Social Support in Relation to Fatigue Symptoms Among Patients with Multiple Sclerosis

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ABSTRACT

Background and Aim: The psychological changes and physiological limitations during multiple sclerosis (MS) disease diminish the social relations. Consequently, losing social supports leads to more physical and psychological complications such as fatigue syndromes. Therefore, this study aimed to investigate the relationship of social support and fatigue syndromes in MS patients.

Methods: This study was a descriptive-analytic which randomly selected 46 patients with MS. The patients evaluated through demographic information, standard modified social support scale, fatigue severity scale, modified fatigue impact scale, and fatigue descriptive scale. Gathered data analyzed using descriptive and inferential statistical Pearson's correlation coefficient.

Results: Mean score for variables were as following: Fatigue severity 4/3 ± 1/6, perceived fatigue 34/6 ± 19/5, quality of fatigue 62 ± 3/9, and social support 65/6 ± 23/1, respectively. According to the Pearson statistical test, there was signification association between social support with fatigue severity ($P = 0.002$ and $r = -0.474$), fatigue perception ($P = 0.001$ and $= -0.478$), and fatigue perception sub-scales, i.e. physical ($P = 0.005$, $r = -0.432$), cognitive ($P = 0.003$, $r = -0.0457$), and psychosocial ($P = 0.009$, $r = -0.341$), respectively. However, there was not significant relationship between social support and fatigue quality ($P = 0.59$).

Conclusion: According to the results of current study, all aspects of social support can impact fatigue symptoms in MS patients. Therefore, it is suggested to develop educational programs for caregivers of patients to improve the mental and physical quality of life of patients.

Key words: Fatigue severity, Multiple sclerosis, Quality of fatigue, Social support

INTRODUCTION

Multiple sclerosis (MS) is a chronic, autoimmune disease of the central nervous system characterized by demyelination of nerve cells with resultant scarring known as plaques.[1] It mostly occurs between the ages 20 and 40 and has more prevalence in female than male.[2] In Iran, the prevalence rate estimated 57 of 100,000 people.[3]

This disease has various consequences affecting the patients' personal and social life aspects.[4] Fatigue is the most prevalent and disabling symptoms of MS which may associate to disease direct or indirectly.[5] Plow *et al.* (2012) reported that 75–90% of MS patients complain of fatigue, and 60% of them mentioned it as the most tiring symptom.[6]

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Fatigue interferes with peoples' daily activities, their social roles, life quality, and lifestyle and causes deterioration of MS or appearing other symptoms.[1] Belza *et al.* included three psychosocial variables in her model for prediction of fatigue in adults with rheumatic illness: Depression, learned helplessness, and social support.[7]

Social support is a complicated and multi-dimension structure and an important source of compatibility that plays a significant role in the consequences of MS patients' psychological compatibility and function.[8] Social support refers to some different types of supports which people get from others and includes emotional, functional, and informational support. Emotional support implies that someone would love and care for the patient, functional support implies tangible support, which is provided for a person by others like home support, economic aids, and information support.[9]

Nishida *et al.* reported that providing physical and emotional support play a key role in the quality of life of people with mental diseases.[10] Sharifirad *et al.*, also believed that social support predicts the health-related behavior such as self-care behaviors in diabetes patients. Therefore, family members' involvement, especially the partner support, significantly impacts the self-care process.[11] On the other hand, the results of Alipour *et al.* study revealed that there was no significant relationship between conceptualized social supports with a disability of MS patients. Although, there was a negative correlation between conceptualized social support with the physical symptoms and friend support with social function of the females with MS.[12]

As our knowledge, there is no indexed domestic study targeting social support in relation to fatigue syndromes of MS patients. Therefore, considering increasing high prevalence of MS patients, destructive effects of fatigue on their life and the key role of mental support in recovery and disability of chronic disease, the researcher aimed to investigate the relationship of social support and fatigue in MS patients.

