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ORIGINAL PAPER

Attitudes towards complementary medicine practices among patients admitted to a primary care unit during the COVID-19 pandemic in Turkey

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ABSTRACT

Introduction and aim. The use of complementary medicine applications is increasing due to the interest of society. We aimed to assess the attitudes, behaviors, and awareness of the patients who applied to a primary care unit towards complementary medicine practices.

Material and methods. This cross-sectional study was conducted with the voluntary participation of 562 individuals who admitted in a primary care unit. The data was collected through face-to-face interviews through a research questionnaire form and the Complementary, Alternative, and Conventional Medicine Attitudes Scale between 20 June-20 August 2021. The sample size was calculated with the OpenEpi v3.01program and statistical analyzes were performed using the SPSS-24 package program.

Results. Their mean age was 39.73±12.95 years and women accounted for 55.5% (n=312) of all participants. The most known complementary medicine methods were phytotherapy, acupuncture, and cup therapy. The information sources of the participants about Complementary Medicine were mostly people around them; only 31.1% of them consulted a doctor. The mean total scale score was 111.45±19.08. Those with chronic diseases, employees, who had COVID-19 disease, high educational status, and those who evaluated their health status as good had more positive attitudes towards complementary medicine practices. A weak negative correlation was found between age and total scale score.

Conclusion. Although positive attitudes towards complementary medicine practices are exhibited, health professionals are consulted at very low rates as a source of information. Health care providers must make arrangements and plans to provide this increasing interest from reliable sources.

Keywords. attitudes, complementary medicine, primary care

Introduction

Complementary medicine (CM) refers to holistic practice. It focuses on health promotion and disease prevention by combining evidence-based and traditional medicine.[1] According to the World Health Organization (WHO), CM is a set of knowledge, skills, and practices based on theories, beliefs, and experiences specific to different cultures, which can or cannot be explained. It is used to diagnose, treat, and prevent physical and mental diseases and promote health.[2]

From the past to the present, many people resort to traditional and CM practices for treating diseases, preventive and cultural purposes. CM preference varies according to country, geographical region, ed-

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ucation level, beliefs, and social and cultural factors.[3] Some people prefer modern medical practices and have a negative attitude towards CM, while others value CM because it is compatible with their health standards and beliefs.[4]

According to the World Health Organization 2019 report, 170 (88%) of the 194 member countries have officially accepted the use of CM through the development of national policies, laws, regulations, and programs.[5] More than 100 million Europeans are currently CM users. One-fifth of these regularly use CM, and the same number of people prefer health services that include CM.[5,6] It has been reported that there are much more CM users in Africa, Asia, Australia, and North America.[7] It has been reported that more than 40% of the population in countries such as the USA, Germany, Switzerland, Cuba, Japan, and Chile; 86% in Korea and 60% in China use CM.[8-9] Studies conducted in Turkey demonstrated that, the use of CM is between 37% and 76%.[10] According to 2018 WHO survey, States in the Western Pacific Region reported that CM was used by 93% of their communities.[5]

In a study conducted in the United States, it was concluded that healthy adults and people with chronic diseases have the potential for additional benefits of CM alongside modern medicine, treatment beyond the scope of modern medicine, the avoidance of unwanted side effects of treatments, and the relatively lower cost of some CM treatments, use CM therapies.[11]

The widespread use of CM in Africa and some developing countries can be attributed to its easy availability.[12] For example, while the ratio of traditional healers to the population in Africa is 1:500, the ratio of medical doctors to the population is 1:40 000.[13] In some countries where the conventional healthcare system is fairly well established, such as Singapore and the Republic of Korea, 76% and 86% of the relevant populations still commonly use CM due to cultural and historical influences.[14] Studies have reported that CM users have positive effects.[15-16]

Positive factors that lead individuals to CM are: The perception that CM is safer and more natural, the feeling of keeping the treatment under control with the active role of the patient, the absence of invasive methods, the treatment practitioners dedicating much time to the patient, a view that is compatible with their lifestyles and belief systems and an effort to seek a holistic approach to medical care.[4]

