# Body Image and Hypoactive Sexual Desire Disorder Relationship in a Representative Sample of Iranian Women

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# Abstract

**Objective:** Hypoactive Sexual Desire Disorder (HSDD) among women is a complicated one which is created by various factors playing roles. One of the potential concerns related to Body Image (BI) is lack of sexual appeal in women. Body Image is often described as what a person perceives of their body encompassing the biological, psychological and social factors. The present research pursues the goal to investigate the association between BI and HSDD among the reproductive age women in Iran.

**Materials and methods:** The current study is a cross-sectional (descriptive –analytical) research done on 1000 reproductive age included woman (15-49 years), performed by systematic random sampling method. The data collection tool includes the socio-demographics and the sexual desire scale in addition to the revised sexual distress scale to measure HSDD completed as self-report by the samples. Univariate and multivariate regression tests have been used in order to analyze the data.

**Results:** The mean  $\pm$  SD age of the women participating in the study was 32.09  $\pm$  7.33. Having adjusted the confounder variables' effect by logistic regression multivariate analysis; the odd ratio for HSDD has been analyzed. The findings suggested that the odd ratio for HSDD in those not satisfied or slightly feeling fulfilled with their BI has been OR: 4.2 (95% CI: 1.98-9.05) and OR: 3.9 (95% CI: 2.29-6.65), respectively, times more than the ones highly satisfied with their body image.

**Conclusion:** The present study results indicate that being dissatisfied with BI is a determinant factor of HSDD that is more probable in the people with negative image of their body structure and feeling lack of bodily appeal. Thus it is imperative to pay attention to this factor when analyzing HSDD.

Keywords: Body Image; Hypoactive Sexual Desire Disorder; Quality of Life

#### Introduction

The spiritual, emotional and behavioral interactions

**Correspondence:** Dr. Mina Malary Email: minamalary@yahoo.com between two individuals are known as Sexuality which is encircled by cultural values, taboos and social norms (1). According to the Diagnostic and Statistical Manual 4<sup>th</sup> Edition-Revised (DSM-IV-TR), hypoactive or low sexual desire leading to personal distress is the main symptom of Hypoactive Sexual Desire Disorder

(HSDD) (2). HSDD is a common sexual disorder among women, diverse studies reported various outbreaks and has been reported as 10-40% depending on the study method, the participants and the geographic region. HSDD outbreak also varies from 5 to 55% depending on the study sample population, the tool for its assessment and the applied diagnostic criteria (3, 4). The international studies indicated that out of 10 American ladies, 1 is suffering from HSDD (5). In Iranian studies, the self-reported sexual desire of women was comprehensively investigated. In a systematic review study conducted in Iran, the prevalence rate of sexual desire disorder was estimated 15.4 to 65.8% (6). This disorder exerts negative effect on women's quality of life such as femininity loss ,sexual failure, low self-esteem , incompetency and insecurity (7).

Different factors bring about variations and fluctuations in sexual desire, including the biological and psychosexual factors and related with the society (social) context (8). One of the psychological factors associated with HSDD can be worrying about BI. Body image or in other words, the mental self-image of body represents how individuals think, feel and behave about their physical attributes (9). It has been conceptualized as a complex and multidimensional construct that has the ability to influence quality of life, as well as affective, cognitive and behavioral functioning (10).

Cash proposed a useful multidimensional model for body image. He stated that body image includes three dimensions: evaluation, investment, and affect. Body image evaluation defines as feelings of satisfaction or dissatisfaction with different aspects of appearance. Body image investment refers to the importance one places on physical appearance and the effort one is willing to make to reach the desired physical appearance. lastly, body image affect refers to emotional experiences that derive body-related evaluations (11).

Body image is a sophisticated concept covering the biological, psychological, internal and external social factors. The feelings and perception an individual has of their body often are affected by sociocultural and intrapersonal perspectives (12). Poor perception of mental body image and feeling dissatisfied with it can result in physical, mental and psychological nuisances (13). Sexual desires and BI are related so that the physical appearance has been reported as a significant factor in woman's sexual desires (14). Body image evaluation can influence the interest in creating sexual relationship and also the individual's experiences during the sexual activity (15). Having a positive BI accompanies having pleasant sexual life. Feeling fulfilled with body and possessing a positive BI of oneself can bring about the highest self-confidence when creating sexual relationship with one's partner (16). Few international studies have dealt with body image and sexual desire association in order to reveal the negative impact of dissatisfaction and worry on woman's sexual desire (17, 18) and some also have found no meaningful relationship between BI and sexual desire (19). Based on the conducted research, although various studies have been done on female sexual dysfunction and in particular, HSDD among the Iranian community, no study has been performed on the association between BI satisfaction and HSDD in Iran. Thus the current research pursues the objective to analyze Iranian reproductive age women's **BI-HSDD** association.

