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Competence of Healthcare Workers in Sexual Health Education for Female Adolescents at Schools

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ABSTRACT

Background & aim: Sexual health education is one of the responsibilities of healthcare workers at schools, which can reduce the risk of sexually transmitted diseases such as AIDS, unwanted pregnancy, abortion, substance abuse, sexual violence, and suicidal tendencies. This study aimed to investigate healthcare workers' competence in sexual health education for female adolescents at schools.

Methods: This cross-sectional study was conducted on 300 healthcare workers, responsible for sexual health education at schools in 2015. A valid and reliable researcher-made questionnaire was completed by the healthcare workers in order to assess their competence in sexual health education at healthcare centers of Khuzestan, Iran. To assess the competence of the participants (i.e., knowledge, attitude, confidence, and performance), descriptive statistics were calculated for quantitative variables. Also, mean, standard deviation, frequency, and percentage were calculated for qualitative variables. Pearson's correlation test was performed to assess the relationship between the subjects' knowledge, attitude, confidence, and performance. Also, the association between demographic variables and participants' knowledge, attitude, confidence, and performance was evaluated, using analysis of variance (ANOVA). Data were analyzed, using SPSS version 21.0.

Results: Knowledge, attitude, and confidence of healthcare workers in sexual health education were desirable. However, the subjects showed a poor performance in teaching students the required skills to control their emotions, instincts, homosexual tendencies, and masturbation. There was a significant correlation between performance, attitude, and confidence, knowledge and attitude, performance and confidence, and confidence, performance, and attitude ($P<0.05$). Academic field and educational level had significant impacts on knowledge; also, employment status influenced the subjects' knowledge and attitude. However, statistical analysis did not indicate a significant association between other variables ($P<0.05$). Overall, the knowledge, attitude, confidence, and performance of the midwifery staff were more desirable than other healthcare providers.

Conclusion: Despite the adequate knowledge, positive attitude, and confidence of healthcare workers, their performance on sexual health education, especially taboo topics, was unacceptable. To eradicate the adolescents' problems in sexual health, it is necessary to conduct broad investigations to identify the underlying causes of healthcare workers' weak performance in this context.

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Introduction

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Accurate sexual health information is important for adolescents, as they are vulnerable to negative sexual behaviors and cannot easily adapt to circumstances if not guided correctly at the right age. Inaccurate sexual health information may lead to various health risks including the acquisition of sexually transmitted diseases (e.g., HIV infection), unwanted pregnancy, abortion, drug abuse, sexual violence, and suicidal tendencies (1).

Sexual health education is recognized as a human right and a prerequisite to human development, considering its positive effects on gender equality (2). According to the literature, sexual health education not only has no negative impacts on one's life, but also delays the onset of sexual activity and reduces the number of sexual partners (3, 4). Given the fact that 95% of adolescents study at schools for consecutive years before initiating risky sexual behaviors, schools can be proper settings for sexual health education for adolescents (5).

In a study by Latifnejad in Mashhad, Iran (2011), most female adolescents acknowledged the need for school-based education and regarded the current status as unsatisfactory (6). Moreover, Javadnoori (2010) indicated female adolescents' dissatisfaction with sexual health education at schools and noted the incongruence between sexual health education and their needs.

The majority of students believe that life skills, sexual health education, and other related subjects should be incorporated in school curricula. Based on previous studies, disregard for sexual health education at schools, sexual reticence and evading, use of unqualified instructors, unsuitable educational materials, inconsistence between sexual health education and adolescents' needs, and fear of sexual issues were the causes of dissatisfaction with sexual health education at Iranian schools (7).

Inadequate knowledge and skills of instructors about sexual health topics are predictable in communities such as Iran where sexual health education has not been adequately incorporated in school curricula or training programs for instructors. Moreover, studies, which have been conducted in settings where sexual health education has been formally included in the school curricula, have shown adolescents' dissatisfaction with instructors' performance.

It is notable that most instructors prefer not to deal with sensitive subjects such as sexual activities (8). In Iran, there are various social and cultural barriers against sexual health education in families and school settings, leading to unawareness about sexual health among adolescents (9). In a study by Westwood (2006) in U.K., school nurses with adequate knowledge were the most qualified healthcare professionals for sexual health education at schools (10).

Students normally lack the confidence to discuss sexual topics with health workers at healthcare centers. However, when healthcare professionals are accessible at schools, students can benefit from their consultations whenever they need health information (11). Based on a study by Ozer (2005), students visited trained healthcare workers only once a year in most schools of the United States. Also, factors affecting the quantity and quality of sexual health education by the healthcare staff were inadequate knowledge, negative attitude, and unsuitable educational materials for sexual health education (12).