Other reported factors leading to the use of CM treatments are; inadequate doctor-patient relationship, long waiting time, limited time to be allocated to the patient, dissatisfaction with medical health services, fear of the side effects of medical treatments, rejection of medicine, insecurity, and being desperate for recovery of the disease.[7]

In many countries, modern and CM treatment methods have been applied together for years. The traditions, customs, and beliefs of the society, easy access to CM treatment products, and health needs that cannot be met in modern medicine are among the factors that cause people to turn to CM. In addition, orientation towards the natural, suspicion of current care and treatment methods, fear of possible side effects, cognitive, emotional, and sociocultural characteristics, behaviors, and attitudes are included. Inadequacies in treating cancer and some chronic diseases, helplessness, hopelessness, different expectations, and ignorance psychologically overwhelmed the patients and led them to these practices.[16]

In the United States, it is estimated that between 28 and 94 percent of rheumatic disease patients, and about 90% of cancer patients, have tried CM treatment.[17] In France, patients with chronic musculoskeletal disease accounted for a more significant proportion of visits to CM practitioners.[18] Many patients with multiple sclerosis resort to CM treatments.[18] Based on data from national monitoring of CM services in China, the top five diseases admitted to CM hospitals in 2008 were cerebrovascular disease, slipped intervertebral disc, hemorrhoids, ischemic heart disease, and essential hypertension, and this can be interpreted as people with diseases tend to use CM more.[19]

Determining attitudes and behaviors towards CM practices at individual and social levels will facilitate health care planning.[20]

Aim

This study aimed to evaluate the attitudes, behaviors, and awareness of patients who applied to a primary care unit towards CM practices. Another goal was to investigate whether the participants were intellectually compatible with CM, their dissatisfaction with modern medicine, and their holistic view of health.

Material and methods

Ethical approval

Patients were provided with detailed information about the procedures and they signed written consent forms. The approval of the ethics committee was obtained before initiation of the study (meeting date; 18/06/2021, decision number; 2021/3309). All procedures performed in this study involving human participants were in accordance with the ethical standards specified by the institutional and national research committee and with the Helsinki Declaration and its later amendments or comparable ethical standards.

Study design and participants

In this cross-sectional study volunteers over 18 years old, who applied to a primary care unit for any reason but with no psychiatric disease, were included.

The sample size was calculated with the OpenEpi v3.01 program based on the registered population of 3900 adult people served by the primary care unit, and it was found to be at least 558 with a 5% significance level, 95% confidence interval, and 99% power. To exceed this number, the study was completed with 562 participants.

Data collection

In the socio-demographic characteristics form, the participants' age, gender, marital status, education level, income, chronic diseases, whether they smoked, whether they had the COVID-19 disease, and the COVID-19 vaccination were questioned. In addition, which of the mentioned CM applications they knew, which ones they used and found effective, their information sources, for what purpose they used CM methods, and whether they wanted to receive consultancy on this issue were questioned.

Complementary, Alternative, and Conventional Medicine Attitude Scale (CACMAS): CACMAS was developed to measure how health care recipients' attitudes affect their use of complementary medicine treatment methods. The Turkish validity and reliability study of the CACMAS, which was developed by McFadden et al.[21] in 2010, was conducted by Köse et al.[22] in 2018. CACMAS includes three sub-dimensions: an intellectual view towards CM, dissatisfaction with modern medicine, and a holistic view of health. It is arranged in the form of a seven-point Likert scale. The scale consists of twenty-two positive items, and five (1, 4, 8, 9, 26) are negative statements. Items with negative statements were scored in reverse (7-6-5-4-3-2-1) when analyzing. Increasing subdimensional scores indicate a more positive attitude towards CM (for example, higher scores show more dissatisfaction with modern medicine). The minimum score on the scale is 27, and the maximum score is 189 points. The scale does not have a cut-off value, and people have a positive attitude towards CM as the score increases.

Statistical analysis

Statistical analysis was performed using the Statistical Package for Social Sciences version 24 (IBM, Armonk, NY) software. Participants with missing values in an outcome variable were excluded from any analysis of that variable. Descriptive statistics were expressed as mean, standard deviation, minimum-maximum values, frequency, and percentile. Student's t-test and One-Way ANOVA tests were used to evaluate the relations between scores and socio-demographics. Pearson correlation and Logistic regression analysis were used. A p-value less than 0.05 was considered statistically significant with a 95% confidence level.