### Materials and methods

This community based cross-sectional (descriptiveanalytical) study was carried out in order to outline BI- HSDD association among Iranian reproductive age woman. The study participants included the reproductive age woman aged 15-49 years with at least 6 months marriage life with their sexual partner and willing to take part in the research. Besides, pregnant women, first 6-month of breastfeeding and premature menopause excluded from the study. With accuracy 3%, confidence coefficient 95% and prevalence 35% of sexual desire disorder extracted from the research by Safarinejad et al. in 28 Iran wide cities (20), the sample size was calculated using the following formula.

$$n = \frac{z_{1-\frac{\alpha}{2}}^2 p(1-p)}{d^2}$$
  
n= 
$$\frac{(1.96)^2 \times (0.35) (1-0.35)}{(0.03)^2} = 971 \sim 1000$$

Sampling was done according to regular random method from all Sari based Health Centers, estimated as (1000 subjects) and the population of the women eligible for each center determined and then a list of the women eligible for each center's requirements prepared and coded and finally, using the obtained sampling interval (dividing the total number of the women qualified for Sari located centers' conditions over the total number of those eligible for each center), the samples of each center achieved by systematic random method .

The data collected by Sexual Interest and Desire Inventory-Female (SIDI-F) and the Female Sexual Distress Scale-Revised (FSDS-R) and Demographics Scale. Having a positive and favorite self-body image or not extracted from answering this question, "how much do you consider yourself attractive and in good shape?" The scoring scale of this variable ranges from "Not at all (0) to highly (4)". Regarding the literature analysis, the variables such as age, education level the number of pregnancies, marriage duration, and the presence of chronic diseases, smoking, and contraceptives use was identified as the factors related with HSDD. Therefore, the effect of these variables was considered as the confounder factors.

Sexual Interest and Desire Inventory-Female (SIDI-F) was developed by Clayton et al, including 13 items (relationship-sexual, receptivity, initiation, affection, desire-satisfaction, desire-frequency, desire-distress, thoughts-positive, erotica, arousalfrequency, arousal ease, arousal continuation, and orgasm) in addition to 5 other diagnostic items. These 5 diagnostic items were the sexual desire interfering conditions (such as fatigue, depression and pain) and were not added to scoring system. The possible score range for each person was 0-51, where the highest score signifies better sexual desire. So the score 33 and lower means HSDD and the higher scores stranded for lack of HSDD. This tool's reliability was excellent so that the internal consistency of the tool reported as 90% by  $\alpha$ -Cronbach. The tool's validity was investigated through observing and comparing with other valid sexual function tools and reported as valid (21, 22). This tool Persian version reliability and validity was studied by the present study research team in Iran. In the Persian version, the internal consistency had been obtained as 90% with  $\alpha$ -Cronbach. Evaluating the test-retest with two-week interval revealed the tool's appropriate stability and ICC for total score of SIDI-F was 95% with 14-day interval (23).

Since personal distress was taken as a key factor in diagnosing hypoactive sexual desire disorder, Female Sexual Distress Scale-Revised (FSDS-R) employed to analyze it. This scale was a self-report one including 13 items evaluating various dimensions of women's sexual desires induced distress. All items were scored using a 5- point Likert scale from 0 (Never) to 4 (Always), where the highest score indicated further sexual distress. The total score could be calculated via summing up all 13 items' scores. Score 11 and higher

meant having sexual distress and score lower than 11 represented lack of sexual distress. The original version of FSDS-R had yielded acceptable reliability using  $\alpha$ -Cronbach ranging from 87-93% and high reliability using test- retest (ICC = 74-86%). Finding the psychometric properties of the tool's Persian version was done by Azimi et al. Its internal consistency and reliability has been obtained as > 0.70 by test- retest. Therefore, FSDS-R Persian version was a reliable and valid tool for evaluating sexual disorder induced distress in Iranian women and could be applied for screening the patients with HSDD (24).

