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Reasons for Application to Traditional and Complementary Medicine Practices: A Cross-Sectional Study in a Public Hospital

Geleneksel ve Tamamlayıcı Tıp Uygulamalarına Başvuru Nedenleri: Bir Kamu Hastanesinde Kesitsel Çalışma

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ABSTRACT Objective: The aim of this study was to reveal the reasons for the application of traditional and complementary medicine (T&CM) practices. **Material and Methods:** The population of the study consisted of patients who applied to the T&CM centre of a public hospital in Samsun and completed all sessions. The study data were collected with a questionnaire form consisting of 2 parts. In the 1st part of the form, there are 7 statements aiming to reveal the sociodemographic characteristics of the participants, and in the 2nd part, there is a scale of reasons for application to T&CM practices. As a result of the study, 386 forms collected by convenience sampling method were analysed. **Results:** 64.51% of the participants were female and the mean age was 46.48±11.98 years. The mean score of the scale of the reasons for applying T&CM practices was $\bar{X}=138.05\pm26.26$ and it was determined that the participants were a moderately positive view of T&CM practices. In addition, it was determined that the participants applied these methods to protect themselves from diseases with an average of $\bar{X}=3.90\pm1.10$ and because they felt comfortable with an average of $\bar{X}=3.84\pm1.08$. **Conclusion:** As a result of the study, the participants revealed that patients mostly resorted to T&CM methods to prevent diseases, to maintain psychological well-being, and to increase the hope of recovery.

Keywords: Traditional and complementary medicine; reason for application; public hospital

ÖZET Amaç: Çalışmanın amacı, geleneksel ve tamamlayıcı tıp (GTT) uygulamalarına başvuru nedenlerini ortaya çıkarmaktır. **Gereç ve Yöntemler:** Çalışmanın evrenini Samsun'da bir kamu hastanesinin GTT merkezine başvuran ve tüm seanslarını tamamlamış hastalar oluşturmaktadır. Çalışma verileri, 2 bölümden oluşan anket formu ile toplanmıştır. Formun ilk bölümünde katılımcıların sosyodemografik özellikleri ortaya çıkarmaya amaçlayan 7 ifade, ikinci bölümde ise GTT uygulamalarına başvuru nedenleri ölçeği bulunmaktadır. Çalışma sonucunda kolayda örneklem yöntemi ile toplanan 386 form analiz edilmiştir. **Bulgular:** Katılımcıların %64,51'i kadın olup yaş ortalaması 46,48±11,98'dir. Katılımcıların GTT uygulamalarına başvuru nedenleri ölçeğinin ortalama puanı $\bar{X}=138,05\pm26,26$ olup katılımcıların GTT uygulamalarına orta düzeyde pozitif baktığı belirlenmiştir. Ayrıca katılımcıların $\bar{X}=3,90\pm1,10$ ortalama ile hastalıklardan korunmak amacıyla, $\bar{X}=3,84\pm1,08$ ortalama ile kendisini rahat hissettirdiği için bu yöntemlere başvurduğunu tespit edilmiştir. **Sonuç:** Çalışma sonucunda, katılımcıların, hastaların daha çok hastalıklardan korunmak, psikolojik iyilik halinin devamını sağlamak, iyileşme umudunu artırmak için GTT yöntemlerine başvurduklarını ortaya çıkarmıştır.

Anahtar Kelimeler: Geleneksel ve tamamlayıcı tıp; başvuru nedeni; kamu hastanesi

Traditional and complementary medicine (T&CM) is used in the protection, promotion, improvement and treatment of mental and physical health as well as disease prevention. T&CM practices have rapidly increased in recent years in low- and middle-income countries. Especially in these coun-

tries, T&CM practices are preferred because of difficult access to medicines and medical supplies.¹ In some countries, T&CM has become the main source of primary health care. In addition, in developed and developing countries worldwide, T&CM practices are preferred and trusted for the protection of health

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and well-being.² Worldwide, the rate of use of T&CM applications varies between 9.8% and 76%.³

