

Trends in traditional and complementary medicine practices in Turkey: Results of two consecutive surveys 2012-2018

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Abstract

Objective: To determine the knowledge, opinions, experiences and trends regarding herbal treatment, traditional medicine and other complementary and alternative medicine.

Methods: Two cross-sectional studies were conducted at Meram Faculty of Medicine Hospital, Konya, Turkey, in 2012 and 2018, comprising subjects of either gender aged >18 years. Data was collected using a survey form prepared in the light of relevant literature. Data was summarised and compared between the two studies.

Results: Of the 810 subjects in the two studies, there were 405(50%) in 2012 with a mean age of 32.5±14.0 years, while the remaining 405(50%) were part of the 2018 study with a mean age of 34.4±13.8. There were significant differences between the two group of subjects about the use and indications of traditional and complementary medicine as those who believed traditional and complementary medicine was proper to use increased and those who believed it should not be used decreased significantly ($p<0.001$). There was a twofold increase in the use of social media as the source of relevant information ($p<0.001$).

Conclusion: Significant changes in trends related to the use of traditional and complementary medicine between 2012 and 2018 were observed.

Keywords: Complementary medicine, Traditional medicine, Herbal therapy. (JPMA 72: 691; 2022)

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Introduction

Traditional medicine, also known as complementary medicine or alternative medicine, is the sum of knowledge, skills and practices based on theories, beliefs and experiences of different cultures, which are used to prevent, diagnose, cure, or treat physical and mental illnesses as well as to maintain good health.¹ The term "complementary" signifies treatments used as auxiliary to biomedicine, while the term "alternative" connotes treatments employed instead of biomedicine.² The interest and use of herbal/botanical products, referred to as complementary and alternative medicine (CAM), are increasing throughout the Western world.²⁻⁴ In an extensive national survey, Eisenberg et al. found that alternative medicine use increased substantially from 33.8% in 1990 to 42.1% in 1997 in the United States.⁵ There are significant variations between countries, cultures and sociodemographic groups and periods.⁴⁻⁷ Every country has different healthcare practices.⁸ Even though the subject has been in practice for centuries, regulations in Turkey are recent. The "Regulation on the Application of Acupuncture Treatment with Private Health Institutions", dates back to 2002. It was followed by the "Traditional and Complementary Medicine Practices

Regulation" in 2014 and "Phytotherapy Certificate Training Programme for Physicians".^{9,10} Following these regulations, several traditional and complementary medicine practices "TCM" have been officially integrated into social security and legitimate medical systems. Because of the legislative changes in nomenclature, in our country, now the term traditional and complementary medicine (TCM) is used. There is little information about the trends of TCM use by individuals in Turkey.¹¹⁻¹⁵ Some of the existing studies mainly surveyed the knowledge and training of medical staff and students.¹⁶⁻¹⁸ There is no comparison of data before and after the implementation of the regulations which may provide the public with easier access to some TCM procedures covered by the state insurance system.

The current study was planned to determine the opinions and experiences regarding herbal treatment, traditional medicine and other TCM procedures, and to monitor the changes in trends over six years.

Subjects and Methods

Two cross-sectional studies were conducted at Meram Faculty of Medicine Hospital, Konya, Turkey, in 2012 and 2018. Konya is situated in southwest Anatolia with more than 2 million inhabitants, and is the 7th biggest province of Turkey. The sample size was based on a previous study¹⁹ in which the frequency of individuals using plants for continuous and frequent treatment was 37.4%, using

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G-Power 3.1.9.2,²⁰ the calculation was done with 80% power by a margin of ± 10 . The institutional ethics review board approval was obtained for the studies. After taking permission from the hospital administration, participants in the study included consecutive Turkish nationals of either gender aged >18 years, covered by the Turkey Social Security Health Insurance (TSSHI) who were accompanying patients in the various outpatient department (OPD) clinics. Those without the TSSHI cover and those who refused to volunteer were excluded. The survey was continued until the calculated sample size was reached.

Data was collected through interviews after taking informed consent from the subjects. Due to a change in the CAM regulation's official nomenclature, the term "herbal applications and acupuncture application" was used in 2012, and "herbal and other non-pharmaceutical applications" was used in 2018.¹⁰

The data-collection tool was a 26-item questionnaire prepared in the light of comprehensive literature. The questions included sociodemographic characteristics, medical history, opinions on TCM therapy methods, and any experience of TCM use. The questionnaire also included questions on the subjects' expectations of benefits from TCM procedures.

Data were summarised using descriptive statistics appropriate to the distribution. Chi-square test was used to compare categorical data, and independent t-test was used to compare continuous data. $P < 0.05$ was considered statistically significant.