METHODS

This descriptive-analytical study conducted after approving in Mashhad University of Medical Sciences, Iran with code of 87694.

Sampling

The study population included all MS patients referred to the neurological clinic of Mashhad University of Medical Sciences, Iran ($n = 46$). The inclusion and exclusion criteria consisted diagnosis of MS based on revised McDonald criterion, the physical disability level <7 using expanded disability status scale (EDSS), lack of MS relapse 1 month before the study, lack of severe stress experiences during last 6 months (divorce, family death etc.), lack of other chronic disease.

Tools

The data collection tools included following parts:

- The demographic characteristics and the information, i.e., age, education, marital status, disease duration, medication, etc
- Fatigue severity scale is a method of evaluating fatigue in MS and other conditions including chronic fatigue immune dysfunction syndrome and systemic lupus erythmatosis
- Modified fatigue impact scale (MFIS) has been classified as multi-dimensional scale and is intended to analyze different aspects of fatigue by assessing impact on physical, cognitive, and psychosocial functioning. The combination of nine items for physical status (pMFIS), ten items for cognitive status (cMFIS), and two items for psychosocial function status MFIS, renders the global score of the MFIS[13]
- Fatigue descriptive scale as a tool to evaluate the severity and quality of fatigue in a group of patients suffering from MS[14]
- Modified social support scale: This instrument provides an assessment of several domains of social support including tangible support, emotional support, affective support, and positive support[15]
- The patients' disability level was measured by the tool EDSS.

Statistics

The data analysis conducted by the statistical software of Statistical Package for the Social Sciences version 18. (SPSS Inc, SPSS Inc. Released 2009. PASW Statistics for Windows, Version 18.0. Chicago) Descriptive (mean and standard deviation) and analytical statistical (Pearson correlation co-efficient) methods applied.

RESULTS

The participants were in the age range of 18–54 years with age mean of 32.6 ± 8.7 years. The majority of the participants were females (91%), 52.2% were married, and 6.5% were divorced. In term of education, 45.7% hold a diploma, 37.0% had academic degrees and rest primarily. 63.0% of the patients had a monthly income between

"$ 100 and 200." 95.7% took MS modifying medicines 80.4% were in minor disability development level (0–3.5).

The first symptom of MS in 28.3% of the patients was eyesight disorders and in 13.0% were sensory disorders. 26.1% of the patients reported movement disorder and 87% reported fatigue as the most important disabling problem of MS. 58.7% of the patients had no relapse history of MS during one past year, and 37.0% had relapse history of once or twice during 1 past year.

About 67.4% of the participants had normal BMI (19.8–26), 21.7% less than normal level. 45.7% have had MS for <5 years, and 28.3% were suffering from MS for 5 to 10 years. The mean score of fatigue severity was 4.3 ± 1.6, fatigue perception 34.6 ± 19.5, fatigue quality 6.2 ± 3.9, and social support 65.6 ± 23.1.

Based on Pearson statistical test, there was a significant statistical relationship between fatigue severity and social support. The patients with more social support reported a lower level of fatigue severity ($r = -0.474$, $P = 0.002$).

According to the Pearson statistical test, there was signification association between social support with fatigue severity ($P = 0.002$ and $r = -0.474$), fatigue perception ($P = 0.001$ and $r = -0.478$), and fatigue perception sub-scales, i.e., physical ($P = 0.005$, $r = -0.432$), cognitive ($P = 0.003$, $r = -0.457$), and psychosocial ($P = 0.009$, $r = -0.341$), respectively.

There was no significant relation between social support with fatigue quality ($P = 0.59$). There was no significant relationship between social support with disability level, duration of illness, age, sex, educational level, and marital status ($P > 0.05$).

