Neurology Asia 2025; 30(4) : 1169 – 1177

Effect of health fatalism on health perception and health-seeking behavior with multiple sclerosis patients

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Abstract

Objectives: The objective of this study was to ascertain the effect of health fatalism on health perception and health-seeking behavior with multiple sclerosis in Türkiye. *Methods:* This cross-sectional and descriptive study was conducted between September 2023 and August 2024. The study sample consisted of 382 patients with MS, obtained through the snowball sampling method. The data collection tools included the descriptive information form, Health Fatalism Scale, Health Perception Scale, and Health Seeking Behavior Scale. The data were evaluated using means, percentage calculations, t test, variance analysis, Mann Whitney U test, Kruskal Wallis test and MANOVA.The level of significance was set at $p < 0.05$. *Result:* Among the participants, 86.6% were female, 63.7% had obtained a university degree, 65.8% were married, 46.2% were not employed, 70.2% had a moderate income, 88.3% took their medications as prescribed, and 89.9% underwent regular health examinations. The Health Fatalism Scale was found to be 40.40 ± 15.19. The total score for the Health Perception Scale was 50.73 ± 7.18. The mean total score for the Health Seeking Behavior Scale was 38.60 ± 8.44. The effect of health fatalism on the total score of the health perception scale was found to be significant (p=0.005), with health perception explained by health fatalism to the extent of 10.9%. However, no effect of health fatalism on health-seeking behavior was observed (p=0.987).
Conclusion: It was observed that as health fatalism increased, health perception was negatively affected. However, health perception and health fatalism did not affect health-seeking behavior.

Keywords: fatalism; multiple sclerosis; nursing; perception health; seeking behavior health.

INTRODUCTION

Multiple Sclerosis (MS) is an autoimmune, chronic, and demyelinating disease that affects the central nervous system (CNS) in individuals between the ages of 20 and 40.[1] It is known that the number of patients with MS increased from 2.8 million in 2020 to 2.9 million in 2023. It is estimated that 300 people worldwide are diagnosed with MS every day.[2] MS is a significant disease that can result in disability, affecting various physical, emotional, social, and cognitive functions. The disease progresses with attacks and exhibits clinical differences between individuals. While it is more prevalent in young adults, advanced age is associated with an increased mortality rate.[1,3]

The disease presents a challenging process due to its variable nature, treatment methods, its course with attacks and possible loss of function. On the other hand, MS patients' compliance with treatment is also quite variable.[4] This situation not only paves the way for an increase in relapses but also negatively affects the patient's prognosis.[5] A meta-analysis study reported that MS patients' compliance with treatment varies from 52% to 92.8% and that poor compliance with treatment in MS patients worsens clinical prognosis.[6] All of these processes can often lead to a perception that the patient has lost control and that further efforts against the disease are futile. Consequently, this can also foster a fatalistic understanding in the patient. Health fatalism reflects the belief

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Date of Submission: 20 January 2025; Date of Acceptance: 12 September 2025

https://doi.org/10.54029/2025fsi

that health problems are generally beyond human control.[7] An individual who exhibits high levels of health fatalism will perceive their health to be contingent on fate or divine will.[8] Those who espouse fatalistic beliefs may engage in behaviors that are detrimental to their health, such as neglecting self-care, due to their perception that their health and disease states are an unyielding and inevitable phenomenon.[8,9] In fatalism, self-efficacy and success expectations are constrained by the assumption that events and situations are unlikely to change. This assumption has the potential to affect numerous domains related to health, including the individual's perception of illness/health, access to health services, compliance with treatment, and healthy lifestyle behaviors. A study conducted with epilepsy patients in Türkiye reported high levels of health fatalism.[10]

