

PAPER DETAILS

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Frequency of use and characteristics of complementary and alternative treatment methods by children oncology patients

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ABSTRACT

Background/aim: The use of Complementary and Alternative Medicine (CAM) has been increasing in recent years. The aim of this study was to investigate the use of CAM and the sociodemographic characteristics of pediatric patients.

Material and Method: This cross-sectional study was completed with 139 patients newly diagnosed with or followed-up with cancer diagnosis in the pediatric oncology outpatient clinic of Ankara University Faculty of Medicine.

Results: All of the patients stated that they prayed for the recovery of the disease. It was found that 26.6% of the patients used at least one CAM method. The most commonly used CAM methods were honey (59.5%), bee pollen/royal jelly (56.8%) and grape molasses (45.9%), 37.8% of the patients consulted to a muslim preacher for prayer assistance. 62% of the patients using CAM stated that they did not inform their doctor on this issue.

Conclusion: Patients should be informed and warned that CAM methods should never prevent the medical treatment and should not be used instead of medical treatment, that they should share it with their doctors when they want to use any method.

Keywords: Children, cancer, complementary medicine, alternative medicine

INTRODUCTION

Complementary and Alternative Medicine (CAM) is not currently accepted as part of conventional medicine, but is used to describe various medical and healthcare systems applications and products, also known as integrative medicine (1,2).

In the United States, the National Institute of Health (USE) described CAM as "covering all health services, methods, practices, and accompanying theories and beliefs that are outside the politically dominant health system in a given society or culture over a given period of time, as a wide area of health" (3-5). In parallel with the increasing popularity of CAM in recent years, the frequency of use is increasing all over the World (6,7).

In the literature, the frequency of CAM use in childhood cancer patients is reported to be between 15.2% and 84.3% in studies conducted in various countries (8-13). In studies conducted in different regions of Turkey, frequency of CAM use among childhood cancer patients in was reported as 48.9% in Erzurum, 51.6% in Ankara, 77% in İzmir, 73.3% in Bursa and 97.3% in Samsun (14-18).

The aim of this study was to determine the prevalence and causes of CAM use in pediatric patients followed-up in Ankara University Pediatric Oncology Clinic as a data sample of our country in the last ten years, to determine the sociodemographic characteristics of the patients, which methods used and the effectiveness of these patients and their families and whether the use of CAM is within the knowledge of health personnel.

MATERIAL AND METHOD

The study was carried out with the permission of Clinical Researches Ethics Committee of Ankara University, Faculty of Medicine (Date: 23.03.2015, Decision No: 05-210-15). This cross-sectional study was conducted between October 1, 2010-November 30, 2015 with 139 patients newly diagnosed with or followed-up with cancer diagnosis in the pediatric oncology outpatient clinic of Ankara University Faculty of Medicine.

After the informed consent was obtained from the patients and/or their relatives, the survey, which took

approximately 10 minutes to answer and was prepared by the researchers based on the literature, was administered to the patients by face to face interview method. Patients who were not diagnosed with cancer during the study or those who were followed up in the oncology department with the diagnosis of benign disease such as lymphadenitis and hemangioma were excluded from the study.

Complementary and alternative treatment is defined as a variety of health care systems, methods and products that are not considered as part of conventional medicine in the treatment of cancer patients, or any treatment that is not involved in daily medical practice within the biomedical framework (1,2). Prayer, which is a part of daily life of the patients' families, was not accepted as CAM method. When questioned for the use of CAM, it was questioned whether honey and grape molasses were taken as a special ritual, a disease-specific therapeutic product, except for normal breakfast.

Data were recorded in Microsoft Excel 2007 program and statistical analysis was performed in SPSS 17.0 statistical package program. Descriptive statistics were given as mean±standard deviation for variables with normal distribution, median (min-max) for non-normal variables, and nominal variables as number of cases and percentages.

In the presence of two groups, the significance of the difference between the groups in terms of means was compared with t test, the significance of the difference in terms of median values was compared with Mann-Whitney test, and nominal variables were evaluated by Pearson Chi-Square or Fisher exact test. The statistical significance limit was accepted as $p < 0.05$.

RESULTS

The mean age of 139 patients with or without cancer diagnosis in the Ankara University Faculty of Medicine Pediatric Oncology Outpatient Clinic and Inpatient Service was 8.65 ± 5.51 years (min: 0.5; max: 18 years) and 54.7% (n=76) were found to be male.

Diagnosis of the patients included in the study were bone tumors (20.9%), leukemias (19.4%), brain and spinal canal tumors (11.5%), lymphomas (10.8%) and retinoblastoma (10.1%). No statistically significant was found difference between the frequency of CAM use according to the diagnoses ($p > 0.05$).

