




Prediction of Female Sexual Dysfunction Based on Perceived Stress and Body Dysmorphic Disorder

Tahereh Haghtalab¹ , Mohammad Ahmadpanah², Farnaz Madanchi³

¹ Assistant Professor of Psychology, Department of Economics and Social Sciences, Bu-Ali Sina University, Hamadan, Iran

² Professor of Cognitive and Clinical Psychology, Department of Psychiatry, Research Center for Behavioral Disorders and Substances Abuse, Hamadan University of Medical Sciences, Hamadan, Iran

³ Master of Clinical Psychology, Hamedan Branch, Islamic Azad University, Hamedan, Iran

***Corresponding author:**

Mohammad Ahmadpanah,
Department of Psychiatry, Research
Center for Behavioral Disorders and
Substances Abuse, Hamadan
University of Medical Sciences,
Hamadan, Iran.
Email: m1_ahmad2000@yahoo.com

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Abstract

Background and Objective: The present research aimed to predict women's sexual dysfunction based on perceived stress and body dysmorphic disorder.

Materials and Methods: The research population consisted of all 6,698 married women students of Hamedan Azad University, Hamedan, Iran, in 2020, of which 106 individuals were selected as the research sample (this number increased to 120 as a precaution). Sexual Function Scale, Perceived Stress, and Assessment of Body Dysmorphic were considered to collect data. Pearson correlation coefficient and regression analysis were used to analyze the collected data.

Results: The results analysis showed that perceived stress is a significant and negative predictor of sexual dysfunction. Body dysmorphic variable could not be a significant predictor of sexual dysfunction. A negative and significant relationship was observed between sexual dysfunction and perceived stress.

Conclusions: The relationship direction indicated that the higher the score of women's sexual function, the lower their mean perceived stress. In addition, no significant relationship at the level of 0.01 was observed between perceived body dysfunction and sexual dysfunction, and between perceived stress and body dysmorphic disorder.

Keywords: Body dysmorphic, Perceived stress, Sexual dysfunction, Women

Background

Sexual function is a part of women's sexual health. In fact, one of the characteristics of a healthy mental function is to have a normal sexual status. The relationship between mood and sexual function has been considered since ancient times [1]. In this regard, the World Health Organization considers the sexual health as a kind of harmony among mind, feelings, and body of the individual that leads to the completion of personality, communication, and love [2].

Therefore, any disorder, which leads to inconsistency and consequently, dissatisfaction with sexual intercourse, can lead to sexual dysfunction [3]. On the one hand, sexual intercourse form some part of the principal perceptions of couples from each other that continue the marriage. Sexual disorders have many negative consequences for whatever cause. Studies show that sexual dysfunctions are closely related to

social problems, such as crimes, rapes, mental illness, and divorce [4].

Healthy intercourses are among the most important causes of felicity in matrimony, and if couples are not fully satisfied in sexual intercourses (complete orgasm), then their mental and psychological balance will be disturbed. Sexual dysfunction and sexual satisfaction, for whatever reason, will have different consequences and may lead to problems such as anger and violence. Sexual dysfunction also leads to separation, divorce, and depression [5].

Perceived stress is one of the prominent factors in women's sexual dysfunction. Stress is important because its perception can directly affect the physiological processes and behavioral patterns by creating negative emotional states. Thus, it can be the origin of physical illness [6] in a way that stressful life events increase the risk of developing

various diseases by being stressful or imposed on the individual's adaptive system [7]. Research on sexual dysfunction and perceived stress has shown that perceived stress plays no effective role in predicting women's sexual function [8]. There is a positive and significant relationship between stress and couples' marital satisfaction [9].

Body dysmorphic disorder is another primary factor in sexual dysfunction. Dysmorphic (deformity) disorder is a disorder that has an emotional basis and is very common in societies. Despite the high outbreak of these two disorders (i.e., sexual dysfunction and dysmorphic disorder) and their negative impact on societies, many of their aspects have remained unknown [10]. The coexistence of obsessive-compulsive disorder with Dysmorphic disorder worsens the prognosis [11]. Emotion is at the core of obsessive-compulsive disorders, such as body deformity (dismorphic) [12]. People with body deformities suffer from anxiety and worry due to their perceived defects in various areas of life. The influx of annoying or uninvited thoughts and images about physical appearance has reduced the quality of life and daily functioning of these people [13]. Affected individuals, like those with pervasive anxiety disorder, seem to selectively pay attention to some of the symptoms of the environment, which contain negative content [14]. People with body deformity show a deficiency in emotion regulation from an emotional viewpoint and lack the necessary skills to adapt and cope effectively with negative emotions [15]. According to the cognitive-behavioral pattern, information processing and paying attention to emotional stimuli in a biased way lead to the establishment of distorted and negative beliefs in the individual and create the primary core of the body deformity disorder and play a role in its continuation [13]. Studies on sexual dysfunction and physical deformity show that there is a significant relationship between the mental image of the body and sexual function and satisfaction [16], and there is a negative and significant relationship between the imagination of the body and sexual function [17]. Furthermore, studies found a significant relationship between body mass index and sexual dysfunction [18]. Physical satisfaction had also a significant relationship with sexual function [19]. There is also a direct and significant relationship between dissatisfaction with the body and sexual dysfunction and body malformation (deformity), [20] and the women, who feel good about their bodies, enjoy sexual function more than the ones who feel bad [21].