Upon receiving a diagnosis of a chronic disease, individuals are compelled to adapt, cope, and make sense of the situation. As a result, they are likely to form a health perception about their current situation. Health perception can be defined as an individual's assessment of their own health status. When individuals have positive beliefs about their own health, this is referred to as having "good health perception." Conversely, when individuals have negative beliefs about their own health, this is referred to as having "poor health perception.[11] Similar to health fatalism, health perception is one of the factors that can create changes in health-related behaviors and in assuming responsibilities. This can often result in either exaggerated health-seeking behavior or indifference in seeking health. Health-seeking behavior refers to the actions people take to find an appropriate solution to both current and potential health problems.[12] Furthermore, it serves as a coping mechanism for managing the disease and alleviating the stress associated with it.[13] It can be seen that a number of factors can affect both health perception and health-seeking behavior. In order to achieve a positive and balanced outcome in relation to these two concepts, it is necessary to investigate the factors that can influence them. In particular, the understanding of fatalism, which distorts reality and prevents people from taking responsibility, can be directly related to these two concepts. There is no study examining health fatalism and health seeking behavior in MS patients in Türkiye. However, studies conducted in a different population reported that health fatalism negatively affects health seeking behavior.[14] It is therefore of great importance to ascertain the impact of health fatalism on these concepts. It is evident that elucidating the relationship between health fatalism, health perception, and health seeking behavior will facilitate more efficacious guidance of patients with MS by health professionals and contribute to more optimal disease management.

METHODS

The study was designed as a cross-sectional and descriptive investigation. The study population consisted of individuals diagnosed with MS in Türkiye, and the sample size was 382 patients with MS. Patients diagnosed with MS who met the inclusion criteria and agreed to participate in the study between September 2023 and August 2024 were included in the study without any sample selection. The data were collected using the snowball sampling method, and the measurement tools were delivered to the other participants after the first contact person. To avoid duplicate data, the possibility of multiple responses over the digital platform was restricted. No research in the literature matches the primary outcome of this study. Accordingly, the sample size was determined based on the total number of patients in Türkiye. A total of 58,401 individuals in Türkiye are diagnosed with MS.[2] The analysis, conducted with a power ratio of 95% and a margin of error of 0.5, indicated that the sample should consist of at least 382 individuals.

The inclusion criteria were as follows: the ability to verbally communicate, read, and write in Turkish, the capacity to consent to participate in the study, an age of at least 18 years, and a diagnosis of MS at least one year prior. Individuals who met any of the following criteria were excluded from the study: a physical, mental, or psychological diagnosis that may interfere with communication; incorrect or incomplete data on the data collection form; a desire to withdraw from the study at any point; and active attack process.

Data collection tools

The descriptive information form created by the researchers, Health Fatalism Scale, Health Perception Scale and Health Seeking Behavior Scale were used as data collection tools.

Descriptive Information Form: A questionnaire was developed by the researchers in accordance with existing literature and consists of 9 questions designed to ascertain the socio-demographic characteristics of the patients.[8,9]

Health Fatalism Scale (HFS): The Health Fatalism Scale, as developed by Franklin, Schlundt, and Wallson (2008), was utilized as a data collection instrument.[15] The validity and reliability of the scale were investigated in Türkiye by Bobov and Çapık (2020).[9] The objective of the scale is to ascertain whether there is a correlation between general health fatalism and health behaviors. The Turkish version of the scale is one-dimensional and consists of 17 items. Individuals can obtain a minimum score of 17 and a maximum score of 85 on the scale. As the scale score increases, the level of fatalism tendency also rises. In this study, the Cronbach's alpha value was determined to be 0.94.

Health Perception Scale: The 15-item scale was developed by Diamond *et al*. (2007) for the purpose of measuring health perception.[16] The Turkish validity and reliability study of the scale was conducted by Kadıoğlu and Yıldız.[17] The scale is a five-point Likert scale comprising four sub-dimensions: locus of control, self-awareness, certainty, and the importance of health. The scale allows for a minimum score of 15 points and a maximum score of 75 points to be obtained. An increase in the score indicates that the perception of health has increased positively. In this study, the Cronbach's alpha value was determined to be 0.67.

