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ORIGINAL ARTICLE

# Trends in use of and attitudes held towards alternative and complementary Medicine among patients treated in a Department of Medical Oncology in Serbia. A several-years-apart time survey study

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## Summary

***Purpose:*** *To determine the prevalence of concurrent use and attitude towards complementary and alternative medicine (CAM) by patients undergoing conventional therapy with anticancer agents at the National Cancer Center of Serbia (IORS).*

***Methods:*** *The study sample comprised 300 subjects undergoing chemotherapy at the Medical Oncology Department of IORS. For the purposes of this research we constructed a special questionnaire with clearly defined questions. The research was carried out in 1993, in 2000 and in 2008.*

***Results:*** *The percentage of patients who used CAM was over 50% in all 3 time periods. In 1993 and in 2000, 10% of the patients stated that their treating physicians were the ones who suggested using CAM, whereas this percentage rose to 30% in the 2008 survey (p<0.001). Most of the patients used CAM after recommendation by their family members or close friends. Patients believed that CAM would strengthen their immunity (this finding remained almost the same in all time periods, i.e. approximately 65%). Up to one third of CAM users believed that CAM will cure their malignant disease, whereas most of the patients expected better effects of the standard treatment if aided by CAM (p=0.012). The monthly expenditure for CAM was approximately €100.*

***Conclusion:*** *The results of this study may help oncologists to recognize features of CAM methods and understand why patients use them. Timely patient information about the disease and the treatment options will increase confidence in conventional therapies.*

***Key words:*** *alternative therapy, chemotherapy, complementary medicine*

## Introduction

Apart from receiving conventional treatments, patients suffering from various diseases often make use of alternative methods and preparations whose effect is unknown. It is considered that more than 50% of European patients suffering from malignant diseases undergo some kind of CAM. It is stated that the main reason for using CAM is to boost the immune system [1-6].

CAM has been defined by Eisenberg et al. [7] as medical interventions that are not taught widely in Medical Schools or generally avialable in hospitals. Determining the prevalence of the use of specific products and therapies is usefull for oncology specialists to register useful information of CAM sources, and to improve the overall management of patient care.

The widespread use of CAM is an international phenomenon. The prevalance of CAM use is estimated at 25% among residents of the United Kingdom, 50% among German, French, and Australian populations, and 42-69% among residents of the United States [7-11].

Most cancer patients combine CAM with conventional therapy. The typical CAM user in the United States is reported to be white, better educated, 30-50 years of age [12-14]. In 1993, it has been reported that metabolic, dietary, and

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megavitamin approaches, imagery and electronic treatments were the most popular CAM approaches [13].

Most of the oncologists are becoming increasingly aware that their patients use CAM, yet few of them discuss these therapies with patients. Instead, the established medical community is demanding regulation and evaluation of CAM. Some groups [12,14] insist that CAM poses serious health risks and cite poor outcomes for patients who even reject proven conventional cancer treatment for CAM approaches.

In this survey, we registered the use of CAM during three-time periods (between 1993 and 2008) in Serbian patients receiving chemotherapy.

## Methods

A representative sample (N=100) of all inpatients receiving chemotherapy at the Department of Medical Oncology of IORS were invited to participate in each structured interview. The patients were told that the information would be documented anonymously and used confidentially. More than 95% of the patients invited consented orally to participate in the study. During the interviews, the interviewer completed a 13-item questionnaire which asked for socio-demographic information, age, gender, education level, knowledge of diagnosis, use or thoughts about using of CAM, self-assessment of CAM effect and out-of-pocket expenditures for CAM (Table 1). In addition, patients were asked to declare from where they obtained information and ad-

**Table 1.** Application of complementary and alternative medicine in cancer patients

| | | |
|---|---|---|
| Age: _____ | Gender: _____ | Place of residence<br>• Urban<br>• Rural |
| Type of cancer: _____ | Education:<br>• primary school<br>• secondary school<br>• university degree | Date of diagnosis: _____ |
| **1. Have you ever utilized any alternative therapies to treat your cancer?** | | Yes No |
| **2. Alternative therapies you have used by advice of :** | | · MD<br>· CAM Practitioner<br>· Family/friends<br>· Personal attitude<br>· Other |
| **3. The reasons for using alternative medicine:** | | · Increased chances for being cured<br>· Improvement of immunity<br>· Lifetime prolongation<br>· Recovery from the disease |
| **4. The type and use of complementary and alternative medicine (CAM):** | | · Blackberry<br>· Herbal /vitamins<br>· Mushrooms<br>· Dietary/Macrobiotics<br>· Acupuncture<br>· Radiesthesia<br>· Aloe vera<br>· Beetroot<br>· Shark<br>· Special diets<br>· Psychotherapy<br>· Mind-body therapy<br>· Other supplements |
| **5. From whom you've purchased CAM products:** | | · Pharmacy<br>· CAM producer<br>· Abroad<br>· Miscellaneous |
| **6. What are your expectations from complementary and alternative medicine:** | | · Healing<br>· No effect |
| **7. Specify your reason of stop using complementary and alternative medicine:** | | · No effect<br>· Side effects<br>· Lack of money<br>· Physician's suggestions<br>· Other |

vice to use CAM. The interviewer asked patients about their general attitude towards CAM, about their expectations of using CAM and the reason of stop using CAM, if they did so.

