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The use of complementary and alternative medicine among lymphoma and cancer patients with a solid tumor: Oncology clinics at Northern and Southern Turkey

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ABSTRACT

Purpose: This study aimed to determine the prevalence and predictors of the use of Complementary and Alternative Medicine (CAM) and to examine the differences between patients who used CAM and those who did not among those who were being treated in oncology clinics in the northern and southern regions of Turkey. In order to collect the relevant data, 288 outpatients receiving chemotherapy were selected to participate in the study.

Materials and methods: The research was designed as a descriptive, relational and cross-sectional study. Data was collected by the researchers using a form which had already been developed in the literature.

Results: As a result of our study, we found that 33.2% of the patients had stage 4 cancer and 22.9% of them had respiratory system cancer. The most commonly used form of CAM was herbal preparations, which were used by 48.4% and around 31 species of herbs were employed. 59.1% of the patients used CAM to support their conventional treatment. The prevalence of the CAM usage was determined as 32.3%.

Conclusion: Even though a wide range of different forms of CAM are currently used by oncology patients in the northern and southern regions of Turkey, further cooperation with health professionals is needed to obtain better information about both CAM usage and medical treatment. Better informing patients about how best to use CAM in conjunction with medical treatment is also crucial.

1. Introduction

Recent developments in the fields of diagnosis and treatment have extended the life expectancy of patients with cancer.[1] However, treatments other than conventional medicine have begun to be increasingly accepted for cancer all over the world.[2,3] World Health Organization traditional medicine; describe plant, animal and mineral based health practices, approaches, knowledge and beliefs, mental therapies, handheld techniques and exercises aimed at diagnosing and treating diseases or protecting health.[4] Across the world, traditional medicine (TM) is either the mainstay of health care delivery or serves as a complement to it. In some countries, traditional medicine or non-conventional medicine may be termed complementary medicine (CM). Traditional and complementary alternative medicine (T&CAM) merges the terms TM and CAM, encompassing products, practices and practitioners.[5,6]

In the literature, the frequency of the usage of CAM among patients with cancer is reported to vary from 14.8% to 73.1% in European countries, and it varies from 32% to 84.1% in Turkey.[7–9] The usage of CAM varies among cultures as a result of their differing beliefs, religions, lifestyles, and, too, on the basis of which herbs can be grown in specific geographical areas.[8,10] Different types of CAM have different cultural origins (for example, homeopathy, naturopathy, traditional Chinese medicine, and Ayurveda), are based on a variety of body-mind interventions (music therapy, spiritual healing, psychological counseling, prayer), use different natural products (herbs, diet support products, medical herbal teas, or animal parts such as shark cartilage), and involve different manipulative, body-based treatments (massage, chiropractic manipulation, osteopathy), or energy treatments (Reiki, qigong, electromagnetic therapies).[9,11] In Turkish society, CAM methods are frequently used as herbal treatments, use of animal products, spa, acupuncture, aromatherapy, music therapy, hypnotherapy, reiki, meditation, homeopathy, reflexology, massage, religious

Abbreviations: CAM, complementary and alternative medicine; CT, chemotherapy; RT, radiotherapy