Results

A total of 562 participants, 312 women (55.5%) and 250 men (44.5%) were included in the study. The mean age of the participants was 39.73±12.95 years old. There was no statistically significant difference between the genders in terms of age (p=0.172). Of the participants, 54.4% were married, 55.0% had a chronic disease, and 63.9% had regular health checks even if they had no complaints. The socio-demographic characteristics of the participants are shown in Table 1.

Table 1. The socio-demographic characteristics of the 562 participants who admitted to a primary care unit during the COVID-19 pandemic in Turkey

	n	%
Gender		
Female	312	55.5
Male	250	44.5
Marital Status		
Married	306	54.4
Single	256	45.6
Chronic disease		
Present	253	45
Absent	309	55
Smoking Status		
Smoking	169	30.1
Never smoked	177	31.5
Quitted smoking	216	38.4
Education level		
Illiterate	23	4.1
Primary school	99	17.6
High school	238	42.3
University	135	24.1
Master degree	67	11.9
Income status		
Income less than expenses	154	27.4
Income equal to expenses	304	54.1
Income more than expenses	104	18.5
Working status		
Still working	352	62.6
Not working	210	37.4
Self-Assessment of Health Status		
Perfect	202	35.9
Good	228	40.6
Not bad	98	17.4
Bad	34	6.1
Having Regular Check-Up Examinations		
Yes	359	63.9
No	203	36.1
Having had COVID-19 disease		
Yes	317	56.4
No	245	43.6
COVID-19 vaccination status		
Vaccinated	401	71.4
Unvaccinated	161	28.6
Using CM for COVID-19		
Yes	159	28.3
No	403	71.7

* CM – complementary medicine; COVID-19 – coronavirus disease 19

The rates of participants knowing that the given CM treatment methods exist, believing that the method is effective, and using the method are presented in Table 2.

Table 2. Awareness, beliefs, and experiences of 562 patients applying a primary care unit in Turkey, about CM treatment methods during the COVID-19 pandemic*

	Knew the method exists		Believed that the method is effective		Used the method	
	n	%	n	%	n	%
Acupuncture	407	72.4	330	58.7	67	11.9
Phytotherapy	479	85.2	459	81.7	464	82.6
Hirudotherapy	344	61.2	178	31.7	103	18.3
Ozone Therapy	153	27.2	128	22.8	54	9.6
Cup Therapy	435	77.4	384	68.3	198	35.2
Hypnosis	129	23.0	102	18.1	21	3.7
Homeopathy	55	9.8	40	7.1	32	5.7
Prolotherapy	45	8	45	8	27	4.8
Chiropractic	29	5.2	29	5.2	12	2.1
Osteopathy	44	7.8	44	7.8	19	3.4
Larvae treatment	14	2.5	14	2.5	0	0
Apitherapy	76	13.5	70	12.5	39	6.9
Musicotherapy	112	19.9	96	17.1	49	8.7

* CM – complementary medicine; COVID-19 – coronavirus disease 19; more than one method was ticked

Those who consulted a doctor for information and counseling about CM methods and use, comprised 31.1% of the participants (n=175). Among them, 39.4% (n=69) could not receive counseling because the doctor stated that he/she did not know these methods.

The most common source of information about CM was the people around them, such as friends and relatives, with 75.4% (n=424), secondly television and the internet with 64.4 % (n=362). Only a few, such as 37.9% (n=213), received information from health personnel, and 22.2% (n=125) stated that they obtained information by reading a book about CM methods.

Of the participants, 73.8% thought traditional and CM practices were reliable due to no side effects or complications. The reasons why they use these methods are shown in Table 3. Participants who experienced CM treatment methods were more likely to believe that the method was effective (p=0.005 for acupuncture, p=0.001 for phytotherapy, and p=0.001 for cupping therapy).

