproductive health services were 34–49 years old with the average of 41.93 and 4.64 standard deviation (SD), and the average work experience was 17.36 with SD 7.22 years old.

As it is obvious from Table 1, the most in-demand issue was in the field of "cervical cancer" with an average of 3.95 out of 5 and after that, "violence against women" with the average of 3.87, and the least in-demand issue was in the field of "high-risk behaviors" with an average of 3.17. By performing one sample *t*-test, it was specified that there was no significant difference between the

average of score in the field of high-risk behaviors and the middle amount (score 3) ($P < 0.14$), but the average of the other field scores was significantly more than that of the middle amount. From the reproductive health service providers' view, the most in-demand issue related to the field "violence against women" was related to have information about the types of violence against women, how to prevent sexual violence, and self-care principles after the occurrence of sexual violence with an average of 4.67 out of 5 and after that "general information of reproductive health" with an average of 4.65 and "cervical cancer" with an average of 4.63, and the least in-demand issue was in the field of "AIDS and hepatitis" with an average of 4.28.

The one sample *t*-test showed that the average of all the dimension scores was more than that of the middle amount ($P < 0.001$).

Table 2 shows the frequency distribution of information resources in the field of the problems related to reproductive health and educational methods favored by the students in the nonattendance method. Internet with 63 people (66.3%) followed by book with 27 people (28.4%) were the most informative resources, and media such as radio and TV with 16 people (16.8%) was the least. Only 4 students (4.2%) reported that they have already referred for receiving services, in response to the question about receiving reproductive health services by their previous reference.

About the favored method for participating in educational programs, most students (44 students, 45.8%) preferred the nonattendance method, 29 students selected (30.2%) both attendance and nonattendance methods, and 23 (24%) selected the attendance method. Among the attendance educational methods, 51 students (53.1%)

Table 1: The average score of need for receiving the education about reproductive health dimensions (from 5) from the students' perspective

Priority	Dimensions	Number of questions	Mean	SD	Comparing to middle amount (score 3) <i>P</i>
1	Cervical cancer	4	3.95	0.94	<0.001
2	Violence against women	3	3.87	0.93	<0.001
3	Ovarian cyst	4	3.76	0.96	<0.001
4	Sexual health	6	3.68	0.89	<0.001
5	Vaginitis	4	3.63	1.06	<0.001
6	Breast	5	3.59	1.12	<0.001
7	Sexually transmitted diseases	4	3.57	1.10	<0.001
8	Urinary infection	4	3.45	1.04	<0.001
9	General information	5	3.31	0.81	<0.001
10	Pregnancy	6	3.25	1.01	<0.001
11	AIDS and hepatitis	4	3.22	1.10	0.02
12	Menstrual cycle	6	3.19	0.94	0.03
13	High-risk behaviors	2	3.17	1.09	0.14
Total score of the level of need for receiving education		-	3.51	0.75	<0.001

SD=Standard deviation

Table 2: Frequency distribution of the students' information resources in the field of the problems related to reproductive health and nonattendance training methods favored by the students

Variable	n (%)
Information resource	
The Internet	63 (66.3)
Book	27 (28.4)
Healthcare staff	23 (24.2)
Friends	22 (23.2)
Family members	19 (20)
Media such as radio and TV	16 (16.8)
Nonattendance training methods favored by the students	
Mobile software	53 (55.8)
Educational booklet	39 (41.1)
CD/DVD	17 (17.9)
Website/weblog	11 (11.6)
Others	1 (1.1)

selected face-to-face and individual methods and 45 students (46.9%) selected the group and lecture method. The frequency distribution of educational methods chosen by the students in the nonattendance method is also shown in Table 2; it is clear from the data pertaining to Table 2 that mobile software and educational booklets were the most informative students' resources in the field of the problems related to reproductive health and nonattendance educational methods.

Discussion

The results showed that total educational need levels of the students were higher than that of the middle amount, and the need for education from the students' view in the fields of cervical cancer, violence against women, and ovarian cysts was more than that of the other issues. From the reproductive health providers' perspective, the most in-demand issues were related to the field of violence against women, general information of reproductive health and cervical cancer.

In a research by the female students of Alborz University of Medical Sciences, the knowledge score of most students about cervical cancer and human papillomavirus (HPV) was low and only 5% of the students have the good knowledge about them. After completing the questionnaire, most students have discussed about the correct answers with the researcher and were eager to know the answers which shows they have an intense desire to gain further information in this field.^[13] The knowledge and attitude score of Gilan medical students about HPV vaccination was also very low,^[14] and the study of Ghaja Zade on Tabriz medical students showed that their knowledge level about HPV was moderate, and it is necessary to impart training and prevention programs in this group because the young

population is more susceptible to cervical cancer.^[15] Ghotbi and Anai's study showed that the awareness of the Asian students about cervical cancer and its prevention methods was low,^[16] and a study in the University of Botswana showed that performing Pap smear test is very low among the students, and there is an essential need to establish campaigns for training cervical cancer by emphasizing on screening advantages and their mix with university medical services.^[17]

These studies support our study indicating that "cervical cancer" is the first priority of reproductive health self-care training among the female students.