Results

Of the 810 subjects in the two studies, there were 405(50%) in 2012 with a mean age of 32.5 ± 14.0 years, while the remaining 405(50%) were part of the 2018 study with a mean age of 34.4 ± 13.8 . There was no significant difference between the two groups in terms of gender ($p=0.07$), age ($p=0.06$) and educational status ($p=0.76$) (Table-1). Those who had one or more chronic illnesses were 66(16.3%) in 2012 and 104(25.7%) in 2018. Hypertension (HTN) 18(27.3%) versus 18(17.3%), diabetes 11(16.7%) versus 24(23.1%), thyroid diseases 4(6.1%) versus 10(9.6%), chronic obstructive pulmonary disease (COPD) 3(4.5%) versus 4(3.8%), asthma 2(3.0%) versus 9(8.7%) and rheumatic diseases 2(3.0%) versus 18(17.3%) were the most frequent chronic diseases for which the participants received biomedicine treatment in 2012 and 2018, respectively.

There were significant differences between 2012 and 2018 in participants' opinions on the use and indications

Table-1: Sociodemographic characteristics of the participants their opinions on traditional and complementary medicine (TCM): changes from 2012 to 2018.

	2012	2018	p value
Age (Mean $\pm$ SD)	32.5 $\pm$ 14.0	34.4 $\pm$ 13.8	0.06
Sociodemographic characteristics	n (%)	n (%)	χ^2/p value
Gender			
Male	144 (35.6)	169 (41.7)	3.25/0.07
Female	261 (64.4)	236 (58.3)	
Marital status			
Married	205 (50.6)	225 (55.6)	1.98/0.16
Single	200 (49.4)	180 (44.4)	
Education status			
Illiterate/ elementary school	7 (1.7)	7 (1.7)	1.14/0.76
Secondary school	96 (23.7)	98 (24.2)	
High school	175 (43.2)	161 (9.8)	
University	127 (31.4)	139 (34.3)	
Type of family			
Core	363 (89.6)	351 (6.7)	1.70/0.19
Extended	42 (10.4)	54 (13.3)	
Employment			
Employed	288 (71.1)	216 (53.3)	27.22/0.001*
Unemployed	117 (28.9)	189 (46.7)	
Income			
Low	56 (13.8)	79 (19.5)	6.18/0.05
Middle	294 (72.6)	263 (64.9)	
High	55 (13.6)	63 (15.6)	
Opinion on TCM			
It is proper to use	41 (10.1)	301 (74.3)	406.90/
Should not be used	318 (78.5)	44 (10.9)	<0.001*
No idea	46 (11.4)	60 (14.8)	
What could be the main purpose of using TCM?*			
Treatment	106 (26.2)	137 (33.9)	6.01/0.01*
Support of treatment	276 (68.1)	168 (41.6)	58.13/0.001*
Prevention	89 (22.0)	75 (18.5)	1.49/0.22
Relief of symptoms	103 (25.4)	82 (20.2)	3.08/0.07
TCM is effective/not effective for:			
Disease			
Respiratory	243(60.0)/162 (40.0)	245(60.5)/160(39.5)	0.02/0.88
Musculoskeletal	88(21.7)/317(78.3)	105(25.9)/300(74.1)	1.96/0.16
Hypertension	46(11.4)/359(88.6)	24(5.9)/381(94.1)	7.56/0.006*
Gastrointestinal	207(51.1)/198(48.9)	110(27.2)/295(72.8)	48.76/0.001*
Skin	101(24.9)/304(75.1)	70(17.3)/335(82.7)	7.12/0.008*
Cancer	35(8.6)/370(91.4)	18 (4.4)/387(95.6)	5.83/0.02*

* $p < 0.05$. **More than one answer.

SD: Standard deviation, TCM: Traditional and complementary medicine.

of TCM as the number of participants who believed TCM methods were proper to use increased, while those who believed TCM should not be used decreased ($p < 0.001$). The opinion that the primary purpose of TCM was to treat diseases increased ($p=0.01$), while opinion on supportive treatment decreased ($p=0.001$). The opinion that TCM may be effective in the treatment of HTN, gastrointestinal (GI) diseases, skin diseases and cancer decreased significantly ($p < 0.05$) (Table-1).

Table-2: Yes/No opinions of participants about herbal treatment: changes from 2012 to 2018.

