Factors associated with perceived social support of patients with multiple sclerosis

Aikaterini Papa, Ioannis Koutelekos, Spyridoula Stefanidou, Chrysa Chryssovitsanou, Maria Polikandrioti

Department of Nursing, University of West Attica, Athens, Greece

Keywords
Multiple Sclerosis; Social Support; Family; Friends

Abstract
Background: Multiple sclerosis (MS) is an inflammatory chronic disease of the central nervous system (CNS) which is related with unpredictable course and increasing disability. Social support as an available interpersonal resource may help patients with MS. The purpose of the present study was to evaluate perceived social support in patients with MS as well as the associated factors.

Methods: The sample of this cross-sectional study included 200 patients with MS. Data collection was performed by the completion of the Multidimensional Scale of Perceived Social Support (MSPSS) and a questionnaire which included patients' characteristics.

Results: Patients reported to perceive high support from significant others and their family (median: 24.0 and 23.5, respectively) and less from their friends (median: 20). Moreover, a statistically significant association was found between social support from significant others and marital status (P = 0.010), modification of daily activities (P = 0.018), difficulties with social and family environment (P ≤ 0.001 and P ≤ 0.001, respectively), frequent urination (P = 0.015), and whether they easily forgot (P = 0.049), characterized themselves as anxious (P = 0.049), and believed in God (P = 0.002). Also, a statistically significant association was fond between social support from family and relation with health professionals (P = 0.041), difficulties with social and family environment (P = 0.003 and P ≤ 0.001, respectively), and whether they considered themselves as anxious (P = 0.050), and they believed in God (P ≤ 0.001). Furthermore, a statistically significant association was found between support from friends and modification of daily activities (P = 0.010), help in daily activities (P = 0.016), need for movement assistance (P = 0.001), difficulties with social and family environment (P ≤ 0.001 and P = 0.005, respectively), and whether they considered themselves anxious (P = 0.046).

Conclusion: Factors associated with perceived social support should be evaluated when planning holistic care to patients with MS.

How to cite this article: Papa A, Koutelekos I, Stefanidou S, Chryssovitsanou C, Polikandrioti M. Factors associated with perceived social support of patients with multiple sclerosis. Curr J Neurol 2021; 20(2): 64-72.
Introduction

Multiple sclerosis (MS) is a chronic and progressive disease of the central nervous system (CNS) which affects approximately 2.5 million people, worldwide.1 MS presents in the third or fourth decade of life, is three times more frequent in women,1,2 and is the most common cause of neurological disability.2 Recently, in United States of America (USA), MS prevalence was about 150 per 100,000 individuals with peak prevalence in ages of 45-49 years for both male and female patients.1 The disease seems to vary considerably globally with Europe to be a region of high prevalence containing more than half of the global population of people diagnosed with MS. However, discrepancies noticed worldwide are mainly attributed to various applied methodologies and to genetic, clinical, and environmental factors.3

Though the therapeutic options of MS have been dramatically improved, this neurodegenerative disease implies a heavy burden on individuals, affecting quality of life (QOL), employment, social relationships, productivity, self-efficacy, and personal independence.1,4,5 Notably, MS has a variable prognosis causing early severe disabilities in some patients but leaving others ambulatory and functional for many years.4 Perceived social support represents a new area of interest in MS therapeutic regimen. Social support in MS is associated with disease-specific factors, quantity and quality of social networks, and various socio-demographic factors.6,7

Interestingly, this resource enhances relationships, promotes individual’s coping skills, has a protective role against the negative effects of stressful life events, and generally has a beneficial role for both physical and mental health,7 since it may help patients to live every day to its full potential.6,7

The concept of social support varies from objective social life (group memberships, family, spouse) to subjective experience (emotional support, loneliness).7 More in detail, social support refers to the level of help provided to a person by his/her surroundings. Support may derive as a tangible assistance provided by others or as perceived social support which evaluates individuals’ confidence of the availability of adequate support when needed.8

Several gaps are noticed in literature regarding perceived social support in patients with MS, possibly because health care professionals focus on the biological aspect of the disease.

In attempt to address all these issues and explore whether individuals with MS perceive or not poor social support, this study aimed to explore factors associated with perceived social support in MS.

Materials and Methods

Study population: In the present study, 200 patients with the diagnosis of MS according to the McDonald criteria were enrolled.9

Criteria for inclusion of patients in the study were diagnosis of MS and good comprehension of Greek language. Patients with physical and mental disabilities prior to the onset of disease were excluded.

Data collection: Data were collected by the completion of a questionnaire which included patients’ characteristics.