All of the patients (100%) stated that they prayed for the recovery of the disease. It was found that 26.6% (n=37) of the patients used at least one CAM method. In addition, those who stated that CAM was used, used median 3 kinds of methods. Patients most often used biologically based treatments (herbs, dietary supplements, herbal

teas, or animal products). Of the patients who used complementary and alternative treatment patients, it was found as honey (59.5%), bee pollen/royal jelly (56.8%) and grape molasses (45.9%), and 37.8% (n=14) of the patients consulted to a muslim preacher for prayer assistance (Table 1).

Table 1. Complementary and alternative medicine methods used by the study group (n=37) (Participants selected more than one option)

Complementary and alternative medicine method	n	%
Honey	22	59.5
Bee pollen/royal jelly	21	56.8
Grape molasses	17	45.9
Religious practices (getting prayer assistance from a hodja)	14	37.8
Herbal teas	11	29.7
Vitamin supplement	9	24.3
Artistic activities (music, painting, dance)	7	18.9
Protein-weighted nutrition	6	16.2
Massage-meditation-bioenergy	6	16.2
Dead nettle	6	16.2
Black sesame	4	10.8
Garlic	4	10.8
Carob molasse	4	10.8
Yoga-Reiki	3	8.1
Shark cartilage	2	5.4
Broccoli	1	2.7
Blackthorn seeds	1	2.7
Flaxseed	1	2.7
Donkey milk	1	2.7

The mean age of the patients who stated that they were using CAM was 10.6 ± 5.4 years, while the mean age of those who did not use it was 7.9 ± 5.4 ; the mean age was found to be significantly higher in CAM users compared to non-users ($p=0.012$).

No difference was found between the use of complementary and alternative therapies and sociodemographic characteristics ($p > 0.05$, Table 2).

25.2% (n=35) of patients had advanced stage/metastatic-relapse, 96.4% (n=134) received chemotherapy, 10.8% (n=15) received radiotherapy and 45.3% (n=63) underwent any operation due to the disease. It was observed that treatment modality, ie chemotherapy, radiotherapy or surgery, had no effect on the frequency of CAM use. When the frequency of CAM use was evaluated according to the stage of the disease, it was found that 22.1% (n=23) of patients had early stage/local disease and 40.0% (n=14) of patients had advanced stage/metastatic-relapse, the difference was found to be statistically significant ($p=0.04$, Table 3).

Table 2. Evaluation of sociodemographic characteristics of study group according to CAM usage (n=139)*

Properties		CAM usage				p
		Yes (n=37)		Yes (n=102)		
		n	%	n	%	
Gender	Female	17	27.0	46	73.0	1.00
	Male	20	26.3	56	73.7	
Education status of the mother	Primary school and below	19	28.4	48	71.6	0.79
	Secondary school-above	18	25.0	54	75.0	
Education status of the father	Primary school and below	12	30.8	27	69.2	0.63
	Primary-Secondary School	25	25.0	75	75.0	
Working status of the mother	Unemployed	32	26.0	91	74.0	0.76
	Employed	5	31.3	11	68.7	
Profession of the father	Workman	6	26.1	17	73.9	0.22
	Shopkeeper	16	22.9	54	77.1	
	Officer	8	25.0	24	75.0	
	Farmer	7	50.0	7	50.0	
Type of family	Core	27	24.5	83	75.5	0.13
	Extended family	5	25.0	15	75.0	
	Divorced	5	55.6	4	44.4	
Social security	SSI/Private insurance	31	26.3	87	73.7	1.00
	Green Card	6	28.6	15	71.4	
Economical situation (perceived)	Good	11	36.7	19	63.3	0.32
	Moderate	20	22.7	68	77.3	
	Poor	6	28.6	15	71.4	
Monthly income	Below minimum wage	10	27.8	26	72.2	0.79
	Minimum wage-poverty line	17	24.3	53	75.7	
	Above poverty line	10	30.3	23	69.7	
* Column percentages are given						

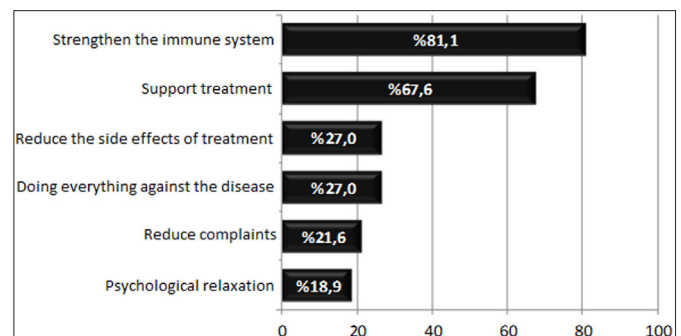
* Column percentages are given

Table 3. Evaluation of the use of CAM in the study group according to disease stage and treatment status *

