

The Relationship Between Self-Esteem and Sexual Self-Concept in People With Physical-Motor Disabilities

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Background: Self-esteem is the value that the individuals give themselves, and sexual self-concept is also a part of individuality or sexual-self. Impairment or disability exists not only in the physical body of disabled people but also in their attitudes. Negative attitudes affect the mental health of disabled people, causing them to have lower self-esteem.

Objectives: This study aimed to examine the relationship between self-esteem and sexual self-concept in people with physical-motor disabilities.

Patients and Methods: This cross-sectional study was conducted on 200 random samples with physical-motor disabilities covered by Isfahan Welfare Organization in 2013. Data collection instruments were the Persian Eysenck self-esteem questionnaire, and five domains (sexual anxiety, sexual self-efficacy, sexual self-esteem, sexual fear and sexual depression) of the Persian multidimensional sexual self-concept questionnaire. Because of incomplete filling of the questionnaires, the data of 183 people were analyzed by the SPSS 16.0 software. Data were analyzed using the t-test, Man-Whitney and Kruskal-Wallis tests and Spearman correlation coefficient.

Results: The mean age was 36.88 ± 8.94 years for women and 37.80 ± 10.13 for men. The mean scores of self-esteem among women and men were 15.80 ± 3.08 and 16.2 ± 2.90 , respectively and there was no statistically significance difference. Comparison of the mean scores of sexual anxiety, sexual self-efficacy, sexual self-esteem, sexual fear and sexual depression among men and women showed that women scored higher than men in all domains. This difference was statistically significant in other domains except the sexual self-esteem (14.92 ± 3.61 vs. 13.56 ± 4.52) ($P < 0.05$). The Kruskal-Wallis test showed that except for sexual anxiety and sexual self-esteem, there was a statistical difference between other domains of people's sexual self-concept and degree of disability ($P < 0.05$). Moreover, Spearman coefficient showed that there was only a correlation between men's sexual anxiety, sexual self-esteem and sexual self-efficacy with their self-esteem. This correlation was positive in sexual anxiety and negative in two other domains.

Conclusions: Lack of difference in self-esteem of disabled people in different degrees of disability and in both men and women suggests that disabled people should not be presumed to have low self-esteem, and their different aspects of life should be attended to, just like others. Furthermore, studies should be designed and implemented based on psychological, social and environmental factors that can help disabled people to promote their positive sexual self-concept through marriage, and reduce their negative self-concept.

Keywords: Self-Esteem; Physically Disabled; Sexual Self-Concept

1. Background

According to the World Health Organization (WHO), disability is a set of physical or mental impairments that deprive the individual of independent personal and social life (1). Almost everyone experiences temporary or permanent disability at some point of life (2). According to the 2011 census, there are 1,100,000 disabled people in Iran (3). In the comprehensive guide to disability right laws, a disabled person is someone who, according to medical commission of the Welfare Organization, suffers physical, mental, psychological or combined damage with ongoing and substantial impairment in his general health and function, and reduction in his social and economic independence. Based on this guide, disabilities are categorized into 6 major and common groups including physical-motor, mental, visual, and hearing, speech and psychiatry (1). People with physical disabilities often

are less educated and are socially isolated; the negative attitudes and psychosocial barriers affect their mental health (4). Some studies have shown the reduced self-esteem and self-confidence and impaired interpersonal and social communication in disabled people (5). Self-esteem is a set of feedbacks and beliefs that people express in their relations with the outside world indicating how much people consider themselves powerful, valuable and important. Self-esteem is the fourth need in Maslow's hierarchy of needs (6) and is a personal experience whose manifestation can be observed in meaningful words and behaviors (7-9).

