Research Paper: Infertility, Attachment, Identity and Sexual Function of Females: A Correlational Study

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ABSTRACT

Background: Infertility is one of the major problems in reproductive health. This research was carried out to evaluate the relationship between infertility, attachment, identity, sexual function, and sexual self-esteem in married women.

Methods: In this causal-comparative and correlational study, 300 voluntary married women (fertile=150, infertile=150) in Mashhad were selected through random sampling in 2019. Collins and Read's Revised Adult Attachment Scale, Identity Style Inventory, Female Sexual Function Index, and Sexual Self-Esteem Index for Women-Short Form were used to gather data. Data were analyzed using a t-test, Pearson correlation coefficient, and regression analysis with SPSS-24 software($p<0.05$).

Results: There was a significant difference between sexual function and sexual self-esteem of the fertile and infertile women ($P=0.000$). Also, the results demonstrated that there was a significant relationship between a sexual function with attachment styles and identity status in women. There was a significant relationship between sexual self-esteem and the status of identity (all $p<0.05$).

Conclusion: It can be concluded that infertility can have a significant impact on sexual function. Moreover, there is a significant relationship between attachment and identity styles with sexual function and sexual self-esteem.

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Introduction

Infertility is a global phenomenon and is known as one of reproductive health's vital components[1]. Infertile couples are referred to as couples who have not succeeded in having children without the use of contraceptives for at least one year[2]. Infertility makes couples face problems with sexual desire and marital relationships, reduced partners' intimacy, feelings of guilt, hopelessness, and depression[3]. Infertility can also affect couples' marital relationships; so sexual function is one of the variables that is significant in this group of women[4]. Sexual dysfunction may also be considered an infertility partner. The diagnosis and treatment of infertile couples can even be affected [5].

The sexual effects of infertility are significant despite the nature of the relationships between couples undergoing treatment, and infertile women display more sexual dysfunction than the healthy population[6]. Based on the Mental Disorders Diagnostic and Statistical Manual-5th ed. (DSM-5)[7] Sexual dysfunction involves problems encountered by an adult or a couple at any point of normal sexual activity, including physical pleasure, desire, preference arousal or orgasm.. The prevalence of sexual dysfunction in married women was reported to be between 25% and 63% and in postmenopausal women between 68% and 86.5% in terms of research conditions [8]. How a person sees himself depends on his self-esteem in terms of sexual characteristics. People with low self-esteem suppress their ability to express sexual desires[9]. Moin, Duvdevany and Mazor[10] described sexual self-esteem as "one's self-esteem as a good or bad sexual partner." Bokaie et al. have shown that infertility and its treatments can affect sexual self-esteem, sexual behavior and relationships [11]. The prevalence of sexual dysfunction among infertile women in Iran was 64 percent in the study by Omani-Samani et al., [12]. Infertile couples undergoing infertility treatment report a poorer sexual function which indicates a causal relationship between infertility and sexual function; however, it has also indicated a reciprocal or bidirectional association [13].

The study of Zarbakhsh et al. [14] on 196 married women found a significant relationship between sexual self-esteem and marital satisfaction. Also, Sontag, Ni, Althof, and Rosen [15], in a study showed that a change in sexual self-confidence was significantly associated with changes in erectile function. In addition, research conducted by Ramezani et al.[16] showed that there is a significant relationship between self-esteem, sexual satisfaction, and sexual function; especially in women with low self-esteem, increased sexual dysfunction, and increased sexual dissatisfaction. The studies use the adult attachment theory[17] as a basis for exploring the dynamics of communication of effective and inefficient sexual interactions. The effect of different styles of attachment on types of sexual disorders and problems, including female sexual function[18], sexual desire[19], sexual discomfort, and vaginism[20] has been studied. Teimourpour et al.[19] found that women with a secure attachment style exhibited greater sexual desire with their sexual partner, but people with an insecure-avoidant attachment style experienced less sexual desire due to familiarity discomfort and inability to form close relationships with others and avoid sexual intercourse.