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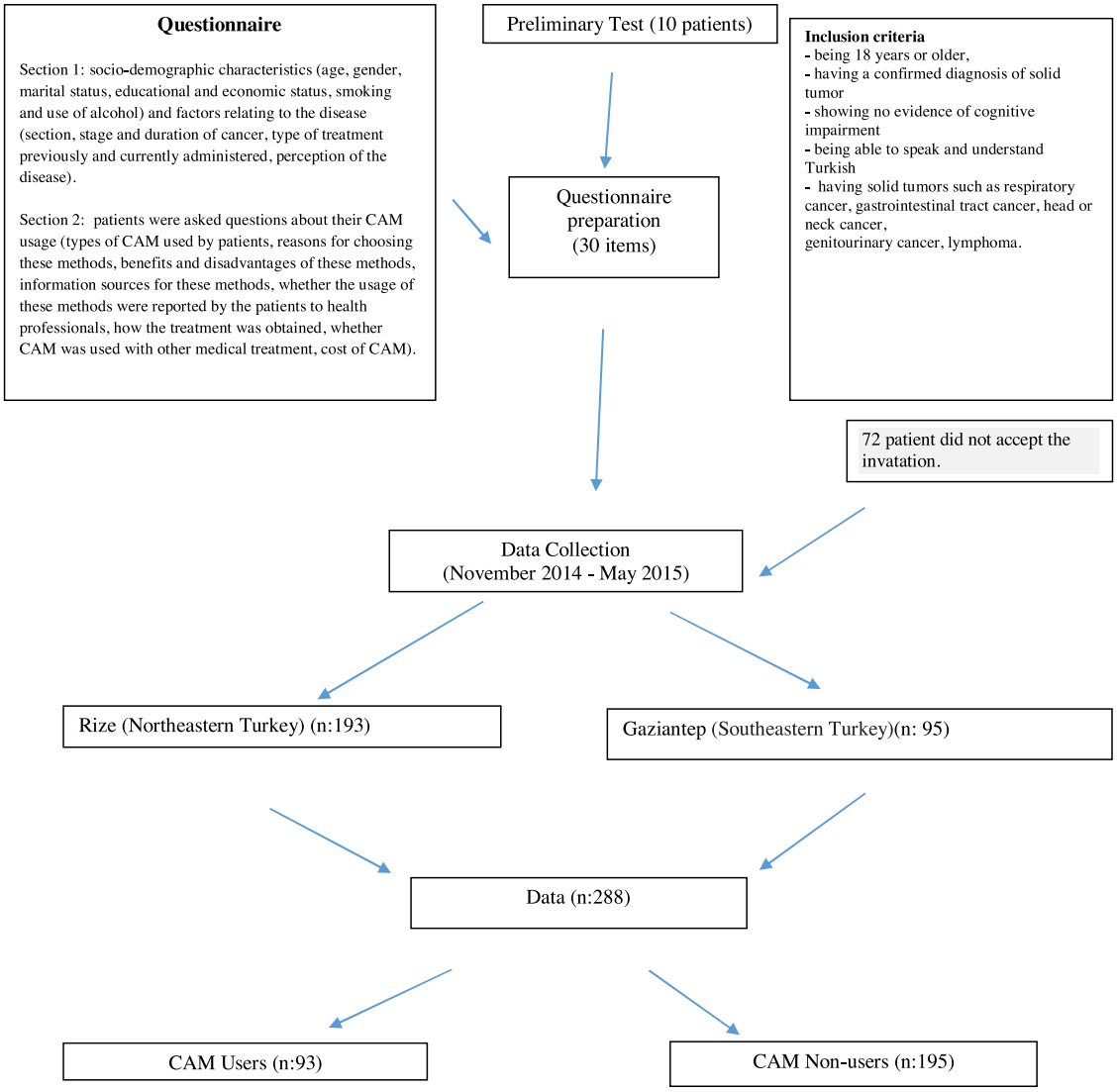

Fig. 1. Flowchart of Trial.

practices.[6,7] Sometimes it is possible to consider the same practice in both traditional and complementary medicine. In these applications, the limits may vary from country to country or from a perspective. For example, Ayurveda, shiatsu massage, energy therapies are accepted as alternative medicine in Turkish Society, while they are in traditional medicine in the Far East.[6] Using evidence-based research to evaluate the effectiveness of CAM is thus an important field of research.[12]

The majority of Turkish patients used CAM to increase the body's ability to fight against cancer, reduce the effects of the disease, improve their physical and emotional well-being, ensure that they are employing every treatment possible, and to maintain a sense of hope and provide positive thinking.[7,13] In a meta-analysis evaluating 52 studies, it was found that the therapeutic response, wanting to take control, having a strong belief in CAM, using CAM as a last resort, and developing a sense of hope were the most commonly cited reasons for using CAM.[13] Some patients (4.4%) reported side-effects; however, these were found to be mostly transient.[14] Although cancer patients use CAM for its positive effects, it should not be forgotten that these methods may also have negative impacts on health.

The use of CAM may vary according to socio-demographic and disease-related characteristics. Those who tend to use CAM more frequently have the following characteristics: being female, receiving chemotherapy, having breast cancer, having more severe symptoms of nausea and vomiting, being more dissatisfied with their doctors, perceiving their disease to be severe.[14,15] Healthcare professionals' recognition of the factors which facilitate or provide obstacles to the use of CAM is important in order to protect the health of the cancer patients and maintain their well-being. Studies have found that patients using CAM do not inform healthcare personnel, and that healthcare personnel do not tend to ask about the use of CAM.[7,8,16] To promote comprehensive quality care, health professionals should evaluate CAM usage and understand the types of CAM used by cancer patients and the reason for their use. Patients should be encouraged to discuss their CAM usage frankly with their physician.[16] Additionally, it should be assessed whether cancer patients should continue their pharmacological treatment while using CAM and whether its use is beneficial.

