The Use of Traditional and Complementary Medicine Among Patients With Multiple Sclerosis in Morocco

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Practice Points

- In a study of individuals with multiple sclerosis in Morocco, more than half of the participants use traditional and complementary medicine, and two-thirds were satisfied with this use.
- The rate of use of traditional and complementary medicine is higher in patients with progressive multiple sclerosis and those without access to disease-modifying therapies because of cost.

Abstract

Background: Multiple sclerosis (MS) is an acquired chronic, autoimmune, and neurodegenerative disease of the central nervous system. In addition to conventional MS therapy, patients are interested in traditional and complementary medicine (T&CM). Our study aims to describe the use of T&CM in a cohort of Moroccan patients with MS.

Methods: A quantitative descriptive study was adopted to study this subject. For data collection, we opted for an anonymous questionnaire for 98 patients with MS. We gathered data via an electronic survey, using multivariable analysis to examine the effect of specific factors on T&CM use. Data collection took place from March to June 2022.

Results: The results show that 52% of patients use T&CM. Of those, 29.6% use cupping, 23.5% recite the Holy Quran, 15.3% use phytotherapy, 13.2% use apitherapy, and 10.2% use acupuncture. In addition, 66.3% of the surveyed respondents stated that alternative medicine positively affects their health. Finally, 49.1% of surveyed patients who use alternative medicine are between 30 and 40 years old. The results also show that the rate of T&CM use is higher in patients with progressive MS (OR=2.540) and patients without financial access to disease-modifying therapy (OR=2.100).

Conclusions: This study invites us to consider societal, cultural, and economic factors when studying the use of T&CM among people with MS. Further research is needed to understand the motivations for using T&CM. *Int J MS Care.* 2024;XX(XX):XXX-XXX

Introduction

Multiple sclerosis (MS) is the most common chronic inflammatory, degenerative, and demyelinating disease of the central nervous system. The three types of MS therapy are disease-modifying therapies (DMT), symptom management, and relapse treatment. In addition to drug treatment, patients are interested in traditional and complementary medicine (T&CM).

Traditional medicine is "the total of the knowledge, skill, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used to treat physical and mental illness."[1] Complementary medicine refers to a broad set of health care practices that are not part of that country's traditional or conventional medicine and are not fully integrated into the dominant health care system.[1] Among the T&CM techniques used in Morocco are cupping (cups placed over the skin to create negative pressure through suction[2]), reciting the Holy Quran (to encourage the production of endorphins by activating alpha brain waves[3]), phytotherapy (plants or plant extracts for medicinal uses), apitherapy (bee product therapy), and massage therapy (therapeutic manipulation by the use of hands or mechanical devices for maintaining the suppleness of the body[4]). Other common T&CM techniques that are used to treat MS include acupuncture (insertion of a thin metal needle into a patient's skin at an acupoint[5]), aromatherapy (promotes health and well-being by utilizing pure plant oils[6]), and yoga (combination of meditation and movement[7]). Studies show that T&CM may improve MS symptoms such as fatigue, motor inflammation, and pain.[8–10]

In addition to dissatisfaction with currently available treatments that do not offer a cure, patients use T&CM for several other reasons, especially the clinical and evolutionary characteristics of MS itself, as it is marked by an intermittent evolution with exacerbation and remission. Sociocultural variables, such as anecdotal reports of the advantages of T&CM, also promote its use.[11] As T&CM modalities and the reasons for their use have yet to be formally studied in Morocco, our study aims to describe T&CM use and identify some of the reasons patients with MS use it.

Methods

Study Design

We conducted a descriptive study with a sample of 98 persons representing the following 6 Moroccan regions: Fès-Meknès, Rabat-Salè-Kènitra, Bèni Mellal-Khenifra, Casablanca-Settat, Marrakesh-Safi, and Oriental. To recruit participants, we used the snowball survey method: we identified a few patients with MS and asked them to suggest other people for the survey. In addition, we also contacted associations active in this field, which helped us collect data.

We collected data via an online survey using Sphinx Declic v.4.29 (Sphinx), a platform that specializes in remote scientific surveys. We shared the survey link in WhatsApp groups for individuals with MS.

