



Traditional and complementary medicine use in multiple sclerosis: A cross-sectional study

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Abstract

Aim: This objective of this study is to determine the TCM usage rates of the MS patients who are followed up at a Tertiary Healthcare Centre, the practices they mostly prefer, their level of satisfaction from these practices and their socio-demographic characteristics which may have an impact on their preferences

Materials and Methods: This cross-sectional type study has been conducted on 107 MS patients who are followed up at a neurology clinic. The Kurtzke Expanded Disability Status Scale is used in order to assess the clinical inadequacy. The form of questionnaire conducted includes the questions asking their socio-demographic characteristics and TCM use of the patients.

Results: It is found out that 29.9% of the MS patients have sought for the GETAT practice at least once, and 51.5% of them have intended to overcome the disease. The practices mostly used are cupping therapy/bloodletting, leech therapy, herbal medicines/phytotherapy, which are followed by osteopathy, ozone therapy and music treatment. 65.6% of the participants stated that they satisfied with or benefited from the TCM practices. It is found out that there is no significant difference ($p>0.05$) between the TCM use and the socio-demographic characteristics of the patients but a significant and inverse relationship between TCM use and their EDSS scores ($p=0.010$) exists.

Conclusion: It is concluded that the MS patients use the TCM practices widely, stating that they benefited substantially from these practices. It is recommended that the behaviors of the patients regarding the use of these practices be examined in order to understand the efficacy of the medical treatment and management of the symptoms.



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Introduction

The Multiple Sclerosis is characterized by the damage of myelin sheath which insulates layer around the nerves. It is a chronic, autoimmune and inflammatory disease of the central nervous system which may be progressed with the attacks and remissions [1]. The Multiple Sclerosis (MS) is one of the most common neurological disorders worldwide and foremost cause of non-traumatic neurological disability of the young adults in several countries. Across the world, there had been about 2.1 million MS patients in 2008. This figure rose by around 2.3 million people in 2013 [2]. According to the World MS map data, this number increased up to 2.8 million in 2020. It is estimated that at least 300 persons are diagnosed with MS every day. The researches on the epidemiology of MS have been going on

in Turkey. It is reported that there are 58.401 MS patients in Turkey while its prevalence is 70\100.000 [3]. It is suggested that autoimmune, infections, environmental and genetic factors may all contribute to this disease [4, 5] though the etiopathogenesis of MS remains uncertain. Clinically, the relapsing-remitting and progressive types (primary progressive, secondary progressive and relapsing) of MS are defined according to the progressing course of the disease [6]. The MS patients suffer from the various symptoms comprising cognitive, motor and sensory disorders, which may leave an indelible impact on their life quality [7]. The agents used may improve its prognosis and extend its duration of remission even though there is no a definitive treatment of this disease. However, they generally do not alleviate the symptoms or improve the life quality [8, 9]. The patients, more subjectively, often suffer from psychiatric disorders, fatigue and pain [10, 11]. Furthermore, the irretrievable loss of ability may occur in

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the patients as the disease progresses, in which they may have a difficulty in fulfilling their daily routine life activities [12]. In addition to the pharmacological practices, the MS patients may prefer using non-pharmacological ones. It is known that the patients use traditional and complementary medicine (TCM) practices in order to alleviate the various symptoms of this disease [13]. Moreover, some MS patients included the TCM practices in their treatment regimen [14]. The conducted studies found out that the TCM use rate of the MS patients increased up to about 80% [15]. The National Center for Complementary and Integrative Health (NCCIH) defines the complementary alternative medicine in two parts: It defines the “complementary” traditional medicine as a non-mainstream approach used together with conventional medicine while it defines the “alternative” medicine as a non-mainstream approach used in place of conventional medicine [16]. There is no a common consensus how to define the TCM and classify it. The NCCIH states that consuming natural products such as herbs, vitamins, minerals and probiotics are among the TCM practices. Besides, the TCM practices include the physical and/or psychological approaches such as yoga and chiropractic and osteopathic manipulation [17]. Furthermore, it is reported that the religious practices of Muslims living in Saudi Arabia like praying as well as cupping therapy are also part of the TCM practices [18]. Yet several clinicians are unfamiliar with the safety and efficacy of these practices used to treat MS and its symptoms [13]. The scientific evidences proving that these practices are remedial are very few [19]. The use of TCM has been gradually becoming an issue in coping with the MS and resolving the relevant health problems and improving the life quality of the MS patients. By conducting this study, we aimed to learn the TCM use rate of the patients diagnosed with MS, the practices they preferred to use and what their motives are, their satisfaction levels and their socio-demographic characteristics that may have affected these factors.