It seems that types of identity like styles of attachment, are the basis of human behavior. A major aspect of the evolution of identity is commitment which gives people a sense of purpose and orientation and that tests and controls actions and feedback [21]. In Williams and Esmail's study[22], the findings showed that there was a significant difference between types of identity styles in terms of convenience in developing sexual intercourse, sexual assertiveness, willingness to perform high-risk sexual behaviors and self-efficacy. Mahmoodi et al.[23] conducted a study in 52 patients with gender dysphoria disorder and 150 healthy individuals to compare attachment and identity styles. The results revealed that there is a significant difference between normal people and people with gender dysphoria in secure and ambivalent styles of attachment and normative identity.

Infertility is a multifactorial phenomenon and the analysis of the possible role of underlying factors such as attachment and identity arising from the growth period as well as the study of the relationship between infertility and sexual problems is of considerable significance to families and can enable clinicians to work with infertile individuals. While little research has been done on the relationship between attachment styles and types of identity and also between attachment styles and sexual issues, it seems that the role of these variables in fertility and infertility has not yet been studied. The present study can help to clarify the role in infertility of these underlying factors. Therefore, research about the causes and factors affecting infertility is always very important because infertility is a huge crisis for many people that can cause emotional pressure and a variety of negative psychological reactions, including depression, anxiety, worry, anger, disappointment, hopelessness, decreased self-esteem,

feelings of sexual inadequacy and sexual dysfunction. Considering the effective role of sexual issues in marital life and also the possible role of attachment and identity styles in sexual issues, the current study has been intended to evaluate the relationship between infertility, attachment styles, identity status, sexual self-esteem and sexual function among married women and assess the relationship between attachment and identity styles with sexual function and sexual self-esteem to identify the role of childhood parent experiences and relationships that shape the type of attachment and identity styles in sexual issues..

Methods

This study has used a research method that is causal-comparative and correlational. It has been approved by the code of ethics IR.HSU.REC.1398.018 at the Ethics Committee of Hakim Sabzevari University. Infertile women are selected by random sampling from Mashhad's infertility centers. Fertile women are chosen from Mashhad's health centers by through cluster random sampling. The sample included 300 (fertile=150, infertile=150) of these women. The inclusion criteria were: being female and married, living in Mashhad, having skills in reading and writing to the extent of understanding and answering the questionnaires, and willingness to participate in the research. Before running the scales, the participants were explained of the study's goals and clarified that all their data should remain confidential due to ethical considerations. Collins and Read's Revised Adult Attachment Scale (RAAS), Identity Style Inventory (ISI-6G), Female Sexual Function Index (FSFI) and Sexual Self-Esteem Index for Women-Short Form (SSEI-W-SF) were used to collect data,. Normality of data was analyzed using Kolmogorov-Smirnov test. For data analysis, t-test, Pearson correlation coefficient and regression analysis were used.

In order to observe ethical issues, after the participants' awareness of the goals and process of the research implementation, written consent was obtained from all participants and they were assured that the received information would remain completely confidential. All the procedures that have contributed to this study are based on ethical standards of the relevant national and institutional committees on human experimentation and also the 1975 Declaration of Helsinki and its last version.

Measures

Revised Adult Attachment Scale (RAAS)

This scale was developed by Collins and Read in 1990. It is a self-report tool about the way of forming attachment relationships with close people. This scale consists of 18 items scored on a 5-point Likert scale, ranging from zero (it is not my characteristic at all) to 4 (it is completely my characteristic). In factor analysis, three subscales have been determined, each having 6 items. These subscales include: 1) dependence: it measures the extent to which the subjects trust and rely on others (with regard to their availability whenever necessary); 2) closeness: it evaluates the level of the individual's comfort in the relationship with intimacy and emotional closeness and 3) anxiety: it measures the fear of having communication in relationships [24].

In the studies by Collins and Read, the scores of all subscales remained stable over a period of 2 months and even 8 months. They reported the amount of Cronbach's alpha in two samples of 100 and 173 students as follows: 0.81 and 0.82 for the subscale of closeness, 0.78 and 0.80 for the subscale of dependence and 0.85 and 0.83 for the subscale of anxiety [24]. Results of a two-time study of 100 Iranian girls and boys running the scales at a one-month interval revealed that the anxiety subscale (r=0.75) has the highest reliability and the dependence subscale (r=0.47) has the lowest reliability. Through measuring the alpha of Cronbach, the depression subscale (α=0.75) has the highest reliability and dependence (α=0.28) has the lowest reliability and closeness (α=0.52) is between these two [25].