Health Seeking Behavior Scale: The Health Seeking Behavior Scale, as developed by Kıraç and Öztürk (2021), is comprised of 12 items and is organized into three sub-dimensions. These are the "Online Health Seeking," "Professional Health Seeking," and "Traditional Health Seeking "sub-dimensions.[12] Scores between 12 and 60 can be obtained from the scale, with a higher score indicating a greater propensity for health-seeking behavior. In this study, the Cronbach's alpha value was determined to be 0.82.

Data analysis

The data from the study were analyzed using IBM SPSS Statistics 22 and the PROCESS macro, which is an add-on of this program (IBM Corp., Armonk, New York, USA). The conformity of the variables to the distribution was tested using the Shapiro-Wilk/Kolmogorov-Smirnov test. The variables were found to be normally distributed according to the kurtosis and skewness coefficients, the coefficient of variation, and the results of the Shapiro-Wilk/Kolmogorov-Smirnov test. The data were evaluated using means, percentage calculations, t test, variance analysis, Mann Whitney U test, Kruskal Wallis test and MANOVA. The threshold for statistical significance was set at a p-value of less than 0.05.

Ethics

The study was conducted with the approval of the Ondokuz Mayıs University Clinical Research Ethics Committee (2023-B.30.2.ODM.0.20.08/358-443). Prior to commencing the survey, participants were required to indicate their consent to participate in the study. The questionnaire and scale form were completed in approximately 10 minutes.

RESULTS

Among the participants, 86.6% were female, 63.7% had obtained a university degree, 65.8% were married, 46.2% were not employed, 70.2% had a moderate income, 88.3% took their medications as prescribed, and 89.9% underwent regular health examinations. When the distribution of scale scores according to sociodemographic variables was examined; it was determined that the fatalism scale in health was statistically significantly affected by the variables of employment status and education level (p=0.000). A statistically significant difference was determined between the health perception score and the variables of employment status, income level and education level ($p<0.05$). In addition, a negative significant correlation was determined between the health perception and the variables of age and disease duration (r: -0.154, p:0.006; r: -0.122, p:0.033, respectively). Health seeking behavior scores showed a negative significant correlation only with the variable of disease duration (r: -0.130, p:0.024) (Table 1).

The Health Fatalism Scale was found to be 40.40 ± 15.19. The total score for the Health Perception Scale was 50.73 ± 7.18. The subscale exhibiting the highest mean score was that of locus of control with a mean of 17.07 ± 4.39. The mean total score for the Health Seeking Behavior Scale was 38.60 ± 8.44. The subscale with the highest mean score was that of online health seeking behavior. with a mean of 19.40 ± 5.61. (Table 2).

The MANOVA analysis of the scale and its sub-dimensions revealed that health fatalism had an effect only on the total score of the health perception scale and the locus of control sub-dimension score (p = 0.005. 0.000. respectively). The results indicated that health fatalism