Materials and Methods

Type of research, population and sample

This cross-sectional type study has been conducted on the MS-diagnosed patients who are followed up at the Neurology Clinic of a medical center. The sample was not selected in the study, and data were obtained between February and April 2022 from the patients who were followed up and accepted to participate in the study. The determination of sample size of this research carried out by the power analysis is found to be minimum 90 while the type I error rate (α) is found to be 0.05, the power of test (1- β) is 0.9 and effect size is 0.5. The volunteered persons, who have no any physical or mental obstacle to communicate, were included in this research.

Study ethics committee approval

A written permission was received from the Ethics Committee of Medical Faculty of Inonu University (2022/3038).

Data collection tools

The data of this study has been obtained from the questionnaire form prepared by the researchers. We conducted

this questionnaire using the face-to-face interview method. The first chapter of the questionnaire form has the questions asking about the socio-demographic characteristics of the participants. The questions in second chapter inquire about their TCM use. Each data set of the research is checked and the questionnaires containing missing answers were omitted before they were uploaded into the computer.

Statistical analysis

The data obtained was analyzed using package program of SPSS (version 22.0). The chi-squared test statistic was used in order to compare the categorical scales among the groups. The $p < 0.05$ level is accepted to be significant for all the assessments.

The Kurtzke Expanded Disability Status Scale (EDSS) is used to assess the clinical inadequacy of the research. The patients are assessed over 10-unit score. The level of disability is higher as the unit score increases. The score of 0 represents normal health condition. The patient who has score up to 5.5 can walk, the patient with score of 7 drives wheelchair. The score 10 shows death due to MS. The EDSS score of 3 represents moderate disability in one functional system or mild disability in three or four functional system. The score 3.5 indicates moderate disability in one functional system and more than minimal disability in several others [20]. The data of the patient groups was grouped according to their EDSS scores. The EDSS score of first group was defined as ≤ 3 while the second one was grouped as ≥ 3.5 . The use and reasons of the TCM use of the patients are the dependant variables of the study. The independent variables are their socio-demographic characteristics (sex, age, civil status, height, weight, education, smoking or occupation), the chronic disease of the patient, the chronic disease of any of family members, the MS type, his/her EDSS score and date of diagnosis.

Results

74.8% of individuals who participated in this research are women. 43.9% of them are aged 30 to 40. 32.7% of them are graduate (Table 1).

90.7% of persons who participated in this research are RRMS type MS patient. 24.3% of them has 3.5 and over EDSS score. 43.9% of the patients were diagnosed with MS maximum 5 years ago while 29% of them were diagnosed with it minimum 11 years ago. 27.1% of them were diagnosed with MS about 6 to 10 years ago. 18.7% of those who participated in the study stated that they smoke. 44.9 of them have at least one chronic disease. It is found out that 51.4% of the individuals are overweight, obese or morbid obese (Table 2).

It is found out that 29.9% of MS patients who participated in the study resorted to the TCM practices at least once. After the reasons why the patients resorted to the TCM practices are viewed it is concluded that 51.5% of them resorted to it to overcome this disease, 48.5 of them to feel physically better, and 24.2% of them used it supposing that it may be helpful in curing them or may feel psychologically better. It is found out that the practices mostly used are cupping therapy/bloodletting (48.5%), leech therapy (33.3%), herbal

Table 1. Socio-demographic characteristics of participants.

