

The status of sexual health literacy in Iranian women: A cross-sectional study

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Abstract

Context: Promoting of women's sexual health literacy depended to the study of this variable. This study aimed to determine the status of women's sexual health literacy and its dimensions.

Setting and Design: This cross-sectional study conducted in health centers in Amol, Iran, from July to September 2019.

Materials and Methods: A total of 400 women of reproductive age who registered with Iran's integrated health record system selected via two-stage sampling technique. The Sexual Health Literacy for Adults questionnaire consists of 40 items regarding four dimensions of access, reading and understanding, analysis, and appraisal, and application was used to collect data.

Statistical Analysis Used: Data were analyzed in SPSS version 16 using the descriptive and Friedman test with significance level of ($P < 0.05$).

Results: According to the results, 23.3% of the participants had insufficient sexual health literacy. The highest mean score of sexual literacy was related to reading and understanding, whereas the lowest score was related to the application dimension. There was a significant difference in the mean scores of various dimensions of sexual health literacy ($P < 0.001$). The mean rank of scores was lower for the application dimension in all age groups, education (except primary and secondary levels), and participation in training courses ($P < 0.001$).

Conclusions: Approximately one-fourth of the research sample had insufficient sexual health literacy, with their lowest score being related to the application dimension. Further studies should be designed to better perceive the application dimension of sexual health literacy and its effective factors.

Keywords: Health literacy, Iran, Sexual health, Women

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INTRODUCTION

Nations around the world now face specific public sexual health challenges emerging from the low levels of sexual health literacy regarding sexually transmitted diseases (STDs), such as AIDS, unintended pregnancies, sexual violence, and low quality of sexual life.^[1] Apparently, women are more vulnerable than men due to their biological characteristics, whereas reproductive and sexual health problems account for nearly 20% of health concerns in women and might be related to the low levels of sexual health literacy.^[2] Sexual health literacy is one of the effective factors in the prevention of causes and consequences of sexual and reproductive health problems.

Sexual health literacy is defined as a set of knowledge, beliefs, attitudes, motivations, and personal abilities to access, perceive, evaluate, and employ sexual health information in everyday life.^[3] In other words, sexual health literacy means a series of knowledge, attitudes, and skills to reduce the risk of sexual activities^[4] and improve sexual health among individuals.^[5,6] Having an optimal level of sexual health literacy increases an individual's skills in analysis, judgment, discourse, decision-making, and modification of sexual behavior and also enables him/her to provide, maintain, and improve his/her sexual health quality.^[7,8] Improving sexual health literacy helps individuals select a safe sexual partner, show safe sexual behavior, and prevent unintended pregnancies and STDs to enhance their sexual interactions.^[4-6] It can also improve other preventive actions that affect the lifetime health.^[9] In other words, sexual health literacy is the skill and ability to use health information affected by a series of contextual and historical factors, health services, and new technologies.^[10]

The study by Vongxay *et al.* in Lao PDR on sexual and reproductive health literacy of the youth indicated that 65.5% of the statistical population had inadequate sexual health literacy and that demographic factors, knowledge about sexual health, and skills were strongly identified as the predictors of sexual health literacy.^[11]

According to the results of a study by Jones *et al.* in Uganda on the limitations of sexual health literacy among girls, young adults in Uganda benefited from high levels of knowledge on safe sex and employed contraceptive methods to prevent pregnancy. However, only 7.2% of sexually-active adults used condoms or other contraceptive methods. Thus, there was a significant difference in their sexual knowledge and application of that knowledge.^[12]

The results of the studies mentioned show that knowledge alone was not sufficient to promote sexual health literacy;^[9]

considering the multidimensional nature of sexual health literacy and the effects of target groups' characteristics and contextual and sociocultural factors,^[3,13,14] it is necessary to use a series of skills to take an informed decision.^[9]

Most sexual health literacy studies in the world are conducted on high-risk groups such as adolescents, youths, school and university students, immigrants, and homosexual men;^[3,10,11,13] however, in developing countries like Iran, it is necessary to perform sexual health literacy studies on all age and gender groups, especially women of productive age. Women of productive age make up 22 million of the total population of Iran.^[15] Women of reproductive age are one of the main bases of fertility in the population; in addition, considering their spousal and maternal roles, they are central to maintaining, securing, and improving family health.^[16] The sexual health literary status of Iranian women of reproductive age is unclear. Thorough review of literature shows that there has been no research on the status of sexual health literacy and its dimensions in Iran. Therefore, this study aimed to determine the status of sexual health literacy and its dimensions in a sample of Iranian women.

