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The Relationship between Social Loneliness and Psychological Well-being in Patients with Multiple Sclerosis: The Moderating Role of Self-compassion

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Abstract

Introduction: Loneliness is a common experience in people with Multiple Sclerosis (MS) which is associated with significant psychological consequences. Therefore, it is important to examine the psychological status of these patients. The aim of this study was to determine the moderating role of self-compassion in the relationship between social loneliness with psychological well-being in patients with multiple sclerosis.
Method: For this descriptive-correlational study, 200 patients with MS were selected by a convenience sampling method in the years 2019-2020. Data was collected by social loneliness of Besharat MA (2018), Self-compassion Scale of Neff KD (2003), and Psychological Well-Being Scales of Ryff's (1989). The Pearson correlation coefficient and multiple regression analysis (hierarchical method) were used for data analysis and data were analyzed using SPSS software version 23.
Results: The results showed that there was a significant negative correlation between social loneliness with psychological well-being and self-compassion. There was a significant positive correlation between psychological well-being and self-compassion. On the other hand, the results of the hierarchical regression analysis showed that self-compassion moderates the relationship between social loneliness and psychological well-being.
Conclusion: Findings revealed that self-compassion can protect people with MS from the negative psychological and social consequences associated with the disease. Therefore, self- compassion can be used as a factor in adapting to the disease and improving psychosocial health.

Keywords: Multiple Sclerosis, Psychological Well-Being, Social Loneliness, Social Isolation, Self-compassion

Introduction

Multiple Sclerosis (MS) has been known to be a chronic inflammatory disease of the nervous system that affects the brain and spinal cord, causing demyelination in the central nervous system. Approximately 2.5 million people worldwide have this disease [1, 2]. MS is common in Iran and has been reported to be about 5.5 to 30.74 per 100,000 people [2, 3]. Having this disease is associated with difficult consequences. Damage to the myelin sheaths and axons in the brain and spinal cord leads to a wide range of symptoms, including visual disturbances, dizziness, fatigue, muscle weakness, ataxia, muscle spasms, and sexual, intestinal, and bladder disorders. The symptoms caused by MS are often debilitating given their severity and extent and impact the feelings, cognition, and mental health of the patient. It may have a significant effect on people's physical performance over time and approximately, 80% of patients experience persistent disability [4]. People with lower levels of social support and more functional limitations feel more social loneliness, and this feeling of loneliness can exacerbate physiological side effects and reduce psychological well-being [5].

Psychological well-being can be defined as a state of mind that often has positive emotions. Ryff's model is one of the most important models in the field of psychological well-being. From this perspective, a person is considered to have psychological health that has characteristics such as self-esteem, extensive social connections, a sense of self-efficacy, and a sense of independence. In addition, in this view, well-being means trying to improve, which is manifested in the realization of one's talents and abilities [6]. Research has demonstrated that one of the challenges these people face is changes in their social network, their role in both the society and their family. As a result, their social activities reduces, which this issue can play an important role in developing loneliness [7]. research suggests a link between social isolation and psychological well-being, and that people with chronic illnesses who lack a supportive social network have lower psychological well-being [8].
According to the social psychological theory, loneliness is an unpleasant experience that occurs when a person's network of social relationships is significantly deficient in either quality or quantity an unpleasant and distressing subjective experience associated with a general dissatisfaction, unhappiness, depression, and anxiety [4]. Feelings of loneliness are associated with an individual's overall assessment of the level of social interaction [9]. Social loneliness actually occurs when there is no acceptable social network [10] or the person has a social relationship but does not describe it as satisfactory [9]. Loneliness has adverse effects on mental and physical health, and there is a significant negative relationship between social support, severity, and perception of fatigue [5]. According to studies, understanding the disease will affect the symptoms of the disease, and if a person perceives the disease as serious, chronic, and prolonged, and believes that there is no control over it, the level of loneliness in the person will increase and also a chronic illness such as MS may be considered as an accelerating or predisposing factor in making changes in social networks [11].
As a result, it seems beneficial to have a factor that can protect people with MS from the negative consequences of declining social relationships The presence of a protective factor based on kindness to and understanding oneself can make up for the consequences of feeling alone in the face of the limitations caused by this disease. One of the constructs based on self-understanding and kindness is self-compassion. According to Neff, self-compassion has been defined as a person's desire for the kind and protective behavior when confronted with grief and distress[12]. This structure has three main components that overlap with each other; (1) self-kindness vs self-judgment, (2) a sense of common humanity vs isolation, and (3) mindfulness vs over-identification. Self-compassion seems to provide an important source of power in the face of stressors such as chronic health problems and is also a significant positive predictor of psychological well-being Self-compassion appears to offer a significant source of power in dealing with stressful factors such as chronic health problems.[5].

