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ORIGINAL RESEARCH

Determination of Knowledge, Attitudes and Behaviors towards Traditional and Complementary Medicine in Patients Applying to Pamukkale University Medical Faculty Hospital Polyclinics

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Abstract

Objective: The aim of research was to investigate the attitudes and behaviors towards traditional and complementary medicine methods, the use of which has increased in recent years, in individuals admitted to the hospital.

Material-Method: The descriptive study was performed by applying a questionnaire to 276 people. The questionnaire included questions about the sociodemographic characteristics of the participants, their knowledge, attitudes and behaviors about traditional complementary medicine methods, and the Complementary, Alternative, and Conventional Medicine Attitude Scale. Data were analyzed with the Statistical Package for the Social Sciences version 15. Chi-square test, Mann-Whitney U and Kruskall-Wallis H tests were used in the comparison of traditional and complementary medicine attitudes and behaviors with sociodemographic characteristics. $p<0.05$ was considered significant.

Results: 33% of respondents had applied at least one traditional complementary medicine method. The most commonly used methods were cupping (n=40), phytotherapy (n=34) and acupuncture (n=17). The mean score of scale was found to be 109.05±15.44. The mean score of the individuals aged 45 and over is higher than the other ages and is 102.7±17.2 ($p<0.048$). A statistically significant difference was found between the use of at least one traditional and complementary method and the variables of age, marital status, place of residence for the longest time, and perceived health ($p<0.05$).

Conclusion: TCM methods are known to the majority of people who visit polyclinics. Their attitudes towards traditional and complementary medicine are quite close to positive. Physicians should question whether their patients use traditional methods.

Keywords: Complementary Medicine, Traditional Medicine, Knowledge, Attitudes, Practice

INTRODUCTION

According to World Health Organization (WHO), traditional medicine is the sum total of the knowledge, skill and practices based on the beliefs, beliefs and experiences traditional to different cultures, whether explicable or not, used in the maintenance of health as well as in the prevention, diagnosis, improvement or treatment of physical and mental illnesses. WHO has defined complementary medicine as: ‘a broad set of healthcare practices that are not part of that country’s own tradition or conventional medicine and are not fully integrated into the dominant healthcare system[1,2]. As a result of the discussions, it was decided that these methods could not be an alternative to medicine, but could only be complementary to the treatment, and the definition of "traditional and complementary medicine" came to the fore, based on the definition of WHO[3]. Traditional and complementary medicine (TCM) methods are classified as "alternative whole medical systems" (homepathy, acupuncture, etc.), "mind-body interventions" (hypnotherapy, yoga, etc.), "biological-based therapies" (probiotics, antioxidants, herbs), "manipulative body-based methods" and "energy therapies" [4,5].

Although the clinical efficacy of many TCM methods is controversial because of a lack of scientific evidence, the use of TCM has increased significantly worldwide, especially in the last 20 years [6,7]. Studies show that the frequency of TCM use varies between 9.8-76% worldwide [7]. Many individuals resort to TCM methods for the treatment of serious physical and mental diseases,

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especially diabetes, hypertension, cancer, musculoskeletal system diseases and dermatological problems [6,8]. Sometimes patients may prefer these methods first without going to the health institution, and sometimes they turn to these methods to support their medical treatment[8]. The fact that TCM methods are individual-oriented and their holistic approach, which takes into account not only physical health but also mental and social well-being, has made these methods trustworthy by the society [4]. The WHO supports the integration of proven TCM methods into national health systems [9]. The frequency of use of TCM in Turkey has been reported as 22.1%, and these methods have not yet been integrated into the national health system [10]. TCM services are carried out by physicians and dentists (only in the field of dentistry) who have practice certificates in practice centers authorized by the Ministry. Health professionals with basic education can participate in the practice under the supervision of certified physicians. With the Regulation on Traditional and Complementary Medicine Practices by the Ministry of Health, the principles of the practices, who can do it, the qualifications of the places where the practice will be made, the drugs that must be kept in the practice centers and the inspection principles have been determined [11].

