

## Comparing Body Image in MS Patients and Healthy Individuals

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### Quantitative Study

#### Abstract

**Background:** Multiple sclerosis (MS) is of great importance due to its frequency, chronicity, and prevalence in young adults. The purpose of this study was to compare the body image of MS patients with that of healthy individuals.

**Methods:** In the present causal-comparative study, the study population consisted of all MS patients who referred to the Neurology Clinic. The study participants consisted of 200 patients (100 patients with MS and 100 healthy individuals) who were selected through convenience sampling. Data were obtained using the Multidimensional Body-Self Relations Questionnaire (MBSRQ) (Cash, 1990). Data were analyzed using descriptive statistics, such as mean and standard deviation, and inferential statistics, such as analysis of covariance (ANCOVA) and repeated measures analysis of variance (ANOVA), in SPSS software.

**Results:** The results of the data analysis illustrated a significant difference between MS patients and healthy people in terms of Body Areas Satisfaction Scale (BASS) and weight variables ( $P < 0.05$ ).

**Conclusion:** The results of this study show that MS can have psychological consequences so that it can help us in psychosocial treatment approaches.

**Keywords:** Body Image; Multiple Sclerosis; Psychosomatic

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## **Introduction**

Today, multiple sclerosis (MS) is one of the most important diseases of the nervous system due to its frequency, chronicity, and prevalence in young adults. The available literature show the important role of psychological factors in MS onset and decreasing disease progression (Ropper & Samuels, 2009). Due to the biopsychosocial aspects of MS, a systemic approach such as psychosomatic medicine has a significant role in the approach to the etiology and progression of MS, and the patient's quality of life (QOL). MS is a well-known disease with degenerative effects on the nervous system and a wide variety of symptoms and signs such as motor weakness, paraplegia, paresthesia, dysemetry, double vision, nystagmus, dysarthria, target tremor, ataxia, impaired sense of proprioception, and bladder dysfunction (Ventling, 2003). These symptoms and signs usually have relapses and remissions. Epidemiological studies suggest an average age of 20-50 years in MS patients. Studies have shown that psychosomatic approaches can affect the patient's mental defense mechanisms, and the onset and progression of the disease. Psychosomatic studies have showed how personality traits explain most MS relapses in some patients (Ghodusi & Heidari, 2014).

Michael Menzel, as a body psychotherapist, after many observations, concludes that MS can be recognized as a psychosomatic disease, because from a clinical viewpoint for a body psychosomatist, it is suggestive of the lack of a positive connection experience, its deep emotion gradually goes to be stereotyped by the physical expression over time (Kindrat, 2007). Researches have reveal that MS is a commonly occurring disease in young people which is the most functional in society, it is more common in women than men and, in addition to its main symptoms, its psychological effects cause low self-esteem, depression, stress, and aggression (Farnam, Marashi, & Sana'tnama, 2017). Some researchers have reported differences in body image between patients with chronic diseases such as MS and the healthy population (Cash, Jakatdar, & Williams, 2004; Pilarski, 2008).

Body image is an internal representation of the external appearance of patients (outside in appearance) that incorporates both physical and perceptual dimensions and can have extensive physical and psychological effects (Mousavi, Rostami, & Gholamali Lavasani, 2020). According to the biopsychosocial model, biological, psychological, and sociocultural factors have been found to be relevant in understanding the development of body image concerns. Throughout history, it has been very difficult for people to live according to the standards of society and what they have believed to be an ideal body. Many factors impact body image, including family dynamics, mental diseases, and environmental causes. Body image is one of the important aspects of our self-image that emerges in social situations and refers to the thoughts, beliefs, feelings, and behaviors associated with the body (Assady Gandomani & Teymourzadeh, 2014). Body image is a powerful factor that can affect behavior. Interference concerning appearance occurs in the social function of individuals when their appearance is changed because of their impaired performance and social relationships (Samonds, & Cammermeyer, 1989).

It is well documented that a negative body image is associated with a range of adverse health outcomes, including low self-esteem, depressive mood, and eating disorder symptoms (Pfaffenberger et al., 2011; McFarland & Kaminski, 2009). However, focus has mostly been on the status of negative body image as a risk factor for mental health problems. Previous studies suggest that adolescents who are dissatisfied with their bodies are more likely to perceive their health as fair or poor and more likely to show depression, low self-esteem, and low social functioning (Barak, Lampl, Sarova-Pinchas, & Achiron,

1999). Furthermore, the effects of body dissatisfaction do not appear to be limited to negative psychological outcomes; body dissatisfaction also negatively impacts health behaviors/outcomes, such as increased unhealthy weight control behaviors, stress, smoking behaviors, and reduced physical activity in adolescents and young adults (Sharifi Neyestanak, Ghodoosi, Seyedfatemi, Heydari, & Hoseini, 2012).