Given the aforementioned, it is extremely important to figure out whether self-compassion can act as a moderating factor and help patients suffering from MS to reduce the psychological consequences and effects of the disease. Thus, the present study seeks to investigate the moderating role of self-compassion in the relationship between psychological well-being and the feeling of social loneliness.

Method

The present study is descriptive research and takes advantage of a correlation research method. The statistical population included all patients suffering from MS in Tehran in 2020. Among the MS patients, 202 individuals referring to neurology clinics were selected through convenience sampling based on inclusion and exclusion criteria. The inclusion criteria were: 1. definitive MS diagnosis by the respective specialist, 2. the age of 20-60 years, and 3. being literate enough to read and write. The exclusion criteria included: 1. physical inability to complete the questionnaires and 2. MS recurrence over the past six weeks. After the questionnaires were collected, two questionnaires were revealed to be distorted and were excluded from the analysis. The collected data were analyzed using the Pearson correlation coefficient and multiple regression analysis (hierarchically) through with SPSS23 software.
The tools used in this study were as follows:
Demographic Questionnaire: Participants answered a series of demographic questions that assessed their age, gender, education, marital status, and occupation as well as questions that assessed inclusion and exclusion criteria.
Ryff's Psychological Well-Being Scales (RPWB-short form): This scale was developed by Ryff in 1989[13]. It has 18 items and its purpose is to evaluate and study psychological well-being from six different dimensions (autonomy, environmental mastery, personal growth, positive relations, purpose in life, self-acceptance) and based on the 6-point Likert scale, it is rated from completely disagree to completely agree. The total score of these six factors is calculated as the total score of psychological well-being. Ryff reported the internal consistency coefficient of the subscales of this questionnaire between 0.86 and 0.93 and the reliability coefficient between 0.81 and 0.86. Cronbach's alpha coefficient was also reported to be 0.83-0.91. In Khanjani et al.'s research, the results of confirmatory factor analysis showed that in the whole sample and in both sexes, the six-factor model of this scale (autonomy, environmental mastery, personal growth, positive relations, purpose in life, self-acceptance) has a good fit [14]. The internal consistency of this scale using Cronbach's alpha for the six factors was 0. 51, 0.76, 0.75, 0.52, 0.73, 0.72 and for the whole scale, 0.71 respectively [14].
Social Loneliness Scale (SLS): This scale was designed by Besharat in 1392. It is a 10-item tool designed to measure people's feelings about relationships with others based on loneliness questionnaires [15-17]. This scale measures a person's feeling of loneliness on a five-point scale from 1 (I'm not like that at all) to 5 (I'm exactly like that). The

minimum and maximum scores of the subjects on this scale are 10 and 50, respectively. The psychometric characteristics of the social loneliness scale were examined and confirmed in a student sample of 257 girls and 211 boys. Cronbach's alpha coefficient of social loneliness scale was 0.91. This coefficient confirms the internal consistency of the social loneliness scale. The retest reliability of the social loneliness scale was obtained 0.79 twice at intervals of two to four weeks and this coefficient at a significance level less than 0.001 confirms the reliability of the social loneliness scale retest. Diagnostic (differential) and convergent validity of the Social Loneliness Scale were examined and confirmed by implementing the Mental Health Inventory (MHI-28), Multidimensional Scale of Perceived Social Support (MSPSS), and the Adult Attachment Inventory (AAI) simultaneously in the case of the mentioned sample. [18].