The factors affecting the use of TCM are various. Sociodemographic factors, income level, type and severity of the disease, dissatisfaction with modern medicine, limited health care access, cultural beliefs, long-term use of TCM methods, perceived usefulness and safety of these methods, accessibility of TCM methods and being affected by social networks are considered among the reasons why TCM methods are preferred [4,6,7,8,12]. In the literature, the main reasons that keep individuals from using these methods are reported as lack of scientific evidence for TCM methods, disbelief in their effectiveness and safety, and not performing the applications under hygienic conditions [7]. The reasons for using TCM vary from country to country, while Western societies use these methods to keep their health under control, these methods are used in African countries due to the problems experienced in accessing professional health personnel and the affordability and accessibility of TCM methods. Asian societies are influenced by social networks and turn to TCM methods. Dissatisfaction with conventional medicine in South American countries is the main reason for using TCM [7,9]. There are many studies to determine the frequency of use of these methods in specific disease conditions and the knowledge and attitudes of health professionals about TCM. The number of studies investigating the knowledge, attitudes and behaviors of people applying to a health institution towards TCM applications is limited.

The aim of this study is to determine the knowledge, attitudes and behaviors of people who applied to selected polyclinics of a university hospital towards TCM.

MATERIALS AND METHODS

This research is a descriptive type epidemiological study. The population of the study consisted of individuals who applied to four selected polyclinics (internal diseases, family medicine, physical therapy and rehabilitation and dermatology) of the Pamukkale University Medical Faculty Hospital. According to the sample size calculation formula of the Open Epi program, the population size of which is unknown, the frequency was accepted as 50% and the type 1 error level was 5%, and the sample size to represent the universe was calculated as 384 with 80% power and 95% confidence interval (p=0.50, alpha=0, 05, d=0.05). The research was carried out between January 30-February 26, 2019. The data collection tool of the research is a questionnaire consisting of 59 questions, created by the researchers by scanning the literature. In the questionnaire form, there are 9 questions about the sociodemographic characteristics of the participants, 6 questions about the general health characteristics, 17 questions about the level of knowledge and behavior of traditional and complementary medicine. In the survey, the practices mentioned in the Regulation on Traditional and Complementary Medicine Practices published in the Official Gazette No. 29158 on 27.10.2014 were questioned, while other traditional methods used among the public were not included. There are 15 TCM methods whose implementation principles are determined by the relevant regulation. These are acupuncture, apitherapy, phytotherapy, hypnosis, leech therapy, homeopathy, chiropractic, cupping, maggot debridement therapy, mesotherapy, prolotherapy, osteopathy, ozone application, reflexology and musicotherapy (11). The data of the research were collected between 1-15 February 2019 by filling in the questionnaire form

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by people who volunteered to participate in the research. The Complementary, Alternative, and Conventional Medicine Attitude Scale (CACMAS) consisting of 27 questions was used to determine the attitudes of the participants towards traditional and complementary medicine. The scale consists of 3 sub-factors: Philosophical congruence with complementary and alternative medicine, dissatisfaction with conventional medicine, and holistic balance. The scale is 7-point Likert type (1 = I strongly disagree, 7 = I strongly agree). Questions 1, 4, 8, 9 and 26 are reverse coded. A score between 27-189 can be obtained from the scale. A high score from the scale indicates a positive attitude towards traditional and complementary medicine. The Turkish validity and reliability study of the scale developed by McFadden et al. was performed by Köse et al. [13] (Cronbach's alpha: 0.808). Ethical approval for this study was obtained from Pamukkale University Faculty of Medicine Non-Invasive Clinical Research Ethics Committee for the study. Required institutional permission has been obtained. Verbal consent was obtained from the participants.

