

The use of complementary and alternative medicine (CAM) therapies by Turkish women with gynecological cancer

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Summary

Purpose: To evaluate the prevalence and patterns of complementary and alternative medicine (CAM) utilization among Turkish women with gynecological cancer

Methods: In this cross-sectional study, a total of 156 patients treated between December 2002 and March 2005 at the Ministry of Health Aegean Obstetrics and Gynecology Teaching Hospital, Department of Gynecologic Oncology were evaluated. Data regarding CAM use were obtained from patients by means of face-to-face interviews.

Results: Sixty women (38.5%) had used CAM having been diagnosed with cancer; herbal medicine was the most common. The age, income, educational level, cancer site, FIGO stage, previous CAM usage, and time since patients were diagnosed with cancer were associated with CAM usage. The most (40%) commonly cited reason for CAM use was to boost the immune system. Although only 8.3% of CAM users received CAM information from health care professionals or CAM practitioners, this group of patients was more likely to discuss their CAM use with physicians.

Conclusion: Our data suggest that physicians should increase their knowledge of CAM therapies and ask cancer patients about previous CAM history.

Key words: Complementary and alternative medicine; Gynecologic cancers; Turkish women.

Introduction

In the last two decades, complementary and alternative medicine (CAM) has become increasingly popular among patients with many life-threatening diseases. However, there are substantial socio-cultural, ethnic, and geographic variations with respect to the characteristics of CAM use [1-7]. It is reported that women and cancer patients are more likely to use CAM than other groups [4, 8]. In general, an average of half of cancer patients have reported at least one type of CAM therapy [1, 9, 10].

Recently, CAM has developed into a multibillion-dollar industry in the United States (US), according to the JAMA article by Eisenberg *et al.* [8]. The American Cancer Society (ACS), the National Institutes of Health (NIH), and the American College of Obstetricians and Gynecologists (ACOG) have tried to ascertain CAM use and develop education strategies to increase knowledge of integrating CAM therapy into practice [11-13]. Today, many prospective randomized controlled studies are also continuing with regard to CAM therapies, especially herbal medicine [14-16].

Gynecological cancers are the third most common malignancies diagnosed among women according to the US data in 2005 [17]. In spite of the fact that there are a substantial number of reports regarding CAM use by gynecological cancer patients in the scientific literature [18-24], most of them have 'an editorial comment', 'a letter to editor' or 'a literature review' study design [20-

24]. The objective of this was to evaluate the prevalence and patterns of the use of CAM therapy among Turkish women with gynecological cancer.

Material and Methods

Study population

The study was conducted at the Ministry of Health Aegean Obstetrics and Gynecology Teaching Hospital Department of Gynecologic Oncology, which is a tertiary referral center. The Institutional Review Board (IRB) approved the study.

After detailed information about the study nature was given, informed consent of all participants was taken. All participants were also assured that their explanations with regard to CAM use would not affect their future care and would not be used for other purposes than scientific researches.

We came into contact with a total of 301 patients who were treated between December 2002 and March 2005 in our center. All of them had histological evidence of gynecological cancer including ovarian, endometrial, cervical, and vulvar cancers. Of these, 215 accepted to participate to study. Patients with life expectancy less than six months and brain metastases were excluded. Women who had been newly diagnosed with cancer within the previous three weeks were also excluded. Consequently, the final material of the study included 156 gynecological cancer patients.

Data collection

To describe the CAM categories, we modified The National Institutes of Health National Center for Complementary and Alternative Medicine (NCCAM) classification [12]. Our classification includes: herbal medicine (including green tea, aloe vera, *Urtica dioica*, *Rhizoma zingiberis*, and *Folium lauri*),

nutritional supplements (including megavitamins, anti-oxidants, ginseng, shark cartilage, and honey), soft physical exercise (including walking, dancing, and jogging), mind-body control techniques (including meditation, yoga, hypnotherapy, and psychotherapy), massage therapy, acupuncture, and other CAMs (including personal occupations, spiritual healing, praying, and imaging).

The face-to-face interviews to obtain data regarding patient demographic, disease-related, and CAM-related characteristics were carried out by two trained obstetrics and gynecology assistants. Information gathered included age at diagnosis, marital status, educational level, type of cancer, the International Federation of Gynecology and Obstetrics (FIGO) stage of disease (Stage I, II, III, IV, and recurrent disease), standard treatment options (surgery, chemotherapy, and radiation therapy), presence of CAM use, type of CAM use, reason for CAM use, information source about CAM therapy, and communication about CAM use with physicians. Some patients would have more than one reason to use particular CAM therapy and would have obtained information about particular CAM use from multiple sources. Therefore, when a patient reported a particular CAM therapy use, she was asked to provide the one primary information source about CAM therapy and one primary reason for CAM use.