MATERIALS AND METHODS

Design study and sampling

This cross-sectional study was conducted in Amol, Iran, from July to November 2019. Amol is located in the north of Iran, and more than 90% of families in this city are registered with Iran's integrated health record system.

The research setting included all the families registered with Iran's integrated health record system, whereas the statistical population consisted of female members of those families. Eight health centers were then randomly selected from all health centers in Amol by casting lots. The selected samples were then contacted via the lists of health centers. If they met the inclusion criteria, research objectives were explained to them. They were then asked to visit health centers and complete the questionnaires if they were willing to participate in the study.

First, the author introduced herself, explained the research objectives, and ensured the confidentiality of every participant's personal information. The informed written consent was then obtained from the participants, who completed the questionnaires under the author's supervision. Therefore, there was no loss of data.

The inclusion criteria were to be a female aged 15–49 years, to have an Iranian nationality, being literate, to have a

history of marriage, to have no physical or mental problems or any relevant treatments, to have no special diseases, and to live in the city. The exclusion criteria included being pregnant, spending the puerperium period, having academic education in medicine or assistance health professions, being a hospital employee, and working in health centers. Participants were excluded from the study in case they returned incomplete questionnaires or were unwilling to continue participation in the research process.

To determine the sample size, due to the lack of a similar study on sexual health literacy, first a pilot study was conducted with a sample size of 30. The ratio was calculated to be about 0.5. As the highest sample size using absolute error comes to 0.5 ($P=0.5$), this value was considered in the study.

The Cochran's formula was employed by considering a confidence interval of 0.95, an error rate (d) of 5%, $P = 0.5$, and a $P = 0.05$. After that, 385 women were selected as the research sample. The final sample was estimated to be 400 women with respect to the potential sample attrition.

Data collection

The Sexual Health Literacy for Adults (SHELA) questionnaire was utilized to collect data. Designed and analyzed psychometrically by Maasoumi *et al.*, the SHELA questionnaire consists of 40 items regarding four dimensions of access (7 items), reading and understanding (18 items), analysis and appraisal (5 items), and application (10 items). The dimension of access includes the ability to access information on sexual health, sexuality education and training for children and adolescents, sexual function, sexual disorders and factors affecting them, quality of sexual relationships and attempts to improve them, knowledge on STDs and the ways to prevent them, and knowing family planning and sexual health in the old age. The dimensions of reading and understanding, analysis and appraisal, and application include the ability to read, comprehend, evaluate, analyze, and apply sexual information based on age. The items were scored on a 5-point Likert scale ranging from "strongly disagree" to "strongly agree." The content validity ratio and the content validity index for this instrument were reported 0.84 and 0.81, respectively. Based on the intraclass correlation coefficient, Cronbach's alpha and intraclass homogeneity were reported 0.84–0.94 and 0.90–0.97, respectively.

According to the scoring system proposed by the developers of SHELA, individuals who score 0–66 have insufficient literacy, whereas those who score 66–100 have sufficient sexual health literacy.^[17]

Data analyses

The descriptive–analytic methods were employed for data analysis in SPSS version 16 SPSS, version 16 (SPSS Inc., Chicago, IL). Descriptive statistics including frequency, percentage, mean, and standard deviation (SD) were utilized to analyze the sexual health literacy among women of reproductive age. The Friedman test was then conducted to rank various dimensions of sexual health literacy and related factors. The level of significance for statistical tests was $P < 0.05$.

This study is part of a dissertation in reproductive health approved by the Ethics Committee of Tehran University of Medical Sciences (Code No.: IR.TUMS.FNM.REC.1398.077).

RESULTS

Most participants were aged 26–35 years (42.8%) with mean (SD) of 34.3.^[7]

The husband's age of most participants was 36–45 years (46%) with mean (SD) of 38.1 (6.1). All of them were married or used to be married with marital durations of 6–10 years (24.5%) with mean (SD) of 13.04 (7.6). The majority of the participants had a history of 1–2 pregnancies (66.3%), whereas most of them had a cesarean section (43.8%) and used natural contraceptive methods (53%) [Table 1].

Nearly 23.3% of the participants had insufficient sexual health literacy, whereas the rest had sufficient literacy.