Statistical analysis

Statistical Package for the Social Sciences (SPSS) version 17 was used for data analysis. Descriptive statistics are given by calculating mean, standard deviation, frequency and percentage. The compatibility of continuous variables with normal distribution was evaluated with Kolmogorov-Smirnov and Shapiro Wilk Tests. Since the normal distribution conditions were not met, Mann-Whitney U test and Kruskal-Wallis H test were used to compare the scale means. Factors associated with performing at least one traditional application were compared using the Pearson Chi-square test. Statistical significance level was considered significant if $p<0.05$.

RESULTS

Overall 276 (72.0%) people participated in the research. The mean age of the participants in the study was 37.6±14.1 years. 58.9% of the participants were women, while 83.7% of the participants had a high school or higher education level and 36.7% of the participants had a chronic disease. The sociodemographic characteristics of the participants in the study are shown in Table 1.

Table 1. Sociodemographic characteristics of the participants

		n	%
Age	18-24	72	26.1
	25-44	112	40.6
	≥45 years	92	33.3
Gender	Female	162	58.9
	Male	113	41.1
Education level	Middle school and below	45	16.3
	High school and above	231	83.7
Income	Income less than expenses	83	30.5
	Income equals expense	135	49.6
	Income more than expenses	54	19.9
Marital status	Married	119	43.1
	Single	131	47.5
	Divorced/Widowed/Separate	26	9.4
Family type	Nuclear family	230	83.9
	Extended family	31	11.3
	Broken family	13	4.7
Longest lived place	Province	186	67.6
	District	67	24.4
	Town/Village	22	8.0
Perceived health	Excellent/Very good	88	31.9
	Good/Medium	186	67.4
	Bad	2	0.7
Chronic disease	Yes	101	36.7
	No	174	63.3
Outpatient clinic applied	Internal medicine	88	31.9
	Family medicine	23	8.3
	Dermatology	71	25.7
	Physical therapy and rehabilitation	94	34.1

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The frequency of participants who heard TMC modalities was 85.9%; 40.4% of participants got information about TCM; source of information was television/radio/internet with a frequency of 28.3%. The participants stated that TCM applications were beneficial with a frequency of 36.6%. They stated that they applied at least one TCM method with a frequency of 33.0%. It was found that the purpose of the applications was relaxation with a frequency of 66.3% and treatment with a frequency of 25.8%; 18.0% of participants who had TCM application stated that they benefited completely, 71.9% benefited partially, 10.1% had no benefit from the application. The knowledge, attitudes and behaviors of the participants towards TCM applications are shown in Table 2. The methods most frequently applied by the participants of the study are cupping method (n=40), phytotherapy (n=34) and acupuncture (n=17).

Table 2. Participants' knowledge, attitude and behavioral characteristics towards TCM applications

		n	**%**
Hearing the methods	Yes	237	85.9
	No	39	14.1
Getting information about TCM modalities	Yes	111	40.4
	No	164	59.6
Information source*	Specialist doctor	14	5.1
	Family doctor	2	0.7
	Pharmacist	2	0.7
	Nurse	1	0.4
	Television/Radio/Internet	78	28.3
	Book/Magazine/Newspaper	37	13.4
	Neighbor/Relative/Frien	60	21.7
Thoughts on the usefulness of TCM	Beneficial	100	36.6
	Damaging	14	5.1
	Neither beneficial nor harmful	69	25.3
	No idea	90	33.0
Useing at least one of the TCM modalities	Yes	91	33.0
	No	185	67.0
The purpose of applying TCM	Cosmetic	5	5.6
	Protection	2	2.2
	Relaxation	59	66.3
	Treatment	23	25.8
Application time	Before going to the doctor	63	71.6
	After going to the doctor	25	28.4
Place of application	Public hospital	3	3.4
	Private hospital	5	5.7
	Private health institution	18	20.7
	House	53	66.7
	Other	3	3.4
Person making the application*	Doctor	13	4.7
	Nurse/Midwife	2	0.7
	Pharmacist	0	0.0
	Transfer	6	2.2
	By himself/herself	34	12.3
	Other	10	3.6
Post-application health problem	Yes	2	2.3
	No	86	97.7
Benefit from the application	Complete	16	18.0
	Partial	64	71.9
	None	9	10.1
Repeating application	Yes	52	59.1
	No	36	40.9
Recommending the app	Yes	66	76.7
	No	20	23.3

*More than one option ticked. Percentage is taken over the total number.

