Research Article

Sexual Knowledge and Attitudes Among Premarital Couples: A Need for Future Educational Programs

Zohreh Sadat,[1] Fazlollah Ghofranipour,[1,*] Azita Goshtasebi,[2] and Seyed Ali Azin[3]

[1]Department of Health Education and Health Promotion, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, IR Iran
[2]Department of Family Health, Health metrics Research center, Iranian Institute for Health Sciences Research, ACECR, Tehran, IR Iran
[3]Department of Health Promotion, Iranian Academic Center For Education, Culture and Research, ACECR, Tehran, IR Iran

[*]Corresponding author: Fazlollah Ghofranipour, Department of Health Education and Health Promotion, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, IR Iran. E-mail: ghofranf@modares.ac.ir

Abstract

Background: A significant number of youths have insufficient awareness about sexual health; whereas, correct sexual information is the main factor to prevent adverse consequences.

Objectives: The current study aimed to investigate the sexual knowledge and attitudes in a sample of Iranian premarital couples.

Patients and Methods: In this cross-sectional study, a sequential sample of 500 males and females who met the inclusion criteria was selected. This study was conducted in Kashan, Iran. Participants were in the age range of 16 to 40 years referred for premarital testing and educational classes. Two questionnaires containing demographic data and a culturally based sexual knowledge and attitudes scale were used for data collection. Data were analyzed using the Chi-square test, independent samples t-test, Mann-Whitney U, analysis of variance and multivariate regression.

Results: About 50% of premarital couples had poor sexual knowledge and attitudes. The mean score of total sexual knowledge was 12.45 ± 8.54 out of a possible score of 33; and the mean score of total sexual attitudes was 121.63 ± 14.51 out of a possible score of 170. A significant association existed between the score of sexual knowledge and the level of education ($P < 0.01$), participants' age ($P < 0.01$) and the score of sexual attitudes ($P < 0.01$).

Conclusions: The majority of participants had poor sexual knowledge and attitudes regarding different aspects of sexual health.

Keywords: Sexual Health, Attitude, Couples, Premarital

1. Background

Sexual health is an essential component of physical and mental health. It is one of the main aspects of personal health which affects people of all ages (1, 2). A basic right for females and males is to provide them with the tools to understand their sexual responsibilities and enrich their sexual knowledge and awareness (3). Proper sexual knowledge helps couples to have a more satisfying and responsible relationship. Therefore, addressing the subject of improving sexual knowledge is a great necessity for individuals, families and the communities (4).

Previous studies in Iran on adolescents and premarital couples showed that the level of sexual knowledge and attitudes was generally low (5-7). Some factors may impacts the level of sexual knowledge and attitudes. A qualitative study was performed among Iranian adolescences to determine the barriers to accessing the knowledge on sexual reproductive health. The results showed that the main barriers were in four categories: social and cultural barriers such as taboos, structural and administrative barriers such as inappropriate structure of the health system, political barriers such as lack of an adopted strategy by the government and non-use of religious potential (8). A study was performed to investigate the knowledge and attitudes related to sexual and reproductive health among premarital couples. In this study, both male and female subjects possessed low scores on sexual knowledge of genital anatomy, sexually transmitted infections (STIs) and contraceptive methods. Moreover, the majority of participants had positive attitudes towards applying sexual educational programs prior to marriage (9).

Another study was performed on males aged 15 to 18 in Tehran in order to determine their beliefs and knowledge about sexual and reproductive health. The results demonstrated that most of the participants had misconceptions regarding condoms, STIs and reproductive physiology (10). The results of another study in Iran indicated that incorrect information related to sexual issues may be due to poor knowledge about anatomy of genitalia, normal sexual response, cultural myths or taboos (11).

Young people with low level of knowledge and misconception on sexual health have more risk factors for unintended pregnancies, unsafe abortions and sexually transmitted infections (12, 13). However, there are limited stud-

ies on sexual health issues among newlywed couples in Iran (6, 7). The development of proper educational programs is necessary to prevent high-risk behaviors. Moreover, to plan effective educational programs in health services, it is required to assess needs in the target population (14-16). Therefore, data on sexual knowledge and attitudes among newly wed couples are important to plan sexual educational programs.