Regarding study area, it was conducted at the outpatient clinic of a public hospital where patients were consecutively evaluated during the period of January 2016-March 2016.

In terms of study design, the researchers interviewed participants in the waiting room before their routine follow-up.

Ethical considerations: All subjects had been informed of their rights to refuse or discontinue participation in the study according to the ethical standards of the Declaration of Helsinki (1989) of the World Medical Association (WMA). Ethical permission for the study was obtained from the scientific committee of the hospital. Patients participated after they had given their written consent for participation.

Data variables: The data collected for each patient included: socio-demographic and clinical characteristics, as well as patients’ views about MS.

Perceived social support: The Multidimensional Scale of Perceived Social Support (MSPSS) questionnaire was used to assess social support. This scale assesses three dimensions of social support: support from significant others, family, and friends. Significant others are defined as the persons perceived as important and do not belong to family or friends. MSPSS scale is a short tool (12 items in total) and is ideal for research that requires assessment of multiple variables and populations who cannot tolerate a long questionnaire.10

This scale was tested in Greek standards by Theofilou,10 with satisfactory internal consistency. More in detail, it had an overall Cronbach’s alpha at 0.80, ranging between 0.74 (sub-scale of friends) and 0.78 (is for both sub-scales, family and significant others). The test-retest reliability...
intraclass correlation coefficient (ICC) was 0.894.10

The questions of each dimension expressing “support” are rated at a 7-point Likert scale ranging from 1 (very strongly disagree) to 7 (very strongly agree). In order to calculate the final score of each dimension of social support, we added the scores of questions corresponding to each dimension. These scores reflect the degree of support that patients with MS felt. Higher scores indicate higher support.10

Categorical variables were presented by absolute and relative frequencies (percentages), whereas continuous variables were presented by median and interquartile range (IQR). Normality of continuous variables was tested with Kolmogorov-Smirnov test and was rejected. Association between patients’ characteristics and score of social support was performed by Kruskal-Wallis test or Mann-Whitney test. Multiple linear regression was performed in order to identify factors associated with social support that patients felt; multiple linear regression was performed using the enter method. As independent factors were considered, the ones that were statistically significant were associated with social support univariately. Results were presented with β coefficients and 95% confidence intervals (CIs). The level of statistical significance was set to alpha 5%. The analysis was performed with the Stata software (version 13, Stata Corporation, College Station, TX, USA).

Results

Characteristics of patients: From table 1, it is observed that 36% of the patients were men and 45% were below the age of 40 years, while 49% of the sample studied were married.

Regarding clinical characteristics, 34.5% of participants suffered from the disease less than five years, 35% modified their daily activities (very much or enough), 60% had help for their daily activities, and 34% stated that they needed movement assistance.

Furthermore, 48.5% and 64.5% of participants reported vision problems and frequent urination, respectively, while 38.5% reported easy forgetting.

Lastly, 26% reported having very good relations with medical stuff, 59.5% characterized themselves as anxious, 58% believed in God (very or enough), while 13% and 12% faced difficulties with society and family environment, respectively.

Perceived social support: As far as social support is concerned, table 2 presents the descriptive measures.

| Table 1. Sample description (n = 200) |
|-------------------------------------|
| Variables                           | n (%) |
| Gender (male)                       | 72 (36.0) |
| Age (year)                          |        |
| < 30                                 | 27 (13.5) |
| 30-40                                | 63 (31.5) |
| 41-50                                | 68 (34.0) |
| 51-60                                | 31 (15.5) |
| > 61-70                              | 11 (5.5)  |
| Marital status                      |        |
| Married                              | 98 (49.0) |
| Single                               | 80 (40.0) |
| Divorced/widowed                     | 22 (11.0) |
| Years of onset                       |        |
| ≤ 1                                  | 19 (9.5)  |
| 2-5                                  | 50 (25.0) |
| 6-10                                 | 66 (33.0) |
| 11-15                                | 28 (14.0) |
| > 15                                 | 37 (18.5) |
| Modifying daily activities because of MS |       |
| Very/enough                          | 70 (35.0) |
| Little                               | 86 (43.0) |
| Not at all                           | 44 (22.0) |
| Getting help from someone for daily activities (yes) |        |
| Need for movement assistance (yes)   | 68 (34.0) |
| Vision problems (yes)                | 97 (48.5) |
| Frequent urination (yes)             | 129 (64.5) |
| Forgetting easily (yes)              | 77 (38.5) |
| Relation with health professionals   |        |
| Very good                            | 52 (26.0) |
| Good                                 | 119 (59.5) |
| Below moderate                       | 29 (14.5) |
| Difficulties with social environment |        |
| Very/enough                          | 26 (13.0) |
| Little                               | 70 (35.0) |
| Not at all                           | 104 (52.0) |
| Difficulties with family environment |        |
| Very/enough                          | 24 (12.0) |
| Little                               | 61 (30.5) |
| Not at all                           | 115 (57.5) |
| Considering yourself anxious (yes)   | 119 (59.5) |
| Believing in God                     |        |
| Very/enough                          | 116 (58.0) |
| Little/not at all                    | 84 (42.0)  |