Anatolian geography, which is the center of Türkiye today, has been home to many civilizations throughout world history. Along with these civilizations, many T&CM practices have developed in this geography and have been passed down through generations to the present day.⁴ T&CM practices used to treat various diseases in Türkiye are also used in neighboring countries. These practices are also preferred by health tourists visiting Türkiye for mental well-being, health protection and health promotion.⁵ Owing to the high preference for T&CM practices by both locals and health tourists in Türkiye, the Ministry of Health implemented the 1st legal regulation in 2014 to provide T&CM training, create legal infrastructure and regulate practices. This regulation ensures which practices can be performed by whom, how and where.⁶

Previous studies on T&CM in Türkiye have generally focused on T&CM attitudes and awareness. The most commonly reported practices in these studies are cupping, cupping therapy, phytotherapy, yoga, and homeopathy.⁷ In studies conducted in Türkiye, T&CM practices are related to religious values, T&CM practices are related to health literacy level, sociodemographic characteristics, attitudes, beliefs and cultural issues.⁸ Previous studies have emphasized that the level of knowledge about T&CM is related to age, marital status, educational status, income, health status and previous use of these practices.^{8,9}

Türkiye has a long history of T&CM, and the adoption of T&CM practices has increased rapidly in recent years. Despite this, there are a limited number of publications in the literature examining the reasons for T&CM practices, and these studies focus on T&CM attitudes, satisfaction and knowledge.¹⁰⁻¹² Therefore, this study aims to reveal the reasons for T&CM application and fill the gap in the literature.

MATERIAL AND METHODS

LOCATION AND DURATION OF THE STUDY

The study is cross-sectional. The study population consisted of patients who applied to the T&CM cen-

ter of a public hospital in Samsun. No sample selection was made in the study. Patients who completed all the sessions and agreed to participate in the study were included in the study. The study data were collected face-to-face between April 01, 2023 and April 30, 2024. As a result, 386 valid questionnaires were used as the data source.

DATA COLLECTION TOOLS

The study data were collected with a questionnaire consisting of 2 parts. In the 1st part of the questionnaire, a personal introduction form consisting of 7 statements aimed at revealing the sociodemographic characteristics of the patients was used, and in the 2nd part, the “scale of reasons for application of T&CM practices” was used.

Reasons for the application of the T&CM Practices Scale: The scale was developed by Çınar et al.¹³ There are 45 statements in the scale. The scale is scored one 5-point Likert scale ranging from “1-strongly disagree” to “5-strongly agree”. There is no reverse expression on the scale. The lowest score to be obtained from the scale is 45, and the highest score is 225. The increase in scale scores indicates that the reasons for individuals to apply to complementary/traditional medicine practices increase positively. The Cronbach’s Alpha value of the scale is 0.97 and the value in this study is 0.933.¹³

ETHICS APPROVAL

Permission was obtained from Samsun University Clinical Research Ethics Committee for the conduct of the study (date: March 15, 2023 no: 2023-5-24). The study was performed in accordance with the principles of the Declaration of Helsinki.

DATA ANALYSIS

The 386 questionnaire forms obtained in the study were analyzed with the SPSS 26.00 (IBM Corporation, Armonk, NY, ABD) program. The percentage, frequency, mean, student’s t-test and analysis of variance were applied to the data.

RESULTS

The mean age of the participants was $\bar{X}=46.48\pm11.98$, 64.51% were female, 31.30% were

high school graduates, and 42.50% had an average monthly household income of 30,001-60,000 Turkish Liras (Table 1).

Among the participants, 66.58% received ozone therapy, 10.36% received acupuncture, 10.10% received hirudotherapy, and 12.95% received cupping therapy (Figure 1).

