

## Original Article

# Complementary and Alternative Medicine (Cam) Use Among Turkish Surgical Patients

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## Abstract

**Background:** The use of complementary and alternative medicine (CAM) in both Turkey and throughout the world is on the increase among the general population.

**Objectives:** To determine the factors affecting use of and frequency use of CAM among Turkish surgical patients.

**Methodology:** The research was carried out at surgical clinics with 276 patients between 1 July 2015-1 August 2015. Data were collected with a questionnaire containing socio-demographic information and CAM usage and were evaluated by Pearson's chi-square test and Fisher's exact test.

**Results:** 67% of patients have been using some kinds of CAM. Green tea / herbal tea (31.5%), garlic (19.6%) and ginger (16.3%) were the most herbal products. Praying (39.9%), massage (34.8%) and thermal water / spa (26.1%) were the most alternative therapies. Reasons for using CAM were pain 44.6%, stress (32.6%) and also 8.7% of patients have used these methods to cope with the problem that requires surgery. Surgical patients have beliefs that CAM methods could support medical treatment (42.8%) and cause physically relaxing (33.3%). Sources of information about CAM were relatives/neighbors (57.2%), friends (36.6%) and TV / radio (36.6%) respectively. There was found significant relationship between gender, profession, income level and having chronic disease ( $p = 0.001$ ;  $p = 0.012$ ;  $p = 0.030$ ;  $p = 0.041$  respectively).

**Conclusions:** More than half of the patients in the study use CAM, nearly half of them think CAM could support the medical treatment. Most sources of information are people around them.

**Key words:** complementary and alternative medicine, supportive treatment, herbal medicine, surgery patient

## Introduction

Alternative medicine is defined as all types of health treatments which take the place of medical treatments but not accepted by modern biomedicine or treatments, while complementary medicine is the treatment and care system which is applied together with and in addition to medical treatments (Muslu & Ozturk 2008).

## Background

The National Centre for Complementary and Alternative Medicine (NCCAM) has classified CAM methods in five groups, as alternative medical system treatments (acupuncture, ayurveda), treatments of the mind and body (meditation, relaxation, prayer), practices with a biological foundation (herbal remedies),

manipulative applications – practices which take the body as their basis (hydrotherapy, reflexology) and energy treatments (reiki) (NIH 2012). The use of CAM in both Turkey and throughout the world is on the increase among the general population, and it is generally used in problems related to such arthritis, allergies, tiredness, headaches, neck and back pain, hypertension, diabetes, insomnia, and lung and digestion problems (Ozcakir & Aydin 2007). According to the 2007 National Health Statistics report, it was stated that 4 adults out of every 10 (38.3%) in the USA had resorted to CAM applications, and that herbal and natural medicines was the most frequently used method (Barnes et al. 2008). In general, the most important reason why patients resort to CAM was determined as being increasing the quality of life by ensuring the control of the symptoms, in chronically ill patients (Pal 2002). The vast majority of the studies concerning the use of CAM in Turkey are comprised of cancer patients and between the years of 2001-2007 among cancer patients in Turkey, as being, on average, 46.2% (Kav et al. 2008). In a study where the use of CAM applications by surgical patients was evaluated, it was determined that 57.4% of the patients used any one of the CAM applications while the most frequently used CAM form of treatment was prayer (25.2%) (Wang et al. 2003). Even if it is considered that the use of CAM methods is natural and harmless, the interaction between CAM applications and the existing medical treatment and unfavourable aspects are also mentioned (Can 2013). CAM methods have side effects such as delaying or leaving or refusing modern treatments, material and spiritual losses, and the development of feelings of hopelessness, depression and failure (Muslu & Ozturk, 2008). The use of herbal medicines can lead to an increase in morbidity rates caused by physiological changes in surgical patients and the use of multiple types of medications, in the pre-operative period. The use of herbal medication may cause clotting disorders and interact with the medication given prior to the operation, resulting in various complications such as myocardial infarction, stroke, bleeding, extended or insufficient narcosis, and rejection by the body in organ transplants (Adusumilli et al. 2004; Skinner & Rangasami 2002). The immune-suppressive effects of certain herbs may give rise both to a predisposition to surgical infections and an increase in infections of the site of the wound. Together with the increase in the use of CAM,

where patients do not notify health workers that they have been using herbal products, where health workers fail to question this, and where they are not sufficiently informed of the effects of these products, this can lead to serious problems during the surgical process (Cay & Korkmaz 2015). It is recommended that clinical practices guidelines are prepared in connection with this matter (Kumar et al. 2005).