Identity Style Inventory

A revision with a sixth-grade reading level (ISI-6G): This questionnaire was first developed by Berzonsky in 1989 and comprises 40 items in which 11 items are related to informational identity style, 10 items are associated with diffuse-avoidant identity style, 10 items are related to identity commitment and 9 items are about normative identity style. Responses of the participants are scored on a 5-point Likert scale, ranging from 1 (totally disagree) to 5 (totally agree) [26]. In Ghazanfari's study[27], 0.62, 0.52 and 0.67 alpha coefficients were calculated for the diffuse-avoidant scale, normative scale, and information scale respectively.

Female Sexual Function Index (FSFI)

Rosen et al. prepared this questionnaire to measure sexual dysfunction of women. It includes 19 questions in six areas: 1) sexual desire 2) sexual arousal 3) lubrication or moisture 4) orgasm 5) sexual satisfaction and 6) feeling pain in sexual relationships. The questions are rated based on the scores between 0 and 5 and by

adding the scores, the total score is obtained (higher scores represent more favorable sexual function). The reliability of this scale was reported by Rosen et al.[28] using Cronbach's alpha and by test-retest method between 0.79 and 0.86. In Iran, the overall reliability coefficients of 0.91 and 0.88 were obtained by Cronbach's alpha and test-retest method, respectively [29].

Sexual Self-Esteem Inventory for Women– Short Form (SSEI-W-SF)

This has 35 items and is used in women's sexual self-assessment to measure effective responses. The questions are scored on a 6 -point Likert scale, ranging from 1 (totally disagree) to 6 (totally agree). The inventory consists of five subscales indicating the areas of sexual self-esteem. The subscales consist of skill/experience, attractiveness, control, moral judgment and adaptiveness. In order to calculate the overall score, the scores of the five areas should be added together. Scores suggest a greater self-esteem of the sexual self-esteem. The alpha coefficient of Cronbach was reported to be 0.92 for the entire scale [30]. Farokhi and Shareh [31] carried out a study on a group of 510 Iranian married women and obtained the same 5 factors of the original version through factor analysis of SSEI-W-SF. Internal consistency coefficient of items for the whole sample was estimated to be 0.88 and correlation coefficients between each item and the scale overall score were reported to be between 0.54 and 0.72. The reliability coefficient of test-retest for the whole scale was estimated to be 0.91. Further, there was a significant positive relationship between SSEI-W-SF and Coppersmith's Self-Esteem Scale ($r = 0.31$, $P < 0.05$) and Female Sexual Function Index ($r = 0.31$, $p < 0.05$), which indicates the convergent validity of the desired scale. The divergent validity of this index was confirmed by the depression subscale of the DASS-21 scale ($r = 0.29$, $P < 0.05$) [30]. In this study, the overall score of this inventory was applied to assess sexual self-esteem.

Results

Participants ' mean age was 33.4 ± 4.2. They were mostly housewives (58.6%). The educational level was often the degree of the bachelor (56.3 %). Other participants had a diploma level (17.0%), a master's degree (16.3%), a certificate level (6.7%) and a Ph.D. level (3.7%). Participants ' average common life span was 72.94 months. Table (1) shows the frequency and frequency percentage of job and education level in fertile and infertile women. In terms of demographic variables, there was no significant difference between the two groups. On the basis of the Kolmogorov-Smirnov test normal data distribution was found. Table (2) shows the mean and standard deviation in fertile and infertile women in terms of attachment and identity styles, sexual function and sexual self-esteem. Table (2) also shows the results of the comparison between the two groups.