2. Objectives

The current study aimed to assess the sexual knowledge and attitudes among premarital couples in Kashan, Iran, in 2014.

3. Patients and Methods

3.1. Design and Participants

A cross-sectional study was performed from May to August, 2014 among pre-marriage couples in Kashan, Iran. During the study, male and female subjects referred to Gholabchi health care center for premarital testing to enroll in premarital educational classes were invited to participate in the study. Gholabchi health care center is the only premarital testing center in Kashan. It should be mentioned that a mandatory national screening protocol for premarital testing and premarital educational classes concerning reproductive health was approved by the Iranian ministry of health.

The current study employed sequential sampling method. Due to the lack of information about the sexual knowledge and attitudes of target population, a pilot study was performed on 40 participants. Mean scores of sexual knowledge and attitudes in the pilot study were 14.05 ± 8.43 and 122.0 ± 12.63, respectively. However with an alfa = 0.05, $\delta = 12.63$ and d = 0.1 δ, at least 385 study subjects was required. However, for more accuracy and possible attrition, 530 subjects were recruited. Inclusion criteria were: age $\geq$ 16 years, first marriage, volunteer to take part in the study and have not participated in any sexual reproductive health educational classes before entering the study. Subjects who did not complete the questionnaires or decided to withdrew from the study were excluded.

3.2. Data Collection and Measurements

Data collection was performed at the center of registration for testing and educational classes known as couples unit (CU). Subjects who met the inclusion criteria were recruited. The aim of the study was explained to the participants by the first researcher or a trained female health care provider. Those who agreed to participate signed a consent form and received the questionnaires. All participants were required to complete two anonymous self-administered questionnaires individually. Participants completed the questionnaires independently before attending the educational classes in a private environment. The researcher or a trained health care provider was available at the study site to explain questions that were not properly understood by participants. Premarital couples were asked to place the completed questionnaires into a wrapped box in CU. Subjects were recruited every day from 8.00 am to 2.00 pm in the CU. The completion of the questionnaires took approximately 20 - 30 minutes.

Two questionnaires were designed for the study. The first questionnaire contained information regarding demographic data, such as the participants' age, gender, education level, job and the main sources of sexual information. The second questionnaire contained information regarding the sexual knowledge and attitudes for premarital couples. Sexual knowledge and attitudes questionnaire for premarital couples was developed by researchers using the interview with couples, health care providers, key informants and review of literature. Content validity of the questionnaire was evaluated by a panel of 15 experts of investigators with specialties in sexuality and psychometry. The necessity of the items was assessed as content validity ratio (CVR). An acceptable CVR value was 0.49. The content validity index (CVI) was based on three criteria; simplicity, relevancy and clarity were evaluated for each item of the questionnaires. The items were accepted if CVI > 0.79. The CVR and CVI for the sexual knowledge section was 0.87 and 0.79 and for the sexual attitudes section were 0.91 and 0.88, respectively. Face validity was evaluated using 40 premarital subjects. Participants were requested to complete the questionnaires and comment on the simplicity and clarity of the questionnaire, and then necessary modifications were made. Exploratory factor analysis (EFA) was conducted to detect the underlying constructs of two sections of the questionnaires. For the section on sexual knowledge, the five factors containing 33 items were extracted. The extracted factors were sexual biology with seven items (factor one), sexually transmitted diseases with eight items (factor two), sexual relationship with six items, (factor three), the probability of pregnancy and its prevention with nine items (factor four), the anatomy of the genitalia with three items (factor five). For the section of sexual attitudes, the six factors containing 34 items were extracted. The extracted factors were sexual satisfaction with nine items (factor one), negotiation of sexual issues between spouses with eight items (factor two), the importance of sex in life with six items (factor three), sexual concerns with six items (factor four), initia-