To ensure the validity of responses, we integrated the platform and WhatsApp groups to explain the objectives and variables of the study to participants. In addition, participants could contact us directly if they needed help understanding the survey questions. We discussed any problems encountered in completing the questionnaire via the WhatsApp groups. Prior to distribution to the complete cohort, we conducted a pilot survey with 5 individuals with MS to adjust and finalize the questionnaire.

We obtained written approval for this study from Sultan Moulay Slimane University and the Health Ministry of Morocco on April 30, 2022 (reference no. 8366-3/3/2021) as well as the university's ethics committee (approval number FST/LGB/2016/28-FEB./2017-DEC.2019). All participants provided informed written consent after the purpose of the study, the importance of their contribution, and their right to refuse to participate was explained. The data are anonymized and free of personally identifiable information.

Measure

The questionnaire asked for information on sociodemographic characteristics (age, sex, employment status, marital status, education level, place of residence), clinical aspects, and treatments used since MS diagnosis. We also asked participants about the types of T&CM they used, the results of this use (satisfaction with, decrease in number of relapses and physical pain), and factors in their decision to use T&CM (clincial, sociodemographic, and

economic characteristics).

Statistical Analysis

We used IBM's SPSS Statistics, version 20, for the statistical analysis and the χ^2 test to identify the link between the use of T&CM and other qualitative variables, namely sociodemographic characteristics, clinical phenotype, and treatment cost. For the link between a quantitative variable and a qualitative variable, we used the Student *t*-test and Fisher exact test and presented the data as means plus or minus SD. We used multivariable logistic regression models (binary and multinomial) to examine the effect of specific factors on the use of T&CM.

Results

The survey group was female (68%), generally young (mean age 34.49; SD = 10.49 years), and likely to be employed (42%; as juxtaposed to a 39.7 % employment rate for the entire Moroccan population[12]). More than 53% had no governmental or private medical coverage. As shown in **Table 1**, 51 of the respondents used T&CM and more than 9 types of T&CM were mentioned. Types of T&CM used most often were cupping (56.9%), reciting the Holy Quran (45%), phytotherapy (29.4%), apitherapy (25.5%), and acupuncture (19.6%). Of the patients that used T&CM, 49.1% were between 30 and 40 years old.

The statistical analysis showed no statistically significant relationship between the use of T&CM and the following factors: age (P=.122), sex (P=.741), employment status (P=.878), financial ability to access DMT (P=.557), marital status (P=.235), or number of relapses (P=.714). However, the rate of T&CM use was higher in patients with progressive MS (OR =2.540, 95% CI, 0.851-7.575) and patients without financial access to DMT (OR =2.100, 95% CI, 0.176-25.010) **(Table 2**).

Discussion

Studies on T&CM use in the MS population report that, in general, between 27% and 100% of persons with MS reported using, per the language in some of the cited studies, complementary and alternative medicine (CAM).[13-18] Skovgaard and colleagues showed that the total prevalence of CAM use by people with MS over the previous year varied from 46.0% in Sweden to 58.9% in Iceland.[18] Another study by Tekin and colleagues found that 29.9% of individuals with MS used T&CM practices at least once in the hopes of a cure or to feel better physically or psychologically.[13]

We found that the rate of T&CM use is higher in patients with progressive MS and patients without financial access to DMT; in Morocco, 70.4% of patients do not have access to DMT.[20] However, analysis does not show a statistically significant relationship between the use of T&CM and the sociodemographic characteristics of age, sex, employment, place of residence, and marital status.

Our study's findings about which types of T&CM were most often used are supported by the findings of other studies. In our study, cupping was the most popular T&CM practice. A study from Saudi Arabia also found that 20.7% of individuals with MS used cupping.[16] In another study,[21] wet cupping significantly improved the quality of life for adult patients with chronic medical issues, particularly in the physical dimension, and athletes who received cupping therapy had lower levels of exercise-induced inflammatory markers. In Turkey, cupping was found among the T&CM practices most used by MS patients, followed by phytotherapy, osteopathy, ozone therapy, and music therapy.[13]

Our study found that the second most common T&CM used by individuals with MS was prayer, such as reciting the Holy Quran. This method was also employed in the Kingdom of Saudi Arabia and Iran.[22] Ghavi and colleagues also showed that individuals with MS found spiritual therapy effective for treating stress, depression and anxiety.[23]