Table 1: Frequency and frequency percentage of job and education level in fertile and infertile women

Variable		Frequency			Frequency percentage		
		Fertile	Infertile	Total	Fertile	Infertile	Total
Job	Housewives/unemployed	87	89	176	58.0	59.3	58.6
	Employed	45	42	88	30.0	28.0	29.0
	Part time	18	19	36	12.0	12.6	12.3
Education	Under diploma	11	9	20	7.3	6.0	6.7
	Diploma	28	23	51	18.7	15.3	17.0
	Bachelor	83	86	169	55.3	57.3	56.3
	Master	23	26	49	15.3	17.3	16.3
	Ph.D.	5	6	11	3.3	4.0	3.7

The mean of secure attachment, informational identity and identity commitment in fertile women is higher than infertile women, as shown in Table (2). Furthermore, in infertile women, the mean of insecure-avoidant attachment, insecure ambivalent attachment, normative identity, and diffuse--avoidant identity is higher than fertile women. Furthermore, the above table shows that sexual function and self-esteem in fertile women have a higher mean compared to infertile women.

T-test results showed no significant difference in attachment (all subscales) and identity styles (all subscales) between fertile and infertile women. In the case of sexual function and sexual self-esteem, however, the t-test results showed a significant difference between

the two groups (P=0.000), so fertile women have a higher sexual function and higher sexual self-esteem compared to infertile women.

Table 3 shows the results of the relationship between attachment and types of identity with sexual function and sexual self-esteem.

Table 2: Mean, standard deviation and independent t-test results for attachment and identity styles, sexual function and sexual self-esteem in fertile and infertile women

Variable		Fertility power	Mean ± SD	t	P Value
Attachment styles	Secure attachment	Fertile	19.14±2.88	0.443	0.658
		Infertile	18.54±3.11		
	Insecure avoidant attachment	Fertile	17.96±3.08	-0.367	0.714
		Infertile	18.54±2.88		
	Insecure ambivalent attachment	Fertile	19.54±3.14	-0.172	0.863
		Infertile	20.13±2.88		
identity styles	Informational identity	Fertile	45.57±3.03	1.191	0.234
		Infertile	44.83±3.19		
	Normative identity	Fertile	31.88±2.17	-0.550	0.583
		Infertile	32.51±3.49		
	Diffuse-avoidant identity	Fertile	33.94±2.48	-1.295	0.196
		Infertile	34.56±2.76		
	Identity commitment	Fertile	37.01±3.16	2.936	0.161
		Infertile	36.41±3.29		
Sexual function		Fertile	49.00±2.28	14.978	0.000*
		Infertile	44.50±2.93		
Sexual self-esteem		Fertile	124.50±3.01	-0.954	0.000*
		Infertile	116.50±3.56		

*P<0.001

Table 3: Pearson correlation coefficients of the scores of attachment and identity styles with sexual function and sexual self-esteem in women

Variable			Sexual self-esteem	Sexual function
Attachment types	Secure attachment	Correlation value	0.14	0.22
		Significance level	0.03*	0.02*
	Insecure avoidant attachment	Correlation value	-0.17	-0.34
		Significance level	0.04*	0.03*
	Insecure ambivalent attachment	Correlation value	-0.23	-0.28
		Significance level	0.04*	0.01*
	Informational identity	Correlation value	0.16	0.18
		Significance level	0.01*	0.01*
Identity styles	Normative identity	Correlation value	-0.29	-0.23
		Significance level	0.01*	0.01*
	Diffuse-avoidant identity	Correlation value	-0.39	-0.29
		Significance level	0.01*	0.03*
	Identity commitment	Correlation value	0.19	0.14
		Significance level	0.01*	0.02*

*P<0.05

As Table (3), there was a significant relationship (P<0.05) between the scores of all types of attachment and identity with women's sexual function and sexual self-esteem. The relationship around secure attachment style and informational identity styles and commitment to identity is positive and negative with regard to oth-

er forms of attachment and identity. Tables (4) and (5) show the results of the regression analysis.

The numerical values associated with the Durbin Watson test (1.5) in Table (4) indicate the independence of errors, and the numerical values associated with the sensitivity test (1) and the variance inflation factor (1) showed no collinearity between the variables of the predictors. Results obtained from the step-by-step regression analysis in Table (4) indicate that female sexual function is clarified by insecure avoidant and insecure ambivalent attachment styles; that is, these two components of the attachment style are important predictors of female sexual function (P<0.01), that completely predict 15% of the variance in sexual function (R^2= 0.15) and their impact coefficients.and their impact coefficients (B) are 0.21 and 0.15, respectively. In addition, two components of diffuse-avoidant identity and normative identity are the strongest identity styles predicting female sexual function (P<0.01), which completely predict 10% of the variance in female sexual function (R^2=0.10) and their impact coefficients (B) are 0.16 and 0.10, respectively. The equations of regression derived from the results in Table (3) are as follows;