Clinical course		CAM usage				p
		Yes (n=37)		Yes (n=102)		
		n	%	n	%	
CT receiving status	Before 3 months (n=53)	16	43.2	37	36.3	0.34
	In the last 3 months (n=81)	21	56.8	60	58.8	
	Not received (n=5)	0	0.0	5	4.9	
RT receiving status	Received (n=15)	7	18.9	8	7.8	0.12
	Not received (n=124)	30	81.1	94	92.2	
Stage of disease	Early stage/local (n=104)	23	62.2	81	79.4	0.04
	Advanced stage/metastatic (n=35)	14	37.8	21	20.6	
Surgery status	Underwent (n=63)	19	51.4	44	43.1	0.51
	Not underwent (n=76)	18	48.6	58	56.9	
* Column percentages are given						

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When the reason of use of the patients using complementary and alternative treatment is questioned, most commonly used to strengthen the immune system (81.1%) and support the treatment (67.6%) (**Figure 1**). In the study group, there were no patients using CAM instead of conventional treatment, and it was stated that all patients used CAM in addition to conventional treatment.

**Figure 1.** Reasons for the use of complementary and alternative treatment by the patients (n=37)

37.8% (n=14) of the patients using complementary and alternative treatments stated that the CAM technique they were using is effective, 2.8% (n=1) were very effective, 27% (n=10) thought that they were not effective, 32.4 (n=12) had no idea and 94.1% (n=32) stated that the method used had no harmful effects.

45.9% (n=17) of the patients who received complementary and alternative treatments indicated that their complaints decreased with the use of CAM, and these complaints were weakness/fatigue of 82.4% (n=14) and unhappiness/malaise of 11.8% (n=2) and 5.9% (n=1) reported nausea and vomiting.

It was found that the most frequently used sources of information about CAM in the study were friends' advice (64.9%), internet (51.4%) and another patient or relative (21.6%) using CAM methods. 18.9% of the patients stated that they learned from television, 16.2% from doctor's advice and 2.7% from newspaper.

62.2% of the patients using complementary and alternative therapies stated that they did not inform their doctor about the use of CAM. 78.3% of these patients stated that they did not inform their doctors because they thought their doctor would react negatively and 21.7% stated that they did not consult because they thought it was unnecessary. 37.8% of the patients using CAM consulted their doctor about the method they are using. 14.3% of these patients stated that their doctor approved the use of CAM except when using chemotherapy.

DISCUSSION

In the literature, it has been reported that the frequency of CAM use in childhood cancer patients is between 15.2% and 84.3% and in studies conducted in our country between 48.9% and 97.3% (8–10,13–18). When the studies carried out abroad are examined, it is seen that the frequency of CAM use is generally lower in developed countries and higher in developing and third world countries such as Iran, Jordan and Malaysia (10,22,23). In our study, the frequency of CAM use was determined to be 26.6%. It is seen that the prevalence of CAM use in some studies that found similar to our study abroad, but our study shows that the prevalence of CAM use was below the average in Turkey (11,13,24). It should be noted that the difference between the frequency of CAM use may be due to cultural and descriptive differences between the study groups.

There are publications in the literature indicating that the use of CAM does not be affected the age, education and economic status of the parents, the region of residence, ethnic group, religious belief, age, sex, diagnosis, disease duration, advanced cancer and treatment of children, as well as publications indicating that it is not affected by these factors (9,11,14–17,22–24). In our study, it was found that CAM use was not related to mother's working status, father's occupation, family type, social security and perceived economic status. This result shows that parents make every effort to improve their child regardless of socio-demographic characteristics.

In our study, the age of the patients who stated that they were using CAM was found to be older than those who did not. Similar to our study in the literature, Naja et al. (10), Gözüml et al. (17) found that the ages of CAM users were older than those who did not. The increase in the

frequency of CAM usage with age may be explained by the fact that they are in a more difficult-to-treat group such as advanced stage bone tumor in the adolescent age group.

In the literature, similar to our study, the reasons for the use of CAM by the patient/parent are varied; to try all possible methods for treatment, to improve the general condition of the child, to provide relief, to strengthen the immune system, to do everything against the disease and psychological support for reasons such as the use of cancer treatment, other than to use conventional drugs, to reduce the side effects of treatment (9,13,16,18,19,20,22–28).

Prayer and nutritional supplements have been reported as the most commonly used methods in the United States and homeopathy in Germany (23,26). It was also found that homeopathy was the most commonly used method in the Netherlands, vitamins in Finland, herbs and vitamins in Canada (24). When CAM methods used are evaluated in studies conducted in Turkey, herbal products were found to be frequently used in Ankara (14) (nettle, plant essences and anzer honey), Ercurum (15), İzmir (16), Bursa (17) (honey, nettle, herbal teas, grape molasses), and herbal products and massage in Samsun (18). It is seen in the literature that massage, homeopathy and energy therapies are preferred more frequently than in our country, especially in developed countries (11–15,21).