Self-Compassion Scale (SCS): This scale was developed by Neff in 2003 and consists of 26 items, with a score of 1 (almost never) to 5 (almost always). Scores range from 26 to 130. The total score of self-compassion can be obtained by calculating the mean score of six components: self-kindness (5 items), self-judgment (5 items), common humanity (4 items), isolation (4 items), mindfulness (4 items), and Over-identified (4 items). Negative subscales including isolation, self-judgment, and over-identification were scored in reverse. These scales evaluate the participants' quality of relationships based on their experience. This scale underwent confirmatory factor analysis in the study of NefF (2003), and a single high-level factor was discovered which indicates that this tool has favorable convergence, differential, and simultaneous validity as well as excellent test-retest reliability. NefF (2003) reported this test's initial version to have Cronbach's alpha of 0.92. Varaii et al. (2013) calculated divergent and convergent validity in the Persian version of the scale by implementing the self-respect scale and Beck Depression and Anxiety Questionnaires, and their results were statistically significant. Retest validity was reported to be 0.89 at an interval of 10 days[19].

Results

The participants of the study consisted of 173 (86.1%) females and 27 (13.9%) males. The mean age of the individuals was 34.03 (SD = 7.78). Most of them were married (58.9%), and had a Bachelor's degree (38.6%). The socio-demographic data are summarized in Table 1.

Table 2 shows the mean, standard deviation, and correlations between the research variables (social loneliness, psychological well-being, and self-compassion) in the sample group.

As it can be seen in Table 2, social loneliness has a significant negative relationship (P <0.01) with psychological well-being and self-compassion. There is also a significant positive relationship between psychological well-being and self-compassion (P <0.01). Standard values of variables and hierarchical regression were used to determine the moderating effect of self-compassion. The results of a hierarchical regression analysis to determine the moderating effect of self-compassion on the relationship between social loneliness and psychological well-being are presented in Table2.

Table 1. Socio-demographic in Individuals with Multiple Sclerosis (MS)

Characteristic	Persons with MS (n = 200)	Persons with MS (n = 202)
Age at the time of the study (mean years ± SD; min–max)	34.03 ± 7.78 (20–59)	
Gender n (%)		
Female	173	(86.1)
Male	27	(13.9)
Marital status n (%)		
Single	83	(41.1)
Married	119	(58.9)
Education n (%)		
Primary/vocational	9	(4.5)
Secondary	70	(34.6)
Bachelor	78	(38.6)
Masters	36	(17.8)
PHD	8	(4.0)
Employment n (%)		
Used	191	(94.6)
Unemployed	11	(5.4)

Table 2. Mean, Standard Deviation and Pearson Correlation Coefficients of Social Loneliness, Psychological Well-being and Self-compassion (n = 200)

Variable	1	2	3
1. Social loneliness	-		
2. Psychological well-being	-0.72**	-	
3. Self-compassion	-0.66**	0.69**	-
Mean	24.68	73.48	80.77
SD	9.72	12.51	9.72

Pearson correlation statistical method (n= 200); **P<0.01, * P<0.05

As it can be seen in Table 3, in Model 1, social loneliness significantly explains 51% of the psychological well-being variance. In model 2, the relationship between social loneliness and self-compassion is 0.77, and 59% of the variance of psychological well-being has been explained by this model. However, after the moderating influence of self-compassion entered model 3, the relationship between the predicting variables was 0.78 and 60% of the criterion variable was significantly explained. Compared to models 1 and 2, it was revealed that the r2 increased self-compassion by 0.01 significantly. This model was revealed to be explained better by the moderating influence of self-compassion compared to the variance of psychological well-being by around 0.01.

As it can be seen in Table 4, the standard and non-standard coefficients of regression analysis indicate that the moderating role of self-compassion (β = 0.11, t = -2.21, p = 0.05) can explain the psychological well-being variance significantly.