The mean scale score of the participants was $\bar{X}=138.05\pm26.26$. The highest mean score on the scale was $\bar{X}=3.90\pm1.10$ for the statement “Alternative medicine practices should be performed for pre-

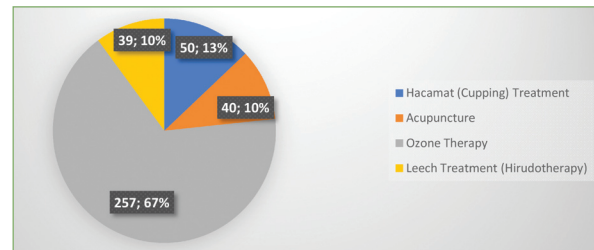


FIGURE 1: Frequency of participants' traditional and complementary medicine applications

ventive purposes even without a disease”, and the lowest mean score was $\bar{X}=1.84\pm1.05$ for the statement I do alternative medicine practices because they are good for disorders such as voodoo, obsession and magic (Table 2).

When the sociodemographic characteristics of the participants and the Reasons for Application to T&CM Practices (RATCMP) were compared, statistically significant differences were found between age, educational status, marital status and household income and the RATCMP ($p<0.05$). The mean scores of those over 60 years of age, primary school graduates, married people and those with incomes between 0-30,000 Turkish Liras were higher than those of the other groups (Table 3).

DISCUSSION

In this study, the reasons for T&CM application were investigated. For this purpose, the target group of the study consists of patients receiving services from the T&CM center of a public hospital. Studies on T&CM have focused mostly on attitudes, satisfaction, awareness and the effects of T&CM after certain diseases. Few studies have examined the reasons for T&CM application with different questions. This study is the 1st study conducted with a scale developed in Türkiye, the country with the highest number of T&CM applications.³ Therefore, this study will be discussed with similar studies.

As a result, 33.33% of those who preferred T&CM applications were fibromyalgia patients. In the study conducted by Samancı et al., 34.8% of the participants were fibromyalgia patients.¹⁴ In the study conducted by Kılıç and Soylar, 13.8% of the patients preferred T&CM applications for neck and shoulder

TABLE 1: Sociodemographic characteristics of the participants

Items	n (386)	%
Age		
20-30	19	4.92
31-40	125	32.38
41-50	119	30.82
51-60	63	16.34
61+	60	15.54
Average age (minimum-maximum) (20-82)	46.48±11.98	
Gender		
Female	249	64.51
Male	137	35.49
Education		
Primary education	84	21.80
High school	121	31.30
Associate degree	44	11.40
Undergraduate and above	137	35.50
Marital status		
Single	60	15.50
Married	326	84.50
Child		
Yes	310	80.30
No	76	19.70
Average monthly income of your family (Turkish Lira)		
0-30,000	90	23.30
30,001-60,000	164	42.50
60,001-90,000	72	18.70
90,000 and above	60	15.50
Your illness** (519)		
Diabetes	103	19.84
Hypertension	61	11.76
Fibromyalgia	173	33.33
Migraine and headache	47	9.06
Back and lower back pain	92	17.72
Other*	43	8.29

* Other (Myalgia, Heart Disease, Ankylosing Spondylitis, Rheumatoid Arthritis, CA)