tion of sex by the females with three items (factor five) and sexual pleasure with two items (factor six). Reliability was assessed after a pilot study on 40 premarital subjects (20 males and 20 females), using internal consistency. Cronbach's alpha coefficient was calculated as 0.80 and 0.85 for sexual knowledge and attitude sections, respectively. After exploratory factor analysis, Cronbach's alpha coefficient for the sections of sexual knowledge and sexual attitudes were calculated as 0.84 and 0.81, respectively. The items of the section on sexual knowledge contained three choices: true (score +1), false (score -1) or do not know (score 0). The items of the section on sexual attitudes had five choices: Completely disagree (score 1), disagree (score 2), no idea (score 3), agree (score 4) and completely agree (score 5). Each item in the sections of sexual knowledge and attitudes was either a positive statement or a negative statement. Reverse scoring was carried out for negative statements. The total items of sexual knowledge obtained the scores in the range of -33 to +33, a higher positive score indicated a higher level of knowledge. Total items of sexual attitudes obtained scores from 34 to 170, a higher score on sexual attitudes implied more positive sexual attitudes.

The score of each subscale was calculated by adding the scores of related questions. For example, the score of sexual biology was calculated by adding the scores of seven questions related to this subscale. The rate of true, false or do not know responses in each subscale of sexual knowledge were computed. The rate of agree (completely agree and agree) to disagree (completely disagree and disagree) in each subscale of sexual attitudes were calculated. A rate of each subscale was calculated by summing the rate of related questions and then dividing it according to the number of items in each subscale.

3.3. Data Analysis

Data were analyzed using SPSS V13. Kolmogorov-Smirnov test was used to examine the normal distribution of the quantitative variables. The distribution of total scores of the sections on sexual knowledge and attitudes were normal but it was not the case in the sexual knowledge and attitudes subscales. Chi-square test was used to compare the nominal demographic characteristics in male and female subjects. Mann-Whitney U-test was used to evaluate the differences in the scores of sexual knowledge and attitudes' subscales between male and female subjects. T-test was used to test the statistical differences between the sexual knowledge and attitudes' scores in terms of the categorical demographic variables, such as sex and job statues. Analysis of variance test was used to test the statistical differences between the sexual knowledge and attitudes' scores in terms of educational level and sources of sexual information. To access the related factors to sexual knowledge and sexual attitudes, multivariate regression analysis was conducted. Sexual knowledge was considered as a dependent variable, while the demographic variables and sexual attitudes were considered as independent variables. In addition, sexual attitude was considered as a dependent variable, while the demographic variables and sexual knowledge were considered as independent variables. Level of significance was $P < 0.05$ for all tests.

3.4. Ethical Considerations

The current study was approved by the institutional review board and the research ethics committee of Tarbiat Modares university (the approval letter was issued on 31 May, 2014 under the No. 1640). Also, the study protocol was approved by the research ethics committee of Kashan University of Medical Sciences (the approval letter was issued on 7 May, 2014 under the No. 648). All participants were informed about the purpose and the voluntary nature of the study. Moreover, the participants were assured on their right to withdraw from the study at any time and that their responses were kept confidential and anonymous. All participants signed an informed consent form before entering the study.

4. Results

In the current study, 500 participants (250 males and 250 females) completed the questionnaires. The demographic data are presented in Table 1. Mean scores and percentages of various responses to sexual knowledge and attitudes are presented in Table 2. Mean score of sexual knowledge was 12.45 ± 8.54 out of a possible score of 33. Mean score of sexual attitudes was 121.63 ± 14.51 out of a possible score of 170. The results indicated that 47.85% of the participants knew about sexual health issues and 55.69% had positive sexual attitudes (agreed or completely agreed) (Table 2). The associations between demographic characteristics and sexual knowledge and attitudes are summarized in Table 3. Analysis of variances showed that an increase in the level of education and older age were associated with an increase in the scores of sexual knowledge as well as sexual attitudes. The results of multivariate regression model are presented in Table 4. The findings suggested a positive relationship between the sexual knowledge and level of education, age, and sexual attitudes (adjusted R-square = 0.264). It should be mentioned that the results of multivariate regression generated an adjusted R-square value of nearly 0.05 before entering sexual attitudes as an independent variable. The results of the multivariate regression suggested that demographic variables were not associated with sexual attitudes (adjusted

R-square = 0.044). However, a positive relationship existed between the sexual attitudes and sexual knowledge (adjusted R-square = 0.198).

