

# The relationship between body image and self-esteem among multiple sclerosis patients

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## Abstract

Multiple sclerosis is a progressive degenerative disease which often occurs at early stages of life and causes variation in body esteem and self-esteem among MS patients. Accordingly, the present study was conducted to investigate the relationship between body esteem and self-esteem among patients with multiple sclerosis. This study contained 395 patients suffering from multiple sclerosis in, who were gradually selected by convenience sampling method. Data were collected through Taleporos body esteem questionnaire and Rosenberg self-esteem questionnaire. Data were analyzed using independent t-test, ANOVA, Pearson's correlation coefficient, Spearman's correlation coefficient, Chi-square coefficient, and post hoc Scheffe test. The results showed that most patients had moderate self-esteem and only a small percentage (16.2%) had high self-esteem. According to the score for body esteem (3.25) and overall mean score of body esteem (42.25), patients with MS had favorable level of body esteem. Spearman's correlation coefficient demonstrated a significantly direct, linear relationship between body esteem and self-esteem. Since coping occurs more rapidly in chronic diseases including multiple sclerosis in the presence of factors such as positive body esteem and increased self-esteem, this is the responsibility of nurses to increase patients' coping by identifying the related factors and thus be effective in improving their self-efficacy and self-care.

**Keywords:** Self-esteem, Multiple Sclerosis, Patients

## Introduction

Today, chronic diseases are considered among major challenges in developed countries. These diseases are among the factors that affect patients' personal, physical, and social aspects and negatively influence their quality of life. Among the chronic diseases that not only create physical disabilities but also cause debilitating psychological complications is multiple sclerosis (MS) [1]. MS is a progressive degenerative disease identified by some symptoms including inflammation, destruction of

myelin, and scar [2]. Its symptoms appear in the second to the fourth decade of life when people are at the height of their personal and occupational responsibilities; i.e. at the time of encountering different situations such as forming a family, deciding about occupation, and providing financial security [3]. Chronic diseases including MS affect patients' body esteem; patients demand an ideal body, while the disease affects the attractiveness of their appearance and body. MS can also affect their emotional stability,

result in undesirable emotional stresses, and negatively change their body esteem. Body esteem in patients with physical disabilities has been regarded as a psychological perception which can be interpreted by factors of social disability. Negative social attitudes and their internalization by the person affect body esteem of disabled people [4]. Each person is a combination of physiologic psychological-social dimensions and variations in one aspect may affect other aspects. The main reason of rising this topic is to explain people's belief pattern in terms of body and evaluation of their emotional and self-confidence because body esteem has a considerable impact on their mentality, psychological states, behaviors, values, and goals. Understanding value of body from a physical perspective has a great effect on the concept of self and self-esteem [5]. Body esteem can be a basis for the formation of identity in human. Accordingly, body esteem is a major factor in the concept of self and the opposite this entry also is true. That is concept of self and self-esteem affect people's body esteem. Positive body esteem makes the person feel comfortable with his/her body because quality of esteem covers the attitude and general satisfaction of the person about his/her body and its other parts. Intrinsic values of people correspond the thoughts and beliefs developed by their daily perception and beliefs [6]. Body esteem is closely related to self-esteem because the quality of body esteem also covers the person's personal judgment about his/her worthiness or worthlessness. Since body of a person is considered a part of his/her existence, body esteem is related to his/her sense of usefulness and self-esteem [7]. Regarding the importance of self-esteem, it must be noted that our life satisfaction strongly depends on our feelings about our self-value. Self-esteem is considered among major psychological needs and the most important components in mental health; if it is satisfied on a realistic and reasonable basis which is required for normal evolution, it will result in positive and efficient outcomes including sense of ability, value, power, efficiency, and sufficiency in life [8].

Self-esteem is related to people's self-value because it is their self-evaluation gained by paying attention to themselves and indicates approval and non-approval attitude and their degrees of belief in their capabilities, importance, success, and efficiency. In simple words, self-esteem can be defined as a person's perception about him/herself [9]. Analysis of body esteem must be accompanied with analysis of self-esteem because people's body shape and their motion reflexes relating to psychological and somatic states are closely related to self-esteem. Therefore, body esteem is related to their opinion about themselves so that negative feelings about body are related to feeling of insecurity about self; in other words, it is related to decreased self-esteem [10]. According to Pearlman, reaction to somatic changes which influence somatic and sexual attraction affects self-esteem [11]. Maturity, somatic nature, identity formation, self-esteem, and potential success in various life domains are among the factors which would be affected by body esteem. Hence, since people with disabilities like MS more consider their body parts to be useless than healthy people, their perceptions about most of the above items would be negative [12]. Other studies have also been performed on this issue. In a study by Rashid et al., a significant relationship was observed between body esteem and self-esteem [13]. Also, Taleporos and McCabe confirmed this point in patients with chronic diseases in Australia [12]. Connors and Casey also claimed that human body and his physical attraction can establish a basis for identity formation in humans [14]. Delgard et al. also believed that maturity, somatic nature, identity formation, self-esteem, and potential success in various life aspects are the factors affected by body esteem [15]. MS is most prevalent during youth. Since adult population of today's society is considered its main and efficient cores, MS has concerned most people [3]. Considering the fact that patients with chronic diseases like MS experience psychological disorders including body esteem and self-