Table 1: Distribution of scale scores according to sociodemographic variables

Variables	n (%)	Health Fatalism Scale	Health Perception Scale	Health Seeking Behavior Scale
Age (Mean±SD)*	36.09±9.39			
r		0.027	-0.154	-0.097
p		0.636	**0.006**	0.088
Disease of duration(Mean±SD)*	8.64±6.39			
r		0.036	-0.122	-0.130
p		0.526	**0.033**	**0.024**
Sex				
Female	282 (86.6)	40.42±14.91	50.53±7.16	38.80±8.36
Male	43 (13.2)	40.29±17.15	52.18±7.27	37.21±8.98
t		0.051	-1.327	1.091
p		0.163	0.622	0.773
Working Status				
Employed	150 (46.2)	144.30	168.42	162.75
Unemployed	133 (40.9)	186.78	142.56	144.90
Retired	23 (7.1)	123.59	127.33	139.26
Student	19 (5.8)	151.94	195.33	191.89
KW		18.912	11.308	6.425
p		**0.000**	**0.010**	0.093
Income level				
less than expense	31 (9.5)	41.19±14.40	48.20±8.41	38.43±8.31
equal to expense	228 (70.2)	38.01±15.83	50.37±6.75	37.98±8.28
more than expense	66 (20.3)	39.74±13.11	53.09±7.43	40.71±8.44
F		1.135	5.876	2.665
p		0.323	**0.003**	0.071
Education Status				
Primary School	31 (9.5)	51.03±20.26	45.44±6.69	36.30±11.14
SecondarySchool	23 (7.1)	46.58±13.31	47.81±5.82	35.38±5.82
High School	64 (19.7)	45.54±15.50	48.57±5.35	38.30±8.66
University	207 (63.7)	36.40±13.28	52.49±7.12	39.33±8.12
F		15.915	14.574	2.213
p		**0.000**	**0.000**	0.087
Marital Status				
Married	214 (65.8)	42.04±15.02	50.17±6.94	38.26±8.68
Single	111 (34.2)	37.22±15.08	51.79±7.53	39.24±7.97
t		2.715	-1.903	-0.980
p		0.739	0.253	0.596
Regular use of medicines (as prescribed)				
Yes	287 (88.3)	39.87±14.82	50.85±7.31	38.89±8.43
No	38 (11.7)	44.48±17.42	49.71±5.91	36.00±8.23
t		-1.743	0.846	1.821
p		0.195	0.146	0.831
Regular health check-ups (at least once a year)				
Yes	292 (89.8)	158.78	159.24	158.21
No	33 (10.2)	175.94	132.52	148.92
U		5102.0	3712.5	4002.5
p		0.319	0.112	0.672

*Pearson corelation; KW: KruskalWallis. U: Mann WhitneyU

Table 2: Scale scores

Scales	Mean ±SD	Min-Max
Health Fatalism Scale	40.40±15.19	18-85
Health Perception Scale	50.73±7.18	31-69
Locus of Control	17.07 ±4.39	5-25
Self-Awareness	10.17±2.31	3-15
Certainty	12.38±3.69	4-20
Importance of Health	11.03±2.33	4-15
Health Seeking Behavior Scale	38.60±8.44	12-60
Online Health Search Behavior	19.40±5.61	6-30
Professional Health Seeking Behavior	10.37±2.84	3-15
Traditional Health Seeking Behavior	8.82±2.72	3-15

accounted for 10.9% of the variance in health perception and 25.4% of the variance in the locus of control sub-dimension. However. no significant effect of health fatalism was observed on health-seeking behavior and its sub-dimensions ($p > 0.05$)(Table 3).

DISCUSSION

The results of the study indicated it was determined that health fatalism is affected by employment status and education level. Accordingly, unemployed individuals show a higher fatalism approach compared to other groups. It was determined that the fatalism approach increases as the education level decreases. Kıyak *et al*. also reported that unemployed and illiterate patients have higher health fatalism in their study with epilepsy patients.[18] This result of the study is similar to other studies that examined different sample groups.[10,19,20] It has been determined that unemployed individuals with low income levels have a worse perception of health and that the perception of health becomes more negative as the level of education decreases. Being unemployed and having a low income level negatively affects the psychological well-being of MS patients and causes a negative perception of health. Studies have reported that economic problems negatively affect the health, disease perception and general well-being of MS patients.[21,22] Considering that the disease occurs in young adulthood and variable treatment costs, these results are among the expected results.

Health perception is negatively affected as age and years of disease progress. A study on health perception in patients with MS revealed that young adults exhibited poorer health perception than patients under 25 years of age. with only 29.5% of the former group rating their health as good.[23] It has also been reported that as the

Table 3: MANOVA analysis of the scale and its sub-dimensions

	Scale and subscale scores	SoS	DF	MoS	F	p	η^2
HEALTH FATALISM	**Health Perception[a]**	4280.880	56	76.444	1.659	**0.005**	0.274
	Locus of Control[b]	2292.062	56	40.930	2.834	**0.000**	0.392
	Self-Awareness[c]	372.559	56	6.653	1.266	0.116	0.224
	Certainty	787.037	56	14.054	1.068	0.360	0.196
	Importance of Health	279.700	56	4.995	0.883	0.706	0.167
	Health Seeking Behavior[f]	2601.038	56	46.447	0.603	0.987	0.121
	Online Health Search Behavior[g]	1534.389	56	27.400	0.835	0.787	0.160
	Professional Health Seeking Behavior[h]	438.311	56	7.827	0.964	0.551	0.180
	Traditional Health Seeking Behavior[i]	443.829	56	7.926	1.094	0.318	0.199