The mean (SD) of total sexual health literacy score was obtained 74.11 (12.38), whereas the dimensions of sexual health literacy were reported 71.55 (16.09) for access, 76.41 (13.1) for reading and understanding, 66.88 (18.5) for analysis and appraisal, and 67.01 (12.81) for application [Figure 1].

The value of the Friedman test statistic indicates that the mean rank score of sexual health literacy dimensions (access, reading and understanding, analysis and appraisal, and application) was significantly different ($P < 0.001$). The dimension of reading and understanding had the highest mean rank score (3.18); however, the dimension of application had the lowest mean rank score (1.98) [Figure 2].

According to Table 2, the mean rank scores of sexual health literacy dimensions (access, reading and understanding, analysis and appraisal, and application) were significantly different in different groups ($P < 0.001$), whereas the

Table 1: Demographic features of the women of reproductive age (n=400)

Variable	Frequency, n (%)
Age	
15-25	37 (9.3)
26-35	171 (42.8)
36-45	159 (39.8)
45 and over	33 (8.3)
Husband's age	
15-25	6 (1.5)
26-35	113 (28.2)
36-45	184 (46)
45 and over	97 (24.3)
Years of married life	
0-5	71 (17.8)
6-10	98 (24.5)
11-15	84 (21)
16-20	70 (17.5)
21-25	33 (8.3)
26 and over	44 (11)
Number of pregnancies	
0	45 (11.3)
1-2	265 (66.3)
3-4	82 (20.5)
5 and over	8 (2)
Childbirth method	
Natural	145 (36.3)
C-section	175 (43.8)
Both	37 (9.3)
Neither	43 (10.8)
Contraception method	
Pill	41 (10.3)
Condom	99 (24.8)
3-month injection	2 (0.5)
IUD	2 (0.5)
1-month injection	1 (0.3)
Natural	212 (53)
Tubal ligation	16 (4)
Vasectomy	3 (0.8)
Nothing	35 (8.8)
Education	
Elementary	23 (5.8)
Junior high school	58 (14.5)
High school	38 (9.5)
Diploma	148 (37)
Bachelor's	113 (28.2)
Master's and higher	20 (5)
Husband's education	
Elementary	23 (5.8)
Junior high school	60 (15)
High school	45 (11.3)
diploma	130 (32.5)
Bachelor's	114 (28.5)
Master's and higher	27 (6.8)
Illiterate	1 (0.3)
Occupation	
Homemaker	329 (82.3)
Worker	1 (0.3)
Clerk	29 (7.2)
Self-employed	29 (7.2)
Retired	1 (0.3)
Others	11 (2.8)
Husband's occupation	
Unemployed	5 (1.3)
Worker	64 (16)
Clerk	80 (20)
Self-employed	241 (60.3)
Retired	7 (1.8)

Contd...

Table 1: Contd...

Range	Frequency, n (%)
Others	3 (0.8)
Economic status	
Very satisfied	14 (4)
Satisfied	178 (44.5)
Partly satisfied	155 (38.8)
Dissatisfied	40 (10)
Very dissatisfied	11 (2.8)
Sources of sexual health information	
Friends	87 (21.8)
Family	57 (14.2)
Internet and social networks	192 (48)
Sexual counseling centers	22 (5.5)
Specialized physicians	64 (16)
Midwives	83 (20.8)
Psychologists	9 (2.3)
Books and magazines	35 (8.8)
Radio and TV	33 (8.3)
Health care centers	90 (22.5)
Others	4 (1)
None	17 (4.3)
Attendance in educational classes or workshops	
Yes	41 (10.3)
No	359 (95.8)
Total	400 (100)

rankings of the four dimensions of sexual health literacy were not the same for age, duration of married life, education, use of condoms, and participation in educational classes. The mean rank scores of the application dimension were the lowest mean rank in all age groups, participation in educational classes, and use of condoms.

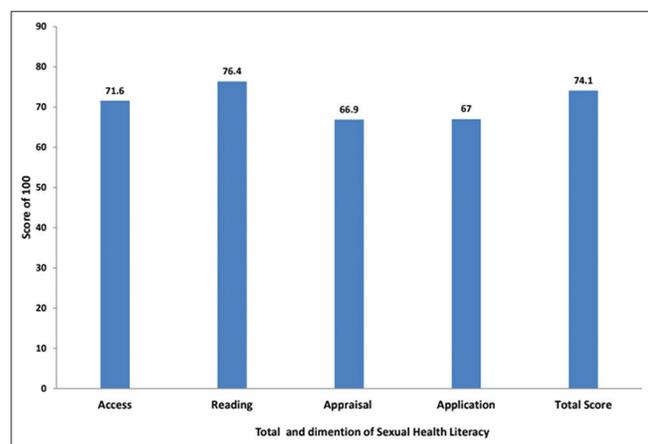
Moreover, the mean rank scores of analysis and appraisal were the lowest in groups of 16–20 years of married life, elementary school education, and junior high school education. In addition, the mean rank scores of application were the lowest in other categories of years of married life and education.