Holsen, Kraft, and Roysamb (2001) investigated body image in MS patients and examined the relationship between body image and severity of disability and did not find a strong correlation between these two variables. However, they found that the older and more disabled patients who were more satisfied with themselves and their body image had a long disease duration (Holsen, Kraft, & Roysamb, 2001). Neumark-Sztainer, Paxton, Hannan, Haines, and Story found that patients with MS, even in the mild form of the disease and especially women, are preoccupied with their body image, are mostly concerned about physical deficiencies, and feel that they are not attractive. Arnett and Randolph (2006) also found that there is a direct relationship between the concept of body image and self-esteem in patients with MS. They suggested that coping with the disease requires positive self-esteem and a positive body image (Arnett & Randolph, 2006).

The aim of this study was to evaluate the concept of body image in MS patients and compare them with the healthy population. A difference in their body image compared to the healthy population can give us insight into the onset and progression of the disease. In addition, considering the biopsychosocial causes of this disease shows that a positive body image can help in the treatments.

## Methods

In the present causal-comparative study, the study population consisted of all MS patients who referred to the Neurology Clinic. MS was diagnosed by a neurologist according to the International Association of MS criteria. In addition to clinical observations and physical examinations, the diagnostic tools used were magnetic resonance imaging (MRI), computed tomography (CT) scan, and visual acuity potential (VEP). Sampling was carried out using convenience sampling method. The study participants consisted of 200 patients, including 100 MS patients and 100 healthy individuals. Patients who had a disease duration of at least 1 year and were within the age range of 20-40 years were selected for participation in the study. The diagnosis was performed by a neurologist based on the International Association of MS. The inclusion criteria also included the lack of any psychological disorder or physical disability and this was confirmed by a psychiatrist and neurologist. In the healthy population, the age range of 20-40 years was considered as the inclusion criterion. The selection of the age group was due to the prevalence of these two diseases within this age range. The exclusion criteria included the duration of disease, suffering from a psychological disorder or physical disability, addiction, accident experience, and the patient's reluctance to continue. The data collection tool used was the Multidimensional Body-Self Relations Questionnaire (MBSRQ).

*The Multidimensional Body-Self Relations Questionnaire (Cash, 1990):* The MBSRQ contains 68 items. It is designed to assess the individual's attitude about various aspects of the body image structure. The questionnaire consists of the 3 subscales of the body itself, BSRQ, Body Areas Satisfaction Scale (BASS), and the scale of the individual's attitude about their weight (Cash, 1990). The validity of the main sections of the questionnaire has been reviewed and confirmed, and its reliability has been reported as 0.81 (Swami, Todd, Mohd Khatib, Toh, Zahari, & Barron, 2019). The Cronbach's alpha coefficient of the

questions of each subscale for a sample of 217 students were 0.88, 0.85, 0.83, 0.79, 0.91, and 0.94, respectively. In this study, the reliability coefficients of the questionnaire were calculated using Cronbach's alpha. The Cronbach's alpha of the questions of each subscale were calculated to be 0.80, 0.44, 0.58 (Swami et al., 2019). The Cronbach's alpha coefficient of the MBSRQ in the present study was 0.79.

Data were analyzed using descriptive statistics such as mean and standard deviation and inferential statistics, such as analysis of covariance (ANCOVA) and repeated measures analysis of variance (ANOVA), in SPSS. software (version 18, SPSS Inc., Chicago, IL, USA).

**Results**

The demographic characteristics of the participants are presented in table 1.

The mean and standard deviations of the dependent variables of the research are presented in table 2. The results of statistical tests showed that there was no significant difference between the participants in terms of demographic characteristics ( $P > 0.05$ ).

The results of Kolmogorov-Smirnov test showed that data distribution in all 3 groups was normal in both pretest and posttest stages. F-Levin level for an equal variance of research variables in the posttest in the experimental and control groups showed that the variance of the research components was unequal in the groups, so the ANCOVA condition is F established.

The results presented in table 3 show that there is a significant difference between MS patients and the healthy population in terms of BASS and weight variables ( $P < 0.05$ ). The mean of both variables in the MS group was higher than the healthy group. However, according to results presented in table 3, there was no significant difference between the MS group and the healthy group in terms of the dependent variable of BSRQ.

**Discussion**

The purpose of this study was to investigate and compare body image between patients with MS and healthy individuals. The results showed that there was a significant difference between MS and healthy groups in terms of BASS and weight. The mean of both variables in the MS group was higher than the healthy group. This finding is consistent with the findings of other studies like Pfaffenberger et al. (2011), McFarland and Kaminski (2009), and Barak et al. (1999).