Female sexual function= 6.37 + (score of insecure-avoidant attachment style) × 0.21 + (score of insecure ambivalent attachment style) × 0.15

Female sexual function= 3.48 + (score of diffuse-avoidant identity style) × 0.16 + (score of normative identity style) × 0.10

Table 4: Coefficients in linear regressions predicting sexual function in women

Predictor variables of sexual function		B coefficient	Beta standard coefficient	t	Sig.	R	R^2	Durbin Watson test	Assumption of linearity	
									Tolerance	VIFa
Attachment styles	Step 1: insecure avoidant attachment	0.21	0.24	3.06	0.001	0.34	0.11	2.1	1.5	1
	Step 2: insecure ambivalent attachment	0.15	0.13	5.41	0.001	0.39	0.15	2.1	1.5	1
Identity styles	Step 1: diffuse-avoidant identity	0.16	0.25	4.05	0.001	0.29	0.08	4.6	1.5	1
	Step 2: normative identity	0.10	0.09	3.48	0.001	0.32	0.10	3.09	1.5	1

In Table (5), the numerical values associated with the Durbin Watson test (2.3) indicate the independence of errors, and the numerical values associated with the sensitivity test (1) and the variance inflation factor (1) showed that there is no collinearity between the predictor variables The findings of the regression analysis in Table (5) show that none of the styles of attachment can predict sexual self-esteem. Yet two components of diffuse-avoidant identity and commitment in identity styles are the strongest identity styles predicting female sexual self-esteem (P<0.01), which entirely predicts 18 % of the variance in sexual self-esteem (R2=0.18) with the impact coefficient (B) of 0.11. The equations of regression from the results in Table (5) are as follows;

Female sexual self-esteem= 4.82 + (score of identity commitment) × 0.11 + (score of diffuse-avoidant identity style) × 0.14

Table 5: Coefficients in Linear Regressions Predicting Sexual Self-esteem in women

Predictor variables of sexual self-esteem	B coefficient	Beta standard coefficient	t ratio	Significance level	R	R^2	Durbin Watson test	Assumption of linearity	
								Tolerance	VIF[a]
Step 1: diffuse-avoidant identity	0.14	0.29	5.36	0.001	0.39	0.15	2.3	1	1
Step 2: identity commitment	0.11	0.14	4.93	0.001	0.43	0.18	2.3	1	1

[a] Variance Inflation Factor

Discussion

The results showed a statistically significant difference between the fertile and infertile women's sexual function and sexual self-esteem. The results from this study are consistent with the findings from other studies[32] showing that sexual dysfunction in infertile individuals is more than in fertile people. In their study of sexu-

al dysfunction and infertility, Agustus et al. found that infertile women had sexual function problems [33]. In addition, Winkelman et al.'s research showed that infertile women who perceived that they had only female infertility and women under the age of 40 indicated greater sexual dysfunction[13]. Sexual dysfunction in one or both of the couples may have a causal role in infertility or may result from another psychological stress disorder. Because infertility can be due to sexual problems, favorable sex can also increase the likelihood of fertility. There was also no significant difference between identity styles and styles of attachment between the two groups as these factors were related to childhood experiences. Nonetheless, identity style (informational identity and identity commitment) and attachment style scores (secure attachment) are slightly higher in fertile women, which is likely to reflect the low infertility effects on attachment and identity styles. The research results also revealed that there was a significant positive relationship between sexual function secure attachment style and commitment to identity and style of informational identity with sexual function. The findings from this study are consistent with the results of other studies[17, 19] showing that people with secure attachment styles are more happy with their sexual relationships. . Teimourpour et al.[19] found that women with a secure attachment style expressed more sexual desire with their partner due to a greater sense of safety and psychological intimacy. Yet individuals with insecure-avoidant attachment style experience less sexual desire due to insecurity and inability to form close relationships with others and avoid sexual relationships. Individuals with a commitment to identity have a sense of purpose and orientation in assessing and controlling their behaviour.