Heydari et al. showed the difference of self-esteem between disabled and normal students. They also found that life satisfaction is lower in physically disabled people than in normal people (10). Sexual issues are one of

the important needs in a person that affect his life satisfaction. Sexual health is a physical, emotional, mental and social health related to sexual issues. In other words, sexual health is not only the lack of sexually transmitted infections and sexual dysfunction; it also encompasses emotions, behavior and control of thoughts (11). The individual's perception of his sexual desires and sexual orientation is sexual self-concept (12). In general, self-concept is a multidimensional factor evaluating the individual's psychological function and includes his thoughts and perception of himself (13). Sexual self-concept is derived from past experiences and appears in the current experiences, affects the process of social information related to sexuality and directs sexual behaviors (14). Thus, self-esteem and self-efficacy may affect general health and sexual self-concept may influence sexual behavior health. Given that promotion of health and quality of life for disabled people is one of the WHO's objectives, in this paper addressing an objective of a larger study (thesis of MD degree with No. 393014), the relationship between self-esteem and sexual self-concept was examined in people with physical-motor disabilities.

2. Objectives

This study aimed to determine the relationship between self-esteem and sexual self-concept status in people with physical-motor disabilities in terms of gender and the degree of disability.

3. Patients and Methods

3.1. Study Population and Sampling

This cross-sectional study was conducted on 200 people with physical-motor disabilities (congenital or non-congenital) covered by Isfahan Welfare Organization in 2013. This organization is a governmental state, which support (social, economic and educational support and so on) people with disabilities (all type of disabilities, mental and physical). Isfahan is located on the main north-south and east-west routes crossing Iran, and was once one of the largest cities in the world. Inclusion criteria included age over 18 years old, consent to participate, not having mental retardation, absence of severe anxiety and mood disorders, severe personality disorders and psychotic disorders that prevent answering properly. Unwillingness to participate was the exclusion criteria. After obtaining permission, the file numbers of people with physical-motor disabilities, those who covered by Isfahan Welfare Organization and had inclusion criteria, were written on one list. After name selection using a table of random numbers, the necessary explanations were transmitted to the subjects on the phone, and upon agreement, they were invited to room participate in this study. Two of the researchers met them at their home. Upon agreement, they were asked to read, sign on an informed consent sheet; then they received the questionnaires and filled

them out. In this study, according to the International Classification of Functioning, Disability and Health (ICF), which is also applied in Welfare Organization, disability of people was classified into four categories of mild, moderate, severe and very severe (15).

3.2. Sample Size

Among study population, 200 subjects were selected using the simple random sampling. The sample size, considering confidence level = 95%, test power = 80%, SD = 5 (16), was considered 200 people (100 women and 100 men).

$$n = \frac{(Z_{1-\frac{\alpha}{2}} + Z_{1-\beta})^2 (S)^2}{d^2} = \frac{(1.96 + 0.84)^2 (5)^2}{1^2} = 196 \approx 200$$

3.3. Instruments

Data were collected using the Eysenck self-esteem questionnaire (in Persian), and five domains (sexual anxiety, sexual self-efficacy, sexual self-esteem, sexual fear and sexual depression) of the Persian multidimensional sexual self-concept questionnaire. The Eysenck (17) inventory has 30 two-option items scored 0 and 1, and measures people's self-esteem. The inventory's total scores show the self-esteem score. The score of ≤ 15 show low self-esteem and scores > 15 show high self-esteem. The validity and reliability of the Persian version were confirmed in different studies with Cronbach's alpha 0.88 and 0.87 (17-20).

The multidimensional sexual self-concept questionnaire is an objective self-report instrument that measures different domains of psychology in the sexual field and its validity and reliability were determined by Ziaei et al. (16) In this questionnaire, the answers are scored based on Likert scale from zero (it is not true about me at all) to 4 (it is completely true about me). In their study, Cronbach's alpha was reported 0.88 for the reliability of sexual anxiety (items 1, 6, 11, 16, 20), 0.85 for sexual self-efficacy (items 2, 7, 12, 17, 21), 0.72 for sexual self-esteem (items 3, 8, 13, 18), 0.76 for sexual fear (4, 9, 14, 17, 21) and 0.76 for sexual depression (5, 10, 15, 20).