esteem's the disease progresses and since these two psychological aspects are closely related to each other [16], the authors decided to study the relationship between body esteem and self-esteem in patients with MS visiting Tehran MS Society so that, by understanding these factors, better psychiatric nursing care plan can be arranged for these patients.

## Method

This study was conducted on patients with MS visiting Tehran MS Society in 2012. By considering confidence interval of 95%, test power of 80%, and  $r=0.2$ , the sample size was estimated as 395 patients. In this study, subjects were selected using convenience sampling method after receiving the official permit. Accordingly, the patients who were present in the MS society were selected for the study if they met the inclusion criteria and were willing to participate. The researcher visited the society during the weekdays and presented the questionnaire after introducing himself, defining objectives of the study, briefing the required details on how to fill out the questionnaire, and receiving the written consent from the patients. Research population had a medical file in MS society, confirmed diagnosis by the society's doctor, no other psychosomatic diseases, at least 6 months passed the diagnosis, the ability to respond to questions, and were not in the progressive stage of the disease. Research instruments included two body esteem and self-esteem questionnaires. Body esteem questionnaire was a part of Physical Disability Body Esteem Questionnaire (PDBEQ) developed by Taleporos with 13 general items of 5-point Likert scale ranging from 1 to 5 (Totally agree (1), agree (2), no idea (3), disagree (4), and totally disagree (5)). This tool investigates four subscales of body attraction (questions 1 and 9), sense of comfort with body (questions 3, 7, and 13), comparison of one's body with a healthy one (questions 2, 5, 6, 10, and 12), and sexual attraction (questions 4, 8, and 11). Mean and standard deviation of each question were separately calculated for all the questions

of each sub-scale. Desirable body esteem was determined based on the body esteem score for each question, total body esteem score, and total mean of body esteem. Total score of the mean scores was within 13-65; the closer the total score to 65, the higher the body esteem and also the closer the total score to 13, the lower the body esteem would be. In this questionnaire, question 3 has a reverse score. It must be noted that questions have been designed so that single people can also respond. Since PDBEQ has not been used in Iran thus far, before investigating its content validity, permission of applying the tool was received from the designers. First, this tool was translated into Persian and then it was back-translated. English version of the tool was separately translated into Persian by two English language experts. Then, ambiguous and obscure parts of the Persian version were modified to be clear for the patients. In next step, the tool was translated into English by two English language experts who were not aware of the study. Then, English versions of the tool were compared with each other by an expert. It must be mentioned that the above-mentioned tool along with demographic information was given to 10 faculty members of School of Nursing and Midwifery, Tehran University of Medical Sciences. After applying the comments of the faculty members, the tools were given to the supervising and advising professors for the final review. Validity of the tool used in this study was assessed by content validity. First, by studying the available literature, corresponding with international authors, and using comments of supervisor and advisor professors and statistics advisor, the primary tool was prepared. Then, the tool was given to 10 faculty members of School of Nursing and Midwifery, Tehran University of Medical Sciences, for the review. After modifying the tool based on the comments, it was returned to the supervisor and advisor professors for the final review. In the current study, Cronbach's alpha was used to validate the questionnaires. By visiting the study setting,

the questionnaires were given to 30 patients with MS. After collecting the questionnaires, Cronbach's alpha was determined for all of the tools. This coefficient was obtained as 0.8 for PDREQ. It must be mentioned that the patients identified in this stage were removed from the final study and their data were not included in the final analysis. Rosenberg self-esteem questionnaire has 10 five-point Likert style items and scoring ranges from 0 to 3 as follows: totally disagree (0), disagree (1), agree (2), and totally agree (3) with the highest score of 30. Scores higher than 25 demonstrates higher self-esteem, scores within 15-25 show average self-esteem, and scores less than 15 indicate low self-esteem. This questionnaire is a standard questionnaire whose validity was determined based on the designers' opinion and various preliminary studies. According to the results of studies by Greenberger, Chen, Dmitrieva, and Farruggia, internal correlation of this scale was 0.84. Pullman and Allik reported its internal correlation as 0.91 [17]. Also, Mohammadi and Sajadinejad reported its Cronbach's alpha and split-half coefficient on students of Shiraz University as 0.69 and 0.68, respectively. They also found re-test coefficients as 0.77, 0.73, and 0.78, all of which were significant [18]. Reliability coefficient of this questionnaire was reported as 0.91 in the present study. After selecting the qualified subjects, receiving their written consent, and assuring them about the confidentiality of the questionnaire, the researcher personally cited the questions for the samples and recorded their answers in the questionnaire without any distortion. Data were analyzed by SPSS-16. To arrange the tables, descriptive statistical methods were used. Furthermore, for data analysis, independent t-test, ANOVA, post-hoc Scheffe test, Pearson's correlation coefficient, Spearman's correlation coefficient, and Chi-square coefficient were used.