**Multiple answers given

TABLE 2: Scale statement averages

Items	$\bar{X}$	SD
Traditional and complementary medicine should be practiced for preventive purposes even in the absence of disease.	3.90	1.10
Traditional and complementary medicine practices make me feel more comfortable.	3.84	1.08
Since I am satisfied, I recommend traditional and complementary medicine to others	3.81	1.01
I feel that traditional and complementary medicine practices increase my hope for recovery.	3.77	0.99
Traditional and complementary medicine practices should also be used for psychological problems.	3.72	1.35
Thus far, I have received positive results from the traditional and complementary medicine practices I have used.	3.69	0.98
My acquaintances and friends are also practitioners of traditional and complementary medicine.	3.69	1.11
The speeches and explanations of professors with academic identity were effective in my preference for traditional medicine practices.	3.67	1.36
The Prophet's recommendation of traditional and complementary medicine practices has been effective in my preference for these methods.	3.65	1.28
Traditional and complementary medicine practices are used against diseases.	3.61	1.00
I resort to traditional and complementary medicine practices because I think it is from God.	3.59	1.02
I prefer to use traditional and complementary medicine as a continuation of drug treatment.	3.58	1.18
I resorted to traditional and complementary medicine practices to prevent my disease from progressing.	3.58	1.21
I feel relaxed and peaceful after using traditional and complementary medicine practices.	3.58	0.94
Traditional and complementary medicine is suitable for all diseases, including cancer.	3.56	1.08
Traditional and complementary medicine practices are used against diseases.	3.54	1.07
People I trust and who represent religion recommend traditional and complementary medicine practices, which makes me prefer these methods.	3.47	1.34
Traditional and complementary medicine practices make me feel safe.	3.45	1.11
Traditional and complementary medicine practices protect me from the side effects of medicines.	3.42	1.14
I find it comforting that traditional and complementary medicine practices use more familiar materials and methods than medical interventions.	3.41	1.06
I think that traditional and complementary medicine practices have a metaphysical effect.	3.39	1.07
I have met people who have been cured of their illnesses through traditional and complementary medicine practices.	3.38	1.05
I resorted to traditional and complementary medicine practices because I was curious about the outcome.	3.32	1.20
I believe that the increase in the number of places practicing these practices in the city where I live is effective in my preference for traditional medicine practices.	3.28	1.27
People who work under stress and are nervous find healing with traditional and complementary medicine practices	3.03	1.09
Since I am not someone who takes medication easily, I think traditional and complementary medicine practices are suitable for me.	3.01	1.27
I believe that a divine power will heal me when I choose traditional and complementary medicine practices.	3.01	1.29
Traditional and complementary medicine practices should only be used for treatment purposes.	2.98	1.26
Since I do not benefit from medical treatment, I use traditional and complementary medicine as a last resort.	2.90	1.25
I applied to traditional medicine practices as a result of the research I did on the internet	2.87	1.24
I trust traditional and complementary medicine practices more than medical drugs.	2.82	1.22
I think that traditional and complementary medicine practices give better results than using medical drugs or undergoing surgery.	2.80	1.15
I prefer traditional and complementary medicine practices because I get quick results.	2.72	1.12
The reason why I use traditional and complementary medicine practices is that they are included in religious sources.	2.68	1.36
I believe that the posts and advertisements I see on the internet are effective in my preference for traditional medicine practices.	2.66	1.21
I think that the programs on traditional medical practices that I watch on television are effective in my preference for traditional medical practices	2.60	1.20
The sense of spirituality of those practicing traditional and complementary medicine practices increases.	2.52	1.19
My wife's speeches and explanations were effective in my preference for traditional medicine practices.	2.48	1.33
Those who have traditional and complementary medicine practices get rid of all their worries.	2.41	0.99
I see traditional and complementary medicine practices as the only treatment method.	2.40	1.26
Traditional and complementary medicine practices should only be applied for pain.	2.39	1.13
I prefer traditional and complementary medicine practices because they are cheaper than medical treatments.	2.17	1.13
I turned to traditional and complementary medicine practices because I have a fear of surgery	2.09	1.12
I resorted to traditional and complementary medicine because I thought that medical doctors did not understand me.	1.98	0.98
I practice traditional and complementary medicine because it is good for ailments such as obsession and magic.	1.84	1.05
Mean of the Reasons for Application to Traditional and Complementary Medicine Practices Scale (minimum-maximum) (45-225)	138.05±26.26	
Cronbach's Alpha		0.933

SD: Standart deviation

TABLE 3: Comparison of the scale with sociodemographic characteristics

Variables	RATCMP	
	$\bar{X}$	SD
Age**		
20-30	128.68	15.82
31-40	136.40	25.88
41-50	136.78	29.66
51-60	140.92	23.32
61+	143.97	24.53
p value	0.003	
Education**		
Primary education	146.13	27.47
High school	140.15	23.85
Associate degree	134.39	37.40
Undergraduate and above	132.42	21.60
p value	0.001	
Marital status*		
Single	140.26	26.46
Married	126.07	21.66
p value	0.000	
Average monthly income of your family (Turkish Liras)**		
0-30,000	144.59	27.79
30,001-60,000	141.73	23.55
60,001-90,000	125.18	26.61
90,000 and above	133.63	24.98
p value	0.000	