The total and sub-dimensional scores of the CACMAS are listed in Table 4. CACMAS total and subdimensional scores were compared with marital status, and no statistically significant difference was found (p=0.910, p=0.235, p=0.517, p=0.473, respectively). The scores of the employees were found to be higher than those who were not working (p=0.001). Total scale scores and holistic view of health sub-dimension scores of those with any chronic disease were higher than those with no chronic disease (p=0.001, p=0.003, respectively).

Table 3. Indications of CM treatment methods in 562 participants in a primary care unit during the COVID-19 pandemic in Turkey*

	n	%
To relieve muscle and joint pain	87	15.5
Lose weight	62	11
According to religious belief	166	29.5
Common cold	445	79.2
Skin defects	69	12.3
Physician advice	59	10.5
No other option for treatment	49	8.7
For a rapid recovery	391	69.6
Failure to benefit from medications	142	25.3
Having side effects of drugs	122	21.7
To prevent disease progression	68	12.1

* CM – complementary medicine; COVID-19 – coronavirus disease 19; more than one method was ticked

Table 4. Total and sub-dimensional CACMAS scores of the 562 participants who admitted to a primary care unit during the COVID-19 pandemic in Turkey*

CACMAS	Mean ± SD
Intellectual Perspective on Complementary Medicine	30.91±7.79
Dissatisfaction with Modern Medicine	40.16±9.05
Holistic View of Health	40.37±8.28
Total score	111.45±19.08

* SD – standard deviation; CACMAS – Complementary, Alternative, and Conventional Medicine Attitudes Scale; COVID-19 – coronavirus disease 19

Total scores of the CACMAS of those who had COVID-19 disease and those who used CM methods to protect or treat COVID-19 were found to be statistically significantly higher (p=0.048, p=0.010, respectively). There was no significant relationship between the scores obtained from the scale and whether or not to have the COVID-19 vaccine. Table 5 shows the comparison of the scores obtained from the scale with related conditions.

A statistically significant relationship was found between the education level of the participants and the total and sub-dimension scores of the CACMAS (p<0.001). A strong positive correlation was found between education level and total scale score (Pearson correlation coefficient: 0.751, p<0.001). It was determined that those with master's degrees received higher scores on the scale.

Income status had no effect on the total scale score and sub-dimension scores (p>0.05). According to the health status self-assessment scale, those who evaluated their health status as bad, had statistically significantly lower scores from the CACMAS scale (p=0.003, p=0.018, p=0.002, p=0.002, respectively).

The intellectual perspective on CM and dissatisfaction with modern medicine sub-dimension scores of those who have never smoked were significantly lower

Tablo 5. Relation of CACMAS scores and some socio-demographic characteristics in 562 participants admitting to a primary care unit during the COVID-19 pandemic in Turkey*

	Intellectual Perspective on Complementary Medicine Score (mean±SD)	p	Dissatisfaction with Modern Medicine Score (mean±SD)	p	Holistic View of Health Score (mean±SD)	p	Total score (mean±SD)	p
Gender								
Female	30.34±7.24	0.056	39.36±8.18	0.018	40.48±8.40	0.721	110.19±17.97	0.082
Male	31.61±8.39		41.17±9.95		40.23±8.14		113.02±20.30	
Working Status								
Working	31.88±8.30	0.001	41.59±8.98	0.001	41.05±8.63	0.012	114.52±19.83	0.001
Not working	29.28±6.56		37.77±8.67		39.23±7.54		106.30±16.55	
Chronic disease								
Present	31.85±8.57	0.009	40.30±8.84	0.739	42.11±8.56	0.001	114.28±20.15	0.001
Absent	30.13±7.01		40.05±9.23		38.94±7.76		109.13±17.85	
Having regular check-ups								
Yes	31.16±7.93	0.306	40.11±9.29	0.869	40.91±8.41	0.041	112.19±19.20	0.221
No	30.46±7.53		40.25±8.62		39.42±7.96		110.14±18.82	
Having had the COVID-19 disease								
Yes	31.35±7.71	0.126	40.54±8.72	0.256	40.89±7.98	0.090	112.79±18.56	0.048
No	30.33±7.88		39.67±9.45		39.70±8.62		109.71±19.62	
Having had the COVID-19 vaccine								
Vaccinated	30.92±7.97	0.936	40.20±8.68	0.862	40.55±8.55	0.415	111.69±19.68	0.639
Unvaccinated	30.86±7.36		40.06±9.94		39.92±7.55		110.85±17.53	
Using CAM methods for COVID-19								
Yes	31.38±7.84	0.367	41.03±9.55	0.155	42.35±8.61	0.001	114.76±20.46	0.010
No	30.72±7.77		39.82±8.83		39.59±8.02		110.14±18.36	