The prevalence of CAM and the type of CAM used by cancer patients may differ among different cultures and regions.[6] Many countries have gradually come to accept the contribution that CAM can make to the health and well-being of individuals and to the comprehensiveness of their health-care systems.[9] However, research on the factors affecting the use of CAM and evaluating the knowledge and practices of cancer patients in different geographical regions of Turkey are limited.[17–19] There has as yet been no study about the use of CAM in Rize province, which is located in the northern region of Turkey, or in Gaziantep province, which is in southern Turkey. This study thus aimed to

Table 1
Characteristics of CAM use.

Variables		Number (n)	Percent (%)
Age (year)		55.92±14.5 (Min:18 Max:90)	
Gender	Female	148	51.4
	Male	140	48.6
Marital status	Married	211	73.3
	Single	47	16.3
	Widowed	30	10.4
Domicile	City	187	64.9
	Rural area	101	35.1
Educational level	Illiterate	18	6.2
	Primary school	80	27.8
	Secondary school	135	46.9
	High school /University	55	19.1
Family type	Elementary	198	68.8
	Extended	90	31.2
Economic conditions	Income < expenditure	106	36.8
	Income = expenditure	162	56.2
	Income > expenditure	20	6.9
Use of cigarette	Smoker	24	8.3
	Ex-smoker	135	46.9
	Non-smoker	129	44.8
Use of alcohol	Drinker	11	3.8
	Ex-drinker	71	24.7
	Non-drinker	206	71.5
Cancer stage	T1	15	5.2
	T2	52	18.1
	T3	69	24.0
	T4	97	33.2
	Unknown	55	19.1
Tumor lesion	Respiratory system	66	22.9
	Gastrointestinal tract	86	29.8
	Head and Neck	20	6.9
	Genitourinary	30	10.5
	Lymphoma	17	5.9
	Breast	69	24.0
Previously administered treatments[a]	Surgical therapy	149	51.7
	Chemotherapy	277	96.2
	Radiotherapy	153	53.1
	Hormonotherapy	12	4.2
	Other	18	6.3
Currently administered treatment	Chemotherapy	252	87.5
	Radiotherapy	35	12.2
	Hormonotherapy	1	0.3
Previous hospitalization	Yes	186	64.6
	No	102	35.4
Days spent in hospital (day)	2.07 + 1.3 (min: 1–max:7)		
Taking regular medication	Yes	242	84
	No	46	16
Satisfied with the clinic	Yes	265	92
	No	23	8
Successfully seeing / perceiving drug treatment	Yes	246	85.4
	No	42	14.6
General health perception	Very good	39	13.5
	Good	114	39.6
	Moderate	82	28.5
	Poor	39	13.5
	Very poor	14	4.9

[a] More than one option was marked.

determine the use of CAM in Turkish patients with lymphoma and solid tumors who were attending outpatient clinics in these areas. For this purpose, the following research questions were posed: (i) What are the characteristics of CAM users? (ii) What is the prevalence of the use of CAM and the perceptions of those who use it? and (iii) What are the differences between those who use CAM and those who do not?

2. Material and methods

2.1. Ethical statement

In order to carry out the study of cancer patients, approval was obtained from the Ethics Committee of University's Medical Faculty (Decision number:14/158). Written permission was received from the institutions where the study would be conducted.

2.2. Study design, setting and participants

A cross-sectional descriptive survey design was used in this study. The two cities involved represented the northeastern and southeastern parts of Turkey; they each contained oncology clinics, and no studies on CAM had previously been carried out in those cities. Participation was on a voluntary basis. Researchers approached patients who were by receiving outpatient treatment in the chemotherapy units and informed them about the purpose of the study and the accompanying. Written informed consent was then obtained from the patients. The data collection form was filled in by the researchers. Fig. 1 represents the study design and data collection process.

2.3. Definition of CAM

As defined in a similar study, CAM may use pharmacologic agents (oral, intravenous, or topical) including vitamins, dietary supplements, and herbal products or non-pharmacologic methods such as meditation, hypnosis, massage, acupuncture, and prayer.[2–21]

2.4. Data collection

A questionnaire based on the literature was prepared by the researchers and used for data collection. Data were collected within a period of six months from November 2014 to May 2015.The questionnaire consisted of two sections with 30 items in total.

The questionnaire was pretested with ten patients; their responses were examined and corrections were made. The data collection took approximately 20 min. A total of 360 patients were asked to participate in this study and 288 of them (80%) responded.