The survey was performed during spring time in 1993, 2000 and 2008.

*Statistics*

For normal distribution data testing, the Kolmogorov–Smirnov and Shapiro-Wilk tests were used. Descriptive methods of statistical analysis (frequencies, percentage, mean and range) were used to summarize the data. Statistical significance was set at $p<0.05$. Chi-square test was used to test the between group differences.

## Results

Patient characteristics are shown in Table 2. The average age of patients participating in the survey were similar in 1993, 2000 and 2008. Sex and diagnoses were evenly distributed (data not shown). It is interesting that the percentage of CAM users among patients with university degree increased from 20% in 1993 to 33% in 2008. Educated patients used CAM more frequently compared to patients with elementary education.

**Table 2.** Patient socio-demographic characteristics

| *Characteristics* | *Year* | | | |
|---|---|---|---|---|
| | *1993* | *2000* | *2008* | |
| *N* | *100* | *100* | *100* | *p-value* |
| Age (years) | | | | |
| Mean | 52 | 56 | 54 | |
| Range | 20-73 | 24-70 | 19-82 | |
| Education (CAM users, %) | | | | |
| Primary school | 27 | 22 | 20 | p=0.101 |
| Secondary school | 54 | 57 | 46 | |
| University degree | 19 | 21 | 33 | |

Patters of CAM use are shown in Table 3. Overall, almost 60% of the patients had used at least one

**Table 3.** CAM usage by cancer patients

| *Year* | *1993* | | *2000* | | *2008* | | *p-value* |
|---|---|---|---|---|---|---|---|
| | *N* | *%* | *N* | *%* | *N* | *%* | |
| Use of CAM | 56 | (100%) | 59 | (100%) | 58 | (100%) | |
| Advised from | | | | | | | |
| Physician | 5 | 9 | 6 | 10 | 17 | 30 | p<0.001 |
| CAM practitioner | 11 | 20 | 9 | 15 | 6 | 11 | |
| Family/friends | 25 | 45 | 40 | 68 | 15 | 26 | |
| Personal attitude | 14 | 25 | 4 | 7 | 10 | 18 | |
| Other | 1 | 1 | 0 | 0 | 10 | 16 | |
| Reasons of using CAM | | | | | | | |
| Therapy of underlying disease | 12 | 22 | 19 | 33 | 22 | 38 | p=0.012 |
| Immunity | 36 | 64 | 39 | 66 | 36 | 62 | |
| Symptom control | 5 | 9 | 1 | 1 | - | - | |
| Other | 3 | 5 | - | - | - | - | |
| Type of CAM | | | | | | | |
| Herbal/vitamins | 33 | 59 | 38 | 64 | 29 | 50 | p=0.001 |
| Mushrooms | 10 | 18 | 5 | 9 | 9 | 15 | |
| Dietary/macrobiotics | 2 | 4 | 2 | 4 | 2 | 4 | |
| Accupuncture | 2 | 4 | 1 | 2 | 2 | 4 | |
| Radiesthesia | 3 | 5 | 4 | 6 | 1 | 2 | |
| Miscellaneous | 6 | 10 | 9 | 15 | 3 | 6 | |
| Other | 0 | 0 | 0 | 0 | 12 | 19 | |
| Source of CAM products | | | | | | | |
| Pharmacy | 22 | 39 | 17 | 28 | 13 | 22 | p<0.001 |
| CAM practitioner | 20 | 36 | 12 | 21 | 35 | 60 | |
| Abroad | 6 | 11 | 7 | 12 | 5 | 9 | |
| Miscellaneous | 8 | 14 | 23 | 39 | 5 | 9 | |
| Expectation from CAM | | | | | | | |
| Healing | 10 | 18 | 20 | 34 | 54 | 93 | p<0.001 |
| No effect | 46 | 82 | 39 | 66 | 4 | 7 | |
| Reason of stop using CAM | | | | | | | |
| No effect | 16 | 29 | 17 | 29 | 13 | 23 | p=0.031 |
| Side effects | 4 | 7 | 2 | 4 | 9 | 15 | |
| Lack of money | 8 | 14 | 17 | 29 | 13 | 23 | |
| Suggestion by physicians | 16 | 29 | 8 | 14 | 5 | 8 | |
| Other | 12 | 21 | 14 | 24 | 18 | 31 | |

$x^2$ test was used to test the between group differences

CAM therapy. The percentage of patients using CAM remained stable during the observed time periods.