	2012	2018	χ^2/p
What is your expected benefit from herbal treatment? #			
To feel healthier (Yes/No)	165 (40.7)/240 (59.3)	168 (41.5)/237 (58.5)	0.04/0.83
Treatment of ailments (Yes/No)	83 (20.5)/ 322 (79.5)	178 (44.0)/227 (56.0)	51.02/0.001*
Have you/your family members used herbal treatment methods? #			
No/Yes	121 (29.9)/284 (70.1)	194 (47.9)/211 (52.1)	27.68/0.001*
Have you/your family members encountered any side effects? ##			
No/Yes	268 (94.4)/16 (5.6)	192 (91.0)/ 19 (9.0)	2.09/0.15
Have you/your family members observed any benefit when using herbal treatment? ##			
No/Yes	28 (9.9)/256 (90.1)	25 (11.8)/186 (88.2)	0.50/0.47
Would you inform your doctor about the herbal treatment methods you use? ##			
No/Yes	81 (28.5)/203 (71.5)	59 (28.0)/152 (72.0)	0.02/0.89

*p<0.05, #All participants, ## Among herbal treatment users (year 2012, n=284), (year 2018, n=211).

Table-3: Commonly used herbal and non-herbal treatment methods: changes from 2012 to 2018.

Herbal treatment method	2012 (n=284)	2018 (n=211)	χ^2/p
Consumed as food: (mixtures of)			
Honey, nigella seed, bee pollen, cinnamon, ginger, turmeric	108 (38.0)	121 (57.3)	18.17/<0.001*
Honey/molasses, black pepper	42 (14.8)	31 (14.7)	0.001/0.97
Garlic, nettle, parsley, lemon	31 (10.9)	27 (12.8)	0.41/0.52
Honey, thyme, radish	22 (7.7)	12 (5.7)	0.80/0.37
Olive oil, nigella seed	19 (6.7)	13 (6.2)	0.05/0.81
Different mixtures at different times	62 (21.8)	7 (3.3)	34.58/<0.001*
Consumed as liquid: (mixtures of)			
Linden, lemon	64 (45.4)	7 (31.8)	36.39/<0.001*
Mint, sage, thyme, rosemary	41 (29.1)	6 (17.1)	18.93/<0.001*
Green tea, rosehip, echinacea	32 (5.6)	25 (3.3)	0.04/0.84
Ginger, turmeric, quince leaf, pomegranate peel, lemon balm, chamomile	37 (9.1)	48 (22.7)	8.04/ 0.005*
Other: St. John's Wort, yarrow, senna, nerve root, cherry stalk, lady's mantle, veronica herb	17 (2.4)	5 (16.6)	3.72/0.05
Non-herbal Treatment method	2012 (n=284) (more than one answer)	2018 (n=211) (more than one answer)	χ^2/p
Bloodletting, cupping therapy	66 (16.3)	93 (23.0)	5.70/ 0.01*
Massage, Ayurveda, osteopathy	185 (45.7)	85 (21.0)	55.45/ <0.001*
Acupuncture	26 (6.4)	51 (12.6)	8.9/ 0.003*
Leech application	..**	48 (11.9)	51.02/ <0.001*
Music therapy	60 (14.8)	29 (7.2)	12.13/ <0.001*
Breathing exercise	56 (13.8)	27 (6.7)	11.28/ 0.001*
Aromatherapy	14 (3.5)	9 (2.2)	1.12/ 0.29
Hypnosis	2 (0.5)	4 (1.0)	0.67/ 0.41
Reflexology	3 (0.7)	6 (1.5)	1.01/ 0.31
Ozone therapy	20 (4.9)	16 (4.0)	0.46/ 0.49
Meditation / Yoga	37 (9.1)	30 (7.4)	0.79/ 0.37

*p<0.05, **Not available.

In 2012, 284(70.1%) participants used herbal treatment methods for themselves or their family members. The number decreased to 211(52.1%) in 2018 (p<0.001). Their expectations on the use of herbal treatments for the treatment of ailments increased significantly during this period (p<0.001). Benefits with herbal treatment were cited by 256(90.1%) in 2012 and 186(88.2%) in 2018 (Table-2).

The commonly used herbal and non-herbal TCM procedures and trends for 2012 and 2018 groups showed a significant increase in traditional therapies, such as blood-letting, cupping, leech application and acupuncture, and decrease in therapies like Ayurveda-osteopathy-massage, music therapy, and breathing exercises (p<0.01) (Table-3).

Table-4: Information sources on traditional and complementary (TCM) and recommendation trends.

	2012	2018	χ^2/p value
Source of information**			
Social media	96 (23.7)	186 (45.9)	44.1/<0.001*
Mainstream media	267 (65.9)	345 (85.2)	40.6/<0.001*
Neighbour, relative, friend	275 (67.9)	81 (20.0)	188.6/<0.001*
Informed by doctor (Yes/No)	61 (15.1)/344 (84.9)	72 (17.8)/333 (82.2)	1.08/0.29
Recommend to others*** (Yes/No)	274 (77.8)/78 (22.2)	233 (65.8)/121 (34.2)	12.6/<0.001*

*p<0.05. **More than one answer. *** (2012 n=352, 2018 n=354).