Objectives

This research aimed to predict female sexual dysfunction based on perceived stress and physical

deformity, as well as to determine the relationship between sexual dysfunction and perceived stress and body deformity and to determine the relationship between perceived stress and body deformity disorder.

Materials and Methods

The current research was applied in terms of purpose, cross-sectional in terms of time, quantitative in terms of data type, and correlational-descriptive in terms of research method. The present research population consisted of all 6,698 married female students of Hamedan Azad University, Hamedan, Iran, in 2020. A total of 106 individuals were selected as research sample according to the Fidell and Tabachnick formula (2007) and this number was cautiously increased to 140 as a precaution, which was reduced to 120 after removing outliers. The participants ranged in age from 20 to over 30 years, and their education varied from high school to M.A. degree, with various marriage durations, from less than one year to over five years. The participants completed the tools of sexual function, perceived stress, and assessment of body deformity. In addition, participation in this research was voluntary to comply with ethical and human considerations. Regression analysis and Pearson correlation coefficient were used to calculate descriptive indices, including frequency distribution, central mean index, and standard deviation dispersion index, and in data analysis after ensuring that statistical assumptions were observed. The SPSS software (version 25) was used for data analysis.

Sexual Function Questionnaire

This scale was developed by Rosen et al. (2000) and validated in a group of women with sexual stimulation disorder.

Scoring: Regarding the scoring method, the scores of each domain were obtained by adding up the scores of the items of each domain and multiplying it by the factor number according to the instruction of the questionnaire designer. Since the number of the domains' items in the questionnaire is not equal to each other, first the scores resulted from the items of each domain were added up together in order to balance the domains with each other and then multiplied by the number of factors. Adding the scores of the six domains together gives the total score of the scale. In this way, the scoring is, in a way, that the criterion (benchmark) score will be 36, and the zero score indicates that the person has not had sexual activity during the last 4 weeks.

Validity and reliability: For each of the 6 domains

and the entire scale, internal consistency has been calculated using Cronbach's alpha coefficient. The internal correlation of the total questions of the scale was 0.85 and indicates the good reliability of this tool [22]. Reliability in this research was calculated using Cronbach's alpha method and validity using content validity, and the obtained measurements were 0.91 and 0.98, respectively.

Perceived Stress Questionnaire

This questionnaire was developed in 1983 by Cohen et al., which is used to measure general perceived stress. The Thoughts and Feelings Questionnaire measures stressful events, control, coping, getting along with mental stress, and experienced stress. This scale investigates the risk factors in behavioral disorders and shows the stressful relationships process. Cronbach's alpha for this scale was obtained as 0.84, 0.85, and 0.86 in three studies [23]. Reliability in this research was calculated using Cronbach's alpha method and validity using content validity, and the obtained measurements were 0.82 and 0.95, respectively.

Body Dysmorphic Metacognitive Evaluation Questionnaire

This questionnaire was developed by Rabiei et al [24]. To evaluate the formal and content validity, three experts studied and investigated the questionnaire and based on their opinions, 20 studies that were considered not qualified to measure the metamorphosis of the body dysmorphic were removed. The questionnaire scoring was from one to four. Reliability in this research was calculated using Cronbach's alpha method and validity using content validity, and the obtained measurements were 0.88 and 0.96, respectively.

Results

After an investigation into the assumptions of parametric statistics, multiple regression was performed using the simultaneous method to analyze the research hypotheses.