## Results

In this study, 278 and 117 female and male subjects participated, respectively. Maximum frequency belonged to 20-39 age group. One

percent of the subjects were younger than 20 years old, 0.5% were older than 60 years old, and 24.8% of the subjects were in 40-59 age group. The youngest subject was 16 years old and the oldest one was 70 years old. Mean and standard deviation of age were obtained as 33.68 and 8.84, respectively. 38.2% of the subjects were single, 47.8% were married, 12.4% were divorced, and 1.5% were expired spouses. 0.8% of them were illiterate, 16.2% were high school drop-outs, 44.8% had high school diploma, 33.4% had B.Sc. degree, and 4.8% had M.Sc. and higher degrees. 16.5% were unemployed and the maximum frequency in this regard belonged to male subjects. 6.3% of the participants were students, 48.4% were housekeepers, 14.4% were office workers, 6.3% were retired, and 8.15 were self-employed. 61.5% of the patients believed that their monthly income was sufficient. 13.9% had sufficient income, and 24.6% had fairly sufficient monthly income. 20.5% of the patients had a record of the disease in their family and relatives and 79.5% did not have any record. 37% of the patients stated diagnosis duration as more than 7 years and 10.9% reported it to be less than 1 year. Thus, mean and standard deviation of diagnosis duration were reported as 3.51 and 1.40, respectively. Eighty percent of the subjects had a history of hospitalization and 20% did not. Results regarding body esteem score (3.25) and total mean of body esteem score in patients with MS showed that these patients had favorable body esteem. Maximum mean (71.6) among the subscales of body esteem in patients with MS belonged to physical attraction and minimum mean (60.76) belonged to the comparison of their body with healthy bodies (Table 1). There was an inversely significant relationship between body esteem and age ( $p < 0.001$  and  $r = -0.189$ ). Also, there was a statistically significant difference between body esteem and marital status ( $p = 0.011$ ,  $F = 3.78$ ), education ( $p < 0.001$ ,  $F = 6.86$ ), employment status ( $p = 0.004$  and  $F = 3.578$ ), monthly income ( $p < 0.001$  and  $F = 7.942$ ), and affliction duration ( $p = 0.004$

and  $F=3.904$ ).

**Table 1** Descriptive indicators subscale of the body esteem

Average	subscale of the body esteem
71.6	Physical Attractiveness
65.73	Comfort with One's Body
60.76	Comparison with a 'Normal' Body
66.8	Sexual Attractiveness to Self and Others

According to post-hoc Scheffe test for marital status, there was a statistical difference between single and married subjects. Regarding education, this statistical difference was due to difference between the subjects with lower than high school education and subjects with high school diploma and B.Sc. degree. In terms of employment status, there was a statistical difference between office workers and retired subjects. Regarding monthly income, there was a significant difference between groups with sufficient and insufficient income and also groups with fairly sufficient and insufficient income. Concerning duration of affliction, post-hoc Scheffe test demonstrated a statistically significant difference between groups with duration of less than 1 year, 5-7 years, and more than 7 years. In this study, no difference was observed between body esteem and sex, family history of the disease, and hospitalization history. Mean and standard deviation of self-esteem in patients was  $20.53 \pm 5.17$ . Forty-eight patients had low self-esteem (12.2%), 283 patients had moderate self-esteem (71.6%) and 64 patients (16.2%) had high self-esteem (Table 2).

**Table 2** Distribution self-esteem of the samples

Self-esteem	( Percent) Frequency
low	48 (12.2)
mean	(71.6) 283
high	(16.2) 64
sum	(100) 395
Minimum- Maximum	4-30
Average $\pm$ Standard deviation	20.53 $\pm$ 5.17

Frequency distribution of the subjects' self-esteem and that of mean and standard deviation of the items of self-esteem questionnaire

are presented in Tables 3. Chi-square test demonstrated a significant relationship between self-esteem and age ( $p=0.032$  and  $\chi^2=6.867$ ), marital status ( $p=0.023$ ,  $F=\chi^2=11.373$ ), education ( $p<0.001$ ,  $\chi^2=20.051$ ), employment status ( $p=0.004$ ,  $\chi^2=22.743$ ), and diagnosis period ( $p=0.007$ ,  $\chi^2=21.193$ ). However, no significant relationship was observed between self-esteem and sex, monthly income, family history of the disease, and hospitalization history. Results of Pearson's coefficient test showed a significantly direct, linear relationship between body esteem and self-esteem ( $p<0.001$ ,  $r_s=0.628$ ) (Table 3).

