

Use of alternative medicines by allergic patients in Turkey*

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ABSTRACT

Background: Although complementary and alternative medicines are frequently used in Turkey, no studies with large series have yet been published.

Objective: Our aim was to determine the prevalences of the use of various types of complementary and alternative medicines in patients with asthma, seasonal allergic rhinitis (SAR) and chronic urticaria (CU) and the relationship between the use of these substances and patients' social, economic and demographic characteristics.

Methods: All patients completed a questionnaire about the use of complementary and alternative medicines, including herbal products, animal products, acupuncture, yoga, massage therapies, Turkish-baths, speleotherapy, and psychoreligious methods for curing their diseases.

Results: The overall use of complementary and alternative medicines was 38 %. The most common alternative therapy treatment was herbal therapy (30.5 %). The prevalence of the use of these therapies was higher in asthmatics than in patients with SAR and CU. In all patients, variables associated with the use of these therapies were older age and having asthma. Among asthmatics, the use of these therapies within the previous 12 months was higher in pa-

tients with hospitalization and acute attacks than in those without hospitalization or acute attacks. In this group important covariates in the use of complementary and alternative medicines were older age and severe disease. Approximately half of the patients and 41.2 % of asthmatics discontinued pharmacological therapy during alternative treatment or had not yet started it.

Conclusion: Because of the high prevalence of the use of complementary and alternative medicines and the tendency to discontinue drug therapy during these treatments, patients should be educated about the importance of pharmacological therapies.

Key words: Asthma. Seasonal allergic rhinitis. Chronic urticaria. Complementary and alternative medicine.

RESUMEN

Contexto: A pesar de que las medicinas complementarias y alternativas (MCA) se emplean con frecuencia en Turquía, hasta el momento no existen muchos estudios publicados.

Objetivo: Nuestro propósito era determinar la prevalencia de los diferentes métodos de MCA en pacientes con asma, rinitis alérgica estacional (RAE) y urticaria crónica (UC), así como su relación con las características sociales, económicas y demográficas de los pacientes.

Métodos: Todos los pacientes rellenaron un cuestionario sobre el uso de las MCA para la curación de sus enfermedades, en el que se contemplaban productos vegetales y animales, acupuntura, yoga, ma-

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saje terapéutico, baños turcos, espeleoterapia y métodos psicorreligiosos.

Resultados: El total del uso de MCA resultó ser del 38 %. Los productos vegetales eran el método de tratamiento alternativo más habitual (30,5 %). La prevalencia del uso de MCA era mayor en los asmáticos que en los pacientes de RAE y UC. La edad avanzada y el asma estaban asociadas con el uso de MCA en todos los pacientes. En los asmáticos, el uso de MCA en los últimos 12 meses resultó superior en los pacientes que pasaron por una hospitalización o un ataque agudo que en los que no pasaron por esas situaciones. La edad avanzada y las enfermedades graves eran covariantes importantes del uso de MCA en este grupo. Aproximadamente la mitad de los pacientes y el 41,2 % de los asmáticos habían dejado sus terapias farmacológicas durante el tratamiento alternativo, o bien utilizaban las MCA sin haber iniciado ninguna terapia farmacológica.

Conclusión: Teniendo en cuenta la elevada prevalencia del uso de las MCA y la tendencia de los pacientes a interrumpir su terapia farmacológica durante esos tratamientos, es necesario educar a los pacientes sobre la importancia de las terapias farmacológicas.

Palabras clave: Asma. Rinitis alérgica estacional. Urticaria crónica. Medicina complementaria y alternativa.

INTRODUCTION

Complementary and alternative medicines (CAMs) have been using for decades in the management of the diseases. Despite all recent developments of pharmacological therapies, the use of CAMs is surprisingly increasing. In the USA, 40 % of general population is using CAMs and the prevalence is even higher in chronic diseases than in normal population¹. Allergic diseases including asthma, allergic rhinitis (AR) and urticaria are common chronic conditions and in spite of understanding of basic mechanisms of these diseases, their prevalences have been increasing worldwide². Among them, use of CAMs seems to be common in asthma^{1,3}. One study reported that CAMs are being used by 60 % of moderate asthmatics and by 70 % of severe asthmatics³. However, the use of CAMs in seasonal allergic rhinitis (SAR) and chronic urticaria (CU) has been the subject of few studies and the results were limited to the effects of certain natural products on therapies of these diseases^{4,5}.