The results of this study indicate that female sexual function can be explained by insecure-avoidant and insecure ambivalent attachment styles and normative and diffuse-avoidant styles of identity; that is, these styles of attachment and identity reversely and substantially predict women's sexual function. Individuals with a diffuse-avoidant identity are typically unable to develop emotional and intimate relationships and continue to do so[34]. Due to their dissatisfaction with intimacy and their general desire to remain self-reliant[35], avoidant individuals try to retain a sense of distance and lack of vulnerability in the sexual realm. In Ayenew's research[36] on 360 couples aged 20-60 years and older, the results showed that partners with avoidant and anxious styles were less satisfied with couple relationships and those with anxious attachment style were less satisfied. Maybe it can be explained that in terms of the effect of attachment on sexual function, the higher the amount of insecure attachment in women, the lower the capacity of these individuals to have desirable sexual function, and thus the level of satisfaction experienced in the relationship is reduced.

In the current study, female sexual self-esteem had a significant positive relationship with secure attachment styles and informational identity style and commitment to identity, and a negative relationship with insecure attachment styles and normative and diffuse-avoidant identity styles. There have been many studies on attachment literature that show that both types of insecure attachment styles, particularly anxious attachment, have a negative relationship with overall self-esteem[37]. The results of the study by Ayadi et al.[37] showed that self-esteem plays a mediating role in the relationship between insecure attachment and marital burnout, and insecure attachment can increase marital burnout by influencing self-esteem. Brassard et al.[18] conducted a study on the relationship between insecure attachment, sexual function, and satisfaction with respect to the role of three mediator variables of sexual self-esteem, sexual anxiety, and sexual assertiveness between 556 women between the ages of 18 and 30. The results showed that lower levels of sexual self-esteem and higher levels of sexual anxiety mediate the relationship between anxious attachment and lower sexual function and satisfaction. People with high avoidance reported low sexual self-esteem and sexual assertiveness as well as high sexual anxiety in the research conducted by Peloquin et al.[38]. The diffuse-avoidant type of identity tends to procrastinate and delay personal decisions and avoid problems of identity. Regression analysis results revealed the greater importance of diffuse-avoidant attachment style and identity commitment in predicting sexual self-esteem. Research shows that sexual self-esteem is one of the main predictors of sexual satisfaction [31,39].

According to Bowlby's theory, parental care influences the identity of the child and the internal active patterns formed by interaction with parents influence how information is interpreted and how individuals achieve adult sexual self-esteem [18]. The results of the study by Jennifer et al.[40] showed that there is a direct relationship among identity styles and anxious-avoidant insecure attachment styles and people with anxious-avoidant attachment styles relative to those with secure attachment styles are less interested in creating romantic relationships and in intimacy experiences. Therefore, these individuals tend to have dysfunction and low sexual self-esteem because of their low levels of intimacy and commitment and avoidance of dealing with problems so that they show greater fear and anx-

iety in developing sexual relationships and have less sexual and marital satisfaction[39].

Overall, findings from the current study are consistent with other studies in this field and highlight the significant difference between the fertile and infertile women's sexual function and sexual self-esteem. We also demonstrate the sense of attachment and identity styles and their role in creating sexual problems, and how women's attachment and identity styles can influence their interpersonal relationships, sexual function, and sexual self-esteem. Furthermore, because attachment and identity forms are the product of childhood and adolescent experiences, the role of childhood and adolescence in sexual problems can be inferred. Among the limitations of this study was the sampling of the cluster of fertile women that could restrict the generalization of the findings. In addition, correlation and causal-comparative approaches have been used in this study to analyze the relationships between variables and the causal relationship between variables can not be referred to accurately. With regard to these limitations, it is proposed that future research be performed on larger samples and other methods such as evaluation, interview and study patterns during the transition from childhood to adulthood in order to explain more clearly the results obtained from this research..

Conclusion

Current research reveals that it would be prudent to propose that fertility should be incorporated as an important factor in sexual relations. However, childhood experiences that result in different styles of attachment and identity can play crucial roles in adult sexual relationships.

Ethical Considerations

Compliance with ethical guidelines

The study protocol was reviewed and approved by the code of ethics IR.HSU.REC.1398.018 at the Ethics Committee of Hakim Sabzevari University.