## **Methodology**

### ***Design, Setting and Sample***

This was a descriptive study which was carried out at surgical clinics in an university hospital in Eskisehir between 1 July 2015-1 August 2015. 276 patients, aged over 18 and who have been admitted to urology, neurosurgery, ENT, orthopedics, general, plastic, cardiac, vascular, gynecology clinics and who were willing to attend were included in the study. Those undergoing emergency surgical procedures and patients with cognitive impairment were excluded from the study.

### ***Instruments***

The questionnaire used in the study was prepared based on a literature search for the aim of determining the types of CAM methods (herbal products and alternative therapies) used in Turkey and other countries in the world. The questionnaire included questions including socio-demographics (age, gender, surgical procedure, level of education, level of income, occupational status etc.), current use of CAM methods, types of CAM methods, reasons for using CAM and sources of CAM information.

### ***Data collection and procedures***

CAM was described to the patients by researchers and then data were collected by researchers using face to face interviews with patients and each meeting took 5-10 minutes.

### ***Ethical consideration***

Data were collected by face- to- face interview method after obtaining informed and written informed consent of patients. The protocol was approved by Hospital Ethical Review Committee.

### ***Data analyses***

Data were analyzed by IBM SPSS (v. 21.0) statistics package programme Pearson's chi-square test and Fisher's exact test were used for comparisons between users and non-users of

CAM.  $p < 0.05$  was accepted as statistical significance.

## Results

The participants ranged from 18-91, mean  $50.55 \pm 16.60$ . 129 of the patients (46.7%) were female, 211 (76.4%) were married, 80 (29%) were housewives, 98 (35.5%) had completed only primary education, 200 (72.5%) were part of a nuclear family, 172 (62.3%) stated "equal to income" level and 118 (42.8%) of the patients had at least one chronic illness hypertension (23.2%), diabetes (15.2%), COPD, asthma and

lung cancer (4.7%) and heart failure (3.6%). (Table 1).

The CAM use status of the surgical patients who took part in the study, according to some of their characteristics, is given in Table 1. There is a significant difference between the genders, occupations and income levels, and whether they suffer from a chronic illness, and their use of CAM ( $X^2=12.06$ ,  $p=0.001$ ;  $X^2=16.364$ ,  $p=0.012$ ;  $X^2=7.040$ ,  $p=0.030$ ;  $X^2=4.187$ ,  $p=0.041$ , respectively) (Table 1).

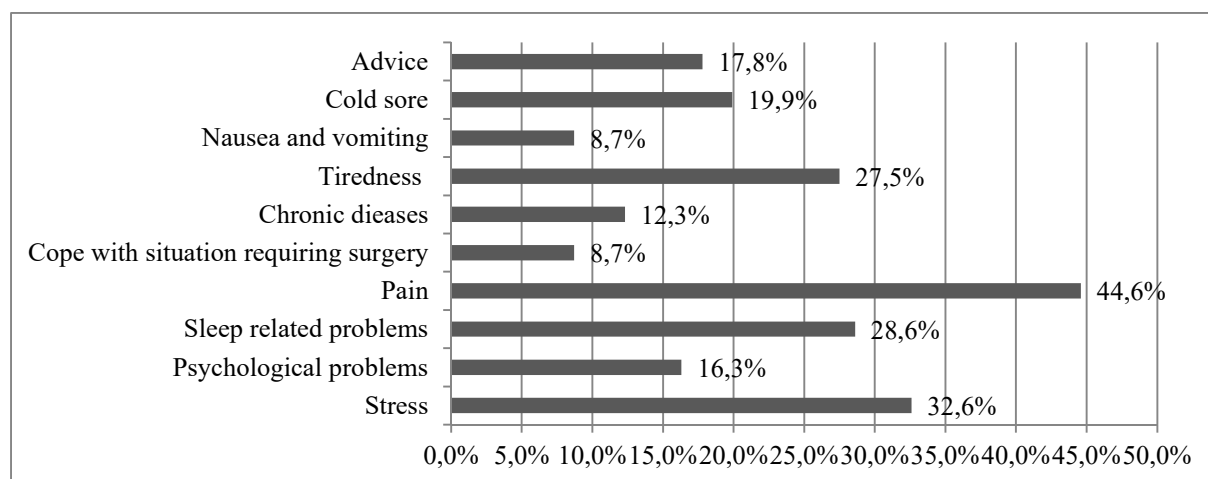
**Table 1. Some sociodemographic characteristics and use of CAM**