3.4. Ethical Considerations

Ethical issues including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, and redundancy were completely observed and considered by the authors. The Ethics Committee of Isfahan University of Medical Sciences approved the thesis (code No. 393014; date: 2013).

3.5. Statistical Analysis

From a total of 200 questionnaires, only 183 were fully completed, so all statistical analyses and findings are related to 183 subjects. Lack of normality which test by Kolmogorov-Smirnov, conducted the authors to use nonpara-

metric tests to analyze the data (21). To compare self-esteem and dimensions of sexual self-concept in both sexes, the Mann-Whitney test was used and the degree of disability was also analyzed by the Kruskal-Wallis test. The relationship between self-esteem and dimensions of sexual self-concept scores was determined by the Spearman correlation coefficient. All tests were performed in SPSS version 16.

4. Results

The results showed that 51.4% of the subjects were women and 48.6% were men. The mean age of the subjects was 32.37 ± 9.52 years (36.88 ± 8.94 for women and 37.80 ± 10.13 for men). Most subjects were single (51.4%), high school graduates (37.7%), unemployed (50.3%) and classified as severe in terms of degree of disability (47.5%) (Table 1). The mean score of self-esteem in women was 15.80 ± 3.08 and in men 16.02 ± 2.90 , with no significant difference. Also, there was no significant difference between individuals' self-esteem and their degree of disability (Table 2).

Comparison of mean scores of sexual self-concept; sexual anxiety, sexual self-efficacy, sexual self-esteem, sexual fear and sexual depression in women and men revealed that women scored higher than men in all domains. In all domains except for sexual self-esteem (14.92 ± 3.61 vs. 13.56 ± 4.52) a significant difference was seen between both sexes ($P < 0.05$) (Table 2). Results showed a positive correlation between positive dimensions of sexual self-concept and also a positive correlation between negative dimensions of sexual self-concept. However, there was a negative correlation between positive and negative sexual self-concept in both women and men (Table 3).

Data analysis showed that except for sexual anxiety and sexual self-esteem, there was a significant difference between the obtained mean scores and degree of disability in other domains ($P < 0.05$), so that the highest mean score of sexual self-efficacy related to the mild degree of disability and the lowest to disability with severe degree (16.35 ± 3.31 vs. 11.10 ± 4.30) ($P = 0.047$), the highest mean score of sexual fear related to the moderate degree of disability and the lowest to disability with severe degree (7.39 ± 5.03 vs. 5.18 ± 4.02) ($P = 0.034$) and the highest mean score of sexual depression related to very severe degree of disability and the lowest to disability with severe degree (4.10 ± 2.02 vs. 2.45 ± 3.21) ($P = 0.032$) (Table 4).

Findings showed a positive correlation between subjects' self-esteem and sexual anxiety and a negative correlation between their self-esteem and sexual self-efficacy and sexual self-esteem. There was no significant relationship between self-esteem and sexual fear and sexual depression (Table 5). Correlation analysis of self-esteem and sexual self-concept according to gender was significant only for men (Table 6). Finally, findings showed a negative correlation between self-esteem and sexual self-efficacy ($R = -0.33$, $P = 0.002$) and sexual self-esteem ($R = -0.26$, $P = 0.01$) in severe degree of disability, and only between self-esteem and sexual self-efficacy ($r = -0.76$, $P = 0.01$) in the very severe degree of disability (Table 7).

