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ASSESSMENT OF NURSES' LEVEL OF KNOWLEDGE ON MULTIPLE SCLEROSIS AND ITS CARE

HEMŞİRELERİN MULTİPL SKLEROZ VE BAKIMINA YÖNELİK BİLGİ DÜZEYLERİNİN DEĞERLENDİRİLMESİ

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ABSTRACT

Objective: The study was applied descriptively to evaluate the knowledge level of nurses about the care of individuals with Multiple Sclerosis.

Method: The research was conducted in a multi-centered manner with people who work as nurses and whose e-mail and telephone information have been reached throughout Turkey. The sample consisted of 379 nurses who volunteered to participate in the study. The data were collected with the "Participant Information Form" and "Information Level Assessment Form on Multiple Sclerosis and Care".

Results: The knowledge scores of the participants differ significantly according to the age variable and education level. The knowledge scores of participants who had cared for individuals with MS before, the knowledge scores of those who received special education about MS, and the knowledge scores of those who read articles about MS, were higher.

Conclusion: In this study, it was found that the knowledge level of nurses about Multiple Sclerosis and its care was above the medium level. It is thought that their level of knowledge arises from experience. The results show that there is a need to increase the training of nurses on the subject.

Key Words: Multiple Sclerosis, Care, Nurse, Level, Knowledge

ÖZ

Amaç: Bu çalışma hemşirelerin Multipl Sklerozlu bireylerin bakımına ilişkin bilgi düzeylerini değerlendirmek amacıyla tanımlayıcı olarak uygulandı.

Yöntem: Araştırma, Türkiye genelinde hemşire olarak çalışan, e-posta ve telefon bilgilerine ulaşılan kişilerle çok merkezli olarak gerçekleştirildi. Örneklemi araştırmaya katılmaya gönüllü olan 379 hemşire oluşturdu. Veriler, "Katılımcı Bilgi Formu" ve "Multipl Skleroz ve Bakım Bilgi Düzeyi Değerlendirme Formu" ile toplandı.

Bulgular: Katılımcıların bilgi puanları yaş değişkenine ve eğitim düzeyine göre anlamlı düzeyde farklılık göstermektedir. Daha önce MS'li bireylere bakım verenlerin bilgi puanları, MS ile ilgili özel eğitim alanların bilgi puanları, MS ile ilgili makale okuyanların bilgi puanları daha yüksekti.

Sonuç: Bu çalışmada hemşirelerin Multipl Skleroz ve bakımı ile ilgili bilgi düzeylerinin orta seviyenin üzerinde olduğu saptandı. Bilgi düzeylerinin deneyimden kaynaklandığı düşünülmektedir. Sonuçlar, hemşirelerin konuyla ilgili eğitimlerinin artırılmasına ihtiyaç olduğunu göstermektedir.

Anahtar Kelimeler: Multipl Skleroz, Bakım, Hemşire, Düzey, Bilgi

INTRODUCTION

Multiple sclerosis causes lifelong, progressive, and many losses in individuals in terms of physiological, psychological, sociocultural, spiritual, and developmental aspects [1-3]. Therefore, one of the most prominent features of the clinical picture is the emergence of new symptoms that usually settle within days or the deterioration of the existing ones, namely attacks. The diagnosis, course, and treatment of MS, and many other characteristics of it are directly associated with attacks. While it initially occurs only during the attacks, it may lead to limitations in the individual's life by causing physical problems that gradually settle and worsen over time and may significantly impair the quality of life. In recent years, there has been improvement in the diagnosis and treatment of MS, and it has become possible to control the disease and delay disability. New information on the etiology and pathogenesis of MS allows for a better understanding of the complex and heterogeneous nature of the disease [2].

Nurses have important duties in the process of preventing the problems related to Multiple Sclerosis and improving patients' coping skills and quality of life. Multiple Sclerosis disease and disease-specific requirements should be well known to accurately determine the nursing diagnoses and interventions. In the literature, it is stated that nurses lack of knowledge about the disease and therefore they are insufficient in determining the needs of the patients. Nurses are expected to use their communication and problem-solving skills effectively in meeting the needs of individuals [1-3]. This study was planned as a descriptive study to assess nurses' level of knowledge on Multiple Sclerosis and to provide recommendations by the results.