MS: Multiple sclerosis

Patients reported feeling highly supported from their significant others and their family (median: 24.0 and 23.5, respectively) and less from their friends (median: 20, neutral support levels). In total, participants felt highly supported (median: 65, IQR: 58-74).

Association between social support and patients’ characteristics: Tables 3 and 4 show results between association of social support and
patients' characteristics. Regarding demographic characteristics (Table 3), a statistically significant association of social support from significant others was observed with marital status ($P = 0.010$). More specifically, patients who were divorced or widowed perceived less social support from significant others (median: 21) than patients who were married (median: 24) and patients who were single (median: 24). No other significant association between patients' characteristics and social support was shown.

Table 2. Descriptive statistics for perceived social support

| Support from     | Range | Median (25ο-75ο) |
|------------------|-------|------------------|
| Significant others | 4-28  | 24.0 (21.0-27.5) |
| Family           | 4-28  | 23.5 (20.0-26.0) |
| Friends          | 4-28  | 20.0 (16.0-23.0) |
| Total support    | 12-84 | 65.0 (58.0-74.0) |

Regarding clinical and other characteristics (Table 4), a statistically significant association of social support from significant others was observed with modification of daily activities ($P = 0.018$), frequent urination ($P = 0.015$), whether they easily forgot ($P = 0.049$), whether they faced difficulties with social and family environment ($P \leq 0.001$ and $P \leq 0.001$, respectively), whether they considered themselves anxious ($P = 0.049$), and whether they believed in God ($P = 0.002$). More specifically, patients who had modified very or enough their daily activities because of MS, those who had frequent urination and forgot easily, those who faced a lot of difficulties with social and family environment, those who considered themselves anxious, and those who believed little or not at all in God perceived less support from their significant others.

Simultarily, a statistically significant association of social support from family was observed with relation with health professionals ($P = 0.041$), whether they faced difficulties with social and family environment ($P = 0.003$ and $P \leq 0.001$, respectively), whether they considered themselves anxious ($P = 0.050$), and whether they believed in God ($P \leq 0.001$). As before, patients who had below moderate relations with health professionals, those who faced a lot of difficulties with social and family environment, those who considered themselves anxious, and those who believed little or not at all in God perceived less support from their family.

Furthermore, a statistically significant association with support from friends was observed with the modification of daily activities ($P = 0.016$), whether they needed movement assistance ($P = 0.001$), whether they faced difficulties with social and family environment ($P \leq 0.001$ and $P = 0.005$, respectively), and whether they considered themselves anxious ($P = 0.046$). More specifically, patients who had modified very or enough their daily activities because of MS, those who had help for their daily activities and needed movement assistance, those who faced a lot of difficulties with social and family environment, and those who considered themselves anxious perceived less support from their friends.

Estimation of perceived social support: Multiple linear regression was applied in order to estimate the social support that patients felt. Factors that were statistically and significantly associated with social support in the univariate analysis (Tables 3 and 4) were considered as independent factors. Table 5 presents these results.

Table 3. Association between social support and patients’ demographic characteristics (n = 200)

| Variables          | Significant others | Support from: | Family | Friends |
|--------------------|--------------------|----------------|--------|---------|
|                    | Median (25ο-75ο)   |                |        |         |
| Gender             |                    | P              |        |         |
| Male               | 24.0 (20.0-25.0)   | 23.0 (20.0-26.5) | 20.0 (16.0-23.0) |
| Female             | 24.0 (22.0-28.0)   | 24.0 (19.5-26.0) | 20.0 (16.0-23.5) |
| Age (year)         | 0.643              | 0.759          | 0.229 |
| < 40               | 24.0 (21.0-28.0)   | 24.0 (20.0-26.0) | 20.0 (16.0-24.0) |
| 41-50              | 24.0 (20.5-27.0)   | 23.0 (18.5-28.0) | 20.0 (16.0-23.0) |
| > 50               | 24.0 (21.0-26.0)   | 22.5 (20.0-24.0) | 17.0 (16.0-20.0) |
| Marital status     | 0.010              | 0.133          | 0.574 |
| Married            | 24.0 (22.0-28.0)   | 24.0 (20.0-26.0) | 19.5 (16.0-22.0) |
| Single             | 24.0 (21.0-27.5)   | 24.0 (19.5-26.0) | 20.0 (16.0-24.0) |
| Divorced/widowed   | 21.0 (20.0-24.0)*  | 20.0 (18.0-24.0) | 20.0 (16.0-24.0) |