Sexual knowledge and attitudes subscales were compared between males and females (Table 5). Regarding the sexual knowledge subscales, male subjects had higher scores than females on sexual biology, STIs, and sexual relationship. Female subjects had higher scores than males on the probability of pregnancy and its prevention and anatomy of genitalia. However, there was a significant difference between males and females in the knowledge of sexual biology subscales (P < 0.01). With regards to the sexual attitudes, male subjects reported more positive sexual attitudes than females in all the subscales except for sexual satisfaction. These differences were not significant in any of the subscales

5. Discussion

The study demonstrated that the level of sexual knowledge and attitudes among participants were generally low. These results were consistent with previous studies performed among adolescents and premarital couples in Iran. In a cross-sectional study in 2010 in Shiraz, the sexual knowledge of 557 premarital subjects was assessed. The results showed that the overall level of knowledge of subjects was low. Both subjects had low scores on knowledge of genital anatomy, sexually transmitted infections and contraceptive use (9). A cross sectional study on male adolescences in Tehran was conducted to assess the reproductive knowledge, attitudes and behaviors. The findings showed that nearly half of the subjects had poor knowledge regarding condoms, STIs and reproductive physiology (10). Moodi et al. assessed reproductive knowledge and attitude in premarital couples. In their study, premarital couples had poor knowledge on reproductive health, especially on using contraception methods before and after educational classes (17). Low level of sexual knowledge in the current study and other studies in Iran might be due to lack of sexual educational programs for adults in Iran. In the Iran, sexual education program and services constitute a variety of barriers for unmarried people. Another possible cause for low level of sexual knowledge and attitudes in premarital couples could be cultural and religious issues (18-20). Sexual knowledge, attitudes, and high-risk sexual behaviors among unmarried youth in Hong Kong were investigated. The results showed that unmarried youth had adequate sexual knowledge, but there was deficiency in contraceptive knowledge. The majority of unmarried youth (63.8%) had positive attitudes toward premarital sex (21). One reason for adequate sexual knowledge in that study may be due to sexual education programs conducted for

the youth in Hong Kong (22). However, consistent with the current study results, contraceptive knowledge was deficient.

The current study findings showed that older participants had higher scores of sexual knowledge and attitudes. The current study findings agreed with those of the previous studies which showed that older age was associated with higher sexual knowledge and attitudes (9, 23, 24). A cross-sectional study was conducted in a sample of 17,016 adolescents and young adults aged 15 to 24 years from three Asian cities. This study aimed to assess sex-related knowledge, attitudes and behaviors. The results of the multiple linear regression analysis showed that participants' age was not related to sexual knowledge, attitudes and behavior (25). In this study, participants' age was less than 25 years while in the current study, nearly 40% of the participants were older than 25 years. The current study findings showed that an increase in the level of education was associated with an increase in the scores of sexual knowledge and attitudes. The results of the current study were in agreement with those of other studies (23, 24). In contrast, results of the studies in Pakistan and Malaysia showed no relationship between knowledge on sexual reproductive health and university education (12, 25). In these studies, participants were selected with diverse ethnicities. However, according to Wong et al. (12), diverse ethnicity had a great impact on reproductive knowledge. The current study results based on multivariate regression showed that the model had low predictive power to explain the demographic factors associated with sexual knowledge and attitudes. Although there was an association between sexual knowledge, age and level of education, these findings demonstrated that other factors might be associated with sexual knowledge and attitudes that could not be assessed in the current study. However, the multivariate regression model suggested a high predictive power to explain the sexual knowledge associated with sexual attitudes. Consistent with the current study results, other studies confirmed the relationship between sexual knowledge and attitudes (12, 26). The findings of the current study showed that total scores on sexual knowledge and attitudes in male subjects were higher than those of female ones, although these differences were not significant. Farahani et al. (5) reported that reproductive health information of male adolescents was lower than that of females ones. It should be mentioned that the article by Farahani et al. was written based on the merge of data from two studies; the first study was performed on adolescent males aged 15 to 18 in 2002, while the second survey was conducted among female students at universities in 2005. However, it is clear that age and level of education of female students at university are higher than those of males