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METHOD

Participants

The research was carried out in a multi-centered manner with individuals working as nurses across Turkey, whose e-mail and telephone information was accessed from social media networks such as Facebook, Twitter, Instagram, and Linkedin, and who voluntarily participated in the research. The data of the research were collected between March-April 2020.

The population of the study consisted of 630 nurses whose contact information was accessed through social media networks, and the sample consisted of 379 nurses who met the inclusion criteria and were selected by convenient sampling method.

The G-Power program was used to determine the number of participants participating in the study. Accordingly, the sample size was calculated as 360 according to α= 0.05 error level, 1- β= 0.80 test power, 0.5 effect size, 95% confidence interval, and ±5% sampling error [4,5].

Data were collected using the 'Participant Information Form' and 'Multiple Sclerosis and Care Knowledge Level Evaluation Form' prepared by the researchers by scanning the literature and taking expert opinions [1-3]. The response time for the forms was 10 minutes, and they were edited in the google.doc program and shared with the participants.

Inclusion criteria for the study were to be a nursing graduate, and to volunteer to participate in the study, and to have a smartphone; The exclusion criteria were and having a serious psychological disorder.

Data Collection Tools

'Participant Information Form' and 'Multiple Sclerosis and Care Knowledge Level Evaluation Form' was used to collect data in the study. The forms used were created by reviewing the literature and taking expert opinion. [1-3].

Participant Information Form: The form prepared by the researchers includes 9 questions containing information about the individual characteristics of the participants and MS.

Information Level Assessment Form for Multiple Sclerosis and Its Care: This form was created by the researchers by reviewing the literature and taking expert opinions [1-3]. The Information Level Assessment Form for Multiple Sclerosis and Its Care consists of 30 questions about the definition, etiology, epidemiology, clinical signs and symptoms, diagnosis, treatment of the disease, and nursing care. In the Information Level Assessment Form for Multiple Sclerosis and Its Care, participants were asked to answer the questions by choosing one of the options "Yes", "No" or "I don't know". While the correct answer to the questionnaire was given 1 point, the wrong answer and the answer "I don't know" were given 0 points. A score between 0 and 30 is obtained from the knowledge test. A higher score indicates a higher level of knowledge about the Care of Individuals with Multiple Sclerosis (MS).

In this study, the Cronbach alpha value of the Information Level Assessment Form for Multiple Sclerosis and Its Care was found to be 0.92 and the item total score correlation coefficients r=0.11-0.73 ($p<0.032$).

Statistical Analysis

The data obtained in the study were analyzed using the SPSS (Statistical Package for Social Sciences) for Windows 22.0 program. Number, percentage, mean and standard deviation were used as descriptive statistical methods in the evaluation of the data. Kurtosis and Skewness values were examined to determine whether the knowledge score was normally distributed [6,7]. T-test, one-way analysis of variance (ANOVA), and post hoc (Tukey, LSD) analyses were used to examine the difference in knowledge test levels according to the descriptive characteristics of the nurses [8].

Ethical Considerations

Informed consent form was obtained from the nurses who agreed to participate in the study, and the ethics committee approval of the university was obtained to conduct the study (Fenerbahce University/2020-26). Voluntary consent was obtained from the nurses participating in the study.

RESULTS

According to the findings, 22.7% of the participants were over 40 years old, 85.5% were female, 39.1% were married, 44.3% lived in Istanbul, and 51.5% had bachelor's degrees. It was identified that 83.9% did not care for a patient with MS before, 87.3% did not have a relative with MS, 94.2% did not receive MS training, and 55.7% were not read an article about MS (Table 1).