Most commonly, CAM users were advised to use these products and therapies from their family members and close friends (Table 3). An increasing number of patients were advised to use CAM from their physicians (p<0.001).

The main reason of using CAM was to boost the immune system (approximately 2/3 in all surveys). The majority of CAM users thought that using CAM they would improve the effect of antineoplastic therapy. In addition, 1/5 of the patients believed that using CAM they would cure their malignant disease (Table 3).

Only one third of the patients were willing to discuss out-of-pocket expenditures per month for CAM. The average out-of-pocket expenditure between was 90 € per patient per month in 1993 and 100 € in 2008.

## Discussion

The prevalence of CAM users in our survey (near 60%) is similar to large studies in other countries. A summary of 26 surveys across 13 countries concluded that the prevalence of CAM use by cancer patients was 31.4% (range 7-64) [13]. In the United States, between 1993 and 1997, the prevalence of CAM use increased from 33.8 to 42.1%, and the number of visits to CAM practitioners increased from 427 to 629 million [10]. There are reports on steady increase in the prevalence of CAM among general population and among cancer patients [2,7,10,14]. The reasons for this increase might be the shortage of conventional cancer treatment, public interest in natural or holistic therapies, aggressive advertising and dissemination of CAM usage information through media and the Internet, simplicity of labeling regulation etc. In general, the reasons for CAM usage are related to the social and cultural levels. Use of biological CAM therapies, particularly vitamins and herbal remedies, were the most frequently reported in several studies [15-19].

Cancer patients believe that access to CAM should be part of standard cancer treatment. As cancer incidence increases and survival time lengthens, the population seeking information about and access to CAM will likely increase [20,21].

Most of our patients (65%) expected CAM to boost their immune system, and this is similar with the repotrs by Boon et al. (63%) [9], and Richarson et al. (71%) [8]. A significant proportion of patients using CAM expected CAM therapies to cure their disease, a finding which has been reported in other studies [8,14,15,21]. In the survey of outpatients attending clinics at the University of Texas M.D.Anderson Cancer Center, 37.5% of patients expected cure from CAM therapies [8]. Our survey confirms the data from Australia, claryfying that the independent predictor for CAM use is, among others, tertiary education [22].

An increasing number of physicians recommend the use of CAM, however, family and friends remained the most frequent advisors to patients [2,14,23]. Low life standards, bad economic situation, advertisement and poor control of governmental institutions are some of the reasons why doctors recommend CAM methods. There is some evidence to suggest that the patient-doctor communication about using CAM was associated with an enhanced patient-doctor relationship [24]. About 50% of patients do not tell their doctor that they have been using alternative medications [15,16]. Approximately 20% of cancer patients in Turkey used complementary interventions and this frequency was lower than expected. Consequently, physicians should encourage patients who use complementary interventions to reveal this information [25]. Our research has shown that patients would be happy to have an earnest conversation with their doctors about CAM use (the frequency was 50-60% in all three time periods).

Data from Iran have shown that 35% of cancer patients use CAM, mostly in the form of prayers and spiritual experiences. The main reason for using CAM is fear of disease relapse and discontent with doctors and the proposed conventional treatment [1].

The severity of the disease (recurrence and dissemination) and awareness about diagnosis are the most important factors connected with the use of CAM. In Turkey 42% of patients use at least one CAM method, most of them with progressive disease [2]. Psychological factors associated with CAM use in patients with advanced cancer included higher anxiety and depression [3,6], decreased subjective well-being [6], decreased emotional and social well-being and quality of life [16,18] and higher awareness of their prognosis or impending death [18].

Lack of efficacy is the main reason for stopping CAM; 10% of users stop using CAM due to side effects, and a minority were advised to stop by their physicians.

## Conclusion

Periodic surveys are important to monitor

population-wide of CAM use. The number patients using CAM remained stable during the observed time periods. The data from the questionnaire are a good tool for medical experts to understand why patients are using CAM and to form an opinion about this issue. Recognizing features of CAM methods and understanding why patients want them is an important task for the experts. Timely information about the disease and its odds for cure or increased survival will increase confidence in conventional therapies and will contribute to improving and preserving patients' health. The health care systems ought to implement clear strategies on how to deal with alternative therapies [15]. Comparison across Balkan countries by standardized approaches to data collection could be our next activity.

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