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The Relationship between Sexual Self-concept and Sexual Function in Women of Reproductive Age Referred to Health Centers in Gorgan, North East of Iran

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ABSTRACT

Background & aim: The preservation and enhancement of the sexual function are the key elements of sexual health. One of the most important predictive factors of sexual behavior and function is sexual self-concept. This construct is defined as the individuals' understanding and evaluation of their own sexual desires and orientations. The aim of the present study was to determine the correlation between the dimensions of sexual self-concept and sexual function in the women of reproductive age.

Methods: This correlational descriptive study was conducted on 79 married women of reproductive age referred to the health centers in Gorgan, Iran. The sample size was determined using the sample size formula with a power of 90% and a confidence interval of 95%. The data collection tools included the Persian multidimensional sexual self-concept questionnaire included 23 items covering five dimensions (i.e., sexual anxiety, sexual fear, sexual self-efficacy, sexual self-esteem, and sexual satisfaction) and the Persian Female Sexual Function Index consisted of 19 items in six dimensions. Data analysis was performed using the Mann-Whitney U test and Spearman's rank correlation coefficient through the SPSS software (version 16).

Results: The Spearman correlation test revealed a significant direct correlation between the sexual self-esteem and the positive dimensions of sexual function, including desire ($P=0.002$, $r=0.3$), arousal ($P<0.0001$, $r=0.4$), lubrication ($P<0.0001$, $r=0.4$), orgasm ($P<0.0001$, $r=0.4$), and satisfaction ($P=0.002$, $r=0.3$). Likewise, the sexual self-concept had a significant direct correlation with the positive dimensions of sexual function ($P<0.0001$, $r=0.4$). Furthermore, this variable had a significant indirect correlation with the negative dimension of sexual function (i.e., pain) ($P<0.0001$, $r=-0.4$). There was a significant indirect correlation between the sexual anxiety and the positive dimensions of sexual function ($P<0.0001$, $r=-0.4$). Additionally, a direct correlation was observed between the sexual anxiety and sexual pain ($P<0.0001$, $r=0.4$).

Conclusion: The enhancement of the positive dimensions of the sexual self-concept (i.e., self-esteem and sexual satisfaction) and reduction of its negative dimensions (i.e., sexual anxiety) could strengthen the positive sexual function in the women of reproductive age. The findings of the present study can be useful in designing the sexual counseling methods, preserving or enhancing the sexual health and function, and consequently improving the stability of the family system.

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Introduction

According to the World Health Organization (WHO) (2010), sexual health is not just limited to the absence of sexually transmitted disease or dysfunction, but rather is defined as the state of physical, mental, emotional, psychological, and social health. Sexual health facilitates the preservation of sexual function and results in pleasurable and safe sexual experiences during sexual relations (1-3).

One of the key elements of sexual health is the promotion of sexual function and satisfaction with sexual experiences (4). The sexual function is a real physiological psychic experience (5). Although the lack of a positive sexual experience and satisfaction is not considered as a disease, it can be an indicative of the problems in sexual function (6). One of the most important predictive and guiding factors of sexual function and behavior is sexual self-concept. Sexual self-concept or sexual schema is a general understanding that each person has about the aspects of his/her sex (7). Sexual self-concept is the result of the past experiences, which is presented in the person's current experiences and is effective on his/her future sexual orientations and behaviors (8). Sexual self-concept, which differs across each individual (9), has both positive and negative aspects, affecting a person's sexual function or behavior. These aspects are measurable and can overcome each other (8). The women with positive sexual self-concept have higher motivation and excitement toward sexual issues and experience more romantic sexual relation-nships, compared to those with negative sexual self-concept (10). Moreover, they have more successful, enjoyable, and satisfactory sexual experiences and are more inclined to have sexual relations with their partners (8).

Furthermore, these women do not have a conservative or pessimistic view towards the sexual relations (10) and tend to experience diversity in sexual behavior. Additionally, they report more arousals and have more frequent sexual relations. A positive sexual self-concept can obviously affect the women's current sexual experiences and results in sustained intimacy, love, and commitment. Moreover, this construct is a predictor of the females' sexual function in the future (8).

Some of the positive aspects of sexual self-concept include sexual self-efficacy, sexual self-esteem, and sexual satisfaction. Sexual self-efficacy is referred to as feeling confident and having a sense of mastery over sexual experiences. When the individuals have a generally positive assessment of their healthy sexual behaviors and sexual excitement in most cases and assess their sexual experiences as satisfying and enjoyable, they have sexual self-esteem. The people who have lower sexual self-esteem are at higher risk of impaired sexual health than others. In contrast, the increase in sexual self-esteem leads to the enhancement of self-trust and the reduction of anxiety and negative attitudes towards the importance of sexual relations (11).