Table 1. Descriptive characteristics

Groups	Frequency (n)	Percentage (%)
Age		
18-20	61	16.1
21-30	156	41.2
31-40	76	20.1
Above 40	86	22.7
Gender		
Female	324	85.5
Male	55	14.5
Marital status		
Married	148	39.1
Single	231	60.9
Province of residence		
İstanbul	168	44.3
Outside of İstanbul	211	55.7
Educational status		
High school	33	8.7
Associate Degree	37	9.8
Bachelor's degree	195	51.5
Master's degree	79	20.8
Doctorate	35	9.2
Caring for an individual with MS before		
Yes	61	16.1
No	318	83.9
Having a relative with MS		
Yes	48	12.7
No	331	87.3
Receiving special education about MS		
Yes	22	5.8
No	357	94.2
Reading articles about MS		
Yes	168	44.3
No	211	55.7

The "knowledge" point average of the participants in the research was found to be 18.029±6.304. The knowledge scores of the participants differ significantly according to the age variable, and the knowledge score averages of those aged 40 and over were higher (20.349±5.364), ($F=15.342$; $p=0<0.05$). Similarly, the knowledge scores of the women who participated in the study ($\bar{X}$=18.475) were found to be higher compared to men ($\bar{X}$=15.400) ($t=3.391$; $p=0.009<0.05$), and the knowledge scores of married individuals ($\bar{X}$=19.601) were found to be higher compared to single individuals ($t=3.961$; $p=0<0.05$).

The knowledge scores of the participants living in Istanbul ($\bar{X}$=18.917) were higher compared to those living outside of Istanbul ($\bar{X}$=17.322) (t=2.462; p=0.013<0.05). The knowledge scores of the participants differed significantly according to the age variable (F=14.813; p=0<0.05). The reason for the difference was that the knowledge scores of those with a master's and doctorate education level were higher compared to those with associate degree, undergraduate and high school degree (p<0.05). Knowledge scores of participants who had cared for individuals with MS before ($\bar{X}$=21.312) were found to be higher compared to those who did not care for an individual with MS ($\bar{X}$=17.399) (t=4.554; p=0<0.05). Similarly, knowledge scores of participants who had relatives with MS ($\bar{X}$=19.854) were higher compared to those who did not have a relative with MS ($\bar{X}$=17.764) (t=2.157; p=0.032<0.05). Among the research participants, the knowledge scores of those who received special education about MS ($\bar{X}$=22.818) were found to be higher compared to those who did not receive special education about MS ($\bar{X}$=17.734) (t=3.734; p=0<0.05).

The knowledge scores of those who read articles about MS ($\bar{X}$=20.345) were higher compared to those who did not read articles about MS ($\bar{X}$=16.185) (t=6.748; p=0<0.05) (Table 2).

According to the findings, 74.9%, 93.7%, and 80.2% of the participants gave correct answers to the questions of "has a recurrent course characterized by attacks and remissions in most patients", "MS is an infectious disease" and "MS is a psychiatric disease", respectively, 72,0% and 61.7% gave wrong answers to the questions of "Patients with MS do not have congenitally central nervous system fibers and neural transmissions cannot occur in the individual" and "MS is the most common demyelinating disease", respectively (Table 3).

It was determined while 63.9% of the participants gave correct answers to the question of "MS is a fatal disease", 88.9% of them gave correct answers to the question of "MS causes sclerosis by damaging the myelin sheath, which is the protective layer around the nerve fibers that carry messages, in the brain and spinal cord, and affects the central nervous system by disrupting message transmission", 84.2% of them gave correct answers to the question of "the reason why the disease is called multiple is that it affects many different areas of the brain and spinal cord", and 67.5% of them gave correct answers to the question of "patients are usually lost due to other complications added to the general condition tables" (Table 3).

While 96.8% of the participants gave wrong answers to the question of "it is an insidious disease although the first symptoms usually start suddenly", 50.1% of them gave wrong answers to the question of "MS is more common in women aged 20-40 years", 66.0% of them gave wrong answers to the question of "amalgam fillings containing mercury, animal fats, meat and meat products containing nitrate are considered to be effective on the etiology of MS", 52.5% of them gave wrong answers to the question of "Deficiency of vitamins A, C, E and B 12 poses a risk for MS", 80.2% of them gave wrong answers to the question of "It has been proven that warm air current triggers MS attacks", and 83.6% of them gave wrong answers to the question of "MS is rarely seen in the equatorial belt, however, it increases as going towards the poles" (Table 3).