*Statistically significant different score from two first categories, after Bonferroni correction
Support in multiple sclerosis

Table 4. Association between social support and patients’ clinical and other characteristics (n = 200)

| Variables                                      | Significant others | Family | Friends |
|------------------------------------------------|--------------------|--------|---------|
| **Median (25th-75th)**                          | **P**              | **Median (25th-75th)** | **P** | **Median (25th-75th)** | **P** |
| Modifying daily activities because of MS        |                    |        |         |
| Very/enough                                     | 22.5 (20.0-26.0)*  | 23.0 (19.0-27.0) | 18.0 (15.0-20.0)* |
| Little                                          | 24.0 (21.0-27.0)   | 23.0 (20.0-26.0) | 20.0 (16.0-24.0) |
| Not at all                                       | 25.0 (23.5-28.0)*  | 24.0 (19.5-27.0) | 20.0 (16.0-24.0) |
| Getting help from someone for daily activities  |                    |        |         |
| No                                              | 24.0 (21.0-26.5)   | 22.0 (19.0-26.0) | 20.0 (17.0-24.0) |
| Yes                                             | 24.0 (21.5-28.0)   | 24.0 (20.0-27.0) | 18.0 (16.0-22.0) |
| Need for movement assistance                     |                    |        |         |
| No                                              | 24.0 (21.0-28.0)   | 23.0 (19.0-26.0) | 20.0 (16.5-24.0) |
| Yes                                             | 24.0 (21.0-26.5)   | 24.0 (20.0-27.0) | 17.0 (12.5-21.0) |
| Frequent urination                              |                    |        |         |
| No                                              | 24.0 (22.0-28.0)   | 24.0 (20.0-28.0) | 20.0 (16.0-24.0) |
| Yes                                             | 23.0 (21.0-26.0)   | 23.0 (19.0-26.0) | 20.0 (16.0-22.0) |
| Forgetting easily                               | 0.049              | 0.347  | 0.726   |
| No                                              | 24.0 (21.0-28.0)   | 24.0 (20.0-27.0) | 20.0 (16.0-23.0) |
| Yes                                             | 23.0 (20.0-26.0)   | 23.0 (19.0-26.0) | 20.0 (16.0-23.0) |
| Relation with health professionals              | 0.362              | 0.041  |         |
| Very good                                       | 24.0 (21.0-28.0)   | 23.5 (20.5-27.0) | 20.0 (16.5-24.0) |
| Good                                            | 24.0 (21.0-27.0)   | 24.0 (20.0-26.0) | 20.0 (16.0-24.0) |
| Below moderate                                   | 24.0 (18.0-26.0)   | 21.0 (14.0-24.0)* | 19.0 (16.0-23.0) |
| Difficulties with social environment            | < 0.001            | 0.003  | < 0.001 |
| Very/enough                                     | 20.5 (16.0-25.0)*  | 18.0 (14.0-24.0)* | 15.0 (6.0-18.0)* |
| Little                                          | 23.0 (20.0-25.0)   | 23.0 (20.0-26.0) | 20.0 (16.0-22.0) |
| Not at all                                       | 25.0 (22.5-28.0)*  | 24.0 (20.0-27.0)* | 20.0 (16.0-24.0) |
| Difficulties with family environment            | < 0.001            | < 0.001 | 0.005   |
| Very/enough                                     | 18.5 (15.5-23.0)*  | 16.0 (12.0-20.5)* | 16.0 (9.0-20.0)* |
| Little                                          | 23.0 (20.0-24.0)   | 21.0 (18.0-26.0) | 20.0 (16.0-21.0) |
| Not at all                                       | 25.0 (23.0-28.0)*  | 24.0 (22.0-27.0)* | 20.0 (16.0-24.0) |
| Considering yourself anxious                    | 0.049              | 0.050  | 0.046   |
| No                                              | 24.0 (22.0-28.0)   | 24.0 (20.0-27.0) | 20.0 (17.0-23.0) |
| Yes                                             | 24.0 (20.0-26.0)   | 23.0 (19.0-26.0) | 18.0 (16.0-23.0) |
| Believing in God                                | 0.002              | < 0.001 | 0.325   |
| Very/enough                                     | 24.0 (22.0-28.0)   | 24.0 (20.5-28.0) | 20.0 (16.0-24.0) |
| Little/not at all                               | 23.0 (20.0-25.5)   | 21.0 (18.0-24.0) | 20.0 (16.0-23.0) |

