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Original Article / Özgün Araştırma

Hopelessness, Depression and Life Satisfaction Among Patients with Multiple Sclerosis

Multipl Skleroz Hastalarında Umutsuzluk, Depresyon ve Yaşam Doyumu

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Summary

Objective: This study was carried out to determine the level of hopelessness, depression, and life satisfaction among patients with multiple sclerosis.

Material and Method: Sixty-five patients with multiple sclerosis, treated at the neurology clinic of a university hospital, were included in this study. In this descriptive study, a data collection form developed by the researchers, the Beck Depression Scale, and the Beck Hopelessness and Life Satisfaction Scale were used.

Results: Almost half (43.1%) of the patients exhibited severe depressive symptoms. Patient's hopelessness and life satisfaction levels were moderate. The scores on depression and life satisfaction scales were correlated negatively. While patient's traits including female gender, low economic level, difficulties in walking, and fatigue were associated with reduced life satisfaction; variables such as having a child, low economic and education levels, experiencing incontinence, and fatigue were related to a higher level of depressive symptoms.

Conclusion: The majority of patients were depressed; life satisfaction and hopelessness levels were moderate. Linear regression analysis revealed that education and emotional problems determined 42% of the depression score; and economic level and emotional problems identified 32% of the life satisfaction score. *(Turkish Journal of Neurology 2014; 20:1-6)*

Key Words: Multiple sclerosis, depression, satisfaction, nursing

Özet

Amaç: Bu çalışma multipl skleroz (MS) hastalarının umutsuzluk, depresyon ve yaşam doyumu düzeyini belirlemek amacıyla yapılmıştır.

Gereç ve Yöntem: Çalışmaya, bir üniversite hastanesinin nöroloji kliniğinde tedavi gören 65 MS hastası alınmıştır. Bu tanımlayıcı çalışmada, araştırmacılar tarafından geliştirilen veri toplama formu, Beck Depresyon ve Beck Umutsuzluk ve Yaşam Doyumu Ölçekleri kullanılmıştır.

Bulgular: Hastaların yarıya yakını (%43,1) ciddi depresif semptomlar göstermektedir. Hastaların umutsuzluk ve yaşam doyumu düzeyleri ortadır. Depresyon ve yaşam doyumu ölçek skorları ters ilişkilidir. Kadın cinsiyet, düşük ekonomik düzey, yürümede zorluk ve yorgunluk gibi hasta özellikleri bozulmuş yaşam doyumuna eşlik ederken çocuk sahibi olma, düşük ekonomik ve eğitim düzeyi, inkontinans ve yorgunluk deneyimleme gibi değişkenler yüksek düzeyde depresif semptomlarla ilişkilidir.

Sonuç: Hastaların çoğunluğu depresyondadır; yaşam doyumu ve umutsuzluk düzeyleri ortadır. Linear regresyon analizi, eğitim ve duygusal problemin depresyon ölçeği skorunu %42 oranında, ekonomik düzey ve duygusal problemin ise yaşam doyumunu %32 oranında belirlediğini göstermiştir. *(Türk Nöroloji Dergisi 2014; 20:1-6)*

Anahtar Kelimeler: Multipl skleroz, depresyon, yaşam doyumu, hemşirelik

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Introduction

With a progressive chronic illness such as multiple sclerosis (MS), a wide range of symptoms can be experienced, ranging from physical and cognitive complaints including difficulty walking, fatigue, muscle spasms, memory and other cognitive disorders, bladder problems, pain, vision problems, dizziness, and intestinal problems, to psychological issues including depression, mood disorders and hopelessness (1). Not only do patients with MS need to cope with these unsteady symptoms and unpredictably deteriorating health, but they also need to adapt to changing social, economic and marital circumstances (2). The impact of MS and the associated physical, social, and/or economic problems that the patients experience contribute to the development of psychological problems. Depression was reported as the most common psychiatric problem associated with MS, compared to other chronic diseases (3,4). In a study comparing the ratio of depression between three neurological disorders, namely MS, epilepsy, and amyotrophic lateral sclerosis, patients with MS demonstrated a significantly higher rate of depressed affective disorder than patients with the other two diseases (5). Cetin et al. reported that 26% of the patients with MS experienced severe depression and 26% experienced moderate depression (6). Additionally, Chwastiak et al. determined that 41.8% experienced depressive symptoms (7). A decrease in social activity and difficulty maintaining indoor and outdoor tasks following the MS diagnosis were commonly associated with depression. In addition, certain patient demographics revealed a number of risk factors for depression, including female gender, age under 35 years, family history of major depression (8), severity of the disease (9), functional limitations (10), localization of brain lesions (11), cognitive impairment (12,13), and social support (12,14).