*Student t testi; **Analysis of variance. RATCMP: Reasons for application to traditional and complementary medicine practices; SD: Standard deviation

pain. In addition, in the same study, 18.8% of the participants reported experiencing pain in more than one part of their body and preferred T&CM applications because of this pain.¹² In the study conducted by Kocyigit et al., the quality of life of those who preferred T&CM applications for fibromyalgia increased.¹⁵ In the study conducted by Aykurt Karlibel et al., it was determined that women with fibromyalgia preferred T&CM applications.¹⁶ In a study conducted by Vasileios et al. with fibromyalgia patients using T&CM applications, it was concluded that T&CM applications were beneficial in relieving fibromyalgia pain.¹⁷ Based on the studies in the literature and the results of this study, it can be stated that patients with fibromyalgia prefer T&CM applications.

Ozone therapy, cupping therapy, acupuncture, leech therapy and prolotherapy are applied in the T&CM centre where the study was conducted. As a

result of the study, it was determined that 66.58% of the patients preferred ozone therapy and 12.95% preferred cupping therapy. In the study conducted by Odabaş and Ağadayı and Kılıç and Soylar, it was determined that the most preferred T&CM application was cupping treatment, and in the study conducted by Çınar et al., it was determined that the most preferred T&CM application was ozone therapy.^{12,13,18} In 2014, the T&CM applications accepted by law in Türkiye were phytotherapy, mesotherapy, larvae application, prolotherapy, cupping, music therapy, hypnotherapy, homeopathy, leech therapy, ozone application, osteopathy, reflexology, acupuncture, apitherapy, and chiropractic.^{19,20} Practices other than these are prohibited. On the basis of the results of the study and the results of other studies, the applications differ according to the certification status of the physicians in the centers where the application is performed. The areas of use of ozone therapy are quite wide and include conditions such as osteomyelitis, diabetic foot, abscesses, fistulas, advanced ischemic diseases, osteoarthritis, fibromyalgia and chronic fatigue syndrome, dental diseases, bacterial, viral and fungal infections, cancer-related fatigue, autoimmune diseases, pulmonary diseases and skin diseases. However, conditions such as favism, pregnancy, uncontrolled hyperthyroidism, severe cardiovascular diseases and bleeding disorders are contraindicated for ozone therapy. Considering that ozone is a toxic gas, attention should be given to respiratory toxicity.²¹⁻²³

As another result of the study, a statistically significant difference was determined between the reasons for applying T&CM applications and age, education level, marital status and monthly income. In the study conducted by Karataş et al., statistically significant differences in age, gender, marital status, income status and educational status were found between those who used T&CM and those who did not.⁴ Öztürk et al., in their study on the use of T&CM in pregnant women, reported a statistically significant difference between T&CM use and educational status and marital status.⁸ In other studies, statistically significant differences were detected between the use of T&CM and health literacy, educational status, age, gender, income status, and religious belief.^{9,11,24} It can

be said that the difference between the results of the study and the results of previous studies may be due to the differences in the treatment applied in the centers where the studies were conducted. The reason for this situation is that T&CM applications are excluded from the scope of general health insurance in Türkiye, and these applications can be made through the out-of-pocket payment method.