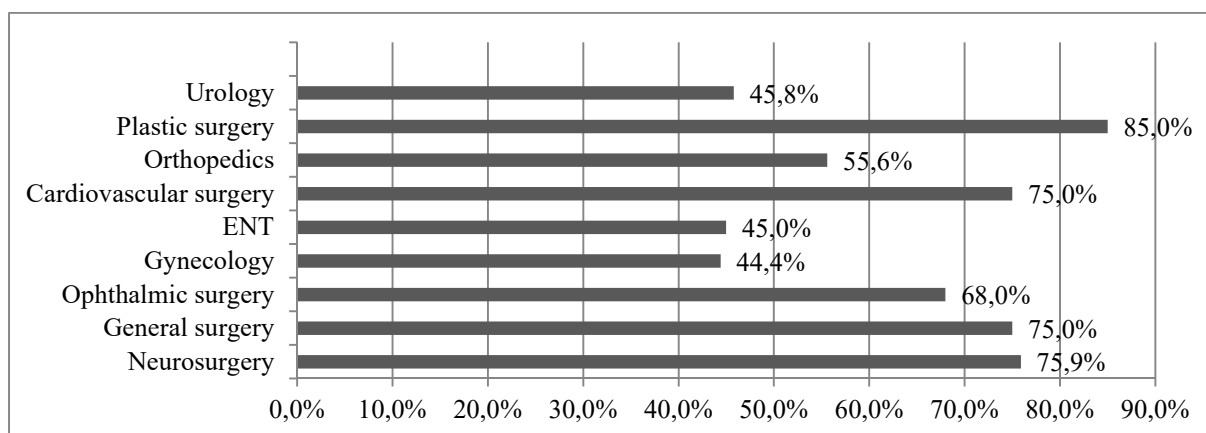
	n(%)*	CAM use n(%)	X <sup>2</sup> ;p value
<b>Age</b>			
18-30	15(16.5)	32(17.3)	0.99; 0.911
31-43	14(15.4)	22(11.9)	
44-56	25(27.5)	58(31.4)	
57-69	27(29.7)	55(29.7)	
>70	10(11.0)	18(9.7)	
<b>Gender</b>			
Woman	29(31.9)	100(54.1)	12.06; <b>0.001</b>
Man	62(68.1)	85(45.9)	
<b>Marital status</b>			
Married	69(75.9)	142(76.8)	0.000; 0.983
Single	22(24.2)	43(23.2)	
<b>Education</b>			
Literate-illiterate	9(9.8)	29(15.7)	6.210;0.286
Primary school	31(34.1)	67(36.2)	
Secondary school	15(16.5)	27(14.6)	
High school	25(27.5)	53(28.6)	
University	11(12.1)	9(4.9)	
<b>Profession</b>			
Student	9(9.9)	18(9.7)	16.364; <b>0.012</b>
Working(Public servant, employee)	23(25.2)	32(17.3)	
Retired	33(36.3)	44(23.8)	
Self-employment	8(8.8)	14(7.6)	
Housewife	13(14.3)	67(36.2)	
Other (teacher etc.)	5(5.5)	10(5.4)	
<b>Income Levels</b>			
Less than income	28(30.8)	58(31.4)	7.040; <b>0.030</b>
Equal to income	52(57.1)	120(64.9)	
More than income	11(12.1)	7(3.8)	
<b>Chronic disease</b>			
Yes	31(34.1)	87(47.0)	4.187; <b>0.041</b>
No	60(65.9)	98(53.0)	
<b>*n refers to patients who don't use CAM</b>			

**Table 2. Prevalance of CAM methods**

Herbal products*			Other alternative therapies*		
	n	%		n	%
Herbal tea/green tea	87	31.5	Massage	96	34.8
Garlic	54	19.6	Aromatherapy	12	4.3
Ginger	45	16.3	Cupping	24	8.7
Stinger	32	11.6	Relaxing exercises	36	13.0
Olive oil/almond oil	29	10.5	Breathing exercises	33	12.0
Aloe vera	11	4.0	Meditation-yoga and acupuncture	0	0.0
Others (parsley, lemon, onion juice, linseed, henna, cumin, henna)	13	4.7	Praying/religious practices	110	39.9
			Leech	23	8.3
			Music	35	12.7
			Thermal/spas	72	26.1

\* Marked multiple options

**Figure 1.**Prevalance of reasons for CAM use



**Figure 2.**Prevalance of CAM use with type of surgical procedure

### **CAM use**

67% (185) of the surgical patients who took part in the study, had used CAM methods other than medicinal treatment, at any period of their lives. When the methods which had been used are examined in detail, 7.2% of the patients had only used herbal products, 16.3% had only used other alternative treatment methods, and 43.5% had used both. The herbal products used most by the patients were green tea / herbal tea (31.5%), garlic (19.6%) and ginger (16.3%), respectively, while the alternative treatments used most by the patients were praying (39.9%), massage (34.8%) and thermal spas (26.1%) respectively (Table 2).