Reviewing the mean rank scores of items for each dimension of the sexual health literacy also showed significant differences between the items in all four dimensions ($P < 0.001$). In the access dimension, item 7 (obtaining information about the elderly age from different sources) had the lowest mean rank (3.23). In the dimension of reading and understanding, item 13 (ease of reading the educational materials on the sexual relationships between the couples in the elderly ages) had the lowest mean rank (7.01). In the dimension of analysis and appraisal, item 27 (evaluating the precision of the sexual health information presented on the internet) had the lowest mean rank (2.71) [Table 3]. In the application dimension, item 34 (receiving education and improvement of sexual relationships with my husband and referring to a sex counselor even when there is no sexual problem) had the lowest rank (3.34) [Table 4].

Table 2: Friedman test - Domains of sexual health literacy (SHL) by demographic variables

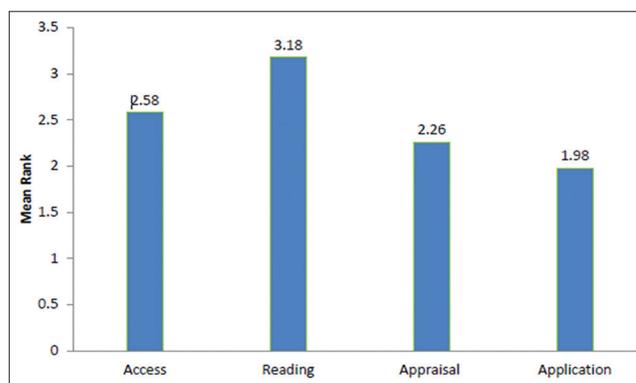
Variable	MR Mean (SD)				P
	Access	Reading	Appraisal	Application	
Age					
15-25	2.74 73.76 (13.66)	2.58 76.73 (13.38)	2.18 69.69 (18.75)	1.92 64.71 (11.15)	0.001
26-35	3.16 73.47 (14.46)	3.07 77.10 (11.13)	2.38 69.94 (17.08)	1.97 74.07 (11.83)	<0.001
36-45	2.18 69.69 (17.4)	2.38 75.56 (13.49)	2.18 63.8 (19.68)	2.01 64.8 (14.15)	<0.001
46 and above	1.94 66.66 (17.16)	1.97 69.05 (10.33)	2.15 64.44 (16.38)	1.92 63.09 (9.96)	<0.001
Years of married life					
0-5	2.61 73.94 (14.85)	3.23 78.18 (12.67)	2.32 69.15 (18.84)	1.84 68.35 (11.7)	<0.001
6-10	2.51 72.41 (92.14)	3.16 76.89 (86.12)	2.35 69.59 (17.19)	1.98 68.41 (11.57)	<0.001
11-15	2.53 70.91 (15.06)	2.98 75.41 (13.26)	2.42 68.39 (18.67)	2.07 68.01 (13.13)	<0.001
16-20	2.66 73.52 (17.53)	3.26 77.61 (13.83)	1.93 64 (19.25)	2.14 67.93 (47.19)	<0.001
21-25	2.56 69.37 (19.92)	2.32 75.54 (33.15)	2.21 63.18 (21.35)	1.91 62.42 (18.31)	<0.001
26 and over	2.65 65.6 (15.95)	3.3 73.07 (68.1)	2.23 61.59 (15.46)	1.83 61.76 (10.4)	<0.001
Education					
Elementary	2.52 58.7 (15.95)	3.33 67.93 (11.96)	1.91 51.09 (14.46)	2.24 57 (14.25)	<0.001
Junior	2.25 63.67 (15.89)	3.25 71.82 (9.94)	2.13 59.31 (16.77)	2.37 65.56 (10.38)	<0.001
Diploma	2.68 71.72 (13.8)	3.16 74.82 (12.54)	2.25 67 (17)	1.91 66.17 (11.81)	<0.001
Master higher	2.38 77.32 (15.12)	3.1 83.82 (14)	2.55 76.25 (19.25)	1.98 75.67 (15.2)	0.043
Attendance in educational classes and workshops					
Yes	2.63 79.44 (16.8)	3.13 83.91 (14.35)	2.56 75.73 (17.09)	1.67 72.9 (14.11)	<0.001
No	2.57 75.65 (12.78)	3.19 75.55 (12.69)	2.23 65.89 (18.4)	2.01 66.34 (12.5)	<0.001