Table 3. Results of Hierarchical Regression to Investigate the Moderating Role of Self-compassion in the Relationship between Social Loneliness and Psychological Well-being (n = 200)

Model	R	R^2	R^2adjusted squared	R^2Changes in squared	F changes
1	0.72	0.51	0.51	0.51	207.57***
2	0.77	0.59	0.59	0.08	39.22***
3	0.78	0.60	0.60	0.01	4.89*

Hierarchical regression (n=200); ***P<0001, **P<0.001, *P<0.05

Table 4. Standard and Non-standard Coefficients of Regression Analysis of the Moderating Role of Self-compassion in the Relationship between Social Loneliness and Psychological Well-being (n = 200)

Model	b	SE	β	t
1 (fixed)				
Z social loneliness	-0.72	0.05	-0.72	-14.41***
2 (fixed)				
Z social loneliness	-0.46	0.06	-0.46	-7.62***
Z self- compassion	0.38	0.06	0.38	6.26***
3 (fixed)				
Z social loneliness	-0.42	0.06	-0.42	-6.64***
Z self- compassion	0.41	0.06		0.41
Z social loneliness * Z self- compassion	0.11	0.05	0.11	2.21*

Hierarchical regression (n=200); *** P<0.001, ** P<0.01, *P<0.05

Discussion

This study aimed to investigate the moderating role of self-compassion in the relationship between social loneliness and psychological well-being in patients with MS. The results of this research showed that there was a significant inverse correlation between social loneliness and psychological well-being and that self-compassion had a moderating role. The relationship between feelings of social loneliness and psychological well-being in patients with MS is consistent with other studies [3-5, 20]. To explain this finding in people with MS, it can be stated that loneliness is a common experience in MS patients, and there is a significant inverse relationship between psychological well-being and feelings of loneliness and social isolation. Accordingly, people with MS report a decrease in all aspects of psychological well-being compared to the normal population. Psychological well-being can actually be directly or indirectly affected by the consequences of this disease [3, 21].

Results indicated that disabilities caused by this disease could affect people's ability to participate in social activities and maintain social relationships, which can have detrimental effects on patients' psychological well-being. This finding is consistent with the findings of previous studies [4].

In connection with the role of loneliness, it is important to identify variables that can affect the quantitative and qualitative extent of loneliness and its consequences on psychological well-being. Self-compassion can enhance social bonds and reduce feelings of loneliness through the creation of shared human experiences and the fact that other people experience shared feelings and self-compassion may play an important role in strengthening a person's perception of health and willingness to receive support. This findings is consistent with previous research [7, 22]. Also, it has been shown that increased mental awareness, another component of self- compassion, is associated with psychological well-being and the attribute of mindfulness and its exercises can be useful as a self-help method for managing symptoms and maximizing physical and mental functions by using full and conscious attention to the body. In addition, it has been shown that over-identification, another component of self-efficacy, is related to psychological well-being. The attribute of mindfulness and its exercises can be useful as a self-help method for managing symptoms and maximizing physical and mental functions by using full and conscious attention to the body. These interventions in people with MS can reduce the effects of loneliness [7, 23]. Mohaghegh et al. [20] found that there is a significant negative relationship between social loneliness and psychological well-being. In their study, people with MS had lower scores for happiness, psychological well-being, meaning in life and somatic health and higher levels of loneliness compared to the controls. The differences between cases and controls remained statistically

significant after controlling their age and sex.

Conclusion

In general, social loneliness seems to have a stronger impact on the psychological well-being of patients with MS and can have devastating effects on the dimensions of psychological well-being. Results indicated that self-compassion plays a moderating role between the feeling of social loneliness and psychological well-being. In other words, MS patients with high levels of self-compassion have better psychological well-being despite their loneliness compared to patients with low self-compassion.

The present study also faced a few limitations. Firstly, the research design was correlational and could not provide causal interpretation based on the findings. Secondly, there was lack of control over the underlying and individual factors.

Given the effective role of self- compassion in analyzing the relationship between social loneliness and psychological well-being, it is suggested that more self-compassion mechanisms be examined in the form of experimental and quasi-experimental designs to increase behaviors related to well-being.

Conflict of Interest

The authors declare that they have no competing interests.

Ethical Approval

The present study was approved by the ethics committee in the research of the Institute of Applied Science Technology Jahad Daneshgahi- Royan by the code IR.ACECR.ROYAN.REC.1398.231. During the sampling, after explaining the objectives of the research to the individuals, emphasizing the confidentiality and voluntary nature of the research, it was explained to those who wished to participate in the research that there was no need to write their identity details. Eventually, they were reminded that they could refuse to continue research whenever they wanted. After obtaining informed consent, the questionnaires were given to those who wished to participate in the research and were asked to carefully read the questions and complete the questionnaires.

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