In our study, it was found that all the parents who participated in the survey prayed for their children's disease. Prayer is the second and third place among CAM methods in studies conducted abroad (10,12). In a study conducted by Martel et al. among pediatric oncology patients in Canada, spirital/mental therapy (cleric, relaxation, imagination) was found to be the first with 35% (27,28). In a study conducted by (28) Yeh et al. in 2000y on 63 pediatric oncology patients in Taiwan, food was the first CAM method with 48%, while shamanism/worship in the temple was the second (40%). In previous studies conducted in Turkey, prayer was found to have a ratio of 40.8% in the study by Karadeniz et al. (14) and 18.8% by Gözüml et al. (15). It may also be related to the survey asking technique; that is, patients may have perceived prayer as a routine of life and they refer to prayer during a challenging situation, and see it as a part of daily life, rather than CAM method.

In a study conducted by Gomez-Martinez et al (21). with 110 pediatric oncology patients in Mexico, 79% of parents found use of CAM useful. In a study conducted by June and Anne (29) with 44 children oncology patients in Canada, 80% of the parents were found

to be satisfied with the CAM technique used. In the study performed by Karadeniz et al. (14), 36.7% of the patients felt good after CAM use, 36.7% did not benefit and 4% stated that they had side effects (14). In our study, nearly half of the patients using CAM thought that the method was effective. When the patients were asked what this effect was, close half of the patients stated that their complaints decreased, and the most decreased complaints were fatigue/malaise. In our study, the satisfaction of patients/parents with CAM use was lower than the studies conducted abroad, but it was similar to the study in Ankara (14).

In the study conducted by Gözüml et al., the most frequent source of information for CAM was found to be friends and relatives (79.1%) (15). In the study conducted by Karadeniz et al., it was found that the most common information was obtained from relatives (40.8%), followed by friends (22.4%) and other patients (12.3%) (14). In the study of Gomez-Martinez et al., relatives (44%), friends (32%) and other families with cancer (12%) were found to be the most common sources of information (21). In the study conducted by Molassiotis and Cubbin in the UK, media (69.4%), health personnel (66.7%) and friends (40%) were found as sources of information on CAM use (22). In our study, it was found that the most common sources that the patients/parents were informed about CAM were friends' advice, internet and another patient or relative using CAM methods.

In the study of Gözüml et al., it was found that the rate of CAM use was higher in patients who were diagnosed with cancer for a long time than those who were diagnosed with short-term diagnosis (15). Karadeniz et al. reported that patients were more likely to use CAM during chemotherapy (14). In the study conducted by Grootenhuis et al., it was found that the use of CAM was higher in families with children during relapse compared to those in remission (30). In our study, when the patients were compared according to their clinical course and treatment, no difference was found between chemotherapy, radiotherapy and surgery. However, when the frequency of CAM was evaluated according to the stage of the disease, it was found to be higher in advanced stage/metastatic compared to early stage/local disease and this result is consistent with the literature. This finding may suggest that in patients with advanced cancer, families need more CAM to treat the disease, relieve cancer-related symptoms, and reduce treatment-related side effects. At the same time, with the advanced phase, it is thought that all the facilities of modern medicine have been exhausted and the tendency to use CAM as a last resort may have increased.

CONCLUSION

All of the patients participating in the study reported that they prayed for the recovery of the disease. When prayer is excluded, it was found that one fourth of the patients participating in the survey used at least one CAM method. It was found that patients using CAM mostly used bio-based treatments such as honey, bee pollen/milk and molasses, medicinal herbal teas. Approximately 40 percent of patients using CAM have consulted their doctor about the method they use. When the reason for use of CAM patients was questioned, it was found that they most often used it to strengthen the immune system and support the treatment. Almost half of the patients using the CAM method stated that their complaints decreased and that the most frequently decreased complaints were fatigue/fatigue, unhappiness/malaise.

In the light of the findings, the use of CAM method in all patients admitted to the pediatric oncology outpatient clinic should be questioned in detail. Patients should be informed and warned that CAM methods should never prevent the medical treatment and should not be used instead of medical treatment, that they should share it with their doctors when they want to use any method.

Potential drug interactions and potential harm associated with concomitant treatment should be known and families should be warned. In addition, the integration of some useful traditional methods into our modern treatment systems should be determined by scientific studies and their limits should be determined with evidence-based methods.

ETHICAL DECLARATIONS

Ethics Committee Approval: The study was carried out with the permission of Clinical Researches Ethics Committee of Ankara University, Faculty of Medicine (Date: 23.03.2015, Decision No: 05-210-15).

Informed Consent: Because the study was designed retrospectively, no written informed consent form was obtained from patients.

Referee Evaluation Process: Externally peer-reviewed.

Conflict of Interest Statement: The authors have no conflicts of interest to declare.

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