Sexual satisfaction denotes that a person often feels positive about sexual experiences (9, 12). The women with positive sexual self-concept have higher sexual satisfaction (8). Sexual satisfaction is an important aspect of sexual function indices, including desire, arousal, lubrication, orgasm, and pain (13), which are different in various people and diverse physical and mental conditions. Accordingly, sexual dysfunction is more prevalent in the patients with genital tract cancer, compared to that in the healthy ones (14). Moreover, sexual dysfunction has a direct relationship with the quality of life and common psychiatric diseases, such as depression (15, 16).

According to a study conducted by Chia-Chun et al., sexual self-concept as a moderator (mediator) plays a key role in a person's sexual relations and function. Accordingly, the women with genital tract cancer experience increased negative sexual self-concept. Therefore, in addition to the physical-focused treatments, the reinforcement of positive sexual self-concept also increases the sexual function in these women (14). Mueller et al. (2016) showed that understanding a person's sexual self-concept in the age group of 21-65 years plays a role in predicting interpersonal relations and is associated with better and more satisfactory sexual results in individuals (17).

Stanton et al. (2015) found that while the negative sexual self-concept undermined the sexual function, the positive sexual self-concept

strengthened the positive sexual function in women (18). In a study carried out by Hsiu-Yueh et al. (2015) on single female and male students within the age range of 16-20 years, it was reported that the people with higher positive sexual self-concept had safer sexual relations. In addition, sexual self-concept is the predictor of a person's sexual function; in other words, the reduced sexual self-concept leads to the avoidance of sexual function (19).

Muller (2016) demonstrated that the negative sexual self-concept could lead to a decrease in desire, arousal, and sexual satisfaction in a person (20). Regarding this, it is expected that the women with positive sexual self-concept experience better sexual function. Since a stable sexual relation is dependent on better sexual function, it is expected that the women with positive sexual self-concept have more stable sexual relations. On the other hand, the women with negative sexual self-concept are more afflicted with sexual dysfunction since the negative sexual self-concept adversely affects their sexual behavior and function (14).

The women of reproductive age are at priority for receiving the sexual health services due to their special social and biological status. The WHO has emphasized the need for a thorough understanding of the effects of sexual dysfunction on the lives of the people before suffering from such a dysfunction (21). However, no sufficient studies have been performed in Iran to investigate the preservation or enhancement of sexual function in relation to sexual self-concept among the healthy women of reproductive age. Additionally, there is no study examining the relationship between the status of sexual self-concept and sexual function in this population (22).

Therefore, considering the importance of sexual issues in the women of reproductive age and mutual influence of sexual self-concept and sexual function, it is essential to do further studies to add to the domain of investigations focusing on the women's sexual health. With this background in mind, the present study was conducted to determine the correlation between sexual self-concept and sexual function in the women of reproductive age. This study particularly focused on the role of positive sexual self-concept in strengthening the positive sexual function among the married reproductive-aged women, who referred to the health centers of Gorgan, Iran.

Materials and Methods

This correlational descriptive study was conducted on 79 married women within the age of 15-44 years, referring to the health centers of Gorgan in order to receive health services. The participants were selected out of all six active centers of Gorgan using the convenience sampling method. Following Rostamkhani et al. (23), the sample size was determined with a power of 90% and a confidence interval of 95% by using the following formula:

$$\frac{\left(Z_{1-\frac{\alpha}{2}} + Z_{1-\beta}\right)^2 (\delta_1{}^2 + \delta_2{}^2)}{(\mu_1 - \mu_2)^2}$$

The inclusion criteria were: 1) elementary or higher education, 2) lapse of six months from the last delivery, 3) no history of bad event during the past three months, 4) the absence of mental chronic illness, 5) no use of anti-anxiety, antidepressants, and sedatives drugs, 6) lack of vaginal infection, 7) lack of severe marital conflict, 8) non-addiction to opioid in the couple, and 9) parity of ≤ 5. On the other hand, the exclusion criteria included pregnancy and diagnosis or suspicion of acute/chronic sexual problems due to the physical or mental reasons during the study.