2.5. Statistical analysis

The data were analyzed using the SPSS 16.0 program (SPSS Inc., Chicago, IL, USA).[35] In order to analyze the data, means, frequencies, and percentages were calculated. The *t*-test for independent samples was used to analyze the difference in term of age between patients who used CAM and those who did not. The difference regarding dichotomous and categorical variables between patients who used CAM and those who did not was evaluated with Pearson's chi-square test. The Fisher's exact test was used when the expected value in any box of the chi-square tables containing the dichotomous variables was below 5, and the Pearson's chi-square test was used when all or 80% of the expected values in any box of the chi-square tables containing the categorical variables were above 5. A level of significance of $p < 0.05$ was established prior to data collection.

3. Results

3.1. Characteristics of patients

The average age of the patients was 52.9. It was found that 73.3% of the patients were married, 46.9% of them had graduated from secondary school, and 64.9% of them lived in urban areas. 33.2% of the patients had stage 4 cancer and 29.8% of them had cancer related to the gastrointestinal tract. 84% of the patients regularly took medicine, 92% of them were satisfied with the clinic they attended, and 85.4% of them

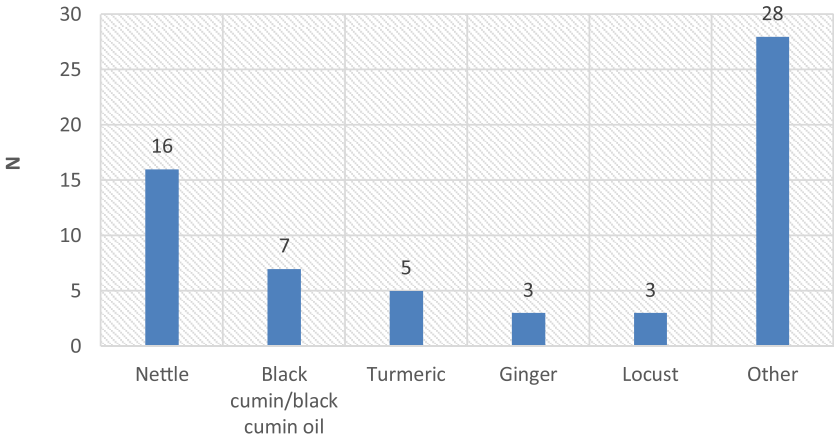

Fig. 2. Most frequently used herbs.

reported that their treatment had improved their condition. 39.6% of the patients stated that they were in good health in a general sense. It was found that 59.1% of the patients used CAM to support their conventional treatment, while 73.1% had used CAM during the last month (Table 1).

3.2. Prevalence and Predictors for the use of CAM

Among the patients, 32.3% used at least one form of CAM method. The most common forms of CAM included herbs (48.4%), honey (30.1%), religious practices (29%), and spices (9.7%). Approximately 31 species of herbs were used for CAM, with nettles (16%), nigella-nigella oil (7%), and curcuma (5%) being the most common (Fig. 2). Among the patients, 52.7% had informed their doctors about their CAM use. It was determined that 46.2% of the patients obtained their treatments from herbalists, 98.9% used CAM orally, and 67.7% used CAM in conjunction with medical treatment. Among the patients, 61.3% reported that their conditions improved after CAM use, while 42.1% stated that they felt “spiritually healed” following the use of CAM. It was found that 36.6% of the patients spared a monthly budget of 1–50 Turkish Liras for CAM (Table 2).

3.3. Differences between CAM users and nonusers

CAM use did not show significant differences according to sociodemographic characteristics and disease-related features (age, gender, marital status, domicile, education level, family type, economic situation, use of cigarettes, use of alcohol, location of cancer, stage of cancer, previous hospitalization) ($p > 0.05$). However, there were significant differences according to regular taking of medicine, not receiving chemotherapy and satisfaction with the clinic patients attended, and believing that medical treatment improved their condition ($p < 0.05$) (Table 3).

4. Discussion

The main findings of this study are as follows: about one-third of the cancer patients used CAM; the most frequently used herbal mixtures were prepared at home or supplied by herbalists; CAM usage was high among patients who do not take medicine regularly, who were not satisfied with the clinics and who did not think that they were benefitting from conventional medical treatment; the use of CAM was high during medical treatment. Additionally, although the use of CAM was high, there was little consultation with the physician and healthcare personnel were not considered sources of knowledge.