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The CACMAS mean score of the participants was found to be 109.05±15.44 (Table 3). Distribution of people using TMC according to the treatment modality they use is shown in Figure 1.

Table 3. The mean and standard deviation of the participants' scores on the Complementary, Alternative, and Conventional Medicine Attitude Scale (CACMAS)

	Mean ± standard deviation
Scale total score	109.05±15.44
Philosophical congruence with complementary and alternative medicine	46.57±8.11
Dissatisfaction with conventional medicine	26.28±9.73
Holistic balance	26.18±9.78

When the scores of the participants from the CACMAS were analyzed according to their sociodemographic characteristics, the mean score of the scale was 97.4±17.4 in individuals aged 18-24, 97.0±18.7 in individuals aged 25-44, and 102.7±17.2 in individuals aged 45 and over (p=0.048). There was no statistically significant difference between gender, educational status, perceived income, marital status, family type, perceived health, presence of chronic disease and scale score (p>0.05). When the sociodemographic variables associated with performing at least one application were compared, it was found that 29.2% of the participants aged 18-24, 24.1% of the participants aged 25-44, and 46.7% of the participants aged 45 and above performed at least one TCM application. (p=0.002). 28.5% of the participants whose place of residence was most of time city center for the longest time and 42.7% of those whose place of residence was most of time the county-town-village for the longest time stated that they used at least one TCM method (p=0.019). There was no statistically significant difference between the characteristics of the participants such as gender, educational status, income, family type, and presence of chronic disease and use of at least one TCM method (p>0.05). The comparison of the participants' sociodemographic characteristics and their behaviors and attitudes towards TCM applications is given in Table 4.