Socio-demographic characteristics	Number (n)	%
Gender		
Woman	80	74.8
Man	27	25.2
Age		
Less than 29	25	23.4
30-40	47	43.9
40 and over	35	32.7
Number of children		
1	16	24.6
2	28	43.1
3 and more	21	32.3
Occupation		
Housewife	51	47.7
Self-Employed	12	11.2
Worker/Civil servant	17	15.9
Student	16	15.0
Other (retired/not working)	11	10.3
Civil status		
Married	70	65.4
Single	32	29.9
Divorced	5	4.7
Education		
Elementary school and illiterate	27	25.3
Secondary school	14	13.1
High school	31	29.0
University	35	32.7
Income status of family		
Income more than expense	14	13.1
Income and expense are equal	55	51.4
Income less than expense	38	35.5
Total	107	100.0

medicines/phytotherapy (24.2%), which are followed by osteopathy, ozone therapy and music practices (9.1%). 65.6% of patients stated that they satisfied with the TCM practices and benefited from these treatments. 55% of the patients stated that they are not sure whether the TCM practices are correct or useful to administer. It is found out that 72.7% of persons who have not resorted to the TCM practices do not have sufficient information about the practices. 13% of them have not resorted to it as they are afraid of the side effects of the practices (Table 3).

When the TCM application status of the participants is compared in terms of their socio-demographic and various variables, it is found out that 71.9% of the participants were women, 40.6% of whom of them are aged 30 to 40 which means that it does not form a significant difference ($p>0.05$) with regard to the TCM application. It is concluded that %87.5 of those who resorted to the TCM

practices are RRMS type MS patient, 40.6% of them are overweight, 53.1% of them have no other chronic disease ($p>0.05$). It is found out that 59.4% of the individuals who resorted to the TCM practices has 3 or less than 3 EDSS score ($p<0.05$) (Table 4).

Discussion

It is found out that the average age of the participants is 36-year-old, and the duration of their disease is 8 years. It can be stated that there are little differences between our findings and those of similar researches conducted, and the average age and duration of the disease of the patients included in our research is shorter than those of patients included in other studies [21, 22]. It is found out that 30% of MS patients who participated in this study have at least once resorted to the TCM practices and 66% of them reaped the benefit of the practices. No significant difference was found ($p=0.653$) regarding the use of TCM between the men and women though the women used the TCM practices more than the men did. Only 13.1% of the individuals stated that using TCM practices is not correct and beneficial. The studies conducted in Canada

Table 2. Data on diseases and health management of participants.

Health Behaviour Traits	Number (n)	%
MS Type		
RRMS	97	90.7
SPMS	9	8.4
PPMS	1	0.9
EDSS Score		
3 and less	81	75.7
3.5 and more	26	24.3
Year of MS Diagnosis		
5 years and less	47	43.9
6-10 years	29	27.1
11 years and over	31	29.0
Smoking		
Yes	20	18.7
No	87	81.3
BMI		
Slim (≤ 18.4)	3	2.8
Normal (18.5-24.9)	49	45.8
Overweight (25-29.9)	37	34.6
Obese (30-39.9)	17	15.9
Morbid obese	1	0.9
Chronic Disease Situation		
Yes	41	44.9
No	59	55.1
Total	107	100.0

RRMS: Relapsed-remitting course, SPMS: Secondary-chronic progressive course, PPMS: Primary-chronic-progressive, EDSS: Expanded Disability Status Scale, BMI: Body Mass Index.

and Turkey reported that 25-26% of the patients use the TCM practices, which correlates with our findings [23, 24]. It is found out that six out of ten patients who used the TCM practices benefited from and satisfied with them. In their research, Aşiret and et al. reported that 40% of MS patients who used the TCM practices stated that they benefited from them while only very few participants stated that they suffered from their side effects [25]. We understand that the MS patients use the TCM practices

Table 3. TCM use of participants for their disease.