4.1. The prevalence and predictors for the use of CAM

The use of CAM in Europe has been found to be lower than in Asia.[9,20] The prevalence of CAM in the studies conducted in Europe varies from 14.8% to 73.1%, is around 32% in the USA, and 55% in Asian countries.[10,21,22] In studies carried out in Turkey, it varies from 36% to 87.1%.[16,23,24] In this study, one-third of cancer patients used at least one form of CAM. The prevalence of CAM in these regions was thus lower than in other regions of Turkey, and this is compatible with the prevalence of CAM in the western parts of Turkey. However, although CAM use was high among our patients, the prevalence was lower than expected. The broad range is due in part to different definitions of CAM, differences in the size and nature of the study population and different geographic settings.[8,9,25] The study found that herbs, honey, religious practices, and spices were the most popular CAM therapies in this cancer population. The most frequently used CAM methods were herbal preparations, honey, religious practices and spices. As in Turkey,[24,26,27] the use of herbal medicine is generally high among Asian patients with cancer.[20,22,28] However, Australian and European cancer patients primarily use non-herbal medicine, such as vitamins and minerals, dietary supplements, herbal medicine, acupuncture, reflexology, massage, aromatherapy, hypnosis, homeopathy, traditional Chinese medicine, and various body and mind techniques.[29–31] Unlike in many studies in the literature, in this study, it was determined that the cancer patients used different honey products (flower honey, chestnut honey, bitter honey, and anzer honey) in order to promote healing rather than to avoid side effects of chemotherapy. In difficult illnesses like cancer, it has been observed that patients will apply different naturopathic practices to aid their recovery. In a study of EPAAC covering 99 oncology centers in Europe (2009), the CAMs most frequently used by cancer patients were acupuncture, homeopathy, herbal medicine, and traditional Chinese medicine; anthroposophical medicine; homotoxicology, and other therapies.[31]

In our study, around 31 species of herbs were used and the most frequently used herbs were nettle, black cumin/black cumin oil, and turmeric. Other studies similarly report the use of nettle, black cumin, turmeric, honey, royal jelly and pollen in Turkish society.[19,23–26] In western countries, the use of aloe vera, echinacea, gingko biloba, mistletoe, stinging nettle, saffron, and wheatgrass is common.[29,30] Another study reported that 36 types of herbs were used and these consisted of herbs such as nettle, thyme, dog rose, mistletoe, oleander, and garlic.[22]

Herbal remedies are perceived as natural and therefore risk-free, but this is not the case.[32] Herbal medicine, however, may have unexpected side-effects such as increasing the risk of adverse bleeding, hepatotoxicity, neurotoxicity, unwanted stimulation of the immune system,

Table 2
The prevalence and predictors for the use of CAM (n:93).

Variables		Num.	Percent
Use of CAM	Yes	93	32.3
	No	195	67.7
Methods of CAM used (n:93)[a]	Herbal	45	48.4
	Honey	28	30.1
	Religious practices	27	29.0
	Spices	14	15.1
	Healing water	9	9.7
	Massage	8	8.6
	Vitamin	3	3.2
	Royal jelly	3	3.2
	Animal meat	1	1.1
	Imagery therapy	1	1.1
Most frequently used herbs[a] (31 types of herbs are being used)	Nettle	16	33.3
	Black cumin/black cumin oil	7	15.6
	Turmeric	5	11.1
	Ginger	3	6.7
	Black Locust	3	6.7
	Other	28	62.2
Reasons for use of CAM[a]	Treatment	45	48.4
	Complement other treatment	55	59.1
	Terminal illness	7	7.5
	Fighting against disease	34	36.6
	Increasing quality of life	25	26.9
	Preventing relapse of disease	31	33.3
	Coping with side effects of treatment	13	14.0
	Strengthening the immune system	33	35.5
	Reducing symptoms	28	30.1
Using CAM in the previous month	Yes	68	73.1
	No	25	26.9
Does your physician know about your use of CAM?	Yes	49	52.7
	No	44	47.3
Do you talk to the physician/ nurse about using the CAM?	Never	21	22.6
	Sometimes	38	40.9
	Generally	34	36.6
Does your physician/nurse support your use of CAM? (n:72)	Does not interfere	37	51.4
	Recommends not to use	16	22.2
	Recommends to use	19	26.4
Sources of information about CAM	Family	22	23.7
	Physician	5	5.4
	Newspaper/magazine	8	6.6
	TV	13	8.6
	Close relatives	8	14.0
	Friends, neighbors	14	15.1
	Patients with similar disease	14	15.1
	Internet	9	9.7
Sources of CAM	Prepares himself/herself at home	35	37.6
	Pharmacy	2	2.2
	Herbalist	43	46.2
	Other	13	14.0
Usage	Oral	92	98.9
	Putting on the body	1	1.1
Using of CAM with other treatments	Using with chemotherapy (CT)/ radiotherapy (RT)	63	67.7
	Using when CT/RT not received	25	26.9
	Only CAM usage	5	5.4
Decrease of complaints related to disease and treatment after CAM	Yes	57	61.3
	No	16	17.2
	Unaware	20	21.5
Decrease of complaints related to disease and treatment after CAM (n:57)	Decrease of side effects of CT/RT	15	26.3
	Decrease of complaints related to disease	18	31.6
	Spiritual healing	24	42.1
Money spent (₺/month)	None	33	35.5
	1-50 TL	34	36.6
	51-100TL	17	18.3
	101-200TL	5	5.4
	201 and over	4	4.3