**Table 3** Association between body esteem and self-esteem of The samples

	Self esteem Spearman	Body esteem Spearman
Body esteem	$=0.628 r_s$ $P<0.001$	
Self esteem		$=0.628 r_s$ $P<0.001$

**Discussion**

Body is considered one of the major parts of one's identity. In response to questions on self-existence; people often talk about their physical attraction [19]. People's opinion about their appearance and body reflects their perception about their "self" [16]. When people are not satisfied with their body, their opinion about the value of their appearance and body also changes their general evaluation about their "self", which affects self-esteem [20]. Results of Spearman's coefficient showed a significantly direct relationship between body esteem and self-esteem ( $p<0.001$ ,  $r_s=0.628$ ). Results of the current study confirmed those of Rashid et al., titled "The relationship between self-esteem and body esteem in mentally ill patients with social concerns in Feizalbad, Afghanistan", was observed significantly direct relationship between body esteem and self-esteem [13]. Also, results of the present study are in agreement with those by Taleporos and McCabe in Australia, demonstrating that sexual esteem, body esteem, and sexual satisfaction had a

significant relationship with body esteem and depression, which was more significant among patients than healthy subjects. For patients, high level of body esteem and sexual satisfaction indicated higher level of body esteem and lower level of depression [12]. Also, in a study by Connors and Casey on the relationship between body esteem and self-esteem in healthy males and females in Australia, two above variables were found to be closely related to each other and this relation was more significant in female than male subjects. They stated that body can be a basis for identity formation in humans and have a considerable effect on human behavior including social and sexual behaviors. For instance, people who think their body is attractive have more opportunities for selecting and presenting themselves [14]. Results of the study by Blaskovic and Maja regarding self-esteem and body esteem among adult subjects were consistent with those of this study [21]. Results of the current study are also in agreement with those of Dalgard et al., conducted to investigate self-esteem and body esteem in adolescents with acne. They expressed that maturity, physical nature, identity formation, self-esteem, and potential success in various life aspects were among the factors affected by body esteem. Therefore, since people with physical disabilities consider most parts of their bodies less useful than those of healthy people, their perception about most of these is negative [15]. Barak et al. concluded that patients with MS had less body esteem and self-esteem than healthy ones [16]. Findings demonstrated an inversely significant relationship between body esteem and age, which is inconsistent with other studies [5-7]. In the research, result of one-way analysis of variance showed a statistically significant difference between body esteem and marital status, education, employment, monthly income, and diagnosis period, which is in agreement with the results of Rashid et al [13]. In the present study, a significant relationship was found between body esteem and marital status, education, employment status, age, and diagnosis period. Blaskovic and Maja also believe that marital status and close emotional

relationship accompanied by respect of spouses cause peace of mind and self-esteem [21]. Studies have shown that, since education can increase knowledge and change thoughts, beliefs, values, and attitude about the disease, it can be effective in self-esteem [14], while results of a study by Ashtiani et al. about these relationships were different from ours [22].

### **Conclusion**

Introducing the correlation of body esteem and self-esteem in patients with MS shows the necessity for simultaneous consideration of these variables regarding mental health; therefore, it is better to consider analysis of body esteem and self-esteem in these patients as a part of their health analysis routine and collective and individual intervention for the risky groups in order to improve these two psychological domains. Owing to the undeniable effect of the disease and treatment and their consequences on body esteem and self-esteem and since these two psychological variables affect patients' self-efficacy, self-care, feeling, and performance, it is the responsibility of nurses to study the related factors in this area and improve sense of usefulness and self-esteem among patients. Results of the present study demonstrated a significant relationship between self-esteem and body esteem with employment status and marital status. Hence, nurses who are concerned with such patients must know that the aforementioned psychological aspects are affected by personal and social characteristics. In order to evaluate patients' body esteem and self-esteem, nurses should consider each patient's personal characteristics as unique intervening factors and use them in providing care and connection with patients. Since an inversely significant relationship has been found between body esteem and age, it is recommended that, besides planning training courses in this psychological area for older patients, their care-givers also receive the required training regarding this issue. Due to non-random sampling method and considering that patients' personal differences

and their psychological-emotional conditions at the time of answering questions can be influential, results of this study must be used with caution.

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### Contributions

Study design: MH

Data collection and analysis: MG

Manuscript preparation: MH, MG

### Conflict of interest

"The authors declare that they have no competing interests."

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