Table 1. Demographic Criteria and Disability Degree^a

Variables	Value	Total
Gender		183 (100)
Female	94 (51.4)	
Male	89 (48.6)	
Marital status		
Single		94 (51.4)
Female	60 (63.8)	
Male	34 (38.2)	
Married		89 (48.6)
Female	34 (36.2)	
Male	55 (61.8)	
Job		
Unemployed		92 (50.3)
Female	45 (47.9)	
Male	47 (52.8)	
Clerk		25 (13.7)
Female	18 (19.1)	
Male	7 (7.9)	
Teacher		1 (0.5)
Female	1 (1.1)	
Male	0	
Other		60 (32.8)
Female	26 (27.7)	
Male	34 (38.2)	
Education level		
Illiterate		7 (3.8)
Female	0	
Male	7 (7.9)	
Read and write		22 (12)
Female	13 (13.8)	
Male	9 (10.1)	
Elementary		40 (21.9)
Female	15 (16)	
Male	25 (28.1)	
Diploma		69 (37.7)
Female	34 (36.2)	
Male	35 (39.3)	
Student at the university		8 (4.4)
Female	5 (5.3)	
Male	3 (3.4)	
Bachelor		35 (19.1)
Female	26 (27.7)	
Male	9 (10.1)	
Upper grade		1 (0.5)
Female	1 (1.1)	
Male	0	
Disability degree		
Mild		14 (7.7)
Female	12 (12.8)	
Male	2 (2.2)	
Moderate		68 (37.2)
Female	35 (37.2)	
Male	33 (37.1)	
Severe		87 (47.5)
Female	39 (41.5)	
Male	48 (53.9)	
Very severe		10 (5.5)
Female	5 (5.3)	
Male	5 (5.6)	

^a Data are presented as No. (%).

Table 2. Mean of Self-esteem and the Dimensions of Sexual Self-concept Between Both Sexes^a

Variables	Women	Men	Total	Z	P Value
Self-esteem	15.80 ± 3.08	16.02 ± 2.90	15.91 ± 2.98	-0.89	0.37
Dimensions of Sexual self-concept					
Sexual anxiety	12.14 ± 3.05	11.21 ± 4	11.69 ± 3.56	-2.39	0.016
Sexual self-efficacy	5.78 ± 4.44	4.46 ± 4.85	5.14 ± 4.67	-1.99	0.046
Sexual self-esteem	14.92 ± 3.61	13.56 ± 4.52	14.26 ± 4.12	-1.30	0.191
Sexual fear	7.26 ± 4.30	5.28 ± 4.65	6.30 ± 4.57	-2.95	0.003
Sexual depression	3.43 ± 3.40	2.47 ± 2.90	2.96 ± 3.20	-2.11	0.035

^a Data are presented as Mean ± SD.**Table 3.** Correlation Among the Dimensions of Sexual Self-Concept

	Sexual Anxiety		Sexual Self-Efficacy		Sexual Self-Esteem		Sexual Fear		Sexual Depression	
	R	P Value	R	P Value	R	P Value	R	P Value	R	P Value
Sexual anxiety										
Women	1		-0.24 ^a	0.019	-0.35 ^b	0.000	0.59 ^b	0.000	0.73 ^b	0.000
Men	1		-0.49 ^b	0.000	-0.49 ^b	0.000	0.70 ^b	0.000	0.68 ^b	0.000
Sexual self-efficacy										
Women			1		0.77 ^b	0.000	-0.38 ^b	0.000	-0.25 ^a	0.015
Men			1		0.76 ^b	0.000	-0.50 ^b	0.000	-0.62 ^b	0.000
Sexual self-esteem										
Women					1		-0.39 ^b	0.000	-0.21 ^a	0.036
Men					1		-0.56 ^b	0.000	-0.64 ^b	0.000
Sexual fear										
Women							1		0.54 ^b	0.000
Men							1		0.63 ^b	0.000
Sexual depression										
Women									1	
Men									1	

^a Correlation is significant at the 0.05 level (2-tailed).^b Correlation is significant at the 0.01 level (2-tailed).**Table 4.** Mean of Self-Esteem and Dimensions of Sexual Self-Concept Regarding the Degrees of Disability^a

Variables	Mild	Moderate	Severe	Very Severe	P Value
Self-esteem	14.92 ± 1.94	15.61 ± 2.77	16.29 ± 3.16	16.30 ± 3.88	0.322
Dimensions of sexual self-concept					
Sexual anxiety	6.21 ± 5.27	5.01 ± 4.84	4.96 ± 4.47	4.50 ± 4.74	0.833
Sexual self-efficacy	16.35 ± 3.31	14.16 ± 4.15	14.40 ± 4.09	11.10 ± 4.30	0.047
Sexual self-esteem	12.21 ± 3.26	11.22 ± 3.89	12.14 ± 3.10	10.83 ± 5.29	0.528
Sexual fear	7.14 ± 4.65	7.39 ± 5.03	5.18 ± 4.02	5.80 ± 4.23	0.034
Sexual depression	4.07 ± 3.12	3.07 ± 3.28	2.45 ± 3.21	4.10 ± 2.02	0.032

^a Data are presented as mean ± SD.