**Table 1.** The demographic characteristics of the participants

Variable		Groups	
		MS patients	Healthy individuals
Sex	Male	34	39
	Female	66	61
Marital status	Single	18	37
	Married	82	63
Education	Illiterate	13	2
	Pre-diploma	36	14
	Diploma	7	7
Economic situation	Higher than diploma	15	33
	Poor	35	7
	Normal	46	36
	Good	19	57
Age	Mean ± SD	23.37 ± 69.9	29.31 ± 69.11

**Table 2.** Mean and standard deviations of variables

Variable	index	MS Group	Normal group
BASS	Mean ± SD	28.33 ± 29.7	56.35 ± 29.6
Weight	Mean ± SD	89.15 ± 81.3	48.17 ± 11.4
BSRQ	Mean ± SD	64.187 ± 40.19	45.181 ± 44.21

To understand the difference, first, the nature of this variable must be examined. Body image can be influenced by the physical and mental changes caused by disease (Pilarski, 2008). Body image is the perception that a person has of their physical appearance and the thoughts and feelings that result from that perception. These feelings can be positive, negative, or both, and are influenced by individual and environmental factors. It involves how individuals see themselves compared to the standards that have been set by their society (Feinstein, 2011). A person who has a negative body image faces a problem with their cognition. The results of the research on the relationship between body image and MS showed that, compared with the healthy population, MS patients, although they had little disability and a stable mood condition, reported that they had a great deal of concern about physical disabilities. While women suffered from physical problems and lack of attraction, men were more concerned about sexual problems. This means that body image is a mental factor (Pfaffenberger et al., 2011).

Although MS does not change the physical appearance of patients, as described above, it negatively affects the concept of body image. Perhaps, in order to understand the relationship, it is necessary to consider variables such as self-confidence or the reduction of sexual desire, as some studies have shown that self-confidence can change the body image of patients (Swami et al., 2019; Feinstein, 2011). Body image is an internal representation of the external appearance of patients (outside in appearance) that incorporates both physical and perceptual dimensions and can have extensive physical and psychological effects (Cash et al., 2004).

MS patients have certain disabilities that are induced by the disease and they observe these changes and disabilities, so the assessment of their bodies leads to negative commentary, which can cause a negative body image (Pfaffenberger et al., 2011). It is likely that mood changes in MS patients, such as depression, can play the role of a mediator variable in negative body image (Neumark-Sztainer et al., 2006; Arnett & Randolph, 2006). However, this requires further investigation. As stated in the introduction, MS patients develop negative thoughts about their appearance, low self-esteem, and negative self-esteem due to psychological disorders such as depression, anxiety, fatigue, and the like, which indirectly affect their perception of their body (their body image).

MS can have different psychological consequences for patients. Negative body image is one of the consequences that should be considered in the psychological treatment of individuals. Cognitive therapy can reduce the negative effects of negative body image on the QOL of MS patients by changing their negative thoughts.

This research had some limitations. One of the limitations of the present study is that the results cannot be generalized to other examples and disorders.

**Table 3.** Multivariate analysis of variance of research variables

	Variables	SS	df	MS	F	Sig
Group Effect	BASS	292.95	1	292.95	6.06	0.015
	Weight	162.26	1	162.26	9.95	0.002
	BSRQ	276.52	1	276.52	0.62	0.430

Moreover, gender differences may be involved in the impact of MS on body image. Therefore, this relationship should be investigated in future studies with respect to these differences.

## Conclusion

The results of this study show that MS can have psychological consequences so that it can help us in psychosocial treatment approaches.

## Conflict of Interests

Authors have no conflict of interests.