Statistical evaluation

All data management and statistical analyses were carried out using the pocket program of the Statistical Program for Social Sciences (SPSS) version 11.0 for Windows. We classified study participants as either CAM users or CAM nonusers according to whether or not they received at least one CAM therapy in the previous six months. Fisher's exact test, Pearson's chi-square test, and the unpaired Student's test were used in statistical calculations. A 5% significance level was used for statistical tests and $p < 0.05$ was accepted as statistically significant.

Results

Mean age was 49.4 ± 3.9 (range 34-63) in users and 57.3 ± 3.7 (range 41-69) in non-users ($p < 0.001$). In addition to this, educational level, income, previous CAM usage, primary site of cancer, and time after cancer diagnosis were found to be associated with using CAM therapy. Table 1 shows the characteristics of users and non-users of CAM therapy.

A total of 60 patients (38.5%) were using at least one CAM therapy method, and a total of 71 CAM usages were detected in 60 users. Herbal medicine was the CAM type most preferred by CAM users (35/71), with *Urtica dioica* being the most preferred herb by the herbal medicine users (Table 2). Figure 1 shows the type and prevalence of CAM therapies used by Turkish gynecological cancer patients.

Forty percent of all the reasons given for using all CAM products was to boost the immune system. The second most common reason was to treat cancer (25%). Table 3 shows the primary reasons for CAM therapy.

An estimate of the frequency distribution for the most common primary information sources revealed that the most common primary information source was the media (TV, magazines, newspaper) or internet (70%) and the least common information source was health profession-

Table 1. — Characteristics of users and non-users of complementary and alternative medicine therapy.

	Non-users (n = 96)	Users* (n = 60)	p value
Age (year, mean \pm SD)	57.3 ± 3.7 (range 34-63)	49.4 ± 3.9 (range 41-69)	< 0.001
Smoking status (% smoking)	19.8%	21.7%	0.84
Marital status (% married or living with partner)	85.4%	83.3%	0.49
Educational level (years of education, mean \pm SD)	6.2 ± 2.7	10.3 ± 2.7	< 0.001
Body mass index (kg/m ² , mean \pm SD)	24.8 ± 2.9	25.2 ± 2.7	0.41
Annual family income (\$, mean \pm SD)	6364 ± 1168	11785 ± 4479	< 0.001
Used CAM before cancer diagnose (% used)	4.2%	26.7%	< 0.001
Cancer site (n, %)			0.001
Ovary	26 (27.1%)	36 (37.5%)	
Cervix	36 (37.5%)	19 (31.7%)	
Endometrium	32 (33.3%)	6 (10.0%)	
Vulva	2 (2.1%)	1 (1.6%)	
FIGO stage of cancer (n, %)			< 0.001
Stage I	21 (21.9%)	5 (8.3%)	
Stage II	50 (52.1%)	9 (15%)	
Stage III	14 (14.6%)	28 (46.7%)	
Stage IV	10 (10.4%)	16 (26.7%)	
Recurrent disease	1 (1%)	2 (3.3%)	
Type of treatment (n, %)			0.99
Surgery+CT	34 (35.4%)	22 (36.7%)	
Surgery+CT+RT	25 (26%)	14 (23.3%)	
Surgery+RT	16 (16.7%)	9 (15%)	
Surgery alone	9 (9.4%)	7 (11.7%)	
CT+RT	7 (7.3%)	5 (8.3%)	
RT alone	5 (5.2%)	3 (5%)	
Time since diagnosis of cancer (month, mean \pm SD)	13.1 ± 4.1	21.4 ± 6.3	< 0.001

CT: Chemotherapy; RT: Radiotherapy; *: Of these, 37 (61.7%) were currently receiving chemotherapy and/or radiotherapy.

Table 2. — Distribution of herbal supplements among the 35 users.

	No.	%
<i>Urtica dioica</i>	24	68.6%
Green tea	5	14.3%
Aloe vera	3	8.6%
Rhizome zingiberis	2	5.7%
<i>Folium lauri</i>	1	2.8%

Table 3. — Primary reason for complementary and alternative medicine therapy.