*Statistically significant different score from all other categories, after Bonferroni correction

We concluded that single patients perceived 1.92 (95% CI: -3.03, -0.76) points less support from their significant others than married patients and similarly divorced/widowed patients perceived 1.85 (95% CI: -3.67, -0.03) points less support from their significant others than married patients.

Moreover, patients who did not face any difficulties with social and family environment perceived 2.09 (95% CI: 0.01, 4.16) and 4.29 (95% CI: 2.20, 6.38) points, respectively, more support from their significant others than patients who faced a lot of difficulties with social and family environment.

Lastly, patients who believed little or not at all in God perceived 1.32 (95% CI: -2.41, -0.22) points less support from significant others than patients who believed a lot in God.
Table 5. Estimation of perceived social support

| Variables                          | Significant others | Family | Friends |
|------------------------------------|--------------------|--------|---------|
|                                    | $\beta$ coefficient | $\beta$ coefficient | $\beta$ coefficient |
|                                    | (95% CI)           | (95% CI) | (95% CI) |
| Marital status                     |                    |        |         |
| Married                            | Ref. Cat           | -      | -       |
| Single                             | -1.92 (-3.03, -0.76) | 0.001  | -       |
| Divorced/widowed                   | -1.85 (-3.67, -0.03) | 0.046  | -       |
| Modifying daily activities because of MS |                |        |         |
| Very/Enough                        | Ref. Cat           | -      | Ref. Cat |
| Little                             | -0.43 (-1.6, -0.81) | 0.493  | -       |
| Not at all                         | 0.81 (-0.76, -2.39) | 0.312  | -       |
| Getting help from someone for daily activities |                |        |         |
| No                                 | -                  | -      | Ref. Cat |
| Yes                                | -                  | -      | -1.15 (-2.81-0.51) | 0.172 |
| Need for movement assistance       |                    |        |         |
| No                                 | -                  | -      | Ref. Cat |
| Yes                                | -                  | -      | -1.75 (-3.71-0.21) | 0.079 |
| Frequent urination                 |                    |        |         |
| No                                 | Ref. Cat           | -      | -       |
| Yes                                | -0.57 (-1.74-0.59) | 0.626  | -       |
| Forgetting easily                  |                    |        |         |
| No                                 | Ref. Cat           | -      | -       |
| Yes                                | -0.57 (-1.74-0.59) | 0.333  | -       |
| Relation with health professionals |                    |        |         |
| Very good                          | -                  | Ref. Cat | -     |
| Good                               | -                  | 0.85 (-0.68-2.40) | 0.276 | -      |
| Below moderate                     | -                  | -1.69 (-3.85-0.46) | 0.122 | - |
| Difficulties with social environment |                  |        |         |
| Very/Enough                        | Ref. Cat           | 1.31 (-0.61-3.23) | 0.180 | Ref. Cat |
| Little                             | 1.78 (-0.50-4.07) | 0.125  | 4.98 (2.29-7.69) | <0.001 |
| Not at all                         | 2.09 (0.01-4.16) | 0.049  | 1.03 (-1.34-3.40) | 0.392 |
| Difficulties with family environment |                |        |         |
| Very/Enough                        | Ref. Cat           | 2.87 (0.86-4.88) | 0.005 | Ref. Cat |
| Little                             | 3.76 (1.35-6.16) | 0.002  | -0.06 (-2.85-2.74) | 0.969 |
| Not at all                         | 4.29 (2.20-6.38) | <0.001 | 6.18 (3.67-8.70) | <0.001 |
| Considering yourself anxious      |                    |        |         |
| No                                 | Ref. Cat           | -0.11 (-1.21-0.99) | 0.844 | Ref. Cat |
| Yes                                | -0.24 (-1.56-1.08) | 0.721  | -0.74 (-2.29-0.81) | 0.345 |
| Believing in God                   |                    |        |         |
| Very/Enough                        | Ref. Cat           | -      | Ref. Cat |
| Little/not at all                  | -1.32 (-2.41, -0.22) | 0.018  | -1.42 (-2.73, -0.11) | 0.034 |