In terms of source of information and recommendation, the influence of neighbours, relatives and friends decreased, but the role of social and mainstream media increased significantly ($p<0.01$). The majority of participants declared that their recommendation source was not doctors at both time points ($p=0.29$). Among those who answered the question in 2012, 274(77.8%) participants and 233(65.8%) in 2018 said they would recommend TCM to others (Table-4).

Discussion

The study presents data from 2012 and 2018 on the use of TCM among Turkish adults whose health costs were covered by the TSSHI system.

Research from different countries has reported that the prevalence of TCM use and TCM methods is affected by geography, race, religious belief, education level, income and time.^{1,5,6} Turkey is located in the Mediterranean basin connecting Asia and Europe. It hosted numerous civilisations over the centuries and they practised their own traditional medicine. Besides, modern biomedicine, a blend of these traditional methods, influences daily medical practice. Earlier studies have reported that TCM use is high among patients with chronic diseases in Turkey.^{11-13,21} Results of an extensive public survey showed that the general use of TCM in Turkey was 60.5% in 2014. The survey was performed in seven different geographical regions of the country. The results from the region revealed that the use of herbal methods was 59.1% and similar to our findings 2018. Our results also confirm that herbal treatment is the common TCM method in the Central Anatolia region and the rest of Turkey.¹³

The current results show that diabetes, HTN, rheumatoid diseases, thyroid diseases and asthma were the participants' most common chronic diseases. There was a change in the participants' views on the diseases in which TCM may be useful. The percentage of participants who believed TCM might be used for treatment increased in six years. Respiratory, GI, musculoskeletal and skin diseases were widespread indications for TCM in both surveys. A decrease in the expectation of its effectiveness was observed in HTN, GI diseases, skin lesions, and cancer in 2018. The participants considered respiratory system diseases the most effective

indication of use in both surveys: 60% and 60.5%, respectively. Similarly, there was no change in the belief of its use in musculoskeletal diseases.

The study observed trend changes in herbal treatment methods. In 2012, more than 70% of participants used herbs, with 20.5% expecting benefit from herbal treatment. In 2018, herbs' use decreased to 52.1%, but the expectation of benefit increased to 44%. Trends in commonly used herbs and herb mixtures also changed during this period. The increase in the expectation of treatment benefits seen in herbal treatment methods may also be related to the change in the variety of herbal products. In both 2012 and 2018, more than half of the participants in the study stated that they consumed herbs, as food and liquid. Eating a mixture of honey, nigella seed, bee pollen, cinnamon, ginger, and turmeric for therapeutic purposes, and drinking different teas, such as ginger, turmeric, quince leaf, pomegranate peel, lemon balm and chamomile, increased in 2018.

In some Asian countries, TCM plays a leading role in managing diseases.^{22,23} Acupuncture, Ayurveda, meditation and yoga are not part of the Turkish culture. Instead, some religious practices, like blood-letting, cupping and leech application, are the traditional TCM methods. The current results also showed trend changes in traditional non-herbal treatment methods. Significant increases in the use of acupuncture, leech therapy, blood-letting and cupping, covered by TSSHI after 2012, were observed, and were provided by physicians registered by the Turkish Ministry of Health. As of January 2018, many Traditional and Complementary Medicine Practice Units have opened up, and numerous certificates have been issued for practising physicians.²⁴

Besides easier and free access to TCM, the consequences of the remarkable increase in the use of social media and online mainstream media during the two time points should not be overlooked. The percentage of participants who received information from social media platforms increased twofold in six years. While <18% of the participants received information or recommendation for TCM from a doctor, most participants said they would inform their doctors about the herbal medication they used. There was also a change in recommendation trend about TCM. It was a favourable finding that the tendency to recommend TCM to others by the participants declined. It would also be beneficial for the patients to receive information on the benefits and the risks of TCM from a doctor.

There is an increasing concern about herb-drug interactions and side effects of herbs. The available clinical evidence is still limited, and no clear-cut useful data is present.^{25,26} The percentage of participants who experienced side effects

during herbal treatment increased from 5.6% to 9% in the current study. The increase in side effects may be partially attributed to increased vigilance due to increasing information, from physicians or the media, about the possible side effects of TCM. Although there was a change in herbal products and trends in their use, there was still a high rate of participants who reported benefits in both surveys.

The current survey has its limitations as it reflects the opinions of adults from a single region of Turkey. Some changes in trends, however, can be extrapolated to cover the whole country. Regional studies are needed to cover different geographical regions in order to bring different perspectives and contribute to the existing knowledge about the changes occurring in TCM trends over time.

Conclusion

The use of TCM methods was widespread and changes in TCM trends had occurred between 2012 and 2018. Reasons for the change in trends may be partly due to the increase in information coming from social and mainstream media and the changes in the government's health policy, which started to provide easier access to certain traditional TCM methods.

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