The data collection tools included the Persian multidimensional sexual self-concept questionnaire and the Persian Female Sexual Function Index (FSFI). The original version of the multidimensional sexual self-concept questionnaire includes 78 items targeting 18 dimensions. The validity and reliability of this questionnaire have been assessed by Ziaei et al. (2013), reporting a Cronbach's alpha of 0.88 and reliability index of > 0.70. However, in the present study, we only used 23 items of this questionnaire covering five dimensions of sexual self-concept, including sexual fear (items 5, 9, 13, 18, and 23), sexual anxiety (items 1, 6, 10, 14, and 19), sexual self-efficacy (items 2, 7, 15, and 20), sexual satisfaction (items 4, 8, 12, 17, and 22), and sexual self-esteem (items 3, 11, 16, and 21).

The final evaluation of this questionnaire is

based on the summing of scores in each dimension, not the total score. The negative dimensions of sexual self-concept include sexual anxiety and sexual fear, and its positive aspects are sexual self-efficacy, sexual self-esteem, and sexual satisfaction. This questionnaire is rated on a five-point Likert scale (i.e., never=0, a little=1, somewhat=2, high=3, and very high=4) (24). In the present study, the reliability of this instrument was estimated using the Cronbach's alpha coefficient (0.70).

The FSFI contains 19 items with five options. The validity and reliability of this index have been assessed in a study carried out by Mohammadi et al. (2008), reporting a Cronbach's alpha coefficient of ≥ 70. In this index, the sexual function is assessed in six dimensions, including desire (items 1 and 2), arousal (items 3-6), vaginal lubrication (items 7-10), orgasm (items 11-13), satisfaction (items 14-16), and pain (items 17-19). The minimum and maximum scores are 1 and 5 for desire as well as 0 and 5 for arousal, lubrication, orgasm, pain, and sexual satisfaction, where zero score indicates that the person has no sexual activity during the past four weeks. The total score of this index is obtained by summing up the scores of its six dimensions. Therefore, the higher score indicates better sexual function. In addition, based on the weight of the dimensions, the maximum score for each dimension was six, and the total score of the scale was 36 (25). This index had a Cronbach's alpha coefficient of 0.85.

The women participating in this study completed both questionnaires of sexual self-concept and sexual function. The data were analyzed using such statistical tests as Mann-Whitney U test and Spearman's rank correlation coefficient through the SPSS software (version 16). In order to adhere to the ethical considerations, the written informed consent was obtained from all the participants. In addition, the participants were informed that the participation was quite voluntarily and that they had the right to withdraw from the project any time they wished to. Additionally, they were informed about the confidentiality of their data.

Results

According to the results of the study, the mean age of the participants was 31.9±5.75 years. Regarding the level of education, 36.7% of the females had tertiary education. Furthermore, the majority of the participants (69.6%) were housekeeper. In terms of the mode of delivery, most of the subjects had undergone cesarean (64.6%). In addition, withdrawal was the most common contraceptive method employed by the participants (58.2%) (tables 1, 2, and 3).

The results showed that the maximum and minimum scores of sexual desire, arousal, lubrication, orgasm, sexual satisfaction, and pain among the healthy women were 10 and 3, 20 and 7, 20 and 7, 15 and 5, 15 and 7, as well as 14 and 3, respectively. The total score and mean of sexual function in healthy women are listed in Table 3. Regarding the sexual self-concept dimensions, the maximum and minimum scores in sexual self-efficacy, sexual self-esteem, sexual satisfaction, sexual anxiety, and sexual fear were 16 and 3, 16 and 0, 20 and 2, 17 and 0, as well as 12 and 0, respectively (Table 4).

The results of the Shapiro-Wilk test revealed the non-normality of the data (Table 1). Therefore, the statistical analysis was performed using non-parametric tests. The Spearman's

Table 1. Normality of the dimensions of sexual self-concept and sexual function

	Dimensions	statistics	df	sig
Sexual self-concept	Sexual anxiety	0.694	79	0.00
	Sexual self-efficacy	0.883	79	0.00
	Sexual self-esteem	0.949	79	0.01
	Sexual satisfaction	0.959	79	0.04
	Sexual fear	0.919	79	0.00
Sexual function	Desire	0.920	79	0.00
	Arousal	0.977	79	0.33
	Lubrication	0.922	79	0.01
	Orgasm	0.900	79	0.00
	Satisfaction	0.843	79	0.00
	Pain	0.910	79	0.00