CI: Confidence interval; MS: Multiple sclerosis

Furthermore, patients who did not face any difficulties with family environment perceived 6.18 (95% CI: 3.67, 8.70) points more support from their family than patients who faced a lot of difficulties. On the other hand, patients who believed little or not at all in God perceived 1.42 (95% CI: -2.73, -0.11) points less support from significant others than patients who believed a lot in God. Lastly, patients who did not face any difficulties with social environment perceived 4.89 (95%
Discussion

According to the results, patients with MS perceived high support from significant others and family and less from friends. Family consists of a frame within which individuals share common life experiences, options, and mutual aid. Family and significant others often provide support to the loved person as a normal part of their common life. At the same time, the long disease trajectory allows time for family members to adjust to their roles as a carer, which differ from those in cancer and other disabling neurological conditions such as stroke.

Enhancement of social support is crucial, since it is associated with good QOL. As measured by 36-Item Short Form Health Survey (SF-36), perceived social support from significant others was positively associated with general health, while support from family and friends was positively associated with perceived mental health, among 207 patients with MS (38.4 ± 10.6 years, 66.2% women).

Participants who faced difficulties with social and family environment and those who reported themselves as anxious perceived less support in the three subscales (significant other, family, friends). MS is inducing several adversities not only on patients’ lives but also on family which in turn exert a negative impact on their QoL or their psychological state. Sometimes, the burden of family members mainly on spouse is so heavy that care for themselves becomes severely restricted. Notwithstanding the foregoing, individuals with MS must be offered the opportunity to define what they perceive as difficulties and express their priorities along with their preferences regarding social support.

Furthermore, participants who recognized themselves as anxious experienced less support from family and friends. Possibly, individuals who experience anxiety may feel unable to exert control over the disease-related issues, thus limiting themselves.

Interestingly, the way patients perceive and feel about themselves is an important determinant of their subjective well-being. Up to some extent, anxiety may be beneficial, since it stimulates individuals to take the necessary steps to confront with the disease or to seek for medical help. Recognition of the association between anxiety and support is gradually coming to the forefront of MS clinical practice. More in detail, perceived social support reduces anxiety which meanwhile is a strong predictor of depression. Likewise, participation in MS supporting groups seems to decrease anxiety and increase satisfaction with life.

Support in two subscales, significant others and friends, was associated with modification of daily activities. This finding may reflect disability, functional restrictions, or other constraints due to disease. Fatigue which is reported by 75%-90% of individuals with MS is a possible contributor for this modification. It is crucial to enhance social support in MS, since it is associated with higher physical activities and lower fatigue perception.

In addition, believing in God was found to be associated with two subscales, significant others and friends. The unforeseeable MS course involving exacerbations or remissions along with failure of “cure” may either prompt or discourage individuals to turn to God for empowerment and support. Individuals have the tendency to seek for support in God in the acute phase of a chronic illness and quit when they experience failure of their expectations. Additionally, this relapsing-remitting disease imposes uncertainty which is negatively correlated with religious wellbeing. Remarkably, people make sense of illness, healing, and death through various contexts (cultural, social, philosophical) and the intimate relationships which are addressed by spiritual practice.

A patient can successfully adapt to life with MS through active, problem-focused coping, distraction and self-construction, religiousness, and search for a meaning in life. Psychological challenges, such as uncertainty, may be ameliorated through increased appreciation for life and spirituality.

Support from significant others was less perceived by divorced or widowed participants and those who had frequent urination and forgot easily. Patients with MS due to psychological and physical changes prefer to be far from others due to illness symptoms such as vision or hearing deficits, weakness, fatigue, poor balance, and several others. Disability and cognitive impairment in patients with MS are predictors of loss of employment, decline in the standards of living, and withdrawal from social and leisure activities. Single patients experienced more unmet needs related to MS in a sample of 632 community dwellers.

Participants who had help in daily activities and needed movement assistance experienced less support from friends. Possibly, these participants...
experience some degree of physical impairment. Interestingly, as the disease is progressing, patients may encounter with difficulties in walking or have feeling of fatigue, pain, and several other symptoms related to the disease.33

Another factor that could potentially discourage them to ask for support is a sense of powerlessness and a lack of control over daily life. This vulnerable group of patients needs individualized support, focused on helping them to regain their place in the world and leading to rewarding and fulfilling lives.33

During last decades, significant progress has been observed within the field of MS treatment. Though the unpredictable MS course creates difficulties for planning appropriate support,33 it is crucial for specialists involved in care to evaluate social support as an important resource in daily-living issues.18

Educational programs for patients’ families or friends are essential at the effort to provide holistic care.34,35 It is essential for patients with MS to build supportive relationships, since social isolation is a predictor for depression.28 Psychosocial support such as good relationships with physicians and MS healthcare team is identified as the most important need for patients with MS and caregivers.12

The study has limitations. First, the sample studied was not representative of all patients with MS in Greece but a convenience sample. This method of sampling limits the generalizability of results. Other limitations are related to the study design which was cross-sectional and not longitudinal, thus not permitting investigation for causal relation between social support and patients’ characteristics. Furthermore, there was no other measurement in time that would allow evaluation of possible changes in perceived social support at baseline and at a later follow-up visit. It would be interesting to monitor social support 12 or 24 months after baseline measurement.