Table 5. Correlation Between Self-Esteem and Dimensions of Sexual Self-Concept

Variable	Self-Esteem	
	R	P Value
Sexual anxiety	0.21 ^a	0.004
Sexual self-efficacy	-0.28 ^a	0.000
Sexual self-esteem	-0.23 ^a	0.001
Sexual fear	0.018	0.808
Sexual depression	0.051	0.493

^a Correlation is significant at the 0.01 level (2-tailed).

Table 6. Correlation between Self-Esteem and Dimensions of Sexual Self-Concept in Both Sexes

	Self-Esteem	
	R	P Value
Sexual anxiety		
Women	0.19	0.54
Men	0.23 ^a	0.028
Sexual self-efficacy		
Women	-0.02	0.801
Men	-0.50	0.000 ^b
Sexual self-esteem		
Women	-0.13	0.205
Men	-0.32	0.002 ^b
Sexual fear		
Women	-0.05	0.621
Men	0.12	0.256
Sexual depression		
Women	-0.03	0.774
Men	0.16	

^a Correlation is significant at the 0.05 level (2-tailed).

^b Correlation is significant at the 0.01 level (2-tailed).

Table 7. Correlation Between Self-Esteem and Dimensions of Sexual Self-Concept Regarding the Different Degrees of Disability

Variable	Self-Esteem	
	R	P Value
Sexual self-efficacy		
Mild	0.49	-0.06
Moderate	-0.12	0.33
Severe	-0.33	0.002 ^a
Very severe	-0.76	0.01 ^b
Sexual self-esteem		
Mild	0.01	-0.94
Moderate	0.30	0.09
Severe	-0.26	0.01 ^b
Very severe	-0.23	0.52

^a Correlation is significant at the 0.01 level (2-tailed).

^b Correlation is significant at the 0.05 level (2-tailed).

5. Discussion

The results of this study showed the status of self-esteem and sexual self-concept in people with physical-motor disabilities and the relationship between them showed high self-esteem (more than fifteen) in people with physical-motor disabilities. High self-esteem in girls with physical-motor disabilities before intervention was reported in Mojarrad Kahani and Ghanavi's study (5) and Moradi's study (22). In this study, not only self-esteem was not significantly different between men and women, but also their self-esteem had no statistically significant difference in terms of their degree of disability. The lack of gender difference in self-esteem score was also reported in King et al.'s study (23). They also showed the lack of difference between self-esteem scores in disabled and healthy individuals and based on their results suggested that clinical care approach not to be determined assuming that disabled people have lower self-esteem (23).

Investigating the dimensions of sexual self-concept showed that there is no statistical difference in sexual self-esteem scores between both sexes, in other domains (sexual anxiety, sexual self-efficacy, sexual fear and sexual depression) women scored significantly higher than men. Moreover, except for sexual anxiety and sexual self-esteem, there was a statistically significant difference between the mean scores in other domains in the degree of different disabilities, so that the highest mean score of sexual self-efficacy was related to mild degree of disability and the lowest to very severe degree of disability, the highest mean score of sexual fear was related to moderate degree of disability and the lowest to severe disability and the highest mean score of sexual depression was related to very severe degree of disability and the lowest to severe disability. McCabe and Taleporos showed that disability affects sexual self-esteem and sexual depression in women and men, so that a higher sexual depression and lower sexual self-esteem were observed in very severe disabilities. In their study, women reported higher sexual self-esteem and lower sexual depression (24). The difference observed in women and men's self-esteem and sexual depression may be attributed to cultural differences between societies under study, also mentioned in Ziaei et al. (16).