	Number (n)	%
Resort to TCM Practices		
Yes	32	29.9
No	75	70.1
Reason for TCM Resort		
To overcome disease	17	51.5
To feel physically better	16	48.5
Maybe beneficial though somehow not harmful	8	24.2
To feel psychologically better	8	24.2
I am desperate	3	9.1
Because of my religious faith	4	12.1
Acquaintances recommended	2	6.1
Used TCM Practices		
Herbal medicines/phytotherapy(herbal teas, herbs, creams)	8	24.2
Acupuncture	1	3.0
Apitherapy (use of substances produced by bees)	1	3.0
Hypnosis	1	3.0
Leech therapy	11	33.3
Chiropractic (manual application; treatment with hand under low pressure and high speed)	1	3.0
Cupping	1	3.0
Blood letting	15	45.5
Mesotherapy (injecting low-dose herbal medicine on the layer of skin)	1	3.0
Osteopathy (treatment of musculoskeletal system)	3	9.1
Ozone treatment	3	9.1
Reflexology \Massage	1	3.0
Music Therapy	3	9.1
Benefited from TCM Practice Applied?		
Yes	21	65.6
No	11	34.4
Are TCM Practices Right and Beneficial?		
Yes	34	31.8
No	14	13.1
Not Sure	59	55.1
Reason for not Seeking for TCM Practices		
I am afraid of side effects	10	13.3
I don't think it can be effective	8	10.6
I don't have enough knowledge	56	76.1

Table 4. Comparison of TCM Resort Status of participants in terms of their socio-demographic and various characteristics of participants.

	TCM Resort Status				p
	Yes		No		
Socio-Demographic and Various Characteristics	n	%	n	%	
Gender					
Man	9	28.1	18	24.0	0.653
Woman	23	71.9	57	76.0	
Age					
29 and less	8	25.0	17	22.7	0.903
30-40	13	40.6	34	45.3	
40 and over	11	34.4	24	32.0	
Occupation					
Housewife	16	50.0	35	46.7	0.982
Self-Employed	5	15.7	12	16.0	
Worker/Civil Servant	4	12.5	8	10.7	
Student	4	12.5	12	16.0	
Other (retired\not working)	3	9.4	8	10.7	
Education					
Elementary School and illiterate	7	21.9	20	26.7	0.605
Secondary School	4	12.5	10	13.3	
High School	12	37.5	19	25.3	
University	9	28.1	26	34.7	
Income Status of Family					
Income more than expense	5	15.6	9	12.0	0.795
Income and expense are equal	15	46.9	40	53.3	
Income less than expense	12	37.5	26	34.7	
MS Type					
RRMS	28	87.5	69	92.0	0.295
SPMS	3	9.4	6	8.0	
PPMS	1	3.4	0	0.0	
EDSS Score					
3 and less	19	59.4	62	82.7	0.010
3.5 and more	13	40.6	13	17.3	
Year of MS Diagnosis					
5 years and less	15	46.9	32	42.7	0.916
6-10 years	8	25.0	21	28.0	
11 years and over	9	28.1	22	29.3	
BMI					
Slim (≤ 18.4)	1	3.1	2	2.7	0.247
Normal (18.5-24.9)	10	31.3	39	52.0	
Overweight (25-29.9)	13	40.6	24	32.0	
Obese\Morbid obese (30- 49.9)	8	25.0	10	13.3	
Chronic Disease Status					
Yes	15	46.9	33	44.0	0.784
No	17	53.1	42	56.0	

widely though the data obtained thanks to the randomized controlled studies present limited number of evidences regarding the positive specific effects of the TCM. Despite some researchers comment on this discrepancy as “cheating of the patients” [26] more than half of the persons who participated in our research stated that they reaped the benefit of the practices. Furthermore, in a study conducted in Saudi Arabia, it is reported that the attitude of the clinicians regarding the TCM practices varies according to the regions and the medical students have a positive point of view for the TCM [27]. Three-fourths of patients participated in our study is women. This finding correlates with the literature [22, 28].

The individuals who participated in the research explained why they particularly sought for the TCM practices saying “overcoming the disease, contributing a support to their medical treatment, feeling physically better, it may be beneficial though it is somehow not harmful, feeling psychologically better, religious motives, as they are desperate or recommended by their acquaintances”. It is supposed that the MS patients seek for the TCM practices and take risks in using them because of inexistence of a definite treatment of this disease, their intense feeling of desperation and wretchedness, the recommendations of those who benefited from them, and as they think that the TCM practices have no or less side effects.