Table 1. Demographic Data of Premarital Couples in the Study[a]

Characteristics	Male, N = 250	Female , N = 250	Total	P Value[b]
Age, y				< 0.001
16 - 20	10 (4)	99 (39.6)	109 (21.8)	
21 - 25	100 (40)	103 (41.2)	203 (40.6	
> 25	140 (56)	48 (19.2)	188 (37.6)	
Education				0.029
Intermediate	31 (12.4)	15 (6)	46 (9.2)	
Secondary/ high school diploma	105 (42.0)	102 (40.8)	207 (41.4)	
University graduated	114 (45.6)	133 (53.2)	247 (49.4)	
Job				< 0.001
Employed	241 (96.8)	60 (23.6)	301 (60.2)	
Unemployed	9 (3.2)	190 (76.4)	199 (39.80)	
Sources of information				0.076
Parents, siblings, other relatives	62 (24.8)	86 (34.4)	148 (29.6)	
Classmates, friends	65 (26)	47 (18.8)	112 (22.4)	
Teacher, counselor, health care provider	33 (13.2)	31 (12.4)	64 (12.8)	
Books, magazines, bulletin	45 (18.0)	51 (20.4)	96 (19.2)	
Internet, radio, domestic and foreign TV channels	45 (18.0)	35 (14)	80 (16)	

[a] Data are presented as No. (%).
[b] The results of Chi-square test.

Table 2. The Mean Score and Distribution of Responses Regarding Sexual Knowledge, Attitudes and the Subscales

Sexual Knowledges' Subscales	Number of Items	Mean ± SD	Rate of Responses (%)		
			True	Do Not Know	False
Sexual biology	7	3.04 ± 3.0	49.10	44.9	6
STDs	8	3.43 ± 2.91	50.02	42.4	7.58
Sexual relationship	6	2.01 ± 3.17	54.42	24.35	21.23
Probability of pregnancy and prevention	9	2.63 ± 3.26	39.93	49.2	10.87
Anatomy of the genitalia	3	1.32 ± 1.50	49.8	44.30	5.90
Overall sexual knowledge	33	12.45 ± 8.54	47.85	41.67	10.47
Sexual attitudes' subscales			**Agree**	**No idea**	**Disagree**
Sexual satisfaction	9	35.20 ± 6.20	68.35	23.81	7.83
Sexual negotiation	8	27.58 ± 5.93	49.16	30.81	20.03
Role of sex in life	6	21.57 ± 4.99	56.25	26.33	17.41
Sexual concerns	6	19.90 ± 4.71	44.81	29.05	26.14
Initiation of sex by the female	3	9.44 ± 3.42	45.73	17.92	36.30
Sexual pleasure	2	7.93 ± 1.94	70.90	16	13.1
Overall sexual attitudes	34	121.63 ± 14.51	55.69	25.84	18.47

Abbreviation: STDs, sexual transmitted diseases.

15 to 18 years. The current study findings showed that the main common sources of sexual information were the various forms of media (books, magazines, bulletin and other media such as satellite or internet, Radio, television). The results of a study on young Asian adults showed that various forms of media were important sources of sexual information (25). Moreover, the current study findings demonstrated that the use of books, magazines and other media increased the scores of sexual knowledge and attitudes, although these associations were not statistically significant. Other researchers found the use of mass media as a positively related factor to sexual knowledge, attitudes, and behaviors of adolescents (10, 25).