The third most common practice was phytotherapy; for some individuals with MS, medicinal plants and plant compounds can reduce neurologic deficits due to spasticity, muscle spasms, neuropathic pain, and urinary tract complications.[24] One study showed that phytochemicals present in the butanolic subextract of *Capparis ovata* extract could be beneficial in preventing/treating MS, in which neuroinflammation is part of the

pathophysiology.[25] The study by Xie and colleagues found that curcumin (a spice derived from turmeric) was used by many people with MS for treating the symptoms of the disease.[26]

Fourth was apitherapy, a practice that is used for autoimmune disorders such as systemic lupus erythematosus and MS.[27,28] By modifying the release of cytokines, chemokines, and matrix-degrading enzymes that control inflammatory and immunological responses, Manuka honey has an anti-inflammatory impact.[29]

Acupuncture and massage therapy were used by the same number of respondents. Other studies have reported that the use of acupuncture therapy ranges from 7.2% to 21% of people with MS,[30-32] and this has been suggested as a nonpharmacologic method of disease management. Additional studies show that acupuncture may reduce fatigue and decrease muscle spasms and pain, delaying the disease's evolution and reducing relapses.[31,33] Various massage techniques, particularly Swedish methods, have been shown to improve MS-related impairments and reduce both motor and nonmotor MS symptoms such as fatigue, depression, anxiety, spasticity, and pain.[34-36]

The statistical analysis of the survey data shows no statistically significant relationship between the use of T&CM and age, sex, employment status, marital status, and number of relapses. Our data show that patients with progressive MS who are between 30 and 40 years old and who do not have financial access to DMT most commonly use T&CM. A study by Kim and colleagues showed that T&CM use by individuals with MS was related to sex, education level, DMT therapy, and MS disease progression.[37] Another study showed that people with MS in Denmark who were younger, female, educated at a bachelor's degree level or above, and had a high income tended to use T&CM more frequently. Respondents in another study said that the unreliability of conventional therapy, anecdotal evidence from other T&CM users, and medical advice all impacted their use of T&CM.[15]

Of the respondents, 66.7% were satisfied with T&CM. This is similar to the results of another study that showed that 65.6% of the participants were satisfied with T&CM.[13]

Some limitations on the findings of this study are its small sample size that cannot be inclusive of the entirety of the people with MS in Morocco. Our use of the snowball method to recruit respondents may have predisposed our cohort toward the use of T&CM. The online survey also precluded us from having direct contact with the participants. Finally, Morocco

has neither a national MS register nor regional registers for easy access to potential study participants.

Conclusions

This study shows that T&CM occupies an essential place in the treatment options used by individuals with MS in Morocco. These results invite us to consider societal, cultural, and economic factors when studying the use of T&CM among people with MS. Further research is needed to understand the motivations for using T&CM.

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Table 1. Participants' Survey Responses (N=98)

	n	**%**
Use of T&CM		
Yes	51	52
No	47	48
Age (n=51)		
<30	12	23.5
30-39	25	49
40-49	8	15.7
50 and over	6	11.8
Type of T&CM (n=51)		
Cupping	29	56.9
Reciting the Holy Quran	23	45

Phytotherapy	15	29.4
Apitherapy	13	25.5
Massage therapy	10	19.6
Acupuncture	10	19.6
Aromatherapy	5	9.8
Yoga	3	5.9
Other (eg, ozone therapy, diet, dietary supplement)	6	11.8

T&CM, traditional and complementary medicine.

Table 2. Multivariable Logistic Regression Model

	OR (CI)	***P* value**
Sex (Female)	1.158 (0.484-2.770)	0.741
Age	1.032 (0.484-2.770)	0.122
Residence (rural)	0.913 (0.247-3.378)	0.892
Marital status (single)	1.623 (0.730-3.611)	0.235
Employment status (no)	0.939 (0.420-2.087)	0.878
Multiple sclerosis type (progressive)	2.540 (0.851-7.575)	0.095
Number of relapses	0.963 (0.789-1.176)	0.714
Physical pain	1.000 (0244-4.097)	1.000
Treatment cost (expensive)	2.100 (0.176-25.010)	0.557

Note: Significance tests were odds ratio test, Student *t*-test, and Fisher exact test.