[a] N:93; More than one option was selected.

thrombocytopenia, or renal failure, which can be highly detrimental to patients.[6] On the other hand, there is insufficient knowledge regarding the interactions that active herbal compounds might have with pharmacological drugs being used to treat patients.[33]

In a report prepared by the Norwegian Institute of Public Health, it was emphasized that 10 systematic reviews of different herbs and plants (traditional Chinese medicine) showed low effects in respect of survival, tumor response, adverse effects of treatment, and safety.[30] On the basis of these results, it is important that CAM be used with the knowledge and under the direction of health professionals and that the decision to use it is made only after evaluating its effects on conventional treatment.

In the current study, the patients used CAM to support the conventional treatment, to be treated, to fight against their disease and to boost their immune systems. In various studies, patients' responses have indicated that the desire to do everything possible to fight their disease,[18,19] and the idea that CAM "may be helpful, and at least it's not harmful" were the two most common reasons for using CAM.[19] The other reasons for using CAM included slowing down the progression of the disease, curing the disease, relieving symptoms of the disease or reducing side effects of the medication, [34,35] feeling mentally better, achieving physical well-being, and boosting immune system.[18,36] Although the patients use CAM for these purposes, the benefits achieved were not always at the expected level.

In the current study, more than half of patients stated that they experienced an improvement in their condition. Among the patients who reported an improvement reduction in the symptoms of the disease after CAM usage, 42.1% reported that they felt spiritually healed, and 26.3% reported a reduction in side effects of CT and RT. In another study conducted in Turkey, which supports the results of this study, the majority of CAM users claimed to have obtained the sought-after effect from using CAM, while reported not noticing any effect and were not sure if they did.[18] In a multi-center study carried out in Germany which evaluated 1089 melanoma patients, it was reported that CAM users had a greater degree of physical activity, sought psychosocial support more often and maintained contact with a self-help group.[37]

Another important subject, it may be occurred because of conventional therapies in which positive effects of physical problems are used such as surgery, chemotherapy, hormonal therapy, and/or radiation.[38] Because, in the current study, most of the patients were treated with conventional therapies. In short, it would not be a correct approach to always refer to the positive physical changes that occur in patients attending traditional treatment. Another important point is that CAM usage would not always result in at the expected level. Although two thirds of patients used CAM to improve physical well-being, approximately half of patients patients felt it had this effect. Furthermore, even though half of CAM users to improve emotional well-being and provide hope, reported that they did benefit in this way.[39] In another study conducted in Northern Italy, CAM users were found to have lower physical well-being than CAM non-users.[40] Cancer-related fatigue is a subjective, frequent condition of physical, affective and cognitive tiredness and exhaustion and has a negative impact on every-day-activities, quality of life and overall survival.[39] Therefore, the relationship expected between cancer patient's physical well being and the CAM usage may not be achieved all the time.

Table 3
Differences between CAM users and non-users (n = 288).