	No.	%
Enhancing immune system	24	40%
Directly to fight (cure) cancer with CAM	15	25%
Preventing metastasis or progression of disease	11	18.3%
Improve physical or emotional well-being*	6	10%
Counteract ill effects from the conventional treatments	4	6.7%

*: including pain relief.

als in conventional settings (3.3%, which included physicians, nurses, pharmacists, and other healthcare workers). Table 4 shows primary information sources.

Table 4. — Information sources of CAM users about CAM therapies.

	N	%
The media or internet	42	70%
Family members or friends	13	21.7%
Practitioners of CAM	3	5%
Healthcare providers*	2	3.3%

*: including herbalists and acupuncturists.

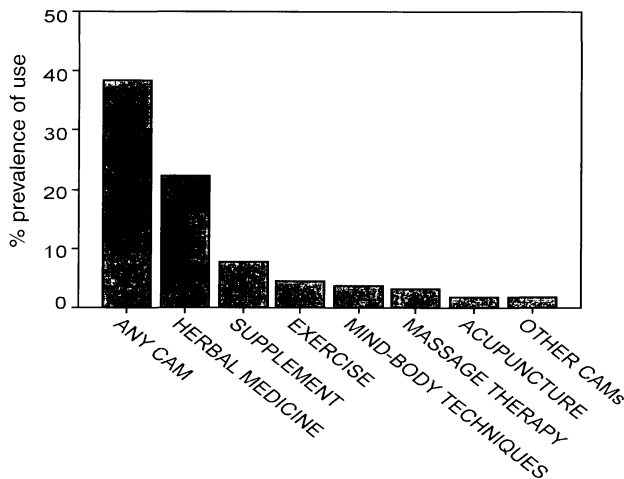


Figure 1. — Type and prevalence of CAM therapies used by the patients.

This study found that a high proportion of CAM users (71.7%) did not discuss their CAM use with their physicians. Among age ($p = 0.85$), educational level ($p = 0.82$), family income ($p = 0.88$), time since cancer diagnosis ($p = 0.15$), use of CAM before cancer ($p = 0.40$), type of CAM ($p = 0.57$), type of previously received conventional treatment modality ($p = 0.33$), presence of currently receiving medical treatment for cancer ($p = 0.74$), and information source about CAM ($p = 0.001$), only the information source about CAM was associated with discussing use with physicians. Patients with information sources of healthcare providers and CAM practitioners were more likely to discuss their CAM use with their physicians, despite patients having other information sources.

Discussion

To the best of our knowledge, this is the first study that has evaluated the characteristics of CAM use and provided much needed information on the prevalence and patterns of CAM utilization among Turkish women with gynecologic cancer. However, this study has some limitations. Firstly, the study employed a cross-sectional design, and therefore the relationships described are not necessarily causal. Secondly, our study did not evaluate CAM use with respect to the cost-effectiveness, and dose did not reveal the effect of CAM use on patients' survival. Finally, we studied a relatively small number of patients

with only female reproductive cancers at a single institution. Further, our study population may not accurately represent our clinic population because 86 women with gynecologic cancer did not participate in the study. Information on nonparticipants would have been useful for assessing a possible bias, since individuals who are more inclined to use CAM may be more likely to participate. Despite these restrictions, the opportunity to use face-to-face interviews by two trained assistants that possibly increased the accuracy of collected information afforded important data on the prevalence and pattern of CAM use in Turkish gynecologic cancer patients.

The prevalence of CAM use among adult cancer patients has varied substantially worldwide, with a reported frequency of use of at least one CAM therapy ranging from 7% to 98% [2, 25-27]. This ranges from 38% to 61% for the Turkish cancer population [28-30]; and in general, most of our findings are similar to the results of other research carried out on the subject in Turkey. However, we evaluated only gynecological cancer patients whereas these two studies analyzed patients who had different types of cancers. Swisher *et al.* reported that nearly half (49.6%) of US patients with gynecologic cancer have used CAM since being diagnosed with cancer [18]. In another published US study of 161 gynecologic oncology patients in a Midwest clinic, it was noted that 66% of patients used CAM [19].

The most frequently cited CAM therapy in this study was herbal treatment (49.3%). This is higher than the 23% reported by Swisher *et al.* [18] and the 28% reported by Von Gruenigen *et al.* for gynecologic cancer patients in the US [19]. Interestingly, despite the scientific literature published by the US, European countries or Far East countries, our study as well as two previous studies carried out with the Turkish cancer population [28, 30] showed that *Urtica dioica* was the most commonly used herb. Although there is no adequate clinical or experimental experience with this herb in gynecologic cancer patients, its *in vitro* antiproliferative effect on human prostate cancer cells has been shown [31]. It has also been reported that *Urtica dioica* has an immunostimulatory activity as a result of its effect of increasing chemotaxis and intracellular killing activity of neutrophils [32]. Clearly, further research is needed to evaluate the therapeutic effect of *Urtica dioica* on human cancers.