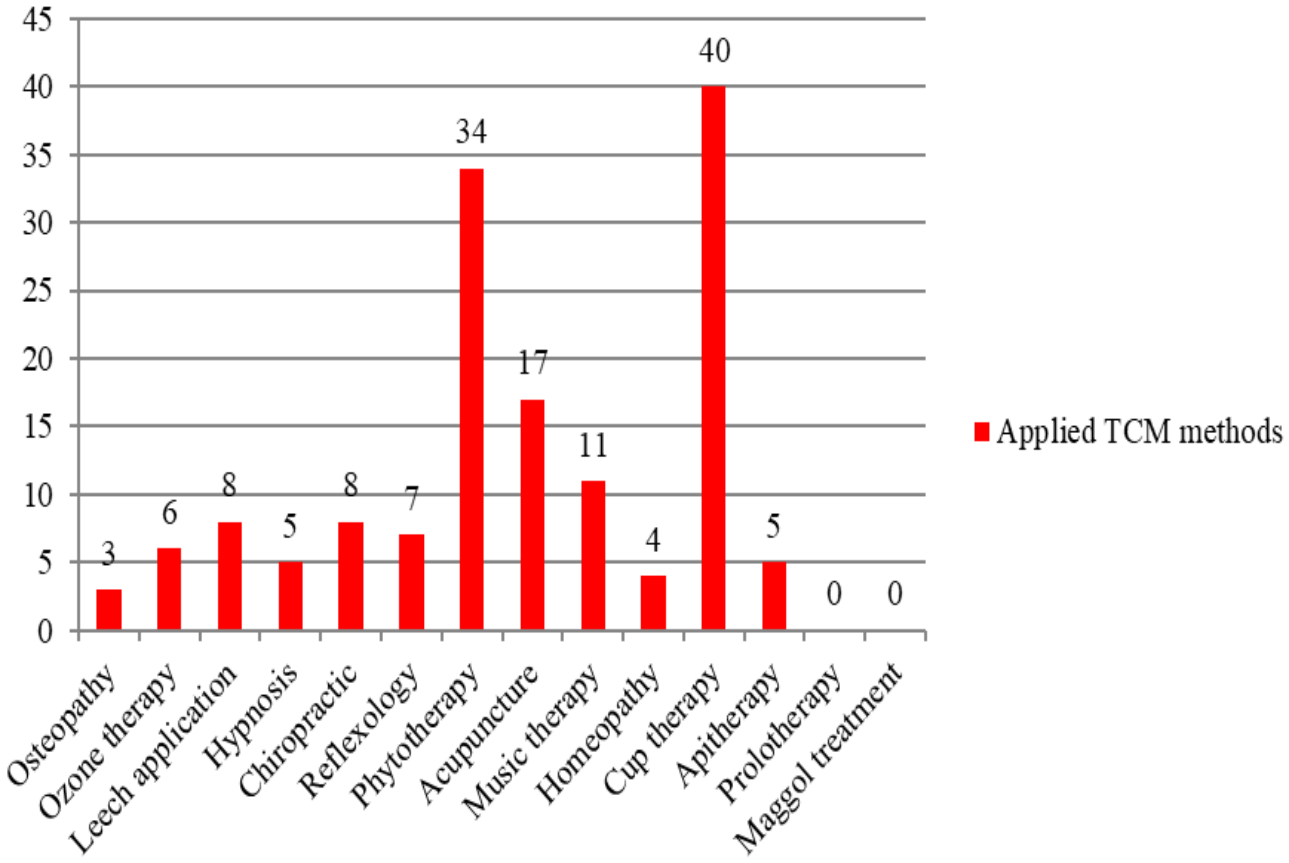

Figure 1. Distribution of people using TMC according to the treatment modality they use**.**

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Table 4. Comparison of the sociodemographic characteristics of the participants and their behaviors and attitudes towards TMC applications

Variables		Scale total score	TCM	
			Applying	Not applying
Age	18-24	97.4±17.4	21 (29.2)	51 (70.8)
	25-44	97.0±18.7	27 (24.1)	85 (75.9)
	≥45 years	102.7±17.2	43 (46.7)	49 (53.3)
		p=0.048	**p=0.002**	
Gender	Female	99.83±18.04	57 (35.2)	105 (64.8)
	Male	97.88±18.11	33 (29.2)	80 (70.8)
		(p=0.380)	p=0.298	
Education level	Middle school and below	98.28±17.34	17 (37.8)	28 (62.2)
	High school and above	99.19±18.19	74 (32.0)	157 (68.0)
		p=0.772	p=0.453	
Perceived income	Income less than expenses	99.72±16.10	31 (37.3)	52 (62.7)
	Income equals expense	98.45±19.10	40 (29.6)	95 (70.4)
	Income more than expenses	100.37±18.57	20 (37.0)	34 (63.0)
		p=0.770	p=0.414	
Marital status	Married	100.4±17.8	50 (42.0)	69 (58.0)
	Single	97.7±18.5	33 (25.2)	98 (74.8)
	Divorced/Widowed/Separate	99.3±16.5	8 (30.8)	18 (69.2)
		p=0.483	**p=0.018**	
Family type	Nuclear family	98.63±18.00	74 (32.2)	156 (67.8)
	Extended family	102.16±19.23	10 (32.3)	21 (67.7)
	Broken family	98.92±17.69	5 (38.5)	8 (61.5)
		p=0.597	p=0.895	
Longest lived place	Province	99.02±17.82	53 (28.5)	133 (71.5)
	District/Town/Village	99.14±18.65	38 (42.7)	51 (57.3)
		p=0.959	**p=0.019**	
Perceived health	Excellent/Very good	97.3±20.1	21 (23.9)	67 (76.1)
	Good/Medium/Bad	99.8±16.9	70 (37.2)	118 (62.8)
		p=0.291	**p=0.028**	
Chronic disease	Yes	98.97±16.45	40 (39.6)	61 (60.4)
	No	99.02±18.96	51 (29.3)	123 (70.7)
		p=0.852	p=0.080	
Outpatient clinic applied	Internal medicine	101.35±16.41	29 (33.0)	59 (67.0)
	Family medicine	100.11±19.62	10 (43.5)	13 (56.5)
	Dermatology	106.00±20.46	25 (35.2)	46 (64.8)
	Physical therapy and rehabilitation	99.04±18.03	27 (28.7)	67 (71.3)
		p=0.010	p=0.556	