Hopelessness is the earliest symptom to appear and the last one to remit in depression (15,16). The literature suggests that thoughts of hopelessness appear to be the subjective expressions of depression (15,17). Although hopelessness is remarkably frequent with MS, as a precursor of depression, there is a paucity of research on this subject. Only two exploratory studies were found in the literature investigating hopelessness in MS. Patten and Metz suggested that the level of hopelessness was high in MS and that depression was strongly associated with hopelessness (18). Similarly, Sinnakaruppan et al. indicated that hopelessness is prevalent in MS patients, with 64.3% including one quarter severely influenced (19). Even though the associated factors for hopelessness were not examined in the study, these factors can be presumed to be concomitant for depression. Managing depression and hopelessness properly will contribute to improved quality of life and life satisfaction in patients with MS.

Considering the high ratio of depression and physical disturbances in MS, it is not surprising that this patient population had low quality of life (20,21). Quality of life for the patients with MS was influenced negatively by having chronic disease other than MS, duration of MS, physical disability (20), depression and anxiety (20,22), cognitive dysfunction, changing roles in work and family life, and fatigue (21). Chahroui et al. indicated that patients with MS had a low general satisfaction of subjective quality of life and that depression correlated with low quality of life (23). Jønsson et al. concluded that the symptoms of MS including weakness and cognitive problems caused an increase in the incidence of depressive symptoms and decrease in the quality of life in MS patients (24). Although a wide range of studies was conducted to identify quality of life in MS (20-24), a study was conducted to investigate life satisfaction in these patient groups (25).

The aim of the study was to determine the rates of depressive symptoms, the levels of hopelessness and life satisfaction in patients with MS, the correlations among depressive symptoms, hopelessness and life satisfaction, and the influences of patients' socio-demographic and medical traits on depressive symptoms, hopelessness and life satisfaction.

Materials and Methods

Participants

The study sample consisted of 65 MS patients treated at the neurology clinic of a university hospital. The appropriate sample size was determined by power analysis (alfa=0.05, mean=26.2, SD=10.1). All patients over the age of 17 were included in the study. The data was collected by researchers during individual meetings with the patients. A pilot study was conducted with 10 patients in the neurology clinic.

Instruments

The data was collected using a data collection form developed by the researchers, The Beck Depression Scale (0-13:no depression, 14-24:moderate depression, 25-63:severe depression) (26), The Beck Hopelessness Scale (min:0, max:20; the high score indicates high hopelessness) (27), and Life Satisfaction Scale (min:5, max:35; the low score indicates low life satisfaction) (28). The data collection form consisted of open and closed ended questions. There were questions related to socio-demographic characteristics of patients in the first part and questions aimed to determine the daily effects of symptoms experienced by MS patients, in the second part.

Data Analysis

SPSS 15.0 (Statistical Programme for Social Sciences) package program was used for the data analysis. Along with descriptive statistical methods (mean, standard deviation), the chi-square test was used for comparisons of qualitative data. Because the data did not show a normal distribution (Kolmogorov-Simirnow value of Beck Hopelessness Scale $z=2.491$, $p>0.005$, Kolmogorov-Simirnow value of Beck Depression Scale $z=1.793$ $p<0.005$, Kolmogorov-Simirnow value of Life Satisfaction Scale $z=0.994$, $p>0.005$), Mann-Whitney U test for two-group comparisons, and Kruskall-wallis H test for three or more group comparisons were used. Linear regression analysis was applied to ascertain the predictors of depression and life satisfaction scores.