Conclusion

The current paper sheds light on factors affecting perceived social support to individuals with MS. More in detail, factors associated with perceived social support were: marital status, difficulties with social and family environment, modification of daily activities, help in daily activities, frequent urination, movement assistance, forgetfulness, belief in God, relations with health professionals, and report of themselves as anxious.

Conflict of Interests

The authors declare no conflict of interest in this study.

Acknowledgments

The findings of the present study enable healthcare professionals to form their interventions or caring models to promote social support.

References

1. Ershadinia N, Mortazavinia N, Babaniamansour S, Najafi-Nesheli M, Babaniamansour P, Aliniagerdroudbari E. The prevalence of autoimmune diseases in patients with multiple sclerosis: A cross-sectional study in Qom, Iran, in 2018. Curr J Neurol 2020; 19(3): 98-102.
2. Sahaarina MA, Sahebkar M, Dehghani R, Derakhshan-Jazari M, Kazami-Moghaddam V, Kouchaki E. Multiple sclerosis-A disease on a dramatically rising trend in Iran: Review of possible reasons. Iran J Neurol 2017; 16(1): 34-40.
3. Kingswell E, Marriott JJ, Jette N, Pringsheim T, Makhani N, Morrow SA, et al. Incidence and prevalence of multiple sclerosis in Europe: A systematic review. BMC Neurol 2013; 13: 128.
4. Baghizadeh S, Sahaarina MA, Beladmoghadam N. Clinical and demographic factors affecting disease severity in patients with multiple sclerosis. Iran J Neurol 2013; 12(1): 1-8.
5. Zivadinov R, Iona L, Monti-Bragadin L, Bosco A, Jurjевич A, Taus C, et al. The use of standardized incidence and prevalence rates in epidemiological studies on multiple sclerosis. A meta-analysis study.
6. Shavazi MA, Morowatisharifabad MA, Shavazi MT, Mirzaei M, Ardekan AM. Online Social Support for Patients with Multiple Sclerosis: A Thematic Analysis of Messages Posted to a Virtual Support Community. Int J Community Based Nurs Midwifery 2016; 4(3): 188-98.
7. Kamenev K, Cabello M, Caballero FF, Cieza A, Sabariego C, Raggi A, et al. Factors Related to Social Support in Neurological and Mental Disorders. PLoS One 2016; 11(2): e0149356.
8. Roozafza HR, Afshar H, Keshteli AH, Mohammadi N, Feizi A, Taslimi M, et al. What’s the role of perceived social support and coping styles in depression and anxiety? J Res Med Sci 2014; 19(10): 944-9.
9. Polman CH, Reingold SC, Banwell B, Clanet M, Cohen JA, Filippi M, et al. Diagnostic criteria for multiple sclerosis: 2010 revisions to the McDonald criteria. Ann Neurol 2011; 69(2): 292-302.
10. Theofilou P. Translation and Cultural Adaptation of the Multidimensional Scale of Perceived Social Support for Greece. Health Psychol Res 2015; 3(1): 1061.
11. Krokavezova M, van Dijk JP, Nagyova I, Rosenberger J, Gavleva M, Miđđel B, et al. Social support as a predictor of perceived health status in patients with multiple sclerosis. Patient Educ Couns 2008; 73(1): 159-65.
12. Ponzio M, Tacchino A, Zaratin P, Vaccaro C, Battaglia MA. Unmet care needs of people with a neurological chronic disease: A cross-sectional study in Italy on Multiple Sclerosis. Eur J Public Health 2015; 25(5): 775-80.
13. Borreani C, Bianchi E, Pietrolongo E, Rossi I, Cilia S, Giuntoli M, et al. Unmet needs of people with severe multiple sclerosis and their carers: Qualitative findings for a home-based intervention. PLoS One 2014; 9(10): e109679.
14. Hughes N, Looce L, Zielbland S. Personal identity and the role of ‘carer’ among relatives and friends of people with multiple sclerosis. Soc Sci Med 2013; 96: 78-85.
15. Uccelli MM. The impact of multiple sclerosis on family members: A review of the literature. Neurodegener Dis Manag 2014; 4(2): 177-85.
16. Koban L, Schneider R, Ashar YK, Andrews-Hanna JR, Landy L, Moscovitch DA, et al. Social anxiety is characterized
Support in multiple sclerosis