SoS: Sum of squares; MoS.: Mean of squares; DF: Degrees of Freedom. η2 : Partial eta squared
[a]R^2 =0.109; [b]R^2 =0.254; [c]R^2 =0.047; [d]R^2 =0.012; [e]R^2 =0.022;[f]R^2 =0.079; [g]R^2 =0.032; [h]R^2 =0.007; [i]R^2 =0.017

duration of the disease progresses, the quality of life of patients is negatively affected and the negative impact of MS on the quality of life increases.[24] Health-seeking behavior decreases as the duration of the disease increases (Table 1). Health-seeking behavior is affected by disease-related factors such as treatment of the disease, time spent with the disease, stigma related to the disease, symptom burden, and access to health services, as well as personal factors.[25] This result of the study can be interpreted as the patients' hope for recovery decreasing over time, or it is thought that it may have developed due to the increase in self-management of the disease.

The results of the study indicated that patients with MS exhibited a low level of health fatalism tendency (40,40±15,19; Min-Max:17-85). However. it is notable that the literature on this topic has yielded disparate findings across different study groups. For instance. studies conducted in Türkiye have reported a relatively high prevalence of health fatalism tendency.[9,10,18,26,27] A study conducted in Indonesia revealed that patients with diabetic foot ulcers exhibited a proclivity towards health fatalism.[28] A study conducted in Jordan with individuals diagnosed with cancer and chronic non-cancer diseases revealed that the general tendency towards health fatalism was low. However. this tendency was found to be even lower in individuals with chronic non-cancer diseases.[29] A study conducted in former Soviet countries, including Georgia, Russia, Belarus and Ukraine, revealed that fatalism exhibited a cultural variability. The highest level of fatalism was observed in Georgia. while Belarus exhibited the lowest level of fatalism.[30] A multitude of factors has been identified as influencing the comprehension of health fatalism. Personal factors. in addition to cultural. geographical. and belief-related elements. have been demonstrated to impact the interpretation of fatalism. Socioeconomic status and educational status have also been shown to influence health fatalism. with the inclination towards fatalistic attitudes observed to diminish as educational attainment and socioeconomic position increase.[26,31] In the sample of this study. 63.7% of respondents indicated that they were university graduates. while only 9.5% reported poor economic conditions. Consequently, it can be posited that economic status and educational status exert a significant influence on the observed results. along with other factors that shape health fatalism.

Considering the health perception scale score range (Min-Max: 15-75), it was determined that the health perception of MS patients participating in the study was at a moderate level (50.73±7.18). The highest scoring sub-dimension was locus of control. A similar finding was reported in a study conducted by Gür and Sunal with coronary heart disease patients, where health perception was also at a moderate level and the highest scoring sub-dimension was locus of control.[32] The perception of health is known to be influenced by a number of personal factors, in addition to an individual's level of health literacy.[33,34] In this study, the mean age of the patients (36.09±9.39) was considered to be within the range of young adulthood. This age constitutes a period of intense productivity, and thus the results are likely to be affected by age and similar personal factors.

The health-seeking behavior of patients with MS was found to be at a moderate level (38.60±8.44; Min-Max:12-60). Upon examination of the sub-dimensions, it was determined that patients engage in online health-seeking behavior the most. In a study conducted in Türkiye, it was established that online searches related to MS have increased steadily since 2018, with a significant surge at the onset of the pandemic. The most frequently searched topics pertained to MS symptoms, diagnosis, and treatment process.[35] A study revealed that individuals in good health exhibited the most professional health-seeking behavior.[36] In a separate study, it was demonstrated that individuals diagnosed with MS found social media platforms and MS-specific websites to be beneficial resources for obtaining support and information. particularly regarding lifestyle modifications and self-management strategies.[37] A meta-analysis study reported that online health search behavior was high. similar to the results of this study. Conversely, it was found that patients with MS consulted online resources predominantly, despite expressing concerns about the quality of the content. Moreover, very few of them shared this information with their doctors. who were their professional support providers.[38] It is anticipated that online health search behavior will become more prevalent due to the accessibility of online health platforms, the tendency for individuals in younger age groups to utilize these platforms, and the advancement of technology. Conversely. online platforms often serve as a conduit for patients to inquire about sensitive topics with greater comfort and privacy. Consequently, it is plausible that online health search behavior will increase (Table 2).