Table 2. Frequency of qualitative variables

Qualitative variables	Characteristics	Frequency	Percentage
Job	Housekeeper	55	69.6
	Employee	22	27.8
	Working at home	2	2.5
Education status	Under diploma	15	19
	Diploma	29	36.7
	Above diploma	7	8.9
	Bachelor's	17	21.5
	Master's	9	11.4
	PhD	2	2.5
Mode of delivery	Vaginal	27	34.2
	Cesarean	51	64.6
	No delivery	1	1.3
Status of breastfeeding	No breastfeeding child	51	64.6
	Breastfeeding child within 6 months to 1 year of age	10	10.1
	Breastfeeding child within 1-2 years of age	20	25.3
Contraceptive method	Condom	8	10.1
	Withdrawal	46	58.2
	Intrauterine device	3	3.8
	Tubal ligation	4	5.1
	Vasectomy	2	2.5
	Oral pills	16	20.3

Table 3. Frequency of quantitative variables

Quantitative variables	Mean Maximum	SD Minimum
Age	31.94 43	5.75 19
Parity	1.51 3	0.61 0.00
Marriage duration	10.58 24	5.45 1.00

rank-order correlation showed that the sexual anxiety had a significant indirect correlation with the positive dimensions and total score of sexual function (i.e., desire, arousal, lubrication, and orgasm). Furthermore, there was a significant direct correlation between the sexual anxiety and pain.

Additionally, the sexual self-esteem and sexual satisfaction had a significant direct correlation with the positive dimensions and total score of the sexual function. These variables also had a significant indirect correlation with pain as a negative dimension of sexual function. However, the sexual self-efficacy and sexual fear showed no correlation with any of the dimensions of sexual function (Table 5).

According to the results of the Mann-Whitney U test, the women's age, duration of marriage, and parity had no statistically significant relationship with the mean total score of sexual function and sexual self-concept (Table 6). It seems that the above variables had no interventional effects on the correlation between the dimensions of sexual self-concept and sexual function.

Table 4. Mean scores of sexual function and sexual self-concept dimensions

	Dimensions	Mean	SD
Sexual function	Desire	6.27	1.34
	Arousal	13.91	2.81
	Lubrication	16.46	2.74
	Orgasm	12.08	2.17
	Satisfaction	12.77	2.26
	Pain	6.48	2.50
	Total score	68.00	8.80
Sexual self-concept	Sexual anxiety	2.76	4.03
	Sexual self-efficacy	12.41	3.39
	Sexual self-esteem	10.54	3.76
	Sexual satisfaction	14.51	4.26
	Sexual fear	4.49	3.10
	Total score	44.72	9.23

Table 5. Correlation between the dimensions of the participants' sexual self-concept and sexual function

Sexual self-concept	Sexual anxiety		Sexual self-efficacy		Sexual self-esteem		Sexual satisfaction		Sexual fear	
Sexual function	Correlation	P-value	Correlation	P-value	Correlation	P-value	Correlation	P-value	Correlation	P-value
Desire	-0.31	0.000	0.12	0.25	0.33	0.000	0.40	0.000	-0.02	0.86
Arousal	-0.33	0.000	0.21	0.05	0.41	0.000	0.48	0.000	0.01	0.92
Lubrication	-0.54	0.000	0.21	0.06	0.44	0.000	0.43	0.000	-0.04	0.67
Orgasm	-0.46	0.000	0.20	0.06	0.46	0.000	0.57	0.000	0.018	0.87
Satisfaction	-0.35	0.000	0.18	0.11	0.33	0.000	0.46	0.000	0.054	0.63
Pain	0.40	0.000	-0.21	0.05	-0.34	0.000	-0.39	0.000	0.16	0.13
Total score	-0.39	0.000	0.15	0.17	0.39	0.000	0.47	0.000	0.070	0.54

Table 6. Comparison of the total score of women's sexual self-concept and sexual function based on age, duration of marriage, and parity

Age groups	<30 years		>30 years		P-value
	Mean	SE	Mean	SE	
Total score of sexual self-concept	45.25	1.55	44.17	1.38	0.46
Total score of sexual function	69.82	1.25	66.125	1.49	0.12
Duration of marriage	**<10 years**		**>10 years**		**P-value**
	Mean	**SE**	**Mean**	**SE**	
Total score of sexual self-concept	45.43	1.58	44.02	1.35	0.42
Total score of sexual function	69.28	1.48	66.75	1.30	0.10
Parity	**≤1**		**≥2**		**P-value**
	Mean	**SE**	**Mean**	**SE**	
Total score of sexual self-concept	46.29	1.45	43.02	1.45	0.10
Total score of sexual function	76.24	1.83	71.55	1.87	0.05

Discussion

As the result of this study indicted, the positive dimensions of sexual self-concept (i.e., sexual self-esteem and sexual satisfaction) sowed a statistically significant and direct correlation between with all dimensions and the total score of sexual function. Furthermore, the sexual anxiety as a negative dimension of sexual self-concept was revealed to have a statistically significant indirect correlation with all dimensions and the total score of sexual function. Regarding this, it can be stated that strengthening two dimensions of sexual self-concept (i.e., sexual self-esteem and sexual satisfaction) and undermining sexual anxiety can lead to an improvement in the positive sexual function.