Ethical Considerations

The study was reviewed and approved by the study institution. Informed consent was obtained from each of the patients after written and verbal explanations of the study's purpose and the confidentiality of the data.

Results

The mean age of the sample was 32.9, 69.2% were female, 40% were college graduates, 60.5% were married, 52.3% had children, and 55.4% had moderate economic status. The mean number of MS symptoms for the patients was 7.2; 53.8% were diagnosed with and have had MS for more than five years. The most common symptoms were fatigue (90.8%), balance disorder

(84.6%), gait disorder (81.5%), pollakiuria (72.3%), pain (69.2%), emotional problems (69.2%), intestinal problems (61.5%), urinary incontinence (58.5%), visual impairment (56.9%), mental problems (50.8%), and speech disorder (30.8%).

According to the Beck Depression Scale, 43.1% experienced severe depressive symptoms and 26.2% presented moderate depressive symptoms. The mean score of Life Satisfaction Scale was 18.01±9.71 and Beck Hopelessness Scale score was 9.86±2.34. In other words, the hopelessness level and life satisfaction of the patients were moderate. The statistical analysis showed that there was a strong negative correlation between depression and life satisfaction scales. As depression scale score increased, life satisfaction scale score decreased significantly ($p<0.001$) (Table 1). However, the statistical analysis revealed no correlation between depression and hopelessness scales ($p=0.129$).

Life satisfaction score of females was lower than males ($p=0.038$); depression score decreased so long as education level increased ($p<0.001$); depression score of those with children was high ($p=0.014$); depression score increased ($p=0.001$) and life satisfaction score decreased ($p=0.003$) as economic conditions deteriorated (Table 2). Moreover, depression scale score was high for those with incontinence problem ($p=0.013$); life satisfaction scale score was low for those with gait problem ($p=0.035$); depression score increased ($p=0.003$) and life satisfaction score decreased

Table 1. Correlations among hopelessness, depression and life satisfaction scale scores

Scale	Hopelessness p/r valeus	Depression p/r valeus	Life Satisfaction p/r valeus
Hopelessness		0.129*/-0.190	0.123*/-0.193
Depression	0.129*/-0.190		0.000*/-0.512
Life Satisfaction	0.123*/-0.193	0.000*/-0.512	

*Spearman correlation test.
Correlations were significant at $p\leq0.01$ level

Table 2. The differences of the hopelessness, depression and life satisfaction scale scores by the demographic characteristics

Demographic characteristics	Hopelessness Scale				Depression Scale				Life Satisfaction Scale			
	n	Min-Max	Median		n	Min-Max	Median		n	Min-Max	Median	
Age												
25 and below	11	3-12	9	$\chi2$: 1.193	11	2-46	26	$\chi2$: 0.858	11	6-34	23	$\chi2$: 2.048
26-39	40	7-15	10	p: 0.521	40	0-55	18	p: 0.651	40	0-35	19.5	p: 0.30
40 and above	14	3-15	10		14	3-43	25.5		14	3-34	13	
Gender												
Female	45	3-15	9	U: 377	45	2-55	23	U: 321	45	0-35	14	U: 304.500
Male	20	7-15	10.5	p: 0.0.294	20	0-43	13.5	p: 0.067	20	3-31	23.5	p: 0.038
Marital status												
Married	40	3-15	10	U: 399	40	0-55	23	U: 461.5	20	3-35	21.5	U: 423.5
Single	25	3-13	9	p: 0.169	25	2-46	18	p: 0.603	25	0-34	17	p: 0.302
Child												
Yes	34	3-15	10	U: 499	34	3-55	28.5	U: 339.5	34	0-35	18.5	U: 511
No	31	3-14	9	p: 0.710	31	0-46	16	p: 0.014	31	5-34	19	p: 0.833
Education												
Primary school	19	3-15	9	$\chi2$: 3.489	19	11-55	35	$\chi2$: 24.248	19	5-35	15	$\chi2$: 3.136
High school	17	7-14	10	p: 0.175	17	2-49	23	p: 0.00	17	0-34	15	p: 0.208
University	29	3-13	10		29	0-32	12		17	5-34	21	
Economic status												
High	19	7-13	10	$\chi2$: 1.373	19	2-37	17	$\chi2$: 13.704	19	8-35	23	$\chi2$: 11.334
Moderate	36	3-14	10	p: 0.503	36	0-55	16.5	p: 0.001	36	0-31	20.5	p: 0.003
Low	10	8-15	8.5		10	18-46	34		10	3-17	8	