Independence of errors test

This test is measured using Durbin-Watson's

Table 1. Correlation matrix of research variables (N=120)

Variable	1	2	3
1. PS ^a	-		
2. BDD ^a	0.16 ⁿ	-	
3. SDD ^a	-0.43 ^{**}	0.05 ⁿ	-

n: Not significant, **P<0.01 ^a PS: Perceived Stress- BDD: Body Dysmorphic Disorder- SDD: Sexual Dysfunction Disorder Table 1 shows the correlations between all the main variables. There were negative and significant correlations between perceived stress and sexual dysfunction disorder (P<0.01, r=-0.43). The correlations between perceived stress and body dysmorphic disorder (P>0.05, r=0.16) and correlations between sexual dysfunction disorder and body dysmorphic disorder (P>0.05, r=0.16) was not significant.

statistic. If the Durbin-Watson's statistic is between 1.5 and 2.5, it shows that this default has been met. In this research, Durbin-Watson's statistic was 1.98, which shows that this assumption has been met.

- *Normality of attribute distribution:* The distribution of variables scores in society should be normal. To investigate this assumption, the Kolmogorov Smirnov statistic was investigated using SPSS. The results of the normality test showed that the research variables had a normal distribution (P>0.05).

- *Multicollinearity:* Multicollinearity is one of the assumptions of regression analysis Tolerance and VIF index were implemented to investigate this basic assumption and the results showed that since the Tolerance value was not less than 0.1 in all variables and the VIF index was not more than 5; therefore, there was no multicollinearity. All assumptions were presented in Table 2.

The results of Table 3 displays that the perceived stress is a negative and significant predictor of sexual dysfunction. A negative beta sign indicates that the relationship between perceived stress and sexual dysfunction is inverse and negative. The body dysmorphic disorder could not be a significant predictor of sexual dysfunction.

Table 2. Assumptions of multiple regression test

Variable	Tolerance	VIF	KS ^a		DW ^b
			z	P	
PS	0.97	1.03	0.12	0.108	
BDD	0.97	1.03	0.05	0.200	1.98
SDD	-	-	0.09	0.141	

a: Kolmogorov Smirnov, b: Durbin-Watson

Table 3. Coefficient resulted from regression in simultaneous method of SDD by PS and BDD

Variables	Non-standardized coefficients		Standardized coefficients	T	P	Model Summary
	B	SD	Beta			
Constant	64.92	5.84	-	11.09	0.001	R= 0.43
PS	-0.90	-0.18	-0.43	-5.09	0.001	R ² = 0.18
BDD	0.02	0.07	0.02	0.23	0.821	F= 13.32 ^{**}

**P<0.01

Discussion

Based on the research findings, it is concluded that perceived stress and physical dysmorphic can predict sexual dysfunction in women. The findings indicated that perceived stress was a negative and significant predictor of sexual dysfunction. The body deformity variable could not be a significant predictor of sexual dysfunction. In other words, although stress can play an important role in female sexual dysfunction, the body dysmorphic disorder cannot play a role in sexual dysfunction disorder.

In explaining this finding, it can be said that high levels of stress are associated with an increased likelihood of negative interpretation of ambiguous stimuli, i.e., individuals are more likely to perceive ambiguous environmental stimuli as dangerous ones in stressful situations [25]. Stress, with the neurobiological changes that follow, weakens executive functions [26]. According to a model proposed by Karney [27], stressful events in life are the second factor affecting the stability of the marital relationship. According to cognitive processing theories, processing and environmental stimuli perception causes some changes in the person's analytical reasoning by reducing activity in the frontal areas of the brain, which impacts on executive control, and enhances emotional thinking and exploration process that triggers risky and instantaneous decision [28]. Stress can affect the cognitive function in two ways through the creation of negative emotions and feelings and distract and disrupt the individual's attention and perception, affect the information processing rate pattern and bias the selection and interpretation of information the result of which is mental engagement and perceived risk response [29]. Consistent with this finding, Merz [30] claimed that there is a significant relationship between internal stress and external stress and marital satisfaction, marital satisfaction is the result of desirable sexual function. According to a study conducted by Randall [31], stress negatively effects the quality and stability of the marital relationship through reducing the time the couples spend together and sharing experiences, weakening the feeling of being together, reducing positive interactions, increasing personality and psychological problems, increasing the risk of developing physical and psychological problems and decreasing self-disclosure in couples. When the perceived stress is high, couples perceive and evaluate the life events more negatively. When a woman suffers from stress during sex, her husband is also affected because the stress affects the couple's relationships reaction and creates hot exchanges between them that are caused by stress-induced anxiety due to the overflow of the effects

of stressors between the couples. Therefore, stress in couples is always considered a dual phenomenon that affects both spouses [32]. Clayton et al [33] stated that sexual problems occur at any stage of the sexual response period and reduce the quality of life of many women. They consider multiple psychological distress as a sufficient sign to diagnose sexual problems. If there is a problem in sexual intercourse and the couples do not address the problem, it will damage the couple's relationship and manifests itself through complaining to the spouse, expressing dissatisfaction with (objection to) spouse, long-term miffs (grumps), repression, threat to separation.

