

The Relationship between Sexual Health Literacy, Self-Care, and Sexual Life Quality among Married Women: A Cross-Sectional Study in Zahedan, Iran

Fatemeh Limoparvar

MSc, Epidemiology, Student Research and Technology Committee, Zahedan University of Medical Sciences, Zahedan, Iran.

Maryam Seraji

* Associate Professor of Health Education and Promotion, Department of Public Health, Health Promotion Research Center, Zahedan University of Medical Sciences, Zahedan, Iran.

(Corresponding Author):
serajimaryam@gmail.com

Zahra Arab Borzu

Assistant Professor of Biostatistics, Department of Biostatistics and Epidemiology, Health Promotion Research Center, Zahedan University of Medical Sciences, Zahedan, Iran.

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ABSTRACT

Background and Objectives: Given the importance of quality of sexual life in individual satisfaction and family health, this study aimed to investigate the relationship between sexual health literacy, sexual self-care, and the quality of sexual life among married women in Zahedan in 2024.

Materials and Methods: This cross-sectional study was conducted on 460 women who were selected by multi-stage sampling method. Valid and reliable instruments were used to collect data, including the standard questionnaires of sexual health literacy (SHELA), sexual self-care and Simond sexual quality of life. Data were analyzed using chi-square tests, one-way analysis of variance, independent t-test and bivariate correlation in SPSS 22 software. Predictors were also determined using hierarchical linear regression analysis.

Results: The mean age was 33 ± 7.2 years. Education, occupation, number of children, and marriage age were significantly associated with SHL and self-care ($p=0.001$). Hierarchical regression showed demographic factors explained 53% of SQoL variance. Adding SHL increased variance to 60% ($\Delta R^2=0.07$), and including self-care brought the total to 82% ($\Delta R^2=0.22$). Key predictors were promoting sexual health ($\beta=0.13$), cancer prevention ($\beta=0.11$), and analysis skills ($\beta=0.10$).

Conclusion: The findings of this study emphasize the importance of promoting sexual health literacy and sexual self-care education in improving the quality of sexual life of women. It is suggested that educational programs and health interventions in this field be designed and implemented to help improve women's sexual health and quality of life.

Paper Type: Research Article

Keywords: Health Literacy, Self-Care, Sexual Health, Women's Health, Iran.

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Introduction

Sexual activity is an important aspect of human life and can be influenced by individual characteristics, family structure, social or cultural conditions, environment, and the physical, mental, and sexual health of the woman and their partner (1). Because of their fundamental role in family and community life, women represent an important group whose sexual health has a direct impact on the well-being of the family and future generations (2). Health literacy is one of several factors that influence sexual health. In the context of sexual health, this is defined as individuals' ability to access, understand, evaluate, and utilize sexual health information to make informed decisions and enhance their sexual well-being (3). This concept, known as Sexual Health Literacy (SHL), is of particular importance for women because it helps them to be aware of their rights, protect their physical and mental health, and make informed decisions about their sexual and reproductive relationships. SHL provides women with the opportunity to be aware of their rights regarding their bodies, sexual relationships, and fertility (4). This includes the right to decide when and how many children they have, access to contraception, and the right to have safe and satisfying sexual relationships (5).

Health literacy is recognized as one of the factors affecting sexual health. Sexual health literacy is the ability of an individual to access, understand, evaluate, and use information related to sexual health in order to make informed decisions and improve the quality of their sexual life (3). This type of literacy is particularly important for women because it helps them to be aware of their rights,

protect their physical and mental health, and make informed decisions about sexual and reproductive relationships (4).

Sexual health literacy enables women to act consciously about their bodies, sexual relationships, and reproductive issues. This awareness includes rights such as deciding on the number of children, accessing contraceptive methods, and enjoying safe and satisfying sexual relationships (5). Sexual health literacy is considered one of the determining factors in the occurrence, causes, and consequences of sexual health problems, and its achievement and promotion requires appropriate organization and access to sexual health services (6).