(p=0.006) with the experience of emotional problems (Table 3). In addition, although not shown in the table, as patients' number of symptoms increased, increase in depression scale score (p=0.010, r=0.349) and decrease in life satisfaction scale score (p=0.042, r=-0.278).

Linear regression was performed to reveal the predictors of the depression scale scores. Accordingly, education and emotional problems explained 42% of depressive symptoms. As for life satisfaction, another linear regression model was set up using gender, economic level and emotional problems as predicting variables. According to the statistical analysis, economic level and emotional problems appeared to explain 32% of the life satisfaction scores (Table 4).

Discussion

This study revealed that patients with MS were in a moderate hopelessness and life satisfaction level; the majority had depressive symptoms in moderate to severe levels and almost all experienced physical disorders including fatigue and gait-balance problems. Though a strong, negative correlation was determined between depression scale and life satisfaction, depression and hopelessness scores were not correlated. The literature suggests that quality of life deteriorats in patients with MS and a high level of depression is connected to the lower quality of life (29,30). Moreover, there is a consensus on the association between hopelessness and depression in MS (18,19). Füvesi et al. indicated that the quality of life in MS deteriorates moderately and that there is a negative correlation between depression and quality of life (30). Similarly, Janardhan & Bakshi concluded that along with depression, physical disability including fatigue was associated with impaired quality of life in MS (31). Patten et al. also reported the correlation between depression and quality of life and indicated that less than half of the patients with MS exhibited depressive symptoms (32). Likewise, Bamer et al. notified that about half of the patients with MS were affected by depressive symptoms (33). In our study, the ratio of depressive symptoms was higher than the prevalence reported in the literature, possibly due to the relatively young study population admitted to the university hospital. Young study population may have failed in the management of MS symptoms. Since depression and hopelessness were not correlated significantly in this study, a more comprehensive explanatory study should set out to investigate the reason for a high ratio of depression in MS. Within a limited study on hopelessness, Sinnakaruppan et al. confirmed that hopelessness as a system of negative expectancies about life events was prevalent in a particular patient group with negative control over life events in general (19). Hence, more attention should be paid to ascertain the influential factors on hopelessness in MS in the context of perceived control of life.

A higher score on the depression scale was significantly associated with certain patient characteristics including low education and economic level, having a child, experiencing incontinence and higher number of symptoms of MS in this study. In addition, linear regression showed education level and emotional problems as determinants on the depression scale (R^2=0.419). Accordingly, the study conducted on chronic diseases clarified that low education level was related to higher depression scores

Table 4. Determinants of Beck Depression Scale and Life Satisfaction Scale

Determinants of Beck Depression Scale	Beta	Std. Error	p
Constant	32.949	4.112	0.000
Education level	-7.803	1.517	0.000
Emotional problem	9.747	3.083	0.003
R^2	0.419		
Determinants of Life Satisfaction Scale	**Beta**	**Std. Error**	**p**
Constant	15.485	4.868	0.003
Gender	-4.800	2.518	0.062
Economical level	4.648	1.670	0.008
Emotional problem	-6.913	2.563	0.010
R^2	0.322		

Table 3. The differences on the hopelessness, depression and life satisfaction scale scores by the symptoms experienced by the patients