To analyze the data, SPSS.18 had been used. To describe the demographics, descriptive statistics and to adjust the effect of confounder variables, multivariate logistic regression test and (AOR, 95% CI) estimation had been employed. The significance level of P-value had been considered less than 0.05.

This project was approved by the Deputy of the Research Center of Mazandaran University of Medical Sciences, Sari, Iran (Ethical code: IR.MAZUMS.REC.94.1734). The written consent form was completed by all the participants as well.

# Results

One thousand (1000) women in reproductive age (mean  $\pm$  SD: 32.09  $\pm$  7.33) participated in this study. The demographic variables frequency distribution listed in table 1.

The results from univariate regression analysis were listed in table 2. In univariate analysis, the variables as age, the number of pregnancies, marriage duration, the presence of chronic diseases and BI exposed significant relationship with HSDD (P-value less than 0.05).

These have been taken as the confounders in multivariate analysis. After adjusting the effect of confounder variables with multivariate logistic regression analysis, the odd ratio for HSDD in the women not satisfied or slightly satisfied with their body image was 4.2 (95% CI: 1.98-9.05) and 3.9 (95% CI: 2.29-6.65) respectively. In addition, the odd ratio for HSDD in the women had 6-10 years or more than 10 years marriage was 2.4 (95% CI: 1.02-5.88) and 3.2 (95% CI: 1.25-8.20) respectively and was more than of those with marriage duration less than 2 years. Moreover, the odd ratio for HSDD in the women without chronic diseases was 0.38 times than those suffering from the chronic diseases. However, the variables of age and number of pregnancies showed no significant relationship with HSDD.

Table 1: Demographic characteristics of study subjects					
Variables	Categories	Number (%)	Mean ± SD		
Age group (year)	< 30	409 (40.9)	$32.09 \pm 7.33$		
	30-35	276 (27.6)			
	36-40	174 (17.4)			
	> 40	151 (15.1)			
Duration of	< 2	76 (7.6)	$10.19\pm7.34$		
marriage (year)	2-5	256 (25.6)			
	6-10	253 (25.3)			
	> 10	415 (41.5)			
Number of	0-1	579 (57.9)	$1.34 \pm 1.13$		
pregnancies	2-3	383 (38.3)			
	$4 \ge$	38 (3.8)			
Education	Primary- illiterate	25 (2.5)	-		
	secondary	391 (39.1)			
	university	584 (58.4)			
Satisfaction of	Much	48 (4.8)	-		
body image	Never	169 (16.9)			
	Low	538 (53.8)			
	Moderate	245 (24.5)			
Current smoker	Yes	29 (2.9)	-		
	No	971 (97.1)			
Contraceptive use	Yes	10.6 (5)	-		
	No	83.0 (39)			
Presence of	Yes	276 (27.6)	-		
chronic disease	No	724 (72.4)			

# Discussion

The current study results divulged that marriage duration, chronic diseases, negative BI and body appeal of oneself is associated with HSDD. There are plenty of studies confirming the present study derived results, where it has been depicted that sexual desire has been lower in the women with longer marriage period (25-29). These findings implied an inverse association between marriage duration and sexual desire. In the research on 356 women of 20-70 years, it has been found that the women having 20-29 years marriage duration have experienced higher levels of low sexual desire (30). In the study by Pfaus showed the women's sexual desire is inversely related with marriage duration after age control, satisfaction with marital relationship and sexual satisfaction (31). Kim suggested that the sexual desire scores of the women with HSDD with longer marriage duration is lower (32).

Marriage duration increase can come up with monotony of the couple's relationship, in turn resulting in HSDD that via training the couple how to create variety at the time and place of sexual relationship, it can be more enriched. A variety of studies illustrated chronic disease's effect on sexual desire (33, 34). In the research by Safarinejad and Ojomu, the sexual desire disorders have been significantly higher in the presence of chronic diseases (20, 35). Chronic diseases directly interfere in sexual function through changing the relationships, BI, fatigue, pain, deformity and dependency. The perceived BI and attraction by the individual changes by the disease development and reduces sexual desire (36).