There was a positive relationship between subjects' self-esteem and their sexual anxiety and a negative relationship between their self-esteem and sexual self-efficacy and sexual self-esteem. There was no significant relationship between their self-esteem and sexual fear and sexual depression. Relationships were observed in men and no relationships in women. The positive relationship between self-esteem and sexual anxiety based on the definition of sexual self-concept according to Isfahan youth in Ziaei et al. is justified in that ambiguity of sexual experience, unawareness of genital organ of the opposite sex, lack of knowledge about how to make sexual relation, unknown sexual future in married life and the possibility

of hurting the sexual partner are known as sexual anxiety. Therefore, in a society like Iran that sexual education has been neglected and young people have no access to it in the course of their development, it has led young people who value themselves and enjoy high self-esteem to gain sexual experience just in the form of marriage. Even in the course of marriage, due to the taboo nature of sexual issues, they are still in uncertainty and ignorance and consult less about their sexual problems and start and continue their married lives with sexual anxiety that stems from lack of knowledge of their sexual lives (16, 25). Spencer et al. showed that girls with high self-esteem remain virgin more than low self-esteem (26).

To justify other relationships observed, we can note the inverse relationship between sexual anxiety as a negative sexual self-concept and sexual self-efficacy and sexual self-esteem as a positive self-concept observed in some studies (14, 16, 25, 27-30). Although, there is no obvious, how a reduction or increase of negative sexual self-concept such as sexual anxiety may be influenced by a simultaneous rise or decrease in positive sexual self-concept and how long this effect may last (12, 28, 29).

No study was found for the inverse relationship between self-esteem and positive sexual self-concept; therefore, there is a need for further studies. Despite of Nosek et al. observed that self-esteem was ominously related to health promoting behaviors (31), Baumeister et al. (32) suggested that self-esteem should be used in a restricted way as one of a group of factors to promote positive outcomes. Nurturing self-esteem will not by itself make people feel better, obey the rules, stay out of misfortune, and respect the rights of others, amongst many other appropriate outcomes. However, it seems to be applicable to enhance people's self-esteem as an incentive for moral behavior and worthy accomplishments (32). Therefore, as Goodson mentioned and our results, questions are remained whether the stress on self-esteem by public health professionals is safe (33).

Lack of self-esteem differences in the disabled people with different degrees of disability and both men and women suggest that disabled people should not be considered as people with low self-esteem. However, to confirm this suggestion, comparative and more extensive studies are needed to investigate disabled and healthy people and also disabled people not covered by the welfare organizations. There is also a need for studies to address psychological, social and environmental factors so that can help disabled people to promote their positive sexual self-concept in the context of marriage and decrease their negative self-concept.

Some of the limitations of this study include the homogeneity of the samples, their being limited to a city, the absence of a comparison group without disability in similar conditions. Furthermore, because the authors did not find a study with similar variables and tools inside and outside Iran, the comparison and justification of the results did not cover a wide range of reasons. One

of the strengths of this study is giving importance to the sexual issues of disabled people as one of their essential requirements for a successful sexual life to maintain and continue their married life after marriage.

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Authors' Contributions

Study concept and design: Tayebe Ziaei, Mehrdad Salehi, Hooman Kharaz Tavakol and Maede Shabani. Analysis and interpretation of data: Tayebe Ziaei, Mehrdad Salehi. Drafting of the manuscript: Tayebe Ziaei. Critical revision of the manuscript for important intellectual content: Tayebe Ziaei, Mehrdad Salehi, Hooman Kharaz Tavakol and Maede Shabani. Statistical analysis: Tayebe ziaei. Acquisition of data: Hooman Kharaz Tavakol and Maede Shabani. Administrative, technical, and material support: Tayebe Ziaei, Mehrdad Salehi, Hooman Kharaz Tavakol and Maede Shabani. Study supervision: Mehrdad Salehi.

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