Several factors contribute to increasing women's sexual health literacy. In a study titled "The Relationship between Sexual Health Literacy and Women's Sexual Function," Çekmak et al. found that women's age and the number of children they had were related to sexual health literacy, and younger mothers with fewer children had higher sexual health literacy (7). Also, a study by Barikani et al., which examined the relationship between health literacy and sexual function in women in northwest Iran, showed that the level of health literacy in this community was insufficient and was related to factors such as age, education, and occupation of women (8). Recent studies in the field of sexual health in Iran showed that sexual dysfunction is relatively high in Iranian men and women, and sexual health literacy is considered an effective factor in improving sexual function (2). Sexual health literacy education can affect women's quality of sexual life and help them obtain accurate and sufficient information about sexual issues (9).

Panahi et al. also concluded in a study titled "The Effect of Sexual Health Literacy on Women's Quality of Sexual Life" that factors such as sexual health literacy, education level, and age at marriage affect women's quality of sexual life (10).

In addition, sexual self-care is also considered as one of the important methods of maintaining sexual health and preventing sexually transmitted diseases. Sexual self-care includes maintaining one's sexual and physical health, strengthening intimate relationships, and enhancing awareness of sexual needs and desires. It also includes promoting sexual health, preventing sexually transmitted diseases, and creating a satisfying partnership (11). In a study by Yazdani et al., factors such as women's age and higher education had an impact on their sexual self-care performance (12). A study by Sadeghi et al. also showed that education and the family's economic and social status have a greater impact on women's self-care. Sexual self-care as one of the preventive behaviors can also help improve the quality of women's sexual life. Women who pay more attention to sexual self-care usually also give more importance to their health and use various methods to maintain and improve their sexual health. These behaviors can range from regular doctor visits, periodic checkups and screenings, and the use of birth control methods (11, 13). These actions not only help maintain physical health but can also lead to increased self-confidence and improved quality of sex life (14, 15).

On the other hand, sexual health is a vital component of women's overall well-being and has been emphasized in the Millennium Development Goals. (16). Women's sexual

health is influenced by cultural and social factors and depends on their responsible decision-making and behavior in line with the concept of self-care. Today, with more awareness among women, they are actively seeking ways to improve their health, with self-care emerging as a key approach (12).

Despite variations across studies, reports consistently indicate a rising trend in marital discord globally. Studies show that about 55% of marriages in the United States, 24% in the United Kingdom, and 73% in Germany end in divorce (17). In a study in Iran, divorce has been on the rise, with sexual problems accounting for 67.4% of divorces, indicating an increase in its number in Iran and also in the province of Sistan and Baluchestan (14, 18).

Sexual health is one of the main pillars of a stable married life. Therefore, having a comfortable sexual relationship is very important in creating a sense of satisfaction and improving the quality of life. Sexual health and the quality of sexual life (SQoL) are among the issues that are of great importance to women (19). Sexual health not only affects women's quality of life but also the health of their families and society. Therefore, it is of great importance to pay attention to this area (20). Studies show that many women face numerous challenges in their sexual health that can affect their quality of sex life. The SQoL, as one of the main components of overall quality of life, includes satisfaction with sexual relationships, sexual performance, and psychosocial health related to sex (17).

Studies have shown that sexual health literacy, self-care, and quality of sexual life in Iranian women are influenced by cultural,

religious, and social factors (21). However, Iran is a vast country with significant regional cultural diversity. Zahedan, the capital of Sistan and Baluchestan province, is characterized by its unique socio-cultural context. It is a conservative region where traditional norms, strong tribal structures, and specific religious beliefs often govern gender roles and discourse around sexuality. In Zahedan, women may face pronounced barriers in accessing sexual health information and services due to these local customs and traditions, which can include heightened stigma, limited open discussion about sexual health, and restricted mobility for women. These factors can collectively decrease SHL and consequently adversely affect their self-care practices and SQoL (22).

Although the importance of SHL and sexual self-care is well-established, a critical knowledge gap exists regarding how these factors interrelate and specifically impact SQoL within Zahedan's unique socio-cultural context, as described above. The distinctive traditions and potential barriers in this region may substantially modify these relationships, yet no prior study has comprehensively investigated this dynamic in this specific population. Therefore, conducting this research in Zahedan is not merely a repetition of studies in other parts of Iran but is essential to understand the localized interplay of these variables.