MR: Mean rank, SD: Standard deviation

**Figure 1: Mean of total and dimensions of sexual health literacy**

DISCUSSION

This study analyzed sexual health literacy and its dimensions within a sample of Iranian women. According to the results,

**Figure 2: Mean rank of dimensions of sexual health literacy**

nearly one-fourth of the participants had insufficient sexual health literacy. This might be an overestimation of sexual knowledge by women and their low perceived danger of sex-related problems and risks in the population under study.^[18] However, this could be a warning showing the necessity of improving sexual health.

The mean ranks of scores for various dimensions of sexual health literacy were the highest for reading and understanding and the lowest for application. Dabiri *et al.* analyzed the sexual and reproductive health literacy of the youth in Bandar Abbas. Their results showed that the highest score was related to reading and understanding, something which is consistent to the findings of this study, whereas the lowest score was related to the level of access to information.^[19] This difference might be due to the effect of the setting in which the study was conducted on individuals' access to sexual information; since access to specific and accurate sexual health information is difficult and depends on factors such as of formal education, awareness of service providers, parental education,^[20] and embarrassment.

The application dimension of sexual health literacy had the lowest mean rank, something which is consistent with the findings reported by McMichael and Gifford, despite differences in the research populations of the two studies. According to their results, young people with refugee backgrounds knew about the sources of sexual health information; however, only a few of them used their knowledge. Furthermore, the main barriers were concerns about confidentiality, shame, and embarrassment while discussing sexual health and competing demands for resettlement. Enhancing the access to sexual health services and reducing the consequences of sexual health poverty can be the key strategies to increase sexual health literacy. Community involvement, which is vital to the sustainability of health programs, should become an integral part of health promotion programs.^[21]

The results also indicated that, among the mean rank scores of the four dimensions of sexual health literacy, the mean rank of the application dimension was the lowest for all of those who had attended classes and workshops as well as those who had used condoms. Examining the reproductive and sexual health literacy of a large sample of students in the Southeastern United States, Vamos *et al.* (2020) found that the source of reproductive and sexual health services would affect the dimensions of sexual health literacy.^[9] Although the sample of their study was different from that of ours, their findings are in line with ours; even though some people took part in classes or workshops as a source of sexual health services in our study, they obtained the lowest rank in the use of sexual information. However, it is expected that sexual health literacy programs involve people in critical and analysis of assumptions, beliefs, and unfair and detrimental sociocultural practices or involve them in uprooting and eradication of such practices.^[12] In other words, it is not enough for sexual health literacy programs to help

Table 3: Friedman test - Analysis and evaluation domains questions

Analysis and evaluation questions	MR
26. I trust the accuracy of the information I get on sexual information through various sources	2.81
27. I can evaluate the accuracy of sexual health information on the internet	2.71
28. I can assess the accuracy of the information on sexual health presented by radio and TV channels	3.03
29. I can flawlessly convey what I have learned on sexual health to others	2.94
30. Once I have noticed a sexual problem, I know where or whom to refer	3.51
χ^2	42.15
P	0.000

MR: Mean rank

Table 4: Friedman test - Application domain questions

Application domain questions	MR
31. If I face a sexual problem, I follow the medical recommendations as taking medicine 1 h before sexual intercourse	5.31
32. Faced with sexual problem, I do not disrupt the techniques recommended for solving the problem without the counselor's prior permission, even if it has disappeared	5.86
33. If my spouse faces a sexual problem, I accompany his/her for sexual counseling	4.71
34. I receive sexual counseling to get informed and improve the quality of sexual relationship with my spouse, even if I do not have sexual problem	3.34
35. If I have any questions about my sexual health, I will ask the counselor	5.26
36. In any condition, I take care of my sexual health	6.17
37. In any condition, I take care of the quality of sexual relationship with my spouse	5.98
38. I avoid asking for sexual relationship if my spouse is not physically and mentally ready (sexual coercion)	5.91
39. When having sexual relationship with my spouse, I am aware of human values such as mutual respect and observance of moral standards	6.61
40. I usually use sexual health information I get from various sources	6.05
χ^2	68.66
P	0.000