DISCUSSION

This research was conducted to determine the knowledge, attitudes and behaviors of people who applied to the polyclinics of a university hospital towards TCM methods. In the study, it was determined that the majority of the participants had heard of TCM methods, nearly half of them were informed about the methods, and one third of them applied at least one method while 85% of the participants have heard of TMC methods. In the study conducted by Sensoy et al. [14] among those who applied to a university hospital, 95% of the participants were aware of TCM practices, while in the study conducted by Ozer et al. [3] 68.5% of the patients were knowledgeable about TCM methods[3].

In the present study, the most common source of information about TCM was television/radio/internet; it was determined that neighbor/friend/relative is in the second rank. It is thought-provoking that the frequency of obtaining information from health personnel is quite low. Similar to our research finding, in the study conducted by Odabas and Agadayi[15], it was the media from which participants get the most information with a frequency of 64%, and the least information from the doctors. In the study conducted by Sensoy et al. [14], participants received information from their close circles with a frequency of 76.9% and from the media with a frequency of 15.9%. According to the study conducted by Karatas et al. [16], the most common source of information about the TCM

methods of the participants during the Covid 19 pandemic process is social media (52.4%), while the second most frequent is close relatives, friends and neighbors (27.5%). The reason for the low frequency of obtaining information from health personnel may be negative reactions and disapproval [3,17]. Information about the correct application of TCM methods, interactions with ongoing medical treatment, and whether the method is suitable for the patient should be obtained from the doctor[7].

It can be said that the attitudes of the individuals participating in our research towards alternative medicine methods are moderately positive according to the scale score average. It can be stated that the participants of the research approached complementary medicine practices cautiously.

In the study conducted by Ozer et al. [3], on patients who applied to the internal medicine outpatient clinic using CACMAS, the mean score of the scale was found 115.78±18.81, and it was stated that the participants' attitudes towards TCM were moderately positive. The average score (29.52±5.70) obtained in the study conducted by Sensoy et al. [14], using the Attitude Scale to Integrative Complementary and Alternative Medicine (ICTAS) indicates that the participants' attitudes towards traditional and complementary medicine are moderately positive. In the study conducted by Dursun et al. [18], the mean CACMAS score was found to be 103.99 ± 22.03, similar to our study.

In this study, it can be said that the attitudes of people aged 45 and above more positive towards TCM methods than those in the other age groups. In the study conducted by Ozer et al. [3], no significant correlation was found between the CACMAS score and age.

Most of the people with chronic diseases in Turkey use at least one TCM method and the most commonly used methods are herbal therapy, massage and acupuncture [17]. In the study, one third of the participants used at least one TCM method and the most used methods as cupping, phytotherapy and acupuncture. Dursun et al. [18] reported that the frequency of using traditional complementary medicine in individuals aged 18-65 who applied to the family health center was 39.3%, similar to our study. The most commonly used methods in this study are herbal therapy, massage, and cupping. In the study conducted by Odabas and Agadayi [15], on patients who applied to the family health center, 14.8% of the participants used at least one TMC method, the most common being mug, leech and acupuncture. According to the research conducted by Ozer et al. [3], 56.5% of the participants used at least one TCM method. Avci [19] reported that 46.4% of diabetic patients who applied to university hospital outpatient clinics used at least one TCM method.