Given ongoing social and cultural changes, increased attention to educating and promoting SHL and sexual self-care among women is necessary. These measures can help women better address their sexual needs and ultimately improve their SQoL. Therefore, this study aimed to determine the

relationship between sexual health literacy and sexual self-care with the quality of sexual life among married women in Zahedan. The findings can provide context-specific insights to identify existing challenges and inform policymakers and health planners in developing targeted interventions for this underserved population.

Materials and Methods

The present study was a cross-sectional-correlational study conducted in 2024. The study population was married women referring to comprehensive health service centers in Zahedan. Inclusion criteria included informed consent and being married. Exclusion criteria included failure to complete the questionnaire.

The sample size was calculated using the study of Mostafaei et al.(23) an effect size of $f^2 = 0.15$ was anticipated for multiple regression analysis. With a first-type error (α) of 0.05, a power ($1-\beta$) of 0.80, and 10 predictors, the required sample size was estimated to be 460 people.

$$\omega = \frac{1}{2} \ln \left(\frac{1+r}{1-r} \right), \quad n = \frac{\left(Z_{1-\alpha/2} + Z_{1-\beta} \right)^2}{\omega^2} + 3$$

The sampling method of comprehensive health service centers was carried out in several stages. In this way, the city of Zahedan was divided into 5 regions based on the geographical map: North, South, East, West and Central. In the next stage, a list of centers in each region was collected and then 5 centers were randomly selected from each region. In the next stage, 19 samples from each of these 25 centers were easily and conveniently included in the study according to the inclusion criteria.

The data collection tool in this study included three-part information form questions:

a) A researcher-made checklist based on demographic characteristics was used to collect demographic information.

b) Sexual Health Literacy Assessment Questionnaire (SHELA)

Health literacy data were collected through the sexual health literacy for adults. This questionnaire includes four main dimensions (access dimension, reading and comprehension dimension, evaluation and analysis dimension, and information application dimension) which has 40 questions and measures the above dimensions. Five points are assigned to the strongly agree option, up to 1 point is assigned to the strongly disagree option. The total score of the questionnaire is a minimum of 40 and a maximum of 200. The maximum scores are 8 and 40 in the access dimension, 17 and 85 in the reading and comprehension skills, 5 and 25 in the evaluation and analysis dimension, and 10 and 50 in the application skills. Scores from 0 to 50 as inadequate health literacy, 50.1 up to 66 are considered as insufficient health literacy, 66.1–84 are considered as adequate health literacy, and grades 84.1–100 are considered as excellent health literacy; [11] the content validity ratio and the content validity index of the tool were 0.84 and 0.81, respectively. The convergent validity evaluation showed correlation coefficients in the range of 0.31–0.7. The internal consistency of the instrument with the Cronbach's alpha index for the identified factors ranged from 0.84 to 0.94. The intraclass homogeneity of the instrument based on the ICC index calculated

was in the range of 0.90–0.97. [11] The Cronbach's alpha coefficient was calculated to be 0.94 for accessibility, 0.98 for reading and comprehension, 0.77 for evaluation and analysis, 0.94 for health information, and 0.98 for the whole questionnaire (24).

c) Sexual Self-Care Questionnaire

This questionnaire, assesses sexual self-care behaviors. It contains 40 items across four subscales: prevention of sexually transmitted infections, prevention of female cancers, prevention of unwanted pregnancy, and promotion of sexual health. Items are rated on a 5-point Likert scale, and the total score ranges from 40 to 200. The original reliability was reported as $\alpha=0.94$. In this study, content validity was confirmed by experts (CVI > 0.79, CVR > 0.62), and a pilot study demonstrated high internal consistency (Cronbach's $\alpha=0.92$) (10).

D) Sexual quality of life was measured using the Sexual Quality of Life-Female (SQOL-F) questionnaire, originally developed by Symonds et al. (25). This instrument comprises 18 items that are rated on a 6-point Likert scale (ranging from 1 = 'Completely disagree' to 6 = 'Completely agree').

