

# The Use of Complementary and Alternative Medicine in Patients With Common Variable Immunodeficiency

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## ■ Abstract

*Objectives:* Complementary and alternative medicine (CAM) usage is a reality in patients with chronic diseases, but there are no data on CAM usage in immunodeficiency diseases necessitating intravenous immunoglobulin (IVIG) therapy. The aim of this study was to investigate the rate of CAM usage in patients with common variable immunodeficiency (CVID).

*Methods:* Forty-three patients (29 boys and 14 girls) with CVID and receiving IVIG every 3 weeks were included. Data were collected through a questionnaire completed by the parents. Those using treatments other than their medical therapies that were defined as CAM by the National Center for Complementary and Alternative Medicine were classified as CAM users.

*Results:* The mean (SD) age at diagnosis was 7.56 (9.44) years (range, 6 months to 44 years) and the mean IVIG treatment duration was 6.02 (3.84) years (range, 1 to 20 years). Thirty-six (83.7%) of the 43 patients analyzed had used at least 1 CAM approach. The most common modalities were herbal medicines (65.1%), dietary supplements (62.8%), vitamins (46.5%), and religion (34.9%). Only 11% of those interviewed had informed their doctor that they were using CAM. The most common reason for CAM usage was the desire to improve body resistance. Eighteen parents (50%) claimed that their children had benefited from CAM.

*Conclusion:* Our findings reveal that there is a remarkably high tendency to use CAM in patients with CVID. Although no side effects were reported by the families, potential drug interactions should be considered.

**Key words:** Complementary and alternative medicine. Common variable immunodeficiency. Immunodeficiency.

## ■ Resumen

*Objetivos:* El uso de la medicina complementaria y alternativa (MCA) es una realidad en pacientes con enfermedades crónicas, si bien no se dispone de datos sobre el uso de la MCA en enfermedades de inmunodeficiencia que requieren tratamiento con inmunoglobulina intravenosa (IGIV). El objetivo de este estudio fue investigar la frecuencia de uso de la MCA en pacientes con inmunodeficiencia común variable (IDCV).

*Métodos:* Se incluyó a 43 pacientes (29 niños y 14 niñas) con IDCV que recibían IGIV cada 3 semanas. Los datos se obtuvieron a través de un cuestionario cumplimentado por los padres. Los pacientes que, aparte de su tratamiento médico, utilizaban otros tratamientos definidos como MCA por el Centro Nacional de Medicina Complementaria y Alternativa estadounidense se clasificaron como usuarios de MCA.

*Resultados:* La media (DE) de edad en el momento del diagnóstico fue de 7,56 (9,44) años (intervalo: de 6 meses a 44 años) y la duración media del tratamiento con IGIV fue de 6,02 (3,84) años (intervalo: de 1 a 20 años). Treinta y seis (83,7%) de los 43 pacientes analizados habían utilizado al menos 1 método de MCA. Las modalidades más frecuentes fueron la fitoterapia (65,1%), los complementos alimenticios (62,8%), las vitaminas (46,5%) y la religión (34,9%). Solo el 11% de los entrevistados había informado a su médico del uso de la MCA. El motivo más frecuente del uso de la MCA era el deseo de mejorar la resistencia corporal. Dieciocho padres (50%) afirmaron que sus hijos habían obtenido beneficio de la MCA.

*Conclusión:* Los resultados revelan que existe una tendencia muy marcada al uso de la MCA en pacientes con IDCV. Aunque las familias no notificaron efectos secundarios, deben tenerse en cuenta las posibles interacciones farmacológicas.

**Palabras clave:** Medicina complementaria y alternativa. Inmunodeficiencia común variable. Inmunodeficiencia.

## Introduction

Complementary and alternative medicines (CAMs) are defined by the World Health Organization as “a broad set of health care practices that are not part of the country’s own tradition and are not integrated into the dominant healthcare system” [1]. According to the National Center for Complementary and Alternative Medicine (NCCAM) at the National Institutes for Health, there are 5 major types of CAM: alternative medical systems (eg, homeopathy or traditional Chinese medicine), mind-body medicine (eg, meditation, prayer, and creative activities such as dance, art, and music), biologically-based therapies (eg, herbal medicines and dietary supplements), manipulative and body-based methods (eg, chiropractic medicine and massage), and energy therapies (eg, qi gong, Reiki, and healing touch) [2]. The eagerness of families to try everything available to cure the health of sick relatives plays an important role in the decision to use CAM as a treatment modality [3].