On the other hand the reasons for the use of CAM methods by the patients were mostly pain (44.6%) and stress (32.6%), while 8.7% of the patients had used them in order to be able to deal with the problem which required surgery (Figure 1). The CAM positions of the patients according to the surgical clinics are shown in figure 2, these methods were used most by the patients in the plastic surgery clinic (85.0%) (Figure 2).

When the thoughts of the surgical patients concerning the use of CAM were evaluated, 42.8% of the patients who took part in the study believed that the herbal products / alternative treatments could support the medication / medical treatment, 33.3% said that they gave them physical comfort and 31.9% said they made them feel psychologically more comfortable, while 17.0% found there to be no benefit from these methods.

When the resources from which the surgical patients obtained information related to CAM methods were evaluated, these were found to be

relatives and neighbours (57.2%), the television / radio (36.6%), friends (36.6%), the internet (24.3%), written sources (11.6%) and health workers (10.5%).

### **Discussion**

This study has been carried out with the purpose of determining the use by surgical patients of complementary and alternative treatment methods (CAM), and the factors which influence this.

The ratio of CAM use among the surgical patients in the study is 67%. Both higher (Akıncı et al. 2011; Efe et al. 2012) and lower (Aksu et al. 2008; Akyol et al. 2011; Ceylan et al. 2009; Güven et al. 2013; Tokem et al. 2011) rates of CAM use have been determined in studies, which possess a different sample, and which have been carried out on individuals with different illnesses, in our country. In a scan of the literature, where 16 studies on the use of CAM were examined, it is stated that the frequency of CAM use ranges from 24-98% (Bebis et al. 2014). On the other hand, when we look at studies carried out abroad, in the study conducted by Wang et al. (2003), the rates of CAM use among surgical patients were found to be lower (57.4%) than in our study.

The CAM use position of the patients who took part in our study vary according to their gender, occupation, whether they suffer from chronic illnesses, and their income level. CAM use is more widespread among female patients than among male patients. This may be influenced by the fact that the majority of the women in our study were housewives, and that they spend more time with their environments and sources of mass communication. There are other studies within



the literature which also state that the use of herbal products among women is higher than among men (Güven et al. 2013; Grauer et al. 2004; Loya et al. 2009; Mahomoodally & Roumaysa 2013; Tindle et al. 2005). A significant relationship may also have been determined between CAM use and occupations in our study, again due to the high number of retired women. In the literature it is stated that a high percentage of patients with chronic illnesses preferred alternative treatments (Ottom et al. 2006; Bell et al. 2006; Miller et al. 2008). In contrast to expectations, in our study, CAM use among those without chronic illnesses was higher. It can be said that the fact that the CAM use rates of patients directed at chronic illnesses or their existing problems was low, also influenced this. In the study, the highest percentage of CAM use was found among patients who expressed their income levels as “balanced income and expenditure”. The fact that the number of patients at this income level was higher than the number of patients at other income levels may have influenced this result.

In the studies concerning the use of CAM methods within the literature, the usage status of herbal products and other alternative treatments by individuals was evaluated. When CAM methods are examined in detail in the study, the percentage of patients who used only herbal products (7.2%) is lower than those who used only other alternative methods of treatment (16.3%). The percentage of patients who used only herbal products was quite low, while almost half of those who use CAM (43.5%), used both methods. In the other studies conducted in our country, higher rates of herbal product use have been determined when compared to our results (Cay et al. 2015; Efe et al. 2012; Erdogan et al. 2012; Güven et al. 2013; Kurt et al. 2013; Sagkal et al. 2013). Akyol et al. (2011) and Grauer et al. (2004), on the other hand, state a higher percentage of use of herbal products than our study, but one that is lower than the other studies (16.8%). The rates of use of herbal products in the studies conducted abroad are also considerably higher than the results reached in our study (Adusumuli et al. 2004; Wood et al. 2003). In a systematic compilation where 24 studies directed at CAM use were examined, it was stated that the method most used among the CAM methods was herbal product support (Posadzki et al. 2013).

In terms of the other alternative methods of treatment in our study, the most prevalent are prayer / religious practices (39.9%). Similar results have also been found in the other studies conducted in our country (Araz et al. 2007; Erdogan et al. 2012; Erdogan et al. 2013). The patients which took part in the study have not stated the use of methods such as acupuncture, meditation and yoga. Similarly, Karacan et al. (2012) also determined just one person each who perform reiki and yoga, in his study. While the use of other alternative treatments such as acupuncture, hypnosis, homeopathy (Adusumuli et al. 2004; Posadzki et al. 2013), yoga, tai-chi (NIH 2012), reflexology and massage (Posadzki et al. 2013) abroad is lower than the use of herbal products, there are instances where these are selected by patients. Matters such as cultural differences between countries and regions, differences in the income levels of individuals, a lack of knowledge on these methods, and ease of reach of the methods are able to influence the extensiveness of these methods.