The SQoL Scale which was used as a unidimensional measure. The total score is calculated by summing the scores of all 18 items, resulting in a possible range from 18 to 108, with higher scores indicating a better SQoL.

In the present study, face and content validity were confirmed by experts (CVI > 0.79), and a pilot study showed excellent reliability (Cronbach's $\alpha=0.94$).

Data were manually entered into the software using Spss-v22 software. Mean and

standard deviation (for quantitative variables) and frequency and percentage (for qualitative variables) were used to describe demographic variables.

In the inferential statistics section, independent t-test and one-way analysis of variance were used to examine the relationship between demographic variables and the main study variables.

Also, the relationship between research variables was examined using Pearson's

correlation coefficient. Finally, hierarchical linear regression was used to predict the dependent variable. The statistical significance level was set at 0.05.

Results

The descriptive statistics for the main study instruments are summarized in Table 1. The mean total score for SHL was 147.25 ± 35.64 , for sexual self-care was 101.45 ± 33.18 , and for SQoL was 47.9 ± 23.88 .

Table 1. Descriptive Statistics of the Main Study Instruments

Instrument	Mean Total Score	Standard Deviation	Possible Range
Sexual Health Literacy	147.25	35.64	40-200
Sexual Self-Care	101.45	33.18	40-200
Sexual Quality of Life	47.9	23.88	18-108

The results of this study showed that the average age of the participating women was 33 ± 7.2 . Most of the participants were housewives (85.7%) and married under the age of 25 (96.5%). Education level (P-value=0.001), occupation (P-value=0.001), number of children (P-value=0.001), and age

at marriage (P-value=0.001) showed a significant relationship with SHL. In addition, education level (P-value=0.001), occupation (P-value=0.001), number of children (P-value=0.001), and age at marriage (P-value=0.001) showed a significant relationship with sexual self-care (Table 2).

Table 2. The relationship between women's demographic characteristics and sexual health literacy and sexual self-care

Variables		Sexual health literacy			Sexual self-care	
	Dimensions	Number (percentage)	Mean \pm sd	p-value	Mean \pm sd	p-value
Education level	Elementary	104(22.6%)	90.14 \pm 20.77	0.001*	81.84 \pm 17.48	0.001*
	Undergraduate	204(44.3%)	157.38 \pm 13.77		92.86 \pm 23.5	
	Diploma	87(18.9%)	162.35 \pm 12.17		106.72 \pm 31.1	
	University education	65(14.1%)	182.04 \pm 16.19		151.87 \pm 25.8	
Job	homemaker	394(85.7%)	140.72 \pm 34.21	0.001**	92.9 \pm 25.6	0.001**
	Employed	66(14.3%)	181.74 \pm 16.34		151.12 \pm 16.34	
Number of children	Less than three	214(46.5%)	154.26 \pm 31.28	0.001*	108.82 \pm 35.71	0.001*
	Three or more	246(53.5%)	139.94 \pm 37.28		94.81 \pm 28.49	
Marriage age	Less than 25	444(96.5%)	145.25 \pm 35.11	0.001**	99.5 \pm 31.75	0.001**
	or more 25	16(3.5%)	184.18 \pm 18.77		151.43 \pm 18.77	

*p-Value based one-way ANOVA test.

**p-Value based t-independent test.

Table 3 presents the correlation matrix along with the mean and standard deviation for each subscale of SHL, sexual self-care, and the sexual quality of life scale, providing a comprehensive overview of both descriptive statistics and interrelationships.