Variables		CAM user (n:93) (n) (%)	CAM non-user (n:195) (n) (%)	χ2/t
Age (Mean + SD)		56.8 + 13.1	55.5 + 15.1	t= −0.732 p = 0.465
Gender	Female	42 (45.2)	106 (54.4)	χ2 = 2.125
	Male	51 (54.8)	89 (45.6)	P = 0.144
Marital status	Married	68 (73.1)	143 (73.3)	χ2 = 0.018
	Single	15 (16.1)	32 (16.4)	P = 0.991
	Divorced	10 (10.8)	20 (10.3)	
Domicile	City	57 (61.3)	130 (66.7)	χ2 = 0.799
	Rural	36 (38.7)	65 (33.3)	P = 0.371
Education level	Illiterate	5 (5.4)	13 (6.7)	χ2 = 0.623
	Primary school	26 (28.0)	54 (27.7)	P = 0.891
	Middle/High school	46 (49.5)	89 (45.6)	
	University	16 (17.2)	39 (20.0)	
Family type	Elementary	63 (67.7)	135 (69.2)	χ2 = 0.065
	Extended	30 (32.3)	60 (30.8)	P = 0.799
Economic situation	Income < expenditure	40 (43.0)	66 (33.8)	χ2 = 2.448
	Income = expenditure	48 (51.6)	114 (58.5)	P = 0.294
	Income > expenditure	5 (5.4)	15 (7.7)	
Use of cigarettes	Smoker	10 (10.8)	14 (7.2)	χ2 = 1.506
	Ex-smoker	45 (48.4)	90 (46.2)	P = 0.471
	Non-smoker	38 (40.9)	91 (46.7)	
Use of alcohol	Drinker	3 (3.2)	8 (4.1)	χ2 = 0.502
	Ex-drinker	21 (22.6)	50 (25.6)	P = 0.778
	Non-drinker	69 (74.2)	137 (70.3)	
Cancer location	Respiratory system	23 (24.7)	43 (22.1)	χ2 = 1.813
	Gastrointestinal tract	27 (29.0)	59 (30.3)	P = 0.874
	Head and neck	8(8.6)	12 (6.2)	
	Urogenital	11 (11.8)	19 (9.7)	
	Lymphoma	5 (5.4)	12 (6.2)	
	Breast	19 (20.4)	50 (25.6)	
Cancer stage	T1	3 (3.8)	12 (7.7)	χ2 = 5.835
	T2	19 (24.4)	33 (21.3)	P = 0.120
	T3	17 (21.8)	52 (33.5)	
	T4	39 (50.0)	58 (37.4)	
Treatment[a]	With conventional treatment	63(67.7)	190(97.4)	χ2 = 52.007
	Between the periods of conventional medicine and without adding conventional medicine to the treatment	30(32.3)	5(2.6)	P = 0.000
Previous hospitalization	Yes	29 (31.2)	73 (37.4)	χ2 = 1.076
	No	64 (68.8)	122 (62.6)	P = 0.299
Regular use of medicine	Yes	64 (68.8)	178 (91.3)	χ2 = 23.678
	No	29 (31.2)	17 (8.7)	P = 0.000
Satisfied with the clinic	Yes	77 (82.8)	188 (96.4)	χ2 = 15.883
	No	16 (17.2)	7 (3.6)	P = 0.000
Success of conventional medicine	Yes	62 (66.7)	184 (94.4)	χ2 = 38.765
	No	31 (33.3)	11 (5.6)	P = 0.000
General health	Very good	13 (14.0)	26 (13.3)	χ2 (Fisher exact test) = 0.37038.765
	Good	37 (39.8)	77 (39.5)	P = 0.988
	Moderate	25 (26.9)	57 (29.2)	
	Poor	13 (14.0)	26 (13.3)	
	Very poor	5(5.4)	9(4.6)	

The percentage of the column was taken.
[a] Fisher's Exact test.

The use of CAM may have been prompted by the physical problems associated with conventional therapies such as surgery, chemotherapy, hormonal therapy, and/or radiation.[38] In the current study, most of the patients were treated with conventional therapies. However, it would not be correct to always view the physical changes that occur in patients receiving conventional treatment as the reason for using CAM. Another important point is that CAM usage was not always at the expected level. Although patients used CAM to improve physical their well-being, only patients felt it had this effect. Furthermore, even though used CAM to improve emotional well-being and provide hope, reported that they did benefit in this way.[39] In a study conducted in Northern Italy, CAM users were found to have lower levels of physical well-being than those who did not use CAM.[40]Cancer-related fatigue is a subjective, frequent condition of physical, affective and cognitive tiredness and exhaustion and has a negative impact on every-day-activities, quality of life and overall survival.[39] The expected relationship between a cancer patient's physical well-being and the use of CAM may not always be found.