The correlates of CAM use included younger age, better income, higher educational level, cancer site of ovarian origin vs others, patients with advanced stage disease, use of CAM prior to cancer diagnosis, and passing of time after being diagnosed with cancer. The observed relationships with age [2, 25, 27, 29, 33, 34], income [2, 8, 18], educational status [2, 8, 29, 33-36], cancer origin [18], disease stage [2], and CAM usage prior to developing cancer [18] are consistent with observations in the literature. Since previous CAM usage strongly predicts the use of CAM, we believe that cancer patients should be routinely asked for their CAM history.

The most reported primary reason for CAM use among

cancer patients is immune modulation [36, 37]. However, it seems to vary according to CAM modality and from population to population; it is reported that patients who are older, patients who have taken herbal medicine, and patients from the Far East countries are more likely to have the primary reason of 'curing cancer' [2, 36]. In our study, CAM use was most frequently reported for the purpose of boosting the immune system. Relatively fewer women (25%) mentioned that their primary reason for CAM use was to treat cancer. In fact, there is no randomized controlled clinical or experimental study on how to improve immunologic parameters and decrease total body tumor burden due to any CAM modality including herbal treatment. However, even if CAM use does not cure cancer or boost the immune system, it may have other health benefits such as coping with adverse outcomes of allopathic treatments and increasing quality of life. Further studies are needed to examine whether CAM use can improve patients' quality of life and survival rate.

We found that the vast majority of CAM users (71.7%) reported that they did not disclose their CAM use to their allopathic physician. This is higher than the 60.7% level among a group of US gynecological cancer patients [19]. This level of lack of communication is also higher than reported in most papers in the literature, including another study of Turkish cancer patients [9, 10, 28, 33, 38]. Only very few (8.3%) women had received CAM information from medical personnel or CAM practitioners. However, this group was more likely to discuss their CAM usage with their physicians. In addition, in contrast to our results, Shen *et al.* reported that patients receiving herbal medicine or other ingested products were more likely to discuss their CAM use with their physicians [36] and Von Gruenigen *et al.* reported that while patients were receiving medical therapy they were more likely to discuss the use of CAM therapies with their physicians [19]. Since patients' CAM information from healthcare providers is the best predictor of discussing CAM use with a physician, we recommend that all cancer patients should be encouraged to get information regarding CAM use for cancer from medical doctors, including oncologists. Therefore, as a healthcare provider, physicians need to become more knowledgeable and comfortable with CAM options and ask patients on a regular basis.

Researchers have tried to explore the potential harmful effects as well as the potential benefits of CAM therapies. Most ingested products do not have a licensed manufacturer and have not yet been approved by the US Food and Drug Administration. Therefore, physicians should be aware that all CAM modalities, especially supplements, may cause toxicity and can have interactions with the multiple conventional medications [39-44]. For instance, St John's Wort, a weak monoamine oxidase (MAO), activates the cytochrome P450 system and therefore may interact with steroid hormones, antibiotics, and chemotherapeutic agents [45]. Some supplements, e.g. high dose vitamin C, may cause severe perioperative bleeding and liver toxicity [44]. Additionally, antioxi-

dants may theoretically reduce the effectiveness of chemotherapy and radiation therapy by lowering oxidative damage. However, evidence supporting this mechanism is controversial in vitro and in vivo [46, 47]. In our study, a substantial number of patients were using Urtica dioica which has both powerful antioxidant activity [48] and potential renal toxicity [49].

In conclusion, our study shows that nearly 40% of Turkish gynecologic cancer patients have used CAM, especially herbal medicine. Associations between the use of CAM and age, education, family income, tumor site and stage, and time since the diagnosis of cancer were observed. In spite of a relatively high prevalence of CAM use, the vast majority of CAM users have not discussed their CAM use with their physicians. Since previous CAM usage strongly predicts the use of CAM, we believe that at the time of diagnosis and at every visit cancer patients should be routinely asked about their CAM history. Additionally, given the high prevalence of CAM use among cancer patients, further comprehensive research is necessary to determine the value of CAM use in patients' healthcare, survival and quality of life, and to evaluate the safety of CAM use, especially ingested products such as herbs.

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