There are several studies supporting the results of this study. Stanton et al. (2015) showed that the positive sexual self-concept could strengthen the sexual function, while the negative sexual self-concept could undermine it (18). However, these researchers did not separately discuss the aspects of sexual self-concept and sexual function and reported the total results in this regard.

In a study conducted by Rosen et al. (2000), it was indicated that sexual satisfaction was different in healthy women and sexual satisfaction and sexual desire had a significant relationship (26). Rosen et al. only referred to sexual desire and sexual satisfaction; nonetheless, our study investigated the correlation of sexual satisfaction, sexual self-esteem, and sexual anxiety with desire and other positive dimensions of sexual function.

According to Rowland (2015), the positive dimensions of sexual self-concept, including sexual self-esteem, sexual satisfaction, and sexual self-efficacy, had a strong relationship with sexual function (27). However, in our study, no correlation was observed between the sexual self-efficacy and sexual function. Hensel et al. (2011) reported that sexual self-concept had an interaction effect on sexual function. They also demonstrated that the positive sexual self-concept played a role in strengthening a person's sexual behavior, which stems from his/her sexual self-concept (11).

According to the results of the present study, sexual anxiety had a significant indirect correlation

with all positive aspects of sexual function. Furthermore, this variable showed a significant direct correlation with sexual fear, which is in line with the results of some studies. In this regard, Rellini et al. (2011) concluded that sexual self-concept could be an indicator of the emotional negative damages in the past (20). In addition, Woodard indicated that sexual anxiety was indirectly correlated with desire (28); however, this author only presented the correlation between sexual desire and sexual anxiety.

Woertman (2012), reviewing the relationship between body image and sexual function, reported that the women's sexual function was strongly associated with their perceptions about their sexuality and how they understood it (29). Based on the findings of our study, the sexual function of healthy women was influenced by their sexual self-concept. Hucker et al. (2010) also showed the evident role of sexual self-concept in sexual health (30).

Based on the WHO definition, sexual function is a major part of women's sexual health. Accordingly, the promotion, strengthening, and preservation of sexual function are among the guidelines of the health centers providing sexual health services. Therefore, regarding the results of this study, it can be suggested that the clarity of sexual self-concept and the respective sexual counseling might be effective in the preservation and promotion of the sexual function in healthy women.

The present study was performed to investigate the role of the woman's age, duration of marriage, and parity in their sexual self-concept and sexual function. As the findings revealed, these variables were not effective on the correlation of sexual function and sexual self-concept. There are some studies investigating this issue. In this regard, Zhang et al. (2012) demonstrated no significant relationship between the women's age and sexual function (31). Nevertheless, Impett et al. (2006) revealed that the lower age of women was associated with higher sexual anxiety that could be due to the less experience of the partners at younger ages (32). Furthermore, Sweeney et al. (2015) stated that older women had more positive sexual self-concept than the younger ones (33).

However, given the small sample size in this study, it is suggested to conduct further studies with larger sample size to explore the role of such variables in sexual function and sexual self-concept in the future. The findings of the present study can be useful in designing the sexual counseling methods, preserving or enhancing the sexual health and function, and consequently improving the stability of the family system. The limitation of this study included small sample size, short time period, and limited geographical size.

Conclusion

As the findings of this study indicated, the positive dimensions of sexual self-concept (i.e., sexual self-esteem and sexual satisfaction) had a statistically significant and direct correlation with the positive aspects and total score of sexual function. Furthermore, the sexual anxiety as a negative dimension of sexual self-concept were revealed to indirectly correlate with the positive dimensions and total score of sexual function. Therefore, the women's positive sexual function could be strengthened through enhancing sexual self-esteem, sexual satisfaction, and undermining sexual anxiety. Regarding this, the three dimensions of sexual self-concept (i.e., sexual self-esteem, sexual satisfaction, and sexual anxiety) can be the predictors of sexual function status in women.

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Conflicts of Interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

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