Rapid advances in the diagnosis and treatment of adult and childhood illnesses have been accompanied by an increase in CAM usage [4]. The rate of CAM usage in childhood diseases has been reported to range widely from 9% to 70% [5-9]. To our knowledge, most studies on CAM usage in Turkey have involved adult and pediatric patients with cancer, and they have clearly shown a steady increase in CAM usage [10-15]. CAM usage among patients with immune deficiencies, however, has not been studied to date. The aim of this study was to determine the types, tendency, and contributing factors of CAM usage in patients with common variable immune deficiency (CVID).

## Methods

Forty-three patients (29 boys [67.4%] and 14 girls [32.6%]) with a diagnosis of humoral immune deficiency attending outpatient pediatric immunology clinics and receiving intravenous immunoglobulin (IVIG) therapy between January and September 2008 were included. The patients had all been diagnosed with CVID and were receiving IVIG at 400 mg/kg every 3 weeks. The patients fulfilled the CVID classification criteria established in the WHO scientific group report [16]. The diagnostic criteria were hypogammaglobulinemia, a defect in antibody production, and the exclusion of other immune deficiencies.

First, 1 or both parents were informed about CAM and the aim of the present study. Those using any treatment defined as CAM by the NCCAM were classified as CAM users. Data were collected through a questionnaire completed by the same researcher via face-to-face interviews with the patients’ parents. The questionnaire included questions on sociodemographic data (eg, age, sex of patient, parents’ occupation, monthly income, and educational level of families), information about CVID (eg, diagnosis, age at diagnosis, history of immune deficiency in family members, and treatments received), use of CAM and the types of CAM used, the reason(s) for CAM usage, age at which CAM was started, expected benefits and side effects of CAM usage, and notification of CAM usage to medical doctors. Written informed consent was obtained from

all parents and the study was approved by the ethics committee at Uludag University.

Statistical analyses were performed using SPSS for Windows, version 16.0. Categorical variables were expressed as means and SDs and minimum-maximum values, and compared between groups using  $\chi^2$  analysis.  $P < .005$  was regarded as statistically significant.

## Results

Forty-three patients completed the study. The median age at diagnosis was 12.3 years (range, 6 months to 44 years) and the mean (SD) IVIG treatment duration was 6.02 (3.84) years (median duration, 6.5 years; range 1-20 years). CAM usage was categorized according to the major types of CAM and the form of usage (Table 1). The most common category was biologically-based therapies, which included herbal products, dietary supplements, and vitamins (used by 33 patients [76.7%] at least once).

Thirty-six patients (83.7%) had used at least 1 CAM approach. The most frequently used method was herbal medicines (28/43 [65.1%] patients). Twenty-seven patients (62.8%) used dietary supplements (Table 2), 20 (46.5%) used vitamin tablets, and 15 (34.9%) used religious methods such as prayer. Ten patients sought help from other institutions besides health centers. Of these, 4 went to herb sellers, 3 to a tomb, 2 to a prayer leader, and 1 to a bioenergy center.

The mean duration of CAM usage was 19.9 (26.9) months (range, 1-20 months). CAM was started immediately after diagnosis in 5 cases (14%), before IVIG therapy in 18 cases (50%), and after IVIG therapy in 13 cases (36%).

Table 1. Distribution of CAM Usage According to Major CAM Groups and Forms of CAM Usage

	No. of Patients	% of Patients <sup>b</sup>
• CAM groups <sup>a</sup>		
Alternative medical systems	0	0
Mind-body interventions	15	41.6
Biologically-based therapies	33	91.6
Manipulative and body-based methods	0	0
Energy therapies	1	2.8
• Forms of CAM usage		
Mind-body interventions only	2	5.6
Biologically-based therapies only	23	63.9
Mind-body interventions plus biologically-based therapies	10	27.7
Mind-body intervention plus biologically-based therapy plus energy therapy	1	2.8

Abbreviation: CAM, complementary and alternative medicines.

<sup>a</sup>Some patients used more than 1 approach.

<sup>b</sup>Percentages are given according to 36 patients receiving CAM.

Table 2. Distribution of Herbal and Nonherbal Products used as CAM Therapy

Herbal products	No. of Patients	% of Patients
Stinging nettle ( <i>Urtica dioica</i> )	14	50.0
Herbal tea	11	39.2
<i>Rosa canina</i>	7	25.0
<i>Zingibar officinale</i> (ginger)	7	25.0
<i>Aloe vera</i>	6	21.4
<i>Nigella sativa</i>	4	14.2
Artichoke ( <i>Cynara scolymus</i> )	1	3.5
<i>Echinacea purpurea</i>	1	3.5
<i>Rosmarinus officinalis</i>	1	3.5
Nonherbal dietary products		
Honey	12	44.4
Bee milk	7	25.9
Grape molasses	5	18.5
Shark cartilage	2	7.4
Shark liver	1	3.7
Kephir	1	3.7
Bee pollen	1	3.7
Grape concentrate	1	3.7

Abbreviation: CAM, complementary and alternative medicines.