In a study evaluating data from 32 countries, the frequency of use of TMC has been reported as 33.2% in the USA, 0.3-86.0% in Europe, 76.0% in Japan, 71.3% in South Korea, and 22.1% in Turkey. TCM is applied the most in China (50.7%) and the least in Poland (6.1%) [10]. 30% of cancer patients in Europe and 33.4% in Norway reported using TMC in the last one year [20].

In the present study, it was found that the participants used TCM methods with a frequency of 66.3% for relaxation. In the study conducted by Ozer et al. [3], TCM methods were most frequently used to support a conventional treatment (28.3%), and in the study conducted by Odabas and Agadayı [15], 76.3% used TCM to alleviate musculoskeletal pain.

In recent years, when chronic diseases have come to the fore and the proportion of the elderly population has increased, TCM applications could be the first treatment method applied [21]. As a matter of fact, TCM methods are mostly applied before visiting a doctor, though the use of TCM methods as an alternative to conventional medicine and the use of these methods without consulting a physician may cause delay in diagnosis and treatment [21, 22].

In our study, it was found that 66% of the people who are using TCM perform the application in their home environment and mostly apply it to themselves. In the study conducted by Odabas and Agadayi [15], 60.5% of those who had TCM had this application done at home. The application of these applications by people who have not been trained in TCM methods with unsuitable materials and under bad conditions may cause serious side effects [22]. With the "Regulation on Traditional and Complementary Medicine Practices", the principles of application, the situations in which the method should be applied, the characteristics of the practitioner, the medical materials and devices used during the treatment were determined [11].

According to the research, the majority of the participants (97.7%) did not experience any side effects after the application, 71.1% benefited partially from the application, 59.1% repeated the application and 76.7% recommended the application to others. In the study conducted by Ozer et al. [3],

58.9% of the participants recommend the method they use to others. In the study conducted by Avci [19], 48.6% of diabetic patients did not report any side effects regarding the method they used, and 66.4% did not complain about the method they used. In the study conducted by Odabas and Agadayi [15], 70.3% of the participants stated that they benefited from their practice. Accordingly, it can be said that the majority of people who apply TCM find the methods useful and reliable, and are satisfied with the methods they use.

TCM methods are mostly applied by people aged 45 and over, married, living in rural areas, and people who do not consider their health as excellent or very good. It was found by Avci [19] that diabetes patients aged 65 and over use TCM methods more frequently. In the study conducted by Karatas et al. [16], people aged 40 and over and married people use these methods more frequently, similar to our research finding. In the study conducted by Otegen et al. [23], people aged 40 and over use the interventional TCM method more. According to studies, TCM applications are more preferred by people who are elderly, live in rural areas, and have diseases that are difficult to treat and last for a long time [22].

Limitations and strengths of the research

The research was conducted among patients who applied to selected polyclinics of a university hospital with various health problems and their relatives. Since it is a hospital-based study, the data do not fully reflect the attitudes and behaviors of the society towards traditional and complementary medicine. Despite this, revealing the knowledge, attitudes and behaviors of individuals who apply to a health institution providing tertiary treatment services towards traditional and complementary medicine methods can be a guide for health service providers. Attitudes of the participants were measured with a scale with proven validity and reliability. 72.0% of the sample size determined at the beginning of the research has been reached.

CONCLUSION

TCM methods are known to the majority of people who visit selected polyclinics of an university hospital and are applied by one third of them. Individuals generally apply these methods without consulting health personnel but with the information which they receive from the media and their close circles. The attitudes of the participants towards TCM applications are quite close to positive. Physicians should question the TCM methods used by patients to prevent undesirable interactions before prescribing medication. Health professionals should provide counseling to individuals who apply to them about TCM.

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