In the study the patients have mostly used more than one herbal product. The most frequently used herbal products by the patients are Herbal tea/green tea (31.5%), garlic (19.6%) and ginger (16.3%), respectively.

In the other studies conducted in our country, the most frequently used herbal products can be listed as follows: garlic (Akyol et al. 2011; Erdogan et al. 2013; Zerrin et al. 2012); parsley (Erdogan et al. 2012), linden / sage (Akyol et al. 2011), mint, nigella (Erdogan et al. 2013), stinging nettle (Aksu et al. 2008, Karacan et al. 2012, Kurt et al. 2013, Zerrin et al. 2012), ginger (Zerrin et al. 2012), thyme (Cay et al. 2015). On the other hand, in the studies conducted abroad, the most frequently used herbal products are products such as aloe vera (Adusumuli et al. 2004; Grauer et al. 2004), ginseng (Adusumuli et al. 2004; Grauer et al. 2004; Skinner & Rangasami 2002), garlic (Adusumuli et al. 2004; Grauer et al. 2004; Skinner & Rangasami 2002; Wood et al. 2004), echinacea, (Adusumuli et al. 2004; Grauer et al. 2004; Hodges & Kam 2002; Skinner & Rangasami 2002; Wood et al. 2004), and it can be said that the use of different herbs is widespread in different cultures.

The reasons why the surgical patients who took part in the study used CAM were mostly pain (44.6%), stress (32.6%), sleeping problems

(28.6%), and tiredness (27.5%), while only 8.7% of the patients use these methods in order to be able to deal with problems which require surgery. In contrast to our study, there are also studies which state that these methods are used mostly for the treatment of the illness (Adusumuli et al. 2004; Efe et al. 2012; Guven et al. 2013; Akyol et al. 2011; Karacan et al. 2012; Cay et al. 2015; Zerrin et al. 2012). Apart from these, cancer patients use CAM methods for the purposes such as the supporting of their treatment, directed at the side effects of the treatments and for strengthening the immune system (Mutlu et al. 2013; Ozcelik & Fadiloglu 2009). The results support the notion that individuals use CAM applications in order to be able to deal with their existing illnesses. When the thoughts of the patients concerning the use of CA methods is within the study are evaluated, while 42.8% of the patients who took part in the study believed that the herbal products / alternative treatments could support the medication / medical treatment, 33.3% said that they gave them physical comfort and 31.9% said they made them feel psychologically more comfortable, and 17.0% found there to be no benefit from these methods. In the other studies which have been conducted, it was determined that patients found CAM methods to be beneficial (Erdogan et al. 2012; Erdogan et al. 2013; Mahomoodally & Roumaysa 2013) and that they resulted in the patients feeling better (Erdogan et al.2012; Erdoğan et al. 2013).

It can be seen that the surgical patients who took part in the study mostly acquired information concerning CAM methods from their environment (relatives and neighbours) and through the media. When the other studies conducted in our country are evaluated, it can be seen that the close environment of the patients are in first place among the sources of information, and that the media and the internet are the other sources where a high level of information is acquired (Bicen et al.2012; Cay et al. 2015; Efe et al. 2012; Erdogan et al. 2012; Guven et al. 2013; Ottom et al. 2008). The studies conducted abroad have reached similar results, determining that patients mostly used their close environment and the social media as sources of information (Adusumuli et al. 2004; Wood et al. 2003). While the results support our study, the accuracy of the information obtained from these sources is thought provoking. In contrast with our study, there are also studies

which show that the sources of information for CAM are individuals who suffer from similar illnesses (Akyol et al. 2011; Ucan et al. 2007).

### Conclusion

It has been determined that more than half of the patients who took part in the study used CAM methods, close to half believed that these methods can be a support to the medical treatment, and that the sources of information concerning these methods were mostly the people in the environment of the patients. A significant relationship was determined between the position of CAM use according to gender, occupation, whether the patient is suffering from a chronic illness and income levels.

### Relevance to clinical practice

For the reason that there could be interactions with the current treatment, anesthesia, intraoperative and postoperative process especially when using herbal products it's essential that surgical patients should be asked about CAM usage by surgical staffs especially nurses. Furthermore there could be planned training programs about CAM use for surgical staffs and also for patients.

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