In addition, in explaining the finding that the body deformity (dysmorphic) could not be a significant predictor of sexual dysfunction, it can be said that people with body deformity with one or more defects in physical appearance are preoccupied. In some cases during the illness, the person performs repetitive behaviors such as checking in the mirror, excessive makeup, peeling skin, seeking confidence, or mental actions (e.g., comparing his/her own appearance to others in response to appearance concerns). Preoccupation causes significant clinical discomfort with impairment in social, occupational, and other important functions [34]. These individuals have also other psychological disorders. Depression is the most common disorder associated with physical deformity, which negatively impacts the quality of life [35]. Physical deformity creates fear, anxiety, depression, and shame for the person that are activated by negative thoughts and beliefs about appearance. In this research, this disorder could not predict the sexual function and may not have a direct role in sexual dysfunction.

The findings indicated that there was a significant negative relationship between sexual dysfunction and perceived stress. This finding is consistent with the ones of [8], [9] and [36]. It can be said that depression, stress, anxiety, anger, and fear can interfere with sexual function and prevent a desirable sexual activity. The presence of symptoms of psychological problems such as stress, mood fluctuations and daily worries can lead to the formation of sexual disorders, sexual dissatisfaction, and lack of enjoyable sexual experience for the affected. In stressful situations, the secretion of pituitary and hypothalamic hormones decreases and ultimately causes the reduction of the secretion of sexual hormones by affecting the sexual gonads. Therefore, stress is one of the causes of decreased libido. In this regard, McCabe (2007) found that anxiety plays a central role in the expansion or maintenance of sexual perversion among men and women.

Many studies have shown a relationship between undesirable sexual function, anxiety, depression, and stress [37] and [38]. Sexual dysfunction increases stress and will affect the couple's future relationships. Stress is typically a reciprocal phenomenon that affects both partners in a marital relationship. Finally, individuals who are under more stress and psychological pressure and deal with more stress in the mundane issues of life, their mental health will be affected consequently, and low mental health is associated with sexual dysfunction. Other findings indicated that there was no significant relationship between body dysmorphic disorder and sexual dysfunction. The result of this finding is consistent with the findings of [16], [17], [18], [19], [20], [21]. In explaining this finding, it can be concluded that the physical deformity plays no role in sexual intercourse. Body deformity disorder leads a person to feel ashamed, guilty, lonely, or isolated and the isolated person becomes depressed. Marriage circumstances may not be provided for depressed and isolated women because of isolation and consequent depression or they are reluctant to marry because of isolation and consequent depression. Numerous studies have proved the relationship between dissatisfaction and physical image, anxiety, stress, and obsessive-compulsive behaviors [39]. A study carried out by [40] also found that disturbed body image was associated with depression and anxiety. Obsessive, anxious, and depressed people do not marry for psychological reasons.

Another aim of this research was to determine the relationship between perceived stress and body dysmorphic disorder. The findings showed that there was no significant relationship between perceived stress and body dysmorphic disorder. In explaining this finding, it can be said that perceived stress is a psychological state or process during which a person perceives his/her physical and psychological well-being as threatening [41]. As mentioned before, deformity disorder causes stress in individuals; therefore, there must be a logical relationship between these two components. However, the reason behind the lack of relationship can be found in statistical population, statistical sample, number of items, carelessness in answering the items, shyness and embarrassment of answering correctly in the research sample in this research.

Among the limitations of this study is the difficulty in selecting the sample in cooperation with the research. The sample group of the current study was selected only from the Azad University of Hamadan. Therefore, any generalization of the results for other societies and groups should be performed with caution. It is suggested to

investigate this issue in the case of men and compare it with the results of women. Additionally, since optimal sexual performance can enhance people's health, it is recommended to teach sexual issues in the form of educational-therapeutic approaches.

Conclusions

Based on finding of this study, the relationship direction shows that the higher the score of women's sexual function, the lower their mean perceived stress. Moreover, there is no significant relationship between perceived body dysfunction and sexual dysfunction, as well as between perceived stress and body dysmorphic disorder.

Compliance with ethical guidelines

All ethical principles were considered in this study. The participants were informed about the research objectives and procedures. Moreover, written informed consent was obtained from them. They were also assured about the confidentiality of their information. They were allowed to leave the study whenever they desired, and the results of the research would be available to them upon request.

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Conflicts of Interest

The authors declare that they have no conflicts of interest.

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