The parents of only 4 of the 36 patients who had used CAM (11%) had informed their doctor. The most common reason given for CAM usage was to improve body resistance. Eighteen patients (50%) were reported to have benefited from CAM usage. The most common benefit, declared in 27 cases (75%), was an improvement in body resistance, followed by a decrease in the frequency of infectious episodes per year (16 patients, 44.4%). An improvement in appetite and general wellness was reported for 8 patients (22.2%). No adverse effects were reported. All patients received regular IVIG therapy during the study period, and none quit this therapy during CAM therapy. There was no correlation between CAM therapy and educational level of the parents, socioeconomic status, or income per month ( $P > .05$ ).

## Discussion

Studies on CAM usage in adult and pediatric patients have mostly analyzed chronic diseases such as asthma, attention deficit and hyperactivity syndrome, autism, cancer, rheumatoid arthritis, inflammatory bowel diseases, and cerebral palsy [17-24]. To the best of our knowledge, our study is the first to analyze the use of CAM among patients with primary immune deficiency.

We found that 83.7% of patients analyzed had used at least 1 CAM approach. This is higher than the rates reported by other studies on CAM usage in children with other chronic diseases. Loman et al [25], for example, reported a rate of 33% for children followed in primary care centers in the United States over a year and this increased to 49% when all the childhood period was considered. In a study by Lim et al [26], 51% of inpatient and outpatient pediatric patients had used at least 1 CAM approach. This rate is similar to that reported by Madsen et al [8] in Denmark. Samdump et al [27], in contrast, found that CAM was used in 23% of 194

Canadian children with different chronic diseases. Studies on CAM usage in Turkey are limited. In a questionnaire-based study, Ozturk et al [28] reported that the rate of CAM usage among 600 patients attending outpatient clinics in 3 different hospitals was 56.5%. Methodological variations, differences in standard definitions of CAM approaches, and problems associated with measurements may explain the considerable variations in the rates reported. Social and cultural features of different countries, together with level of development and types and adequacy of health services, as well as personal characteristics, may also influence the tendency to consider CAM usage in conjunction with medical therapies.

Several studies have reported that mothers with a higher educational status use CAM for their children more frequently than those with a lesser educational status [5,28,29]. Lim et al [26] also found a higher rate of CAM usage among families with a higher socioeconomic status, but Pitetti et al [7] found that the sociodemographic features of families and children had no influence on CAM usage. We did not detect any significant associations between CAM usage and socioeconomic status in our study but this might be because approximately 70% of the families analyzed had a monthly income of less than 1000 TL (approximately 650 USD).

The most common CAM approach in our study was the use of herbal medicines, with the herbal agents of choice identified as stinging nettle (*Urtica dioica*) and herbal teas; these findings are in agreement with reports from other studies performed in Turkey and elsewhere [2,10-12,14, 25, 30,31].

The use of nonherbal dietary supplements may vary regionally. For example, Karadeniz et al [31] revealed that a honey specific to the Anzer region in the Black Sea (a very high plateau region) and believed to be very useful by many people was widely used among patients with chronic diseases [31]. Similarly, fish oil and *Echinacea purpurea* have been found to be frequently used in Ireland [32]. In our study, the most common dietary supplements used were honey, bee milk, and grape molasses.

Since most families in Turkey have strong religious beliefs and are very familiar with praying among family members and relatives for the cure of diseases, we did not consider praying to be a CAM system. Approaches such as bioenergy, homeopathy, naturopathy, Ayurveda, and Chinese medicine are very rare in our country and unfamiliar to most families. In western countries, most families are familiar with CAM thanks to the Internet and reports in the media [33]. The situation was completely different in our study, as most of the families reported that they had heard about CAM from close relatives, neighbors, or friends.

The main reason given for CAM usage was the desire to improve body resistance. Some of the parents reported that they wished to do everything in their power to cure their children and to relax them morally and spiritually, while others stated that they used CAM only because of pressure from close relatives.

The proportion of patients who informed their medical doctor about CAM usage in our study was remarkably lower than that found in other studies [5,7,8,2,28]. None of the families stopped medical treatment during CAM usage, indicating that they all considered these approaches to be complementary rather than alternative medicine. This might explain why they did not feel it necessary to inform their doctors.

In conclusion, families with relatives with chronic disease

frequently consider CAM usage in conjunction with medical therapies, even though they trust their doctors. Most families consider these approaches to be harmless because they mainly involve the use of natural products. They are also eager to do everything possible for their loved ones. These are the 2 main reasons for frequent CAM usage in patients with chronic disease. Medical doctors should always discuss CAM usage with their patients in order to protect them from potential harm.

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