by biased learning about performance and the self. Emotion 2017; 17(8): 1144-55.
17. Polikandrioti M, Olympios CM. Anxiety and coronary artery disease. Arch Hell Med 2014; 31(4): 403-11.
18. Costa DC, Sa MJ, Calheiros JM. Social support network and quality of life in multiple sclerosis patients. Arq Neuropsiquiatr 2017; 75(5): 267-71.
19. Henry A, Tourbah A, Camus G, Deschamps R, Mailhan L, Castex C, et al. Anxiety and depression in patients with multiple sclerosis: The mediating effects of perceived social support. Mult Scler Relat Disord 2019; 27: 46-51.
20. Plow M, Finlayson M, Motl RW, Bethoux F. Randomized controlled trial of a teleconference fatigue management plus physical activity intervention in adults with multiple sclerosis: Rationale and research protocol. BMC Neurol 2012; 12: 122.
21. Aghaei N, Karbandi S, Gorji MA, Golkhani MB, Alizadeh B. Social support in relation to fatigue symptoms among patients with multiple sclerosis. Indian J Palliat Care 2016; 22(2): 163-7.
22. Motl RW, McAuley E, Snook EM, Gliottini RC. Physical activity and quality of life in multiple sclerosis: Intermediary roles of disability, fatigue, mood, pain, self-efficacy and social support. Psychol Health Med 2009; 14(1): 111-24.
23. Allahabakhshian M, Jafarpour M, Parvizi S. Spiritual well-being of patients with multiple sclerosis. Iran J Nurs Midwifery Res 2011; 16(3): 202-6.
24. Puchalski CM. The role of spirituality in health care. Proc (Bayl Univ Med Cent) 2001; 14(4): 352-7.
25. Bussing A, Wirth AG, Humbreoch K, Gerbershagen K, Schirrmeik S, Haupts M, et al. Faith as a resource in patients with multiple sclerosis is associated with a positive interpretation of illness and experience of gratitude/awe. Evid Based Complement Alternat Med 2013; 2013: 128575.
26. Imananesh S, Targari B, Tofighi M, Forouzi MA. Spiritual wellbeing and perceived uncertainty in patients with multiple sclerosis in south-east Iran. Int J Palliat Nurs 2014; 20(10): 483-92.
27. Rommer PS, Suhnel A, Konig N, Zettl UK. Coping with multiple sclerosis-the role of social support. Acta Neurol Scand 2017; 136(1): 11-6.
28. Irvine H, Davidson C, Hoy K, Lowe-Strong A. Psychosocial adjustment to multiple sclerosis: Exploration of identity redefinition. Disabil Rehabil 2009; 31(8): 599-606.
29. Lonergan R, Kinsella K, Fitzpatrick P, Duggan M, Jordan S, Bradley D, et al. Unmet needs of multiple sclerosis patients in the community. Mult Scler Relat Disord 2015; 4(2): 144-50.
30. Balto JM, Pilutti LA, Motl RW. Loneliness in multiple sclerosis: Possible antecedents and correlates. Rehabil Nurs 2019; 44(1): 52-9.
31. Hakim EA, Bkeh AM, Bryant TN, Roberts MW, McIntosh-Michaels SA, Spackman AJ, et al. The social impact of multiple sclerosis—a study of 305 patients and their relatives. Disabil Rehabil 2000; 22(6): 288-93.
32. Ghafari S, Khoshknab MF, Norouzi K, Mohamadi E. Spousal support as experienced by people with multiple sclerosis: A qualitative study. J Neurosci Nurs 2014; 46(5): E15-E24.
33. Gibson J, Frank A. Supporting individuals with disabling multiple sclerosis. J R Soc Med 2002; 95(12): 580-6.
34. Polikandrioti M, Ntokou M. Needs of hospitalized patients. Health Sci J 2011; 5(1): 15-22.
35. Pahlavanzadeh S, Dalvi-Isfahani F, Alimohammadi N, Chisats A. The effect of group psycho-education program on the burden of family caregivers with multiple sclerosis patients in Isfahan in 2013-2014. Iran J Nurs Midwifery Res 2015; 20(4): 420-5.