MR: Mean rank

people improve their knowledge of sexual health. In fact, educational intervention can thrive when it can change the behavior of the target group.^[22] This is a valuable goal to which health policymakers, health planners, and managers should pay more heed.^[12]

However, inconsistent with our findings, Vamos *et al.* found that other factors, e.g., the use of condoms, were not correlated with the dimensions of health literacy, something which might be due to differences in research samples.^[9] Moreover, the mean ranks of the participants with more years of married life and those with elementary and junior high school educations were lower in the dimension of analysis and appraisal. This finding implies that sociocultural considerations affect individuals' sexual health literacy and its use.^[6]

The findings of this study also showed that the lowest mean ranks of sexual health literacy belonged to item 7 (obtaining information about the elderly age from different sources) and item 13 (ease of reading the educational materials on the sexual relationships between couples in the elderly ages) in the dimension of access and the dimension reading and understanding, respectively. This can be an indication of the most common sexual health literacy needs of participants. The ever-increasing middle-aged population, the tendency to optimize aging, and the dedication of a large portion of life to this period indicate the urgent need for interventions to promote sexual health literacy in old ages.^[23]

In the dimension of analysis and appraisal, the mean rank of item 27 (evaluating the precision of the sexual health information presented on the internet) was the lowest; therefore, it was difficult for the participants to evaluate the accuracy and precision of the information available on the Internet. This might also have an effect on the improvement of sexual health literacy. Since the appraisal skills play a major role in making informed decisions about reproductive and sexual health issues;^[9] and training by service providers is a key factor in evaluating and applying information.^[14]

Therefore, with the extensive use of the Internet, it may now be possible to improve sexual health literacy by making investments in technology and employing trustworthy agents (information providers/educators).^[9]

Regarding the dimension of application, the mean rank of item 34 (receiving education and improvement of the sexual relationship with my husband and referring to a sex counselor even when there is no sexual problem) had the lowest rank [Table 4]. This finding may indicate the women's disregard for their sexual health.

A possible reason for not receiving training and referring to a counselor can be the lack of sex counseling services provided by service providers for women. In fact, a critical finding in the sexual health process is the significant role of communicating with service providers in making decisions to employ sexual information.^[24]

Another reason for not seeking and receiving sex counseling services is the fact that sexuality is a taboo subject in this context.^[25] Hence, strategies such as conducting pre- and post-marital training courses, preparing parents and teachers for children's sexual education, and allocating sufficient funds to specialists in sexual health literacy will be efficient in mitigating the negative outcomes.^[26]

Strengths and limitations

This study is among the most pioneering works of research conducted on Iranian women's sexual health literacy. The research results provided a new perspective on sexual health literacy, something which does not merely mean gaining information and knowledge on sexual health. An advantage of this study was the use of a contextual and standardized questionnaire to evaluate sexual health literacy. The SHELA questionnaire is the first valid and reliable scale that can be employed to appraise the adult sexual health literacy within the context of the Iranian society. It can measure sexual health literacy in terms of dimensions as well as continuity of sexual health.

Since the sociocultural factors affect sexuality-related issues,^[3,12] a limitation of this study can be interpreted as the effects of contextual factors on the responses provided by the participants. Hence, it is recommended that higher levels of trust and security be established among samples in future studies to mitigate the adverse effects of these factors.

CONCLUSION

According to the results of this study, approximately one-fourth of the participants had insufficient sexual health literacy. The lowest score was related to the dimension of application even among the participants who had attended sexual health courses. Therefore, it is suggested that further studies be designed and conducted to better perceive the application dimension of sexual health literacy and its effective factors.

Conflicts of interest

There are no conflicts of interest.

Authors' contributions

Bitá Jamali acquired data collection, played an important role in interpreting the results, draft the manuscript, and designed the work that led to the submission; Mahmood Tavousi and Fatemeh Zarei played an important role in interpreting the results and designed the work that led to the submission; Ali Asghar Haeri Mehrizi played an important role in interpreting the results and designed the work that led to the submission; Raziye Maasoumi played an important role in interpreting the results and designed the work that led to the submission. Bitá Jamali, Mahmood Tavousi, Ali Asghar Haeri Mehrizi, Fatemeh Zarei, and Raziye Maasoumi drafted and revised the manuscript for important intellectual content, approved the final version.

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