DISCUSSION

Social support may reinforce the immunity system directly by promoting self-confidence and positive feelings and in this way accelerate the illness improvement and reduction of vulnerability to the illness.[16] In addition, supportive behaviors to others may help people protect health by reinforcing, promoting, and increasing healthy behavior.[9]

Based on the results of the present study, there was a significant relationship between fatigue severity, fatigue perception, and its sub-scales with social support. The patients with higher social support reported lower fatigue perception and fatigue severity. However, there was no significant statistical relation between social support and fatigue quality. No indexed article was found about the relationship between social support and fatigue in the patients with MS in order to compare the results, but some studies in term of positive effect of social support on quality of life and mental health of the patients with chronic diseases are available.

The results of Jahanbakhsh *et al.* study investigating the relation of social support and quality of life in MS patients suggest that social support has a significant role in life satisfaction and hope in MS patients.[4]

Costa *et al.* study results showed that social support is a predicting factor and has a significant effect on life quality of MS patients.[17] Krokaocoa *et al.* reported social support of MS patients' family and friends largely depends on conceptual mental health situation and leads to higher physical general health[18] Schwartzs' study results (2005) also indicated, there is a strong link between social support and quality of life in MS patients.[19]

The results of a study conducted by Cheng *et al.* revealed that social support leads to depression reduction in Parkinson patients.[20] In addition, Zamanzadeh *et al.* study found that social support can reduce the side effect of chronic diseases and increases the patient's adjustment with diseases. Hence, that increased social support from different sources can reduce physical problems of Hemodialysis patients.[21] Goldstein *et al.* also showed that negative social support or dissatisfied social support is a source of high distress.[22] Similarly, Simpson *et al.* study results shows that less satisfaction with social support leads to higher scores of depression, anxiety, and distress in patients.[23]

Social support always act as an obstacle against stressful events and factors and protects a person from unwelcome incidents, patient with social support feels like he or she is valuable and this enhances the patients self-efficiency.[24] The patients with MS due to psychological and physical changes prefer to be far from others and feel withdrawn due to the illness symptoms and the disability. If they stay away society and groups, it may lead to mental, nervous diseases and abnormalities or disorders, so social support in forms of financial, educational, service, and economic aid is critical for their relative improvement.[4]

Patients' friends and family can help him or her by giving information to better identification more effective coping strategies. These coping strategies can reinforce and encourage health positive behaviors and reduce high-risk behaviors and mental or nervous reactions leading to stress.[24] Talking freely about an illness in a noncritical and supportive atmospheres lets patients and people learn the skills of coping with the illnesses.[25]

In the present study, there was a significant negative relationship between social support with fatigue severity and fatigue perception so that people with higher social support reported lower fatigue perception, but there was no significant relationship between social supports with the quality of fatigue. It can be explained by sub-scales and content of fatigue perception questionnaire which included; cognitive, social mental, and physical function. Considering the content of fatigue severity is closely related to behavioral changes and behavioral changes leads to attracting social support sources which consequently leads to higher self-efficiency, positive changes and reduced fatigue perception and severity.[26]

The descriptive questionnaire of fatigue measures severity, frequency, and quality of fatigue, the effect of heat or temperature on fatigue which completed by physician mostly.[27] In this scale, fatigue in relaxation is different from fatigue after exercises and hard working.[28] It seems these aspects of fatigue needs other kinds of support such as psychotherapy or medication.

As any cross-sectional study, this study was involved with some limitations such as small sample size, nonrandom sampling, and nonhomogeneity sample. Regarding high prevalence of fatigue among MS patients, it is suggested for future studies to conduct an interventional study and design native modules for effective educational and psychological aids.

CONCLUSION

In conclusion, this study revealed that social support correlate with fatigue of patients with MS. It is already mentioned in several studies that social support positively predicts quality of life and mental health also. The results of this study may have practical suggestions on the improvement of mental and physical health of patients with MS, because the findings highlighted importance of social support in monitoring the level of fatigue and its aspects which is useful for rehabilitation. Therefore, authors suggests to health care professional and care givers of these patients to provide a systematic program for social, family and friends support in order to rehabilitating MS patients.

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Conflicts of interest

There are no conflicts of interest.

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