DISCUSSION

Multiple sclerosis is a chronic, progressive and recurrent central nervous system disease with neurological dysfunction. It is a public health problem causing labor loss, socio-economic problems, and high treatment costs in young adults due to neurological dysfunction [9]. Nurses should aim to increase patients' quality of life by raising their awareness about coping with the problems caused by the disease. Disease and disease-related factors should be well known to accurately determine the nursing diagnoses and interventions and to plan care [10,11].

Table 2. Comparison of descriptive characteristics with the knowledge level evaluation form for multiple sclerosis and its care

Demographic Characteristics		n	Knowledge(Mean±SD)
Age	18-20	61	14.033±6.560
	21-30	156	17.577±6.075
	31-40	76	19.540±5.925
	>40	86	20.349±5.364
	F=15.342		
	p=0.000		
	Post-hoc= 2>1, 3>1, 4>1, 3>2, 4>2 (p<0.05)		
Gender	Female	324	18.475±5.840
	Male	55	15.400±8.123
	t=3.391		
	p=0.009		
Marital status	Married	148	19.601±6.035
	Single	231	17.022±6.279
	t=3.961		
	p=0.000		
Province of residence	İstanbul	168	18.917±5.804
	Other	211	17.322±6.605
	t=2.462		
	p=0.013		
Educational status	High school	33	14.849±7.791
	Associate Degree	37	17.243±6.396
	Bachelor's degree	195	16.708±6.180
	Master's degree	79	21.253±3.784
	Doctorate	35	21.943±5.498
	F=14.813		
	p=0.000		
	PostHoc=4>1, 5>1, 4>2, 5>2, 4>3, 5>3 (p<0.05)		
Caring for an individual with MS before	Yes	61	21.312±4.149
	No	318	17.399±6.454
	t=4.554		
	p=0.000		
Having a relative with MS	Yes	48	19.854±5.336
	No	331	17.764±6.396
	t=2.157		
	p=0.032		
Receiving special education about MS	Yes	22	22.818±3.607
	No	357	17.734±6.319
	t=3.734		
	p=0.000		
Reading articles about MS	Yes	168	20.345±4.484
	No	211	16.185±6.916
	t=6.748		
	p=0.000		

Table 3. Distribution of the answers to knowledge level evaluation form for multiple sclerosis and its care

Evaluation form items	True		False	
	(n)	(%)	(n)	(%)
MS has a recurrent course characterized by attacks and remissions in most patients	95	25.1	284	74.9
MS is an infectious disease	24	6.3	355	93.7
MS is a psychiatric disease	75	19.8	304	80.2
Patients with MS do not have congenitally central nervous system fibers and neural transmissions cannot occur in the individual	273	72.0	106	28.0
MS is the most common demyelinating disease	234	61.7	145	38.3
MS is a fatal disease	137	36.1	242	63.9
MS causes sclerosis by damaging the myelin sheath, which is the protective layer around the nerve fibers that carry messages, in the brain and spinal cord, and affects the central nervous system by disrupting message transmission	42	11.1	337	88.9
The reason why the disease is called multiple is that it affects many different areas of the brain and spinal cord	60	15.8	319	84.2
Patients are usually lost due to other complications added to the general condition tables	123	32.5	256	67.5
It is an insidious disease although the first symptoms usually start suddenly	367	96.8	12	3.2
MS is more common in women aged 20-40 years	190	50.1	189	49.9
Amalgam fillings containing mercury, animal fats, meat and meat products containing nitrate are considered to be effective on the etiology of MS	250	66.0	129	34.0
Deficiency of vitamins A, C, E and B 12 poses a risk for MS	199	52.5	180	47.5
It has been proven that warm air current triggers MS attacks	304	80.2	75	19.8
MS is almost never seen in the equatorial belt; however, it increases as going towards the poles	317	83.6	62	16.4
Steroids, muscle relaxants, and vasodilators are used for treatment during acute episodes, and interferon b is recommended to prolong the period of remission	188	49.6	191	50.4
It is possible to know in advance that a person will get MS with diagnostic and testing methods	235	62.0	144	38.0
MS is not yet a preventable or completely curable disease	93	24.5	286	75.5
It is possible to protect from MS with a vaccination program	151	39.8	228	60.2
MRI, muscle biopsy, and bos examination are used in diagnosis	93	24.5	286	75.5
The treatment of MS should include physiotherapy, psychotherapy-counseling and general body health protection steps	67	17.7	312	82.3
The treatment of MS is symptomatic	143	37.7	236	62.3
A low-fat, gluten-free diet rich in linoleic acid (found in vegetable oils) is considered to slow down the course of the disease	242	63.9	137	36.1
Patients with MS may experience fluctuations in their mood	97	25.6	282	74.4
If the patient has dysarthria, speech therapy should be performed	119	31.4	260	68.6
Nutrition education should be given with small bites and semi-solid food against the risk of aspiration that may arise from the patient's swallowing problems	80	21.1	299	78.9
For the patient's bladder problems, regular emptying of the bladder is provided with intermittent catheterization, catheterization training and kegel exercises training is given to the patient	104	27.4	275	72.6
Training on regular rom exercises against joint contractures is provided	102	26.9	277	73.1
If the patient has constipation for intestinal problems, fluid intake should be supported and a fibrous diet should be encouraged	52	13.7	327	86.3