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Authors' contributions

Study design: Hossein Shareh; Data collection and analysis: Hossein Shareh, Zahra Robati, Elham Haghi; Manuscript preparation: Zahra Robati, Elham Haghi.

Conflict of interest

The authors declared no conflict of interest.

Reference

[1] Mascarenhas MN, Flaxman SR, Boerma T, Vanderpoel S, Stevens GA. National, regional, and global trends in infertility prevalence since 1990: A systematic analysis of 277 health surveys. PLoS Med2012; 9(12): e1001356.

[2] Aghamohamadian-Sharbaf HR, Zarezadeh-Kheibari S, Horouf-Ghanad M, Hokm-Abadi ME. The relationship between perfectionism and sexual function infertile women. The Iranian Journal of Obstetrics, Gynecology and Infertility2014; 17(97): 9-17.

[3] Amanelahifard A, Nikbakht R, Hoseini MA, Ahmadi Fakhr S, Hoseini Z. The comparison of marital satisfaction and quality of life between fertile and infertile woman. Biannual Journal of Applied Counseling2012; 2(1): 75-88.

[4] Alizadeh A, Soleimani F, Barati H, Azizi M. The assessment of sexual function in female nurses and housewives. Journal of Military Caring Sciences2015; 2(2): 115-9.

[5] Tao P, Coates R, Maycock B. The impact of infertility on sexuality: A literature review. Australas Med J2011; 4(11): 620–7.

[6] Bayar U, Basaran M, Atasoy N, et al. Sexual dysfunction in infertile couples: Evaluation and treatment of infertility. J Pak Med Assoc2014; 64(2): 138-45.

[7] American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 5th ed. Arlington, VA: American Psychiatric publishing; 2013.

[8] Ambler DR, Bieber EJ, Diamond MP. Sexual function in elderly women: A review of current literature. Rev Obstet Gynecol2012; 5(1): 16–7.

[9] McKay M, Fanning P. Self-esteem: A proven program of cognitive techniques for assessing, improving, and maintaining your self-esteem. 4th ed. Oakland: New Harbinger publications; 2016.

[10] Moin V, Duvdevany I, Mazor D. Sexual identity, body image and life satisfaction among woman with and without physical disability. Sex Disabil2009; 27(2): 83-95.

[11] Bokaie M, Simbar M, Yassini Ardekani M, Alavi-Majd H. How infertility effects on sexual function of infertile couples. Scientific-Research Journal of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences2016; 25(91): 47-56.

[12] Omani-Samani R, Amini P, Navid B, Sepidarkish M, Ma-

roufizadeh S, Almasi-Hashiani A. Prevalence of sexual dysfunction among infertile women in Iran: A systematic review and meta-analysis. Int J Fertil Steril2019; 12(4): 278-83.

[13] Winkelman WD, Katz PP, Smith JF, Rowen TS. Infertility outcomes program project group. The sexual impact of infertility among women seeking fertility care. Sex Med2016; 4(3): e190–7.

[14] Zarbakhsh M, Taghavi Dinani P, Rahmani M. The relationship between sexual self-esteem and all its components with marital satisfaction in athletic women of Tehran. European Online Journal of Natural and Social Sciences2013; 2(2): 200–6.

[15] Sontag A, Ni X, Althof SE, Rosen RC. Relationship between erectile function and sexual self-confidence: A path analytic model in men being treated with tadalafil. Int J Impot Res2014; 26(1):7-12.

[16] Ramezani M, Dolatian M, Shams J, Alavi H. The relationship between self-esteem and sexual dysfunction and satisfaction in women. Arak Medical University Journal2012; 14(6): 57–65.

[17] Mikulincer M, Shaver PR. Attachment in adulthood: Structure, dynamics, and change. Seconded. New York: Guilford press; 2016.

[18] Brassard A, Dupuy E, Bergeron S, Shaver P. Attachment insecurities and women's sexual function and satisfaction: The mediating roles of sexual self-esteem, sexual anxiety, and sexual assertiveness. J Sex Res2015; 52(1): 110-9.