If healthcare workers have the required knowledge and skills to teach sexual health topics, they will feel more comfortable about discussing sexual issues with the students (13). Instructors' knowledge, classroom management, and interactions with adolescents can also influence sexual health education (14). Although some healthcare workers at schools are actively involved in sexual health education for school pupils, they have inadequate knowledge in this area (15).

Healthcare staff at schools should have the ability to maintain confidentiality and have a non-judgmental attitude while interacting with adolescents and their parents (16). Self-confidence of healthcare workers has been recognized as the most important factor in sex education (17). One of the major challenges of school health workers is coordination with teachers and school administrators (18). In this regard, a study in Scotland (2004) showed that school nurses lacked the confidence for sexual health education, although they were aware of

students' educational needs in relation to sexual health (15).

Positive attitude of healthcare workers towards sexual education has a positive impact on promoting the provided services (19). A study in Africa revealed that healthcare workers restrict clients' access to contraceptive methods and sexual health care and do not provide health services to adolescents (20). In fact, any sexual health educational program should use trained and skilled instructors, otherwise the program will not be effective or successful (6).

Considering the abovementioned points, the effective role of healthcare providers in enhancing students' sexual health information has been approved in many studies. Also, instructors' adequate knowledge, positive attitude, and confidence in sexual health education can improve the quality of educational services.

In Iran, nurses are not available at schools and health education for adolescents is occasionally provided by healthcare workers (7). Also, healthcare workers' confidence in their ability to teach sexual health topics (particularly sexual relations and taboo topics) and their comfort in discussing school-based sexual health issues have been less discussed. Therefore, in this study, we aimed to examine healthcare workers' competence in providing sexual health information for female adolescents at schools.

Materials and Methods

This cross-sectional study was conducted in Khuzestan, Iran in 2015. The study population consisted of healthcare providers with an associate's or bachelor's degree in midwifery, family health, or public health. The participants worked at healthcare centers of Khuzestan province and their main responsibility was instructing adolescents on sexual health at schools.

By considering a type I error of 0.05, population standard deviation of 4.08, accuracy level of 0.4, and community population of 750, the sample size was estimated at 268. The subjects were recruited via systematic sampling. Considering the possibility of dropout, a total of 300 healthcare workers were included in the study. For sampling, among Khuzestan universities of medical sciences, Ahwaz**,** Dezful, and Behbahan universities were selected through cluster sampling. Then, sampling was performed at Ahvaz, Andimeshk, Shushtar, Dezful, and Behbahan healthcare centers (considering the number of healthcare centers covered by these three universities).

A researcher-made questionnaire was used to collect the data. The items were designed, based on the literature. The initial version of the questionnaire was developed, and its validity was examined by expert review. Content validity of the questionnaire was assessed by ten faculty members of Ahvaz University of Medical Sciences. Also, reliability of the instrument was tested, using a pilot study on a sample of 40 healthcare workers and calculating the Cronbach's alpha coefficient. The correlation coefficient was 0.79 for knowledge and attitude subscales and 0.93 for confidence and performance subscales.

Female healthcare workers with an associate's or bachelor's degree in midwifery, family health, or school health (visiting schools for health education to adolescents) were included in this study. Incomplete questionnaires were considered as the exclusion criterion. The questionnaire comprised of demographic information and four subscales to assess the knowledge, attitude, confidence, and performance of healthcare workers in sexual health education at schools.

The questionnaire consisted of 29 questions on knowledge, 20 questions on attitude, 25 questions on confidence, and 25 questions on performance; the total number of questions in the questionnaire was 99. The focus of the questionnaire was on puberty, reproductive health, sexually transmitted diseases, sexual relations, and communicative skills.

After explaining the purpose of the study to the participants and obtaining informed consents, the questionnaires were completed by 300 healthcare workers in a quiet and relaxing environment. The subjects were assured about the confidentiality of personal information and were given the right to withdraw from the study. The present study was approved by the Ethics Committee of Ahvaz Jundishapur University of Medical Sciences (code: ajums. REC.1393.253).

The level of knowledge was classified into three categories, considering the subjects' response to the questions (correct or incorrect): poor (score of 0–50), moderate (score of 50–75), and good (score of 75–100). Also, the attitude of healthcare workers towards sexual health education for adolescents was assessed, using a five-point Likert scale (strongly agree, agree, undecided, disagree, and strongly disagree). Attitude was considered positive if the score was below three and negative if the score was three or above.

With regard to the confidence of healthcare workers (similar to attitude), a five-point Likert scale (strongly agree, agree, undecided, disagree, and strongly disagree) was used. Also, the following rating scale was applied to evaluate the subjects' confidence: good (score < 3), moderate (score 3), and poor (score > 3). In addition, with regard to performance, yes/no questions were used for the assessment. Healthcare workers who responded to more than 50% of the questions were regarded to have a good performance, while those who completed less than 50% of the questionnaire were classified to have a poor performance.