In the literature review, it was noted that the studies on MS conducted on nurses were limited, and this study was planned to determine the knowledge level of nurses about MS and the care of patients with MS.It was determined that while the vast majority of the participants were between the ages of 21-30 and were female and married, most of them lived outside of Istanbul and had bachelor's degrees, and almost all of the nurses did not care for an individual with MS before, did not have a relative with MS, did not receive education about MS, and did not read articles about MS. The "knowledge" point average of the nurses was determined as 18.029±6.304 (distribution: 0-28). This average value reflects that the knowledge level of nurses is above the medium level.

Nurses' age is an indicator of their professional experience. While Okumus and Ugur [12] stated that experience and knowledge that increased with increasing age increased the level of knowledge and skill, Karabulut and Cetinkaya [13] indicated that younger nurses faced fewer problems in patient care and provided healthier care compared to older nurses. In the study, the knowledge scores of the participants differ significantly according to the age variable. The reason for this difference is considered to be due to the increase in the professional experience of nurses as their age increases, as stated by Okumus and Ugur [12]. Likewise, women and married individuals have higher knowledge scores. Women's higher level of knowledge is because MS is more common in women compared to men. Therefore, it is an expected result that female nurses have a higher level of knowledge.

According to the study, the knowledge score of those living in Istanbul was found to be significantly higher. Furthermore, the level of education was also a determining factor in the level of knowledge about MS, and the level of knowledge increased as the level of education increased. This difference shows us that the participants received education about MS. In courses such as internal diseases, which are within the scope of the curriculum in undergraduate, and graduate education, MS disease and nursing care are taught within the scope of neurological diseases. Moreover, another important factor that increases the knowledge level of nurses is that they care for individuals with MS or have relatives with MS. Thus, nurses have increased their knowledge about the disease while caring for such patients. Another factor that increases the level of knowledge about MS is receiving special education on the subject [1,12]. According to our study, those who received special education and followed scientific publications on the subject had higher levels of knowledge.

Multiple sclerosis is considered a chronic disease with an immunological history and its development is affected by environmental, exogenous, and genetic factors. Inflammatory diseases, stress, trauma, vitamin D deficiency, and smoking are among these factors. The common symptoms of multiple sclerosis include weakness or numbness in one or more extremities, optic neuritis, tremor, and ataxic gait resulting from cerebellar dysfunction, double vision, dysarthria or dizziness, and fatigue. Nevertheless, epileptic seizure, movement disorder, headache, dementia-like cognitive impairment, hearing loss, and cortical symptoms are less common signs and symptoms.