However, the current study showed that the level of sexual knowledge and attitudes among the subjects was generally low. The present study had some limitations: Since the study focused on a sensitive issue in Iranian culture, the participants might have under-reported their attitudes. In order to reduce this bias, their confidentiality was ensured, using the anonymous self-administered

Table 3. The Associations Between Demographic Characteristics and Sexual Knowledge and Attitudes

Characteristics	Sexual Knowledge Score[a]	P Value	Sexual Attitudes Score[a]	P Value
Age, y		< 0.001 [b]		< 0.001[b]
16 - 20	8.75 ± 7.37		117.22 ± 14.43	
21 - 24	11.99 ± 8.42		122.13 ± 14.87	
≥ 25	14.71 ± 8.54		123.22 ± 13.80	
Education		< 0.001[b]		0.004[b]
Intermediate	9.13 ± 8.64		115.80 ± 14.52	
Secondary/high school diploma	10.09 ± 7.97		120.08 ± 15.21	
University graduated	15.04 ± 8.23		124.02 ± 13.46	
Gender		0.21[c]		0.31[c]
Male	12.92 ± 8.85		122.30 ± 14.92	
Female	11.97 ± 8.21		121.00 ± 14.09	
Job		0.29[c]		0.24[c]
Unemployed	11.95 ± 8.05		120.73 ± 14.41	
Employed	12.77 ± 8.85		122.27 ± 14.58	
Sources of information		0.13[b]		0.11[b]
Parents, siblings, other relatives	11.47 ± 8.13		120.56 ± 14.38	
Classmates, friends	12.80 ± 8.84		121.24 ± 15.23	
Teacher, counselorhealth care provider	11.37 ± 8.03		120.25 ± 15.46	
Books, magazines, bulletin	14.10 ± 10.30		124. 59 ± 14.30	
Internet, radio, domestic and foreign TV channels	13.14 ± 8.22		124.08 ± 11.21	

[a] Data are presented as mean ± SD.
[b] The results of analysis of variance test.
[c] The results of independent T-test.

Table 4. The Associations Among Participants' Characteristics, Sexual Knowledge and Attitudes Based on Results of Regression Analysis

Variables	Standardized Coefficients, Beta	P Value	Adjusted R-Square
Sexual Knowledge			0.264
Age	0.206	< 0.01	
Level of education	0.251	< 0.01	
Gender	-0.008	0.892	
Source of informatio	-0.014	0.723	
Job	-0.036	0.532	
Sexual attitudes	0.389	< 0.01	
Sexual attitudes			0.198
Age	0.028	0.561	
Level of education	0.045	0.299	
Gender	0.009	0.891	
Source of information	0.069	0.096	
Job	0.022	0.719	
Sexual knowledge	0.418	< 0.01	

questionnaires. Moreover the study could not measure the role of other factors on sexual knowledge and attitudes such as sex experiences, cultural and religious factors. Another limitation was the use of non-random sampling due to sensitivity of the issue. The present study had some strengths including: a culturally based questionnaire was used to assess the sexual knowledge and attitudes. Moreover, the sample size was large.

According to the obtained results, it is essential to de-

velop and administer proper sexual educational programs for premarital couples. In addition, the increase in the sexual knowledge and attitudes of midwifes will help to provide a basis to guide the couples improve their sexual health. Further studies are suggested to determine the role of other factors associated with sexual knowledge and attitudes.

Table 5. Comparison of Participants' Sexual Knowledge and Attitudes Between Males and Females

Sex-Related Knowledge Subscales	Male[a]	Female[a]	P Value[b]
Sexual biology	3.52 ± 2.94	2.55 ± 2.98	<0.01
STDs	3.44 ± 3.06	3.42 ± 2.76	0.94
Sexual relationship	2.21 ± 3.11	1.81 ± 3.23	0.16
Probability of pregnancy and the prevention	2.50 ± 3.43	2.75 ± 3.09	0.39
Anatomy of genitalia	1.24 ± 1.52	1.39 ± 1.47	0.27
Sex-related attitude subscales			
Sexual satisfaction	34.82 ± 6.29	35.56 ± 6.06	0.18
Sexual negotiation	28.04 ± 5.75	27.12 ± 6.09	0.08
Role of sex in life	21.64 ± 5.14	21.49 ± 4.85	0.74
Sexual concerns	20.11 ± 4.60	19.70 ± 4.81	0.33
Initiation of sex by the female	9.70 ± 3.53	9.17 ± 3.30	0.08
Sexual pleasure	7.97 ± 2.03	7.89 ± 1.85	0.63

Abbreviation: STD, sexual transmitted diseases.
[a] Data are presented as mean $\pm$ SD.
[b] The results of Mann-Whitney U-test.

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