Descriptive statistics (mean and standard deviation) were calculated for continuous variables, such as age, work experience, and educational practice. Frequency and percentage were calculated to describe categorical data, such as marital status, academic field and degree, and employment status. Moreover, Pearson's correlation test was used to determine the relationship between knowledge, attitude, confidence, and performance. To detect the relationship between demographic variables and subjects' knowledge, attitude, confidence, and performance, univariate analysis of variance (ANOVA) was used.

Results

In this study, the majority of healthcare workers were married (68.7%) and had a bachelor's degree (65.7%). Most subjects were midwives (64.7%) and permanent employees (55%). Considering the results of Pearson's correlation test, there was a significant relationship between performance and attitude (r=-0.18, P=0.001), performance and confidence (r=-0.304, P=0.001), knowledge and attitude (r=-0.135, P=0.01), attitude and performance (r=-0.183, P=0.01), attitude and knowledge (r=-0.135, P=0.01), attitude and confidence (r=0.145, P=0.01), confidence and performance (r=-0.304, P=0.001), and confidence and attitude (r=0.145, P=0.01).

Table 1. Competence of healthcare workers in sexual health education for adolescents

Variables	Assortment	Frequency	Percentage
Knowledge	Good	196	66%
	Medium	69	23%
	Poor	33	11%
Attitude	Positive	293	97.6%
	Negative	7	2.3%
Confidence	Favorable	259	86.3%
	Unfavorable	41	13.6%
Performance	Good	120	40%
	Poor	180	60%

As presented in Table 1, the level of healthcare workers' knowledge about sexual health education was good (66%). The majority of the participants had a positive attitude towards sexual health education (97.6%) and showed adequate confidence in this regard (86.3%). However, 60% of healthcare workers performed poorly on sexual health education, while their performance in teaching puberty-related topics (90.3%) and sexually transmitted diseases (83%) was relatively favorable.

Table 2. Impact of marital status on knowledge, attitude, confidence, and performance of healthcare workers

Variables	Married (Mean±SD)	Single (Mean±SD)	P-value
Knowledge	30.7±6.015	30.4±7.14	0.704
Attitude	40.3±9.6	39.5±10.8	0.89
Confidence	57.1±15.1	57.9±14.3	0.21
Performance	11.5±5.7	10.4±5.4	0.25

Moreover, based on the findings, the subjects showed a poor performance in teaching students the required skills to control their emotions and instincts (relatively favorable in 3% of the subjects), homosexual tendencies (relatively favorable in 11% of the subjects), and masturbation (relatively favorable in 12% of the subjects).

Table 3. Impact of academic degree on knowledge, attitude, confidence, and performance of healthcare workers

Variables	Associate's degree (Mean±SD)	Bachelor's degree (Mean±SD)	P-value
Knowledge	29.5±5.7	31.2±6.08	0.007
Attitude	42.1±9.3	39±10.1	0.068
Confidence	59.6±15.6	56.2±14.3	0.21
Performance	11.5±5.8	10.9±5.6	0.67

Table 4. Impact of academic field on knowledge, attitude, confidence, and performance of healthcare workers

Variables	Family health (Mean±SD)	Midwifery (Mean±SD)	Public health (Mean±SD)	P-value
Knowledge	29.8±6.3	31.8±5.4	24.5±9.3	>0.001
Attitude	38.8±9.6	47.2±10	41.3±9.4	0.06
Confidence	60.3±12.8	56.3±15.1	55.5±17.6	0.3
Performance	10.9±5.3	11.5±5. 8	8.8±5.1	0.01

Table 5. Impact of employment status on knowledge, attitude, confidence, and performance of healthcare workers

Variables	Training contract[1] (Mean±SD)	Short-term contract[2] (Mean±SD)	Fixed-term contract[3] (Mean±SD)	Permanent contract[4] (Mean±SD)	P-value
Knowledge	29.9±7.07	30.1±4.4	31.4±6.1	33.3±6.4	0.02
Attitude	40±9.03	35±8.3	38.8±10.5	41.5±10.1	0.01
Confidence	56.2±16.1	54.5±14.5	55.2±11.9	58.9±15.2	0.3
Performance	10.3±5.7	12.4±5.5	12.1±5.5	10.8±5.7	0.1

[1]Two years spent working at a law firm; [2]One year but not more than two years of working; [3]The contract continues until the employer or employee ends it; [4]An indefinite contract whereby the employee is hired by the company

Marital status had no significant influence on knowledge, attitude, confidence, or performance of healthcare workers (Table 2). According to tables 3 and 4, academic field and degree had significant impacts on the knowledge of healthcare workers (P<0.05). Based on the data presented in Table 3, the mean score of knowledge in subjects with bachelor's degree was higher than those with an associate's degree. The mean scores of knowledge, attitude, and performance of midwives were higher than those majoring in other fields (Table 4); therefore, the competence of midwives was more favorable than others.