* SD – standard deviation; CM – complementary medicine; COVID-19 – coronavirus disease 19; CACMAS – Complementary, Alternative, and Conventional Medicine Attitudes Scale

than those who smoked and quitted (p<0.001, p<0.001, respectively). The Holistic View of Health sub-dimension scores and total scale scores of current smokers were higher than non-smokers (p=0.026, p<0.001, respectively). There was a weak negative correlation between age and total scale score (Pearson correlation coefficient: -0.187, p=0.001).

Discussion

This study focuses on the participants' awareness of the CM methods and attitudes towards CM practices among patients presenting to a primary care unit for any reason. Most of the participants (85%) had heard about at least one CM method and had positive attitudes towards it. Nearly three-quarters stated that CM information sources were the people around them. Only a quarter had obtained information from a healthcare professional. Those with chronic diseases, those who recovered from COVID-19 disease, and employees had more positive attitudes towards CM methods.

In the present study gender did not have any significant effect on CACMAS scores. Studies show that women use CM methods more than men.[21-23] It has been reported that low income, low education level, poor health status, depressed mood, and presence of chronic disease are associated with a positive attitude towards CM in women.[24-25] It has been reported that female medical students thought physicians should have knowledge about traditional and CM methods at a higher rate than males and had more positive attitudes towards CM methods.[26]

It has been found that traditional medicine users are older than those who prefer modern medicine, religion is more important in their lives, and their economic situation and health are worse.[27] The current study presented a weak negative correlation between age and total scale score. The American population aged between 45-54 years old had significantly increased trust and belief in CM. However, it has been found that confidence in some CM methods is lower in the elderly because of being unfamiliar with their culture.[28-29]

Among the participants who consulted a doctor, more than one-third stated that the doctor did not know these methods, and this may be because CM methods are still not included in the medical school curriculum. It was found that first-year medical school students were more willing to receive CM training than third-year students. The education received in medical faculties affects physicians' attitudes towards CM.[30]

Lack of communication between physicians and patients about CM practices has been emphasized in many studies.[31] Similarly, in the present study, the information sources of the participants about CM are mostly the experiences of the people around them. The rate of getting information from a health professional on this subject is only one-third. In a study conducted with cancer patients, patients with pain due to chronic inflammatory diseases, and chronic dialysis patients, it was found that patients and healthcare professionals did not have sufficient information about CM methods, and better communication is needed.[32-33] Physicians who evaluate the individual as a whole with all organ systems need to increase their level of knowledge in order to direct their patients to accurate and reliable information about these methods, which are becoming increasingly popular.[34]

Traditional medicine methods and public health services are expected to be evidence-based. However, scientific explanations and evidence were less important for the personal use of these methods. There are insufficiently illuminated gaps in understanding risk and individual and structural perspectives between CM users and medical practitioners, which may cause health risks and uncertainties associated with CM. It affects communication between doctors and CM users and may adversely affect CM users' access to community health services.[35] Knowing the indications for CM and guiding the patients in their decisions will accelerate the access to the correct information and the recovery.[36] Despite their limited knowledge, the rate of those who find the CM methods safe was about 78%, which is high. This can be considered as the limited side effects of the methods and the fact that the users have achieved targeted benefits.

Total scores of the CACMAS of those who had the COVID-19 disease and those who used CM methods to prevent or treat COVID-19 were higher. COVID-19 epidemic, which can be fatal, and prognosis, residual effects are unpredictable besides substandard treatment, increased the sense of uncertainty in people. High scores may be associated with this.