The social effect of the disability caused by MS is great although it is generally not a fatal disease. MS leads to job loss, care dependency, and usually social isolation [11,14]. While the participants gave correct answers to the questions of ‘has a recurrent course characterized by attacks and remissions in most patients’, ‘MS is an infectious disease’, ‘MS is a psychiatric disease’, ‘MS is a fatal disease’, ‘MS causes sclerosis by damaging the myelin sheath, which is the protective layer around the nerve fibers that carry messages, in the brain and spinal cord, and affects the central nervous system by disrupting message transmission’, ‘the reason why the disease is called multiple is that it affects many different areas of the brain and spinal cord’, ‘patients are usually lost due to other complications added to the general condition tables’, they gave wrong answers to the questions of ‘Patients with MS do not have congenitally central nervous system fibers and neural transmissions cannot occur in the individual’, ‘MS is the most common demyelinating disease’, ‘it is an insidious disease although the first symptoms usually start suddenly’, ‘MS is more common in women aged 20-40 years’, ‘amalgam fillings containing mercury, animal fats, meat and meat products containing nitrate are considered to be effective on the etiology of MS’, ‘Deficiency of vitamins A, C, E and B 12 poses a risk for MS’, ‘It has been proven that warm air current triggers MS attacks’, ‘MS is almost never seen in the equatorial belt, however, it increases as going towards the poles’. Considering the results of the study, it is observed that the nurses gave correct answers to the questions half and half, which is an indication that the knowledge level of nurses was above the medium level.

In the study, participants gave correct answers to the questions of ‘steroids, muscle relaxants, and vasodilators are used for treatment during acute episodes, and interferon b is recommended to prolong the period of remission’, ‘MS is not yet a preventable or completely curable disease’, ‘It is possible to protect from MS with a vaccination program’, ‘MRI, muscle biopsy, and bos examination are used in diagnosis’, ‘The treatment of MS should include physiotherapy, psychotherapy-counseling, and general body health protection steps’, ‘The treatment of MS is symptomatic’, however, they gave wrong answers to the question of ‘it is possible to know in advance that a person will get MS with diagnostic and testing methods. According to the answers, it was observed that the level of knowledge of the nurses about the treatment methods for MS was sufficient.

The regulation of nutritional status is included in the treatment protocol for MS. Antiallergic diets, gluten-free diets, diets containing polyunsaturated fatty acids, or diets supplemented with antioxidant nutrients were investigated. It is important to evaluate the nutritional status of patients in terms of both cachexia and obesity, to develop nutrition therapy according to the symptoms, and to provide lifelong follow-up to patients [17,18]. In the study, participants gave wrong answers to the question of a low-fat, gluten-free diet rich in linoleic acid (found in vegetable oils) is considered to slow down the course of the disease, and they gave correct answers to the questions of ‘Patients with MS may experience fluctuations in their mood’, ‘if the patient has dysarthria, speech therapy should be performed, ‘nutrition education should be given with small bites and semi-solid food against the risk of aspiration that may arise from the patient's swallowing problems’, ‘for the patient's bladder problems, regular emptying of the bladder is provided with intermittent catheterization, catheterization training and kegel exercises training is given to the patient’, ‘training on regular rom exercises against joint contractures is provided’, ‘if the patient has constipation for intestinal problems, fluid intake should be supported and a fibrous diet should be encouraged’, ‘weakness, numbness and tingling in the extremities are the most common symptoms of MS’.

These results support the literature and show that nurses need more information about nutrition, physical activity, and rehabilitation of MS patients [11-15].

Study Limitations

The study is limited to the measurements performed with 360 nurses using the information level assessment form for multiple sclerosis and its care. Another limitation of the study is that the random sampling method was not used, and the sample was formed by the accidental sampling method. The lack of validity and reliability of the data collection tool is another limitation. Studies on larger sample groups may contribute to obtaining more data on the knowledge level of nurses about MS.

CONCLUSION

In this study, it was found that the knowledge level of nurses about the care of individuals with Multiple Sclerosis was above the medium level. It is thought that their level of knowledge arises from experience. In addition, it was determined that nurses did not follow publications about MS. As in all diseases, the frequency of attacks, treatment and

nursing care, and the importance of adequate and balanced nutrition are also seen in this study. The results show that there is a need to increase the training of nurses on the subject.

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