Table 3. Correlation between dimensions of sexual health literacy and sexual self-care

Dimensions	1	2	3	4	5	6	7	8	9	Mean ± sd
Access skills (1)	1									27.5±7.65
Reading and comprehension skills (2)		1								69.7±19.6
Analysis and evaluation skills (3)	0.923*	0.661*	1							9.38±3.29
Information application skills (4)	0.612*	0.714*	0.664*	1						39.9±7.87
Prevention of sexually transmitted diseases (5)	0.686*	0.379*	0.601*	0.538*	1					48.03±8.3
Prevention of women's cancer (6)	0.385*	0.404*	0.586*	0.553*	0.714*	1				14.09±7.8
Prevention of unwanted pregnancy (7)	0.424*	0.449*	0.643*	0.591*	0.578*	0.641*	1			12.85±7.34
Promoting sexual health (8)	0.395*	0.435*	0.598*	0.608*	0.68*	0.777*	0.605*	1		26.3±13.98
Quality of sex life (9)	0.267*	0.315*	0.491*	0.495*	0.527*	0.545*	0.575*	0.799*	1	47.9±23.88

Correlation is significant at the 0.01 level (two-tailed)*

The factors of SQoL were predicted using hierarchical linear regression. Table 4 shows that in the first stage, demographic variables were significant predictors of SQoL ($F=37.12$; $P\text{-value}=0.001$). Demographic factors explained 53% of the variation in SQoL.

Health literacy components were included in the second stage and explained an additional 7% of the variation in SQoL ($\Delta R^2=0.07$; $F\text{ change}=32.04$; $P\text{-value}=0.001$).

Sexual self-care was included in the third stage and explained a further 22% of the variation in SQoL ($\Delta R^2=0.22$; $F\text{ change}=72.74$; $P\text{-value}=0.001$). Overall, the full model explained 82% of the variation in SQoL.

Prior to conducting the hierarchical regression analysis, its underlying assumptions were examined. The normality of the residuals was confirmed using the

Kolmogorov-Smirnov test ($p > 0.05$) and visual inspection of Q-Q plots. The independence of errors was verified with the Durbin-Watson statistic, which yielded a value of 2.1, confirming independence. To assess multicollinearity, Variance Inflation Factor (VIF) and Tolerance statistics were calculated for all predictor variables. All VIF values were below 3.0 and Tolerance values were above 0.4, indicating no severe multicollinearity among the predictors.

Discussion

SHL is considered a key factor in improving quality of life. In this study, demographic variables such as age, education, occupation, and age at marriage were examined. The results showed that the several factors, selected in the first stage of analysis, and explained 53% of the variance in SQoL.

Table 4. Hierarchical linear regression to predict quality of sexual life based on demographic characteristics, sexual health literacy, and sexual self-care

Variables		beta	SE	R2 change	F change	p-value
Step1	Age	-0.18	0.04	0.53	37.126 P=0.001	0.001*
	Education	0.15	0.06			0.023*
	Job	0.17	0.41			0.001*
	Marriage age	0.19	0.05			0.001*
	Number of children	-0.09	0.09			0.31
Step2	Age	-0.13	0.04	0.07	32.04 P=0.001	0.001*
	Education	0.08	0.08			0.32
	Job	0.12	0.04			0.002*
	Marriage age	0.14	0.04			0.001*
	Number of children	-0.07	0.03			0.042*
	Access skills	0.08	0.04			0.038*
	Reading and comprehension skills	0.02	0.06			0.734
	Analysis and evaluation skills	0.18	0.05			0.001*
Information application skills	0.15	0.04	0.001*			
Step3	Age	-0.06	0.03	0.82	72.74 P=0.001	0.058
	Education	0.05	0.07			0.48
	Job	0.09	0.04			0.03*
	Marriage age	0.08	0.03			0.001*
	Number of children	-0.06	0.03			0.02*
	Access skills	0.05	0.03			0.095
	Reading and comprehension skills	0.00	0.05			0.97
	Analysis and evaluation skills	0.10	0.04			0.015*
	Information application skills	0.08	0.03			0.001*
	Prevention of sexually transmitted diseases	0.06	0.03			0.65
	Prevention of women's cancer	0.11	0.03			0.001*
	Prevention of unwanted pregnancy	0.10	0.02			0.001*
	Promoting sexual health	0.13	0.03			0.001*

*p<0.05

This is a strong finding that more than half of the variance in SQoL is explained by basic demographic factors, which can be included in the biopsychosocial model. Our findings support the theory that access to social and economic resources (represented by higher education) can increase an individual's ability

to acquire knowledge, access services, and use healthy sexual behaviors (26,27).