Experienced symptoms	Hopelessness Scale n	Min-Max	Median		Depression Scale n	Min-Max	Median		Life Satisfaction Scale n	Min-Max	Median	
Incontinence												
Yes	38	3-15	9.5	U:493.5	38	0-55	29	U:326.5	38	0-35	16	U:416
No	27	3-13	10	p:0.793	27	2-49	16	p:0.013	27	5-34	22	p:0.196
Gait problem												
Yes	53	3-15	10	U:313	53	0-55	23	U:227	53	0-35	15	U:193.5
No	12	7-13	10	p:0.932	12	2-49	13.5	p:0.124	12	8-34	28.5	p:0.035
Emotional problems												
Yes	45	3-15	9	U:363	45	2-55	28	U:240	45	0-35	15	U:255.5
No	20	8-13	10	p:0.211	20	0-37	11	p:0.003	20	5-32	26.5	p:0.006

(34,35). Bamer et al. indicated that lower education was associated with clinically significant levels of depressive symptoms with MS. Education may contribute to improve interpersonal communication skills, awareness of health problems and consequent ability to cope effectively with stress caused by disease symptoms (33). Along with low education level, low economic condition was also identified to have negative impact on depression in the literature (7,33). In a cross-sectional study Nicholson et al. depressive symptoms were higher among people with less favorable economic conditions (36). In addition, Schwartz and Frohner reported that MS patients with young children experienced psychiatric diseases more frequently (12). The unpredictable progression of MS may contribute to a higher level of depression among patients with a child due to uncertainty about the future.

There is strong evidence in the literature regarding the relationship between higher number of symptoms and higher level of disability, and depression (10,20,31,37-39). By restricting patients' daily activities and leading to social isolation, symptoms such as incontinence may be overwhelmingly conducive to depressive symptoms in chronic diseases (40). Steers and Lee determined that depression was common among individuals with urinary incontinence (41). Incontinence negatively influences emotional state, reduces self-confidence and social status, and leads to social isolation (42).

The patients' traits including female gender, low economic level and gait problems were associated with low life satisfaction in this study. Of the life satisfaction score, 32% were determined by economical level and emotional problem. Even though no significant correlation was observed in terms of gender in Papuc & Stelmasiak's study, low economic level was correlated with low quality of life (29). Economic condition is a major determinant of life satisfaction, considering that a high purchase power allows for an easy access to health and social resources and ensures security about the future. On the contrary, poverty can lead to loss of self-confidence, self-respect, and lack of status in society. Health status and life satisfaction of the patients suffering from MS have been negatively affected by the degree of their physical disability (37). According to the literature, quality of life and life satisfaction of the patients with physical disability were low (38,39). Zwibel indicated that difficulty walking was ranked the first predictor of quality of life in MS patients (43). As gait is an essential requirement of maintaining independence, the negative influence of walking disorders on life satisfaction is a predictable consequence.

Limitations

Since the participants in the study were recruited from one university hospital, the results can merely represent the study population. It cannot be assumed that the sample used was representative of the entire population of patients with MS in Turkey. This potentially limits the generalizability of the findings. Even though the study elucidated the role of depressive symptoms, hopelessness and life satisfaction in MS, further research is needed to gain deeper understanding on the issues highlighted in the present study.

Conclusions

Along with moderate hopelessness and life satisfaction, the majority of the patients had depressive symptoms at moderate to severe levels. While depression scale and life satisfaction were strongly and negatively correlated, the correlation between depression and hopelessness scores was not significant. Patients with emotional problems revealed a high score of depression and a low score of life satisfaction. As the variables including low education and economic level, having a child, experiencing incontinence and higher number of symptoms were associated with a higher score of depression scale, traits such as female gender, low economic level and gait problems were related with low life satisfaction. According to the regression analysis, education and emotional problems explained 42% of the variance in the depression scale scores and economic level and emotional problems explained 32% of the variance in the life satisfaction scale.

In MS, necessary clinical attention needs to be paid to psychological disorders including depressive symptoms and hopelessness, as emotional problems negatively impact the life satisfaction. When evaluating patients with MS in terms of depression, hopelessness and life satisfaction, the patient characteristics highlighted in this study should be considered vulnerable.

Conflict of interest statement

The authors declare that there are no conflicts of interest about this study.

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