Few studies have been carried out on the association between female body image and sexual desire. Despite this, the majority of the research cases are consistent with the present study results and have mentioned BI as a psychological factor negatively affecting sexual desire (34, 37). The concept of BI has been formed out of emotional and cognitive content about body and having positive BI will come up with pleasant sexual pleasure and body satisfaction results in woman's higher selfconfidence in Sexual interaction with her partner (16). According to this study, Maserejian's research revealed that dissatisfaction with physical appearance (self-image ) has been meaningfully related with hypoactive sexual desire (18). Seal also showed that higher self-confidence about BI and having positive feelings to self-image will significantly raise sexual desire (17). In addition, Kingsberg said that more than 70% of the personal and interpersonal difficulties attributed to low sexual desire result from the negative impacts of BI and self-confidence (38). The perceived attraction by the women in their middle age is associated with their sexual desire. Koch et al in their research illustrated the association between physical attraction and higher body self- confidence with sexual desire. Besides, in their research, when a woman considered herself less attractive than 10 years ago, reduced sexual desire has been reported more (39). Pujols stated that several dimensions of body image including worries about weight, physical conditions, sexual appeal, thoughts about one's body during a sexual activity are the predictors of sexual satisfaction (12).

In fact, self-awareness about BI and doubt about being sexually favorable declines self-confidence and sexual function in women (40). Achard denoted that the women with higher body satisfaction reported higher sexual activity and their sex start occurred with further probability (41).

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Table 2: Results of the Univariate and multivariate analysis of HSDD						
Variables	Categories	COR <sup>1</sup> (95% CI) <sup>3</sup>	AOR <sup>2</sup> (95% CI) <sup>3</sup>			
Age group (year)						
	< 30	1.0 (ref.)	1.0 (ref.)			
	30-35	1.34 (0.90-1.99)	0.85 (0.54-1.35)			
	36-40	1.73 (1.11-2.71)*	0.72 (0.40-1.28)			
	> 40	1.57 (1.10-2.76)*	0.59 (0.31 -1.12)			
Duration of marriage (year)	Primary-illiterate	1.0 (ref.)				
Duration of marriage (year)	Secondary	1.9 (0.64-5.74)				
	University	0.9 (0.30-2.74)				
Number of pregnancies						
	0-1	1.0(ref.)	1.0 (ref.)			
	2-3	1.65 (1.19-2.28)**	1.02 (0.68-1.53)			
	$\geq 4$	2.75 (1.35-5.57)**	1.64 (0.72-3.72)			
Satisfaction of body image						
	Much	1.0 (ref.)	1.0 (ref.)			
	Never	5.29 (2.54-10.99)**	4.23 (1.98-9.05)**			
	Low	4.78 (2.80-8.17)***	3.99 (2.29-6.95)***			
	Moderate	2.20 (1.36-3.56)***	2.03 (1.24-3.31)**			
Long-term Outcome						
	Yes	1.0 (ref.)				
	No	0.53 (0.23-1.18)				
Contraceptive use						
	Yes	1.0 (ref.)				
	No	2.09 (0.88-4.97)				
Presence of chronic disease						
	Yes	1.0 (ref.)	1.0 (ref.)			
	No	0.50 (0.36-0.70) ***	0.62 (0.43-0.88)**			
<sup>1</sup> COR: Crude Odds Ratio, <sup>2</sup> AOR: Adjusted Odds Ratio, <sup>3</sup> 95% (CI) Confidence Intervals, *<0.05, **<0.01, ***<0.001						

Table 2: Results of th	e Univariate and	multivariate ana	lysis of HSDD

That can show higher sexual desire to create sexual activity .In addition, in the study by Hoyt & Kogan, it has been depicted that the women dissatisfied with their sexual life reported higher BI dissatisfaction than those feeling contented (42). Also several studies have reported the relationship between more negative BI and avoiding sexual relationship creation (43). That seems lower levels of sexual self-confidence, sexual satisfaction and sexual desire indirectly mediate in creating this relationship (16).Yet, the research by Carvalho in Portugal displayed that sexual desire is predicted by dysfunctional beliefs regarding sexual issues (disengagement failure, passivity, lack of erotic thoughts ) but not by the beliefs about body image (19). Maybe this difference is due to the difference in the tool applied to evaluate HSDD. Since in this research, women's sexual function index for sexual desire analysis differs from the one used in the present study. Though, there is still limited empirical data about the BI-Sexual Desire association, the overall results demonstrate that having positive experiences of BI accompanies with higher sexual desire.

# Conclusion

Body image as a psychological factor influences sexual desire, so that dissatisfaction and worry about body image bring about hypoactive sexual desire disorder. Thus this factor can be one of the predictors of sexual desire and paying attention to it when acquiring sexual history can be useful for providing optimal sexual counseling.

#### **Conflict of Interests**

Authors have no conflict of interests.

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