As a result of the study, the mean score of the reasons for T&CM application was determined to be $\bar{X}=138.05\pm26.26$. The statements with the highest average score among the reasons for T&CM application are as follows: T&CM methods for disease prevention, T&CM methods make the individual feel more comfortable, satisfaction after T&CM applications, psychologically feeling good, increasing the hope of recovery, getting positive results from applications, recommendation by physicians with academic success, and recommendation by the Prophet. In the study conducted by Kılıç and Soylar, the statements with the highest average among the reasons for individuals to apply to T&CM applications were protection of general health and well-being, feeling physically and mentally good, relieving pain and being recommended by religion.¹² In the study conducted by Tangkiatkumjai et al., the most important reasons for application to T&CM practices were expectations of benefits from T&CM practices, dissatisfaction with modern medicine and perceived trust in T&CM practices.² In the study conducted by Özsürekeci et al., the most common reason for individuals to apply T&CM methods is the belief that modern medical practices make an additional contribution.²⁵ In the study conducted by Söylemez and Güneş, it was determined that the reason individuals applied T&CM methods was the expectation of eliminating diseases completely when they were used in combination with modern medicine.²⁶ In a study conducted by Hacilar et. al., the reasons for application to T&CM methods were the naturalness of the applications, the recommendation of the social environment and curiosity, and in another study conducted in Türkiye, the reason for application was the naturalness of the applications.^{27,28} In some studies conducted in Türkiye, these methods were applied to protect physical and mental well-being and relieve

pain.^{29,30} In addition, T&CM methods are applied on the grounds that they are good for the mental health of individuals, protect the level of psychological well-being, promote health and well-being, and protect the health and well-being of the mother.³¹⁻³³ The results of this study show that T&CM practices are mostly applied on the basis of the belief that they have a preventive effect on diseases, good mental health, the recommendation of the social environment, helping to relieve pain, being natural, high satisfaction level and the recommendation of physicians with academic studies. The reason for the change in the order of these reasons in the studies can be explained by the social and cultural differences in the regions where the studies were conducted. In addition, in Muslim countries such as Türkiye, cupping (cupping) is practiced, especially in response to the recommendation of the Prophet. The fact that it is sunnah to perform this practice on certain days in accordance with Islamic belief and the belief that it will be more effective when performed with prayer on these days have a high average among the reasons for application.^{34,35} In fact, as a result of this study, the 2nd most common application was cupping.

Like all studies, this study has several limitations. Firstly, all data were collected using self-reported questionnaires, a process that introduces inevitable reporting bias. Secondly, the fact that the study was conducted in a single centre limits its generalisability to other regions. Finally, the participants were only Turkish patients, which limits generalisability to other countries. Empirical longitudinal studies with a larger sample of citizens from different countries will be needed in the future to fully understand the reasons for resorting to T&CM methods worldwide and to reach a general conclusion.

CONCLUSION

As a result of the study, it was determined that T&CM practices were mostly preferred by women, those with higher education and income levels, and patients with chronic fibromyalgia. In general, it was determined that the participants applied to T&CM practices for disease prevention, continuation of health and well-being, pain relief, psychological well-being, the advice of physicians with academic titles,

satisfaction with previous practices and the advice of the prophet. Based on the results, it can be said that a comparative study of the reasons for the preference of T&CM practices in different centres will be more useful in terms of the policies to be developed.

Source of Finance

During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject, nor from a company that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.

Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or mem-

bers of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: Yaşar Demir, Bahadır Yazıcıoğlu, Onur Öztürk; **Design:** Yaşar Demir, Bahadır Yazıcıoğlu, Onur Öztürk; **Control/Supervision:** Onur Öztürk, Bahadır Yazıcıoğlu, Yaşar Demir; **Data Collection and/or Processing:** Yaşar Demir, Bahadır Yazıcıoğlu, Onur Öztürk; **Analysis and/or Interpretation:** Yaşar Demir, Bahadır Yazıcıoğlu, Onur Öztürk; **Literature Review:** Yaşar Demir, Bahadır Yazıcıoğlu, Onur Öztürk; **Writing the Article:** Yaşar Demir, Bahadır Yazıcıoğlu, Onur Öztürk; **Critical Review:** Bahadır Yazıcıoğlu, Onur Öztürk, Yaşar Demir; **References and Fundings:** Yaşar Demir, Bahadır Yazıcıoğlu, Onur Öztürk; **Materials:** Yaşar Demir, Onur Öztürk, Bahadır Yazıcıoğlu.

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