These findings are consistent with previous studies such as the study by Shahzad Enayat et al. The results of their study showed that age and education are factors that affect the SQoL (28). In the study by Taghizadeh et

al., age and education level were also reported as determinants of SQoL. The explanation of these results shows that older women have higher levels of education and awareness, which helps to increase the quality of their sexual life (29). Dehghankar et al. found a correlation between lower age at marriage and SQoL. So that the performance of women in older women was equal to that of younger women (30). In the study of Rossi et al., health literacy was also reported as a predictor of SQoL (31). In contrast to these results, Dehghankar et al., as well as Bayrakani et al., reported in their study that women of marriageable age showed the highest lower SQoL, which could be due to the difference in the study population (30).

After controlling for these demographic variables, the addition of sexual health literacy and sexual self-care to the model explained an additional 29% of the variance in SQoL, bringing the total variance explained to 82%.

This finding directly supports Don Nutbeam's theoretical model of health literacy. According to this model, functional health literacy (i.e., basic knowledge about sexual health) is a prerequisite, but to be more effective, it must be supplemented by interactive health literacy (communication skills) and critical health literacy (the ability to analyze and interpret social influences). Our findings suggest that SHL in our study sample is likely to be related to the level of functioning that is reduced and empowers women to translate their knowledge into self-care behaviors, which ultimately leads to improved SQoL (32).

The results of this study are consistent with the results of studies showing that

women with the highest level of sexual self-care have better SQoL. These results are consistent with the study of Sadeghi et al. In other words, sexual self-care not only affects physical health, but can also improve sexual experience (13). The results showed that SHL is significantly associated with self-care. Consistent with these results, in the study of Kohnsal et al., women with SHL are more likely to perform sexual self-care behaviors (22). In line with these results, Fathi et al. reported in their study the association of sexual self-care, education level, and employment status with SQoL (33). In a study by Rothschild et al. among rural Indian women, sexual self-care did not have a significant impact on SQoL (34). This contrast well illustrates the importance of context and explains why our study in Zahedan, despite cultural challenges, differs from Rothschild's study. The system of comprehensive health service centers in Iran, although incomplete, seems to provide a basic infrastructure for access to information and services that may not exist in rural India.

Based on these key findings of the present study, we recommend:

1. Targeted interventions for vulnerable groups, specifically women with lower education and housewives.
2. Skill-based counseling in health centers that focuses on practical communication and self-care abilities.
3. Using our hierarchical model (Demographics → SHL → Self-Care) as a framework for future interventional research.

One of the strengths of the present study is that, given the limitations in cultural and religious beliefs around sexual issues, which are often considered taboo in Muslim

countries, it is the first study in the city of Zahedan, which is located in a province (Sistan and Baluchestan) with its own unique cultural conditions.

The present study also had limitations, the most important of which was the participants' avoidance of giving clear answers to sexual questions. Relying on self-report measures may introduce bias, as participants may under- or over-report SHL and self-care practices due to social desirability. This study was conducted in the southeast of the country and among women referring to comprehensive health service centers and cannot be generalized to the entire country of Iran or the world, and more studies are needed in this field.

Conclusion

The results of this study indicate the importance of SHL and sexual self-care in improving the quality of sexual life of women of reproductive age in Zahedan city. These findings are important not only for scientific and research fields but also for policymakers and health planners.

Therefore, health programs should pay special attention to these issues and provide effective solutions to promote SHL and sexual self-care among this demographic. Given the positive effects of these factors on SQoL, it is necessary to design educational and counseling programs in a way that best meets the needs of women. These measures not only help improve women's sexual health but can also enhance the quality of their social and family lives.

It is recommended that health policymakers and planners pay special attention to promoting SHL and self-care behaviors among women. This can include

holding educational workshops, providing health counseling, and creating reliable information resources. Also, attention should be paid to creating safe spaces for discussing sexual issues so that women can talk about their issues without fear of judgment. This research focused only on women in Zahedan and the results may differ in other regions or communities. Therefore, it is suggested that future research be conducted using larger and more diverse samples to obtain more generalizable results.

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