Having a healthy lifestyle or evaluating the state of health as good and religious and ideological views are closely related to the use of CM and belief in CM. Personal factors and satisfaction with traditional medicine do not affect the level of belief in CM.[24] In the current study, approximately 30% of participants preferred CM methods due to their religious beliefs. The total scores and holistic view of health sub-dimension scores of those who used a CM method for any reason were higher. It was determined that as the education level increased, positive attitudes towards CM increased, and those who evaluated their health status as good got higher scores on the scale. In addition, those with higher education levels had higher total and sub-dimension scores and more information about CM methods. Although some CM methods require high cost, no relationship was found between income levels and scale scores.

Side effects of medical treatments, fatigue, and joint pain are the most common reasons for CM use.[32] Pain, depression, and fatigue are the most common reasons

for CM use and the symptoms that most benefit from CM methods.[37]

The most common reason for using CM was to get rid of cold and flu, with a high rate of 80% in the present study. The rate of those who stated that they used CM methods because they had a disease that there was no other remedy with modern medical methods was approximately 1/10. Only ten percent of the participants used the CM method under the advice of a physician. Two third of the participants experienced these methods to achieve a rapid recovery, and one-fourth preferred them as they did not benefit from the drugs recommended by modern medical methods.

The holistic view of the health sub-dimension scores of those with any chronic disease was higher, and this can be since those with chronic diseases tend to search more on CM methods.

In a study among physicians, the most known CM methods were acupuncture, aloe vera, and high-dose vitamin C.[36] In a palliative care center, it was found that there was a very high prevalence of CM use, and the most frequently used methods were aromatherapy, homeopathy, and vitamins, respectively.[38] Cancer patients' most frequently used CM methods were acupuncture, homeopathy, herbal medicine, and traditional Chinese medicine.[39] The present study found that homeopathy is among the least known and used CM methods. In a study conducted with nurses, the most well-known methods were massage, herbal therapy, acupuncture, and prayer therapy. The least known methods were osteopathy and homeopathy.[40] Similarly, in the present study, the most known methods were phytotherapy, cupping, and acupuncture, while the least known were larval treatment, chiropractic, and osteopathy, followed by homeopathy.

In a study conducted in Turkey, it was reported that visual analog scale scores decreased after the use of CM for pain complaints.[15] In this study, the participants who used the mentioned methods believed that the method was highly effective.

This study has some limitations. The fact that the participation was voluntary may have resulted in more participation from those interested in CM. Those who were previously diagnosed with a psychiatric illness were not included in the study as they might have difficulty filling out the questionnaire and scale used in the study. Considering that these patients may have a great interest in CM, it may have caused a lack of results. Further studies can be planned by developing appropriate scales for these patients. As another limitation, there may be some CM practices that participants do not remember or treatments they do not consider as CM.

Conclusion

There is an increasing interest in CM treatment methods in society. Being older, female, having chronic diseases, having a high level of education, and having diseases with inadequate treatment methods have a higher positive effect on attitudes towards CM. Patients' awareness and information resources are insufficient. There is a need for new informative approaches targeting interested patients and physicians to access accurate information from reliable sources. The increasing belief and demand for CM should be taken into account.

Declarations

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Author contributions

Conceptualization, F.G.D., F.G.C. and M.K.; Methodology, F.G.D.; F.G.C.; Software, F.G.D., M.K.; Validation, F.G.D., F.G.C.; Formal Analysis, F.G.D.; Investigation, F.G.D, M.K.; Resources, F.G.D., F.G.C.; M.K Data Curation, F.G.D.; Writing – Original Draft Preparation, F.G.D.; Writing – Review & Editing, F.G.D., F.G.C., M.K.; Visualization, F.G.D., F.G.C.; Supervision, F.G.C., M.K.; Project Administration, F.G.D.

Conflicts of interest

The authors declare that there are no financial or other relations that could be construed as a potential conflict of interest.

Data availability

Datasets analyzed in this study are available from the corresponding author upon reasonable request.

Ethics approval

Patients were provided with detailed information about the procedures and they signed written consent forms. The approval of the ethics committee was obtained before initiation of the study (meeting date; 18/06/2021, decision number; 2021/3309). All procedures performed in this study involving human participants were in accordance with the ethical standards specified by the institutional and national research committee and with the Helsinki Declaration and its later amendments or comparable ethical standards.

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