The impact of health fatalism on health perception was investigated and it was found

that health perception is influenced by health fatalism at a rate of 27.4% and locus of control at a rate of 39.2% (Table 3). Consequently, it can be posited that as the level of health fatalism rises, health perceptions are adversely affected in patients with MS, yet this does not affect their health-seeking behavior. The locus of control sub-dimension was the sole element affected in relation to health perception. The locus of control sub-dimension pertains to the extent to which an individual attributes their health status to factors external to themselves. such as luck. fate. or religious beliefs. In other words. it concerns the extent to which an individual attributes control over their health and capacity for self-change to themselves. It can be reasonably inferred that the tendency towards health fatalism may exert an influence on this outcome. In a study conducted by Bahçeçioğlu *et al*. with hemodialysis patients. it was reported that patients' perception of illness exhibited a negative correlation with an increase in fatalism tendency.[8] A study conducted in patients with cancer revealed that an increased sense of fatalism was associated with heightened fear of the disease and a more pessimistic outlook.[39] In a separate study, it was demonstrated that fatalism did not impede the patient's ability to manage their pain.[29] Nevertheless. the notion of fatalism may serve to impede the acquisition of knowledge and the implementation of preventive measures.[40]

In conclusion, the results of this study conducted in Türkiye indicate that individuals with MS exhibit low levels of fatalism and moderate levels of health perception and health-seeking behavior. Notably. the majority of patients with MS utilize online health-seeking behavior. The findings suggest that as health fatalism increases. health perception is negatively affected. However. the patients' health perception does not influence their health-seeking behavior. Conversely. health fatalism does not affect health-seeking behavior.

In light of these findings. it is imperative for nurses and other healthcare professionals to be cognizant of the fatalistic tendencies exhibited by patients with MS, as such tendencies have a significant impact on health perceptions. Conversely, it is important to note that patients do not cease seeking healthcare. regardless of their level of health fatalism or their perception of their own health. It is recommended that nurses caring for patients with MS should inform their patients about the various methods available for seeking health information. The results indicated that patients with MS demonstrated the highest incidence of online health-seeking behavior. Consequently, it is imperative that nurses and other healthcare professionals direct patients to reliable and accurate online information sources that they can access. However. it may not always be straightforward to identify the most suitable web pages that meet the specific needs of patients. It is thus recommended that nurses responsible for the care of patients with MS should develop reliable online resources in collaboration with other healthcare professionals and establish platforms to address the queries of patients with MS.

The limitation of this study is that the study is based on self-report. whereas cultural. geographical and ethnic differences have the potential to influence the results. Since the study sample consisted of patients treated in different centers. it was not possible to access EDSS data.

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Appendix I

HEALTH SEEKING BEHAVIOR SCALE

Factor 1: Online health search

1. I do research on the internet about my disease.
2. I follow programs about my illness on television
3. I contact the doctors on the internet about my disease.
4. I look at the side effects of the drugs I use on the Internet when I get sick.
5. I follow the forms about my illness on the Internet.
6. I scan in journals and books about my disease.

Factor 2: Professional health search

7. When I am ill, I apply to the physician immediately.
8. I pay attention to the advise of physician about my disease
9. I try to take the food recommended by the doctor

Factor 3: Search for traditional health

10. I try to heal with herbal drugs at home.
11. I pay attention to the advice of people I trust for my illness.
12. I pay attention to the advice of people who have had the same disease before.