As presented in Table 5, the effect of employment status on the knowledge and attitude of healthcare workers was significant (P<0.05), and the mean scores of knowledge and attitude were higher in permanent employees. Accordingly, healthcare workers with a permanent employment status had higher levels of knowledge and more favorable attitudes, compared to others.

Discussion

The present findings showed a significant relationship between the knowledge of healthcare workers about sexual health education and academic degree, employment status, and academic field. This association was significant in subjects who had a bachelor's degree in midwifery and were permanent employees. Based on the findings, a stable employment status had a positive impact on the confidence of healthcare workers.

In the present study, the confidence of healthcare workers in sexual health education was significantly associated with their attitude and performance. In consistence with the present research, in a study in Scotland (2004),

confidence of school nurses in sexual health education was associated with their performance; however, school nurses did not exhibit adequate confidence or performance regarding sexual health education (15).

In the current study, the majority of healthcare workers had a positive attitude towards sexual health education, which was positively associated with their performance. Ahanonu in a study in Nigeria (2014) concluded that many health workers have a positive attitude towards the provision of contraceptives for adolescents, and the majority believed that sexual health education should begin before the initiation of sexual activity (21); these findings were in line with the present results.

In the present study, knowledge of healthcare workers about sexual health education to adolescents was adequate, and there was a significant relationship between knowledge, attitude, and performance. Based on the findings, by improving healthcare workers' information and knowledge about sexual health education for adolescents, their performance is likely to be promoted. In this regard, Smith in South Africa (2013) investigated the knowledge and confidence of instructors about sexual health and found that university professors were more knowledgeable than others (22). Also, in the present study, the competence of healthcare workers majoring in midwifery was higher than other employees, which is indicative of the competence of midwives in sexual health education.

Westwood in the United States (2009) examined the knowledge of healthcare workers in relation to sexual health education. In contrast with the present study, the level of knowledge about sexual health education was not desirable, whereas the prevailing attitude was positive; also, there was no significant association between knowledge and attitude. In the mentioned study, although healthcare workers were aware of the importance of sexual health education for adolescents, they lacked the competence due to their insufficient knowledge (23).

Mngadi in a study in Switzerland (2008) concluded that sexual health education was not adequately incorporated in school curricula and highlighted the need for comprehensive and appropriate youth-friendly services to promote adolescents' sexual health (24). Moreover, Attridge in U.K. (2011) showed that school nurses should have a greater involvement in sexual health education and improve their performance (25).

In the present study, 60% of the employees showed a poor performance in teaching sexual health to female adolescents. Healthcare workers had a favorable performance in teaching puberty-related topics and sexually transmitted diseases, whereas they had a poor performance regarding the control of emotions, instincts, homosexuality, and masturbation. This finding shows that sexual health education at schools of Iran only focuses on non-taboo topics (e.g., menstrual cycle and genital hygiene) and HIV/AIDS as a global priority.

In Iran, sexual health topics including taboo subjects (e.g., contraceptive methods, pregnancy, masturbation, sexual relations, and homosexuality), relationship with the opposite sex (e.g., sexual and psychological characteristics of males, opposite sex relations, sexual abuse, and rape), and specialized skills for the management of emotional crises during puberty and control of sexual instincts are not properly taught or discussed at schools; this could be due to sociocultural barriers in our country and educational policies at schools (7).

In a study by Buckley in New Zealand (2009), school nurses' performance was mainly dependent on their level of training, professional support, and amount of time spent at schools (26). This shows that sexual health education can be promoted by training and recruiting healthcare workers at schools in Iran.

The main strength of this study was the evaluation of healthcare workers' competence in sexual health education, which was performed for the first time in Iran. On the other hand, the major shortcoming of this study was relying on the data reported by healthcare workers.

Considering the validity and reliability of the researcher-made questionnaire applied in the present study, the obtained findings may be used in future studies. Also, regarding the competence of midwives, healthcare

policymakers should focus on involving midwifery graduates in sexual health education at schools. However, since this study was mainly performed to evaluate the competence of healthcare workers in sexual health education without considering the influencing factors, further research is required to determine the associated factors and barriers against sexual health education for adolescents at schools.

Conclusion

Despite the adequate knowledge, positive attitude, and confidence of healthcare workers, their performance regarding sexual health education, especially taboo topics, was not acceptable. To eradicate adolescents' sexual health problems, it is necessary to conduct broad investigations to identify the underlying causes of healthcare workers' weak performance in this context.

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Conflicts of Interest

The authors declare no conflicts of interest.

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