[19] Teimourpour N, Moshtagh-Bidokhti N, Pourshanbaz A. The relationship of attachment styles, marital satisfaction, and sex guilt with sexual desire in Iranian women. Practice in Clinical Psychology2013; 1(1):17-24.

[20] Özcan Ö, Cumurcu BE, Karlidağ R, Ünal S, Mutlu EA, Kartalci S. Attachment styles in women with vaginismus. Anadolu Psikiyatri Derg2015; 16(1): 37–43.

[21] Berzonsky MD. Identity formation: The role of identity processing style and cognitive processes. Pers Indiv Differ2008; 44(3): 645–55.

[22] Williams U, Esmail S. Association of different identity styles with sexual experience and decision-making among Canadian youth. Can J Hum Sex2014; 23(1): 49–58.

[23] Mahmoodi N, Naziri G, Zarenezhad MA. A comparison of attachment styles and identity styles in people with gender dysphoria disorder (operated and not operated) and normal people the southwest of Iran in 2014. Mediterranean Journal of Social Sciences2015; 6(6): 381-7.

[24] Collins NL, Read SJ. Adult attachment, working models, and relationship quality in dating couples. J Pers Soc Psychol1990; 58(4): 644-63.

[25] Pakdaman SH. The relationship between adolescent attachment and seeking community. [dissertation]. Faculty of Psychology and Educational Sciences. Tehran University 2001.

[26] Berzonsky MD. Identity style: conceptualization and measurement. J Adolesc Res1989; 4(3): 268-82.

[27] Ghazanfari A. Validation and standardization of identity style inventory (ISI-6G). Studies of Education and Psychology2005; 5(1): 81-94.

[28] Rosen R, Brown C, Heiman J, et al. The female sexual function index (FSFI): a multidimensional self-report instrument for the assessment of female sexual function. J Sex Marital Ther2000; 26(2): 191–208.

[29] Kraskian Mujembari A, Keybollahi T. Compile and standardization of Tehran married women sexual function questionnaire (Tehran-SFQ). Modern Care Journal2014; 11(1): 44-54.

[30] Schwarz JC. Reliability and validity of the sexual self-esteem inventory women-short form. Unpublished manuscript; 1996.

[31] Farokhi S, Shareh H. Psychometric properties of the Persian version of the sexual self-esteem index for woman-short form. Iranian Journal of Psychiatry and Clinical Psychology2014; 20(3): 252-63.

[32] Mendonça CR, Arruda JT, do Amaral WN. Sexual function in women undergoing assist reproduction. Rev Bras Ginecol Obstet2014; 36(11): 484-8.

[33] Agustus P, Munivenkatappa M, Prasad P. Sexual functioning, beliefs about sexual functioning and quality of life of women with infertility problems. J Hum Reprod Sci2017; 10(3): 213–20.

[34] McNamara CM, Madsen SD, Nelson LJ, Carroll JS, Badger S. Friendship and romantic relationship qualities in emerging adulthood: differential associations with identity development and adulthood criteria. J Adult Dev2009; 16(4): 209-22.

[35] Dewitte M. Different perspectives on the sex-attachment link: Towards an emotion-motivational account. J Sex Res2012; 49(2-3): 105–24.

[36] Ayenew E. The effect of adult attachment style on couple's relationship satisfaction. Int J Indian Psychol2016; 3(2): 50-60.

[37] Ayadi N, Rasouli M, Nazari AM. Investigating the mediating role of self-esteem in the relationship between insecure attachment styles and marital burnout in opiate addicts. Middle Eastern Journal of Disability Studies2017; (7): 58.

[38] Péloquin K, Bigras N, Brassard A, Godbout N. Perceiving that one's partner is supportive moderates the association between attachment avoidance and psychosexual variables. Can J Hum Sex2014; 23(3): 178-88.

[39] Anticevic V, Jokic-Begic N, Britvic D. Sexual self-concept, sexual satisfaction, and attachment among single and coupled individuals. Pers Relatsh2017; 24(4): 858–68.

[40] Kerpelman JL, Pittman JF, Cadely HSE, Tuggle FJ, Harrell-Levy MK, Adler-Baeder FM. Identity and intimacy during adolescence: Connections among identity styles, romantic attachment and identity commitment. J Adolesc2012; 35(6): 1427-39.