In relation to the second priority, i.e., violence against women, we can refer to the results of different studies which show a high prevalence of violence against women, especially domestic violence. The results of a study in 28 provinces in the country have reported 66% of domestic violence prevalence.^[18] Different global studies also agree with the high risk of occurring violence among female students, which approve the need announcement of the female students for gaining information and capability to self-care in this field.^[19,20] In a research in Ahvaz, 89% of participants stated the lack of self-efficacy in preventing domestic violence against themselves and women's training in this field through family and educational institutes such as universities is a useful method for empowering them.^[21] Nasta *et al.*'s research in Brown University also emphasized on the necessity of prioritizing the issue by the universities and training the students in order to prevent sexual assaults.^[19]

Despite menstrual cycle being the 12th priority in our studies, Panahande *et al.*'s study revealed a dysmenorrhea prevalence of 73.2% among the female students of Gilan University of Medical Sciences, while only 15.3% of them had enough knowledge about it.^[22] Another study in Tabriz University also showed 98.4% of dysmenorrhea prevalence in which 83.3% of the students have accepted its pain as a natural part of their cycle,^[23] but evidence-based self-care training can be effective in reducing the intensity and frequency of the pain,^[24] and adding a reproductive health educational booklet to the health training programs of schools and universities can help by providing information supporting the students in the field of reproductive health.^[23]

The prevalence of premenstrual syndrome among the medical sciences students of the country was different from 39.4% to 79.6% according to different criteria which suggests the necessity of education in this field.^[25,26] A study in Egypt shows that premenstrual syndrome is the most common problem for the young nursing students affecting their life quality and efficiency. Their current self-care actions were not enough, and it is recommended

that educational programs are executed using health booklets and posters in order to increase the knowledge and decrease its intensity.^[27]

Of the other performed studies among medical sciences students, Fayazi *et al.*'s study in Ahvaz showed that only 43.9% of the students had enough knowledge about breast self-examination, and 52.7% perform the self-examination.^[28] In Hormozgan, over half of the people (53.7%) were worried about breast cancer, whereas only 2.3% of them had enough knowledge about it, and 51.3% knew the breast self-examination method^[29] that shows undesirable situation of the medical sciences students in this field and so, it is necessary to have effective educational programs about it. Furthermore, in our study, the level of educational needs related to the breast health was above the middle amount and it was listed as the 6th priority.

About the last educational priority of the students, i.e., high-risk behaviors (alcohol and addiction), various researches have reported that the prevalence of these behaviors among female students is less than that of male students, and it is probably the reason that they don't like to declare their needs to pass self-care behavior trainings in this study. It is notable that the whole studies emphasized on the necessity of considering suitable preventing educational program for this group.^[30-32]

In relation to the last priority, i.e., training "AIDS and hepatitis" from the reproductive health service providers' view, various studies show that although the students have acceptable knowledge about HIV/AIDS (which probably causes to put in the last training priorities), the amount of this knowledge is not enough, and yet, there is a misconception about this illness which requires wide educational interventions in this field to avoid high-risk behaviors.^[33,34] Furthermore, in our study, the amount of educational need in this field is higher than the middle amount, while it's in the last priorities, which is in parallel with these studies. It is worth mentioning that this is very worrying because the students put AIDS in the last priorities, and it shows that the students do not see themselves susceptible to it, while there are ongoing sexual high-risk behaviors; so, it is necessary to provide training and targeted plans for sensitization of the students.

One of the reasons of necessity to educate adolescents and youth about sexual health is the existence of deleterious social conditions due to recent social and cultural evolutions and the increasing prevalence of pre-marital relationships that make the girls face the challenge how to minimize the problems of these relations.^[35] A study on the students of eight universities in Sari showed the average of reproductive health need by 4.09 out of 5,

whereas the girls had more in-demand amounts than the boys, and their highest need was related to "prevention of sexually transmitted diseases and HIV" and then "awareness of the results from unwanted relationship with their boyfriends."^[36] Bazarganipour *et al.*'s study on the nonmedical sciences students in Qom showed that the most students had moderate knowledge about the reproductive health components and believed that low awareness is one of the most important obstacles for young female's reproductive health.^[37] A study among dormitory students of Kerman University of Medical Sciences showed that 49.1% of them have reported at least one of the venereal disease signs in the last year, whereas 47% did not take any actions for removing the signs and just 25% had referred for treatment. The results showed that the students must be trained in the field of sexual health as a group who are in their active age sexually.^[38] Bostani-Khalesi *et al.*'s study stated that training in universities had been proposed as one of the strategies for empowerment-based sexual health, and the participants in this study believe that sexual health training must include the needs and culture of the target group,^[39] the issue that is getting more and more attention and shows that needs assessment and participation of the target group in some activities performed for the empowerment of the society health are necessary.^[40]