More than half of CAM users stated that they used it during periods of CT and RT. This may be dangerous in terms of reducing the effectiveness of CT. 98.9% of those practicing CAM took their treatments orally. The effectiveness of CAMs taken by oral tract decreases due to digestive enzymes and gastric acid and reduced absorption of nutrients, especially when passing through the liver and any preparation may fail to be absorbed completely. Taking CAMs orally creates less risk than other ways of using them. However, there is a systemic effect of oral intake[41] and complications may occur due to wrong or over-use, contamination and herb-drug interactions. For these reasons, health professionals should pay particular attention to the consumption of herbal products.[16]

The current study found that more than half of the patients obtained information about CAM from those close to them and very few obtained it via the media. In various studies, most patients obtained information about CAM from their friends, family members, neighbors, people with similar diseases, the media, CAM vendors, and (to a limited extent) physicians.[17,24] In another study, about one quarter of the patients decided to use CAM by themselves.[42] The source of information may vary depending on the type of CAM. For instance, the main sources of recommendations for herbal products were family and friends, followed by herbalists.[43]

In literature, it is seen that very few CAM users inform their physicians about their use of CAM.[11,18,43] In this study, only a few patients had consulted their physician prior to CAM use, and no patient consulted their nurse. However, more than half of the patients reported to their physicians after using CAM. In a study conducted with cancer patients in Germany, the rate of informing the physician about CAM use was found to be high.[32] These results suggest that this may be due to the patient's awareness that nurses are not a source of information or guidance about CAM. More than half of the patients consulting their physician stated that the physician did not interfere with their use of CAM. In a study conducted with nurses in a different region of Turkey, it was reported that the nurses did not have sufficient knowledge about CAM, that they needed a physician's approval to use any form of CAM with their patients; that here were institutional issues including recent regulations on CAM in Turkey and the skepticism of managers about CAM, a limited number of education, training, or certificate programs; and a lack of belief in the effectiveness of CAM.[4] In the study of 126 nurses by Özkaptan and Kapucu (2014) the participants indicated that they did not have a high level of knowledge about all the available CAM methods. On the basis of these results, it can be theorized that physicians do not inform patients about CAM and nurses do not play an active role on this topic. Patients need to be more adequately informed and the knowledge of health personnel should be improved.

Although social, medical, and cultural reasons may account for why people in a given country prefer CAM and TM to conventional (Western) medicine, economic forces are also at play. Although economic factors play a role in this choice, the underlying incentives are not always predictable.[5] In the literature, it is stated that those with a good level of income prefer to use CAM.[7] In this study, one-third of the patients stated that they did not spend any money for CAM and one-third spent between 1 and 50 TL per month. This is not a great expense when considered in the context of the whole Turkish economy.

4.2. Differences between CAM users and non-users

In this study, the use of CAM did not differ according to socio-demographic and disease-related characteristics. However, those who did not regularly take medicine, who believed that medical treatment was not beneficial for them and who were dissatisfied with the clinic used CAM more. Similar to our study findings, no significant association was reported between CAM use and socio-demographic variables such as age, gender,[18,43,44] marital status,[44] educational status,[23,43] profession,[18] place of residence,[43] income level,[18,43] the presence of other chronic diseases and disease characteristics.[39] The findings related to the covariates of this study are mostly consistent with previous findings. CAM use is higher in females, [25,40] those of a younger age,[18,43] those with higher education,[29,36,44] higher income,[11,26,44] and advanced cancer (stage IV and distant metastasis).[25,41]

The present study had some limitations. First,some cancer patients undergoing chemotherapy found it difficult to admit that they used CAM. As mentioned in the literature, cancer patients who use CAM do not generally want to share this fact with a health care professional. The second limitation of the study was the high response rate of the questionnaires. The patient's acceptance of the questionnaire can be attributed to the Turkish cultural structure and the sense of surrender to health personnel in the fight against a serious illness such as cancer. However, it is not possible to share information with the view that the practices will not be accepted by the health personnel. However, the data collected may reflect the presence of two different cultures in Turkish society. Finally, we believe that this current study is valuable because it presents data from regions of Turkey that have not previously been studied.

In this study, while one third of the patients use CAM, herbal mixtures are preferred most frequently. CAM is often used for reinforcement therapy. Common use with furthermore CT and RT. Although the CAM usage is high, there is less consultation to the physician and nurses are not considered as a source of knowledge.

5. Conclusion

Integrating all the various elements that can contribute to cancer treatment, and trying to heal the patient by using a holistic approach positively affect the treatment process, improve the experience of the disease, and increase the quality of life and success of treatment. Turkish society is still only beginning to accept fully holistic care and therapies other than conventional treatment. Given the fact that a holistic approach should be offered to cancer patients, CAM and naturopathic practices used by patients should not be ignored by health professionals. Informing the patients about the use of CAM in conjunction with treatment is very important. The health professions should be in effective communication with the patients about their CAM usage and should play an active role in counseling and educating them. In this regard, action plans for the integrated use of CAM should be developed without further delay.

Declaration of Competing Interest

The authors declare that there are no conflicts of interest.

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