In our study, it is found out that the mostly-used three TCM practices are cupping therapy/bloodletting, leech therapy and herbal medicines/phytotherapy. Some studies reported that the use of herbal medicines/phytotherapy is beneficial to alleviate the symptoms of the MS patients, contributing to reducing fatigue, pain and stress [29]. The study of Shariff and et al. reported that cupping (bloodletting) is one of the most widely-used TCM practices. These findings corroborate the findings of our study. The same study also reports that visiting a religious figure, reading a holy book or praying are among the widely-used TCM practices [30]. It may be construed that these practices are more common in Islamic countries as 12% of patients using the TCM practices stated that they resort to them due to their religious belief, our research concluded. The patients seeking for healing may tend to believe in the promises of the healers or their so-called treatments. This case demonstrates that implementation of the TCM practices by the specialists who are well knowledgeable about the issue is highly important. In our study, no any correlation has been found between the gender, age, duration of disease of the patients and their use of TCM. The findings of a study carried out in Saudi Arabia are similar with those of ours [30].

No significant correlation has been found between the duration of disease and use of TCM though almost half of the patients were diagnosed with MS five years or less than five years ago. Similarly, no significant correlation has been found between the MS type and body mass indexes of the patients with regard to their use of TCM.

However, a significant and inverse correlation was found between the use of TCM practices and the EDSS scores of the patients. It is concluded that the individuals who have EDSS score of 3 or less than 3, in other words those who are less disabled, use TCM more than those having

higher EDDS score. The studies conducted in Germany and Western Australia corroborate our findings [13, 22]. But in literature, there are studies which revealed totally opposite findings [15, 31, 32]. It is thought that the differences between the researches may result from that 75% of our study population's EDDS score is 3 or less than 3, and the frequency of TCM use has been gradually becoming widespread particularly for the diseases for which no definite treatment exists. The patients prefer using the TCM practices higher at the early stages of the disease. At the progressing stages, it can be claimed that they prefer using the evidence-based treatments. This attitude may be interpreted as for that the patients whose health condition is relatively better satisfy with the complementary alternative treatments but those who are relatively disable are too desperate to cope with the disease. The conducted researches reported that the MS patients apply for at least one complementary medicine practice within maximum 3 years after they are diagnosed but the ratio of using complementary medicine decreases as time passes by and their condition becomes chronic [33].

Most of the patients involved in our research are university graduate but this has no any significant relation in resorting to use of TCM. Alike, Alnahdi and et al. did not find out a correlation between use of TCM and the education level of the patients [34]. These findings show that other factors, not education status of the patients, affect their attitudes in seeking for complementary and alternative medicine practices.

More than half of the individuals who participated in this research stated that they are hesitant whether the TCM practices are correct to use and beneficial. A small fraction of those who did not use the TCM practices stated that they did not resort to them as they were afraid of their side effects or did not believe in any positive effect. However, majority of them (73%) did not apply for use of TCM as they did not have enough information about it. The lack of information regarding the TCM practices is high not only in all patients but also in those who have not resorted to them at all.

Consequently, it is concluded that the patient population for whom the research was fulfilled used the TCM practices widely, they benefited from the practices widely, and those who did not resorted to them did not use it as they hadn't had enough information about TCM. It is thought that the behaviors regarding use of TCM seem to be important in terms of the efficacy of the medical treatment and the management of symptoms. Therefore, it must be questioned. Besides, it is recommended that the neurologists learn about the TCM practices under the developed standards, share their knowledge with the patients and evaluate the feedbacks of the patients. Not asking the questions about the TCM practices to the patients does not mean that they haven't used them. Three out of ten MS patients have experienced these practices at least for once. Moreover, the high level of patient satisfaction with the practices present that this is an undeniable issue. Thus, fulfilment of more studies is advised in order to determine the safety, efficiency and quality control standard of the TCM practices. The inclination of the patients to using hearsay and inappropriate TCM practices as well as hid-

ing it from the medical staff may cause some unexpected problems during the course of the disease.

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Ethics approval

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