The results of the recent research showed that the most important resources for gaining information in the field of the problems related to reproductive health among the students were the Internet and followed by book and health staff. According to the performed studies on the Iranian youths, families followed by radio and TV have the biggest role in health notification to the youths,^[41,42] but in the field of "training prevention of unsafe (high-risk) sexual behaviors," the Internet has been suggested to play a major role more than the other resources,^[42] which was in accordance with our research, and it might be because of the limited attention to the issues of reproductive and sexual health by the families and media comparing to the other health fields. A study on the students of Shahid Beheshti University of Medical Sciences and Health Services showed that most students receive information related to diseases and health through the Internet.^[43] Female students of Hormozgan University Of Medical Sciences have received their information about breast cancer through the Internet and textbooks were on the second grade.^[29] However, among the students of Tabriz University of Medical Sciences, getting information from families and friends about dysmenorrhea self-care strategies was more than the Internet and sciences articles.^[23] According to a study on the nonmedical sciences students in Qom in 2008, the main information resources included health staff, books and magazines, mother and relatives and then friends, TV, and finally the Internet,^[37] with regard to

more limitations to the Internet access in that year, for the reproductive health problems that are in parallel with our research.

Alipour *et al.*'s study in 2012 showed that only 2% of the nonmedical sciences students received their information about AIDS from the Internet, and radio and TV were the most informative resources.^[34] With regard to the media which was the least applied resources in this research by the students, the results of other studies such as Zangi Abadi Zade in Kerman University of Medical Sciences and Panahande *et al.* in the Gilan University of Medical Sciences were similar to our study.^[6,22]

Ebrahimi *et al.*'s study showed that women in the reproductive age had received much information about vaginitis from the health staff and then, from the Internet,^[44] but the study of Sheikhi Zade revealed that <40% of the women aged between 21 and 65 years have said that they asked the experts how to perform self-care correctly, and according to easy access to the Internet, it seems that nowadays the major resource for getting information about self-care is the Internet which has also been confirmed in our study.^[45] Khankolabi *et al.* recommended in their study that the authorities must include defining credible and high-quality sites in their working schedules and establishing some sites providing self-care services in Persian and according to our culture and the Internet access situation in Iran.^[46]

According to the research results, the preferred method for participating in training plans was the nonattendance method, and among these methods, mobile software, educational booklet, and after them, CD/DVD got the most scores. These results are predictable according to the most current resource, i.e., the Internet, for getting information by the students. Ebrahimi *et al.*'s study showed that favorite method for women to participate in training plans related to vaginitis was the nonattendance method, and their favorite methods included booklet, CD/DVD, and mobile.^[44]

Today, the use of smartphones has increased remarkably. Personalization, the ability to save a lot of information without any fear of revealing them, high computer compatibilities, low expenses, and the possibility to transport and easy access are the characteristics of smartphones, and it is obvious that the positive attitude of people and its attraction can help better understand the issues through this way.^[47] Dehghani *et al.* showed in their research the desirable effect of training by mobile software in order to prevent sexually high-risk behaviors among the female students of Mashhad University of Medical Sciences.^[48] About the second priority, i.e., booklet, the researches indicate that applying printable educational materials such as booklet has a significant

role in training process, not only as a medium for transmitting the issues, but also as a resource for easy access to information in essential times including in home because other family members can also use it.^[49] A study in Alexandria University showed the positive effect of menstruation health educational booklet for better awareness and performance of the students and has suggested that the educational booklet for self-care in this field must be accessible in some institutes such as universities.^[50]

One of the strengths of this study is the comparison of viewpoints of students and reproductive health service providers simultaneously about students' educational needs which were partly in the same direction as it is shown in the results and confirmed the correctness of the performed needs assessment. However, the present study has some limitations such as the small size of samples and performing needs assessment only through quantitative method. In order to perform more precise investigation about the existing needs, it is suggested that further needs assessment studies should be performed using other needs assessment techniques like qualitative method for designing intervention programs.

According to the findings, we can conclude that there is a need for self-care education in different dimensions of reproductive health among female students, and implementing suitable educational programs is necessary for promoting health and empowering them in getting self-care skills based on the individual's training priorities and by applying the available educational opportunities in academic centers, especially medical sciences universities. In addition, the results emphasize to pay more attention to education through electronic software due to widespread use of the Internet among youths.

Acknowledgment

This article is extracted from a part of the midwifery master's degree thesis approved by the Isfahan University of Medical Sciences (IR.MUI.REC.1396.396646) with the title "Designing a self-care educational booklet of reproductive health based on needs assessment and its effect on female students in the Isfahan University of Medical Sciences in 2017." Hereby, I acknowledge the valuable cooperation of the students and reproductive health service providers for collecting data in this research as well as university financial supports.

Financial support and sponsorship

This study was financially supported by Isfahan University of Medical Sciences, (IR.MUI.REC.1396.396646).

Conflicts of interest

There are no conflicts of interest.

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