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## References

- Arnett, P. A., & Randolph, J. J. (2006). Longitudinal course of depression symptoms in multiple sclerosis. *J Neurol Neurosurg.Psychiatry*, 77(5), 606-610. doi:77/5/606 [pii];10.1136/jnnp.2004.047712 [doi]. Retrieved from PM:16614019
- Assady Gandomani, R., & Teymourzadeh, L. (2014). Examine the relationship between self-esteem and depression with satisfaction of body image in adolescent girls. *Journal of Management Futures Research*, 25(100), 13-21.
- Barak, Y., Lampl, Y., Sarova-Pinchas, I., & Achiron, A. (1999). Self and body esteem perception in multiple sclerosis. *Behav Neurol*, 11(3), 159-161. doi:1FR3WLRQ6FN72NYYE [pii]. Retrieved from PM:22387595
- Cash, T. F. (1990). *The Multidimensional Body-Self Relations Questionnaire[Test Manual]*. Norfolk, VA: Old Dominion University. [Unpublished].
- Cash, T. F., Jakatdar, T. A., & Williams, E. F. (2004). The Body Image Quality of Life Inventory: Further validation with college men and women. *Body Image.*, 1(3), 279-287. doi:S1740-1445(03)00023-8 [pii];10.1016/S1740-1445(03)00023-8 [doi]. Retrieved from PM:18089159
- Farnam, A., Marashi, F., & Sana'nama, M. (2017). The Relationship of Body Image with Emotion Regulation, Stress, and Aggression and their Comparison Between Males and Females With Multiple Sclerosis. *Jundishapur J Chronic Dis Care*, 6(3), e13818.
- Feinstein, A. (2011). Multiple sclerosis and depression. *Mult.Scler.*, 17(11), 1276-1281. doi:17/11/1276 [pii];10.1177/1352458511417835 [doi]. Retrieved from PM:22058085
- Ghodusi, M., & Heidari, M. (2014). The relationship between body image and self-esteem among multiple sclerosis patients. *Journal of Research and Health*, 4(3), 811-817.
- Holsen, I., Kraft, P., & Roysamb, E. (2001). The relationship between body image and depressed mood in adolescence: A 5-year longitudinal panel study. *J Health Psychol*, 6(6), 613-627. doi:6/6/613 [pii];10.1177/135910530100600601 [doi]. Retrieved from PM:22049465
- Kindrat, S. (2007). The relationship between body image and depression in women diagnosed with relapsing remitting multiple sclerosis. *Can.J Neurosci Nurs*, 29(1), 8-13. Retrieved from PM:18441622
- McFarland, M. B., & Kaminski, P. L. (2009). Men, muscles, and mood: The relationship between self-concept, dysphoria, and body image disturbances. *Eat.Behav*, 10(1), 68-70. doi:S1471-0153(08)00096-2 [pii];10.1016/j.eatbeh.2008.10.007 [doi]. Retrieved from PM:19171324
- Mousavi, H., Rostami, R., & Gholamali Lavasani, M. (2020). Metacognitive Intervention

- effectiveness on anxiety, body image and other symptoms of body dysmorphic disorder patients (BDD). *Clinical Psychology and Personality*, 14(1), 81-88.
- Neumark-Sztainer, D., Paxton, S. J., Hannan, P. J., Haines, J., & Story, M. (2006). Does body satisfaction matter? Five-year longitudinal associations between body satisfaction and health behaviors in adolescent females and males. *J Adolesc. Health*, 39(2), 244-251. doi:S1054-139X(05)00541-0 [pii];10.1016/j.jadohealth.2005.12.001 [doi]. Retrieved from PM:16857537
- Pfaffenberger, N., Gutweniger, S., Kopp, M., Seeber, B., Sturz, K., Berger, T. et al. (2011). Impaired body image in patients with multiple sclerosis. *Acta Neurol Scand.*, 124(3), 165-170. doi:10.1111/j.1600-0404.2010.01460.x [doi]. Retrieved from PM:21198446
- Pilarski, D. (2008). *The experience of younger women diagnosed with breast cancer involved in dance/movement therapy with regards to body image and sexuality [MA Thesis]*. Philadelphia, PA, Drexel University.
- Ropper, A., & Samuels, M. (2009). *Adams and Victor's principles of neurology* (9<sup>th</sup> ed.). New York, NY: Mcgraw-Hill.
- Samonds, R. J., & Cammermeyer, M. (1989). Perceptions of body image in subjects with multiple sclerosis: a pilot study. *J Neurosci Nurs*, 21(3), 190-194. doi:10.1097/01376517-198906000-00010 [doi]. Retrieved from PM:2525161
- Sharifi Neyestanak, N. D., Ghodoosi, B. M., Seyedfatemi, N., Heydari, M., & Hoseini, A. F. (2012). Self esteem and its associated factors in patients with multiple sclerosis. *Iran J Nurs*, 25(78), 14-22.
- Swami, V., Todd, J., Mohd Khatib, N. A., Toh, E. K. L., Zahari, H. S., & Barron, D. (2019). Dimensional structure, psychometric properties, and sex invariance of a Bahasa Malaysia (Malay) translation of the Multidimensional Body-Self Relations Questionnaire-Appearance Scales (MBSRQ-AS) in Malaysian Malay adults. *Body Image.*, 28, 81-92. doi:S1740-1445(18)30470-4 [pii];10.1016/j.bodyim.2018.12.007 [doi]. Retrieved from PM:30599288
- Ventling CD. (2003). Book Reviews: Body Psychotherapy in Progressive and Chronic Disorders. *Psychotherapy and Psychosomatics*, 72(5), 291-292.