CAMs consist of a large variety of therapies including herbalism, acupuncture, vitamins, yoga, massage therapy, speleotherapy and psycho-religious (prayer) methods. CAMs have a worldwide usage and their use varies among cultures according to beliefs, religions, life styles and probably specific herbs grown in a certain geographical area. As a country with traditional life-style, CAMs are expected to be used widely in Turkey. However the use of CAMs for allergic diseases has not been examined in any study except one published as letter to editor. The study was only focused on a small group of asthmatic patients and 45 % of the subjects had a history of CAMs⁶.

In this study, we aimed to determine the prevalences of the use of different types of CAMs use among patients with asthma, SAR and CU and their relations with social, economical and demographic characteristics of patients.

METHODS

Patient selection

The study was conducted in our tertiary care clinic located in Ankara, the capital of Turkey, between May 2001 and December 2001. The study population included patients from both Ankara and other regions of Turkey. Participants included residents of both the inner city and small towns. Adult patients examined in our outpatient department were randomly recruited to the study. Patients were divided into three groups according to the diagnosis which were asthma with or without rhinosinusitis, SAR and CU. Asthma was diagnosed clinically by the presence of recurrent symptoms of wheezing, shortness of breath, cough, and demonstration of objective signs of reversible airway obstruction as stated by a recent guideline⁷. SAR was diagnosed according to the recent consensus report⁸. CU was diagnosed by the appearance of pruritic, erythematous, cutaneous elevations blanching with pressure lasting at least 6 weeks. Patients whose diseases were diagnosed by a physician for at least one year were selected for the study. Asthmatic patients were graded for the severity of asthma on a scale of 1 to 5 according to Aas symptom score as defined in a previous study⁹.

Atopy diagnosis

Atopy was defined as the positive skin prick test response to common aeroallergens (a wheal size ≥ 3 mm); *Dermatophagoides pteronyssinus*, *D.*

farinae, a mixture of grasses pollens, a mixture of weeds pollens, a mixture of trees pollens, a mixture of cereal pollens, a mixture of molds and animal epithelia (cat and dog) (Stallergenes SA, Pasteur, France). Histamine phosphate was used as positive control and serum physiologic as negative control.

Questionnaire

Patients completed a questionnaire which was specifically designed for the study about the use of CAMs including herbal products, animal products, acupuncture, yoga, massage therapies, Turkish-baths, speleotherapy and psycho-religious methods for cure of their diseases. All subjects were also asked about monthly family income, education level, if they are coming from rural or urban area, acute attack and hospitalization during the last 12 months (for asthmatics only) and their opinions regarding the effects of CAMs as useful or not and their compliance to pharmacological therapy when they were taking alternative medicines. Patients were divided into two groups as compliant and noncompliant considering the overall compliance to pharmacological therapy which was determined on clinical grounds according to follow up documents and patients' statements.

Statistical analysis

Results are expressed as mean \pm SD (standart deviation). Between the groups comparisons were done by Mann-Whitney-U test, chi-square test, Spearman correlation matrix, student t-test for unpaired data when appropriate. We considered a p value less than 0.05 as significant. Multiple logistic regression analysis was used to detect the significance of potential risks of covariates on the use of CAMs.

RESULTS

All patients

A total of 400 patients (98 male, 302 female, mean age 39.6 ± 12.6) were enrolled in the study. Asthmatic patients were predominant (75 %) in the study group.

Baseline characteristics of patients in each group and covariates of potential causes of CAMs use are shown in table I. The overall use of CAMs was 38 % (152 patients). There was no gender difference with regard to the use of CAMs (39.8 % versus 37.4 %; $\chi^2 = 0.06$, $p > 0.05$). Nonatopic patients showed sig-

nificantly higher prevalence of the CAMs use than atopic patients (46.1 % versus 32.3 %; $\chi^2 = 7.7$, $p < 0.01$). The prevalence of CAMs use was significantly higher in the asthmatics than in SAR ($\chi^2 = 11.9$, $p < 0.001$) and in CU ($\chi^2 = 3.1$, $p = 0.07$) patients.

Monthly family income was lower in the asthmatics than both in SAR ($p < 0.0001$) and in CU ($p < 0.0001$) patients. Patients were divided into two groups according to their educational level as less or higher than college level. Numbers of asthmatic patients below college education were higher than SAR ($\chi^2 = 41.9$, $p < 0.0001$) and CU ($\chi^2 = 10.3$, $p < 0.005$) patients.

Mean age (43.4 ± 12.1 years vs 37.3 ± 12.3 years, $p < 0.0001$) and duration of disease (11.3 ± 8.9 years vs 8.9 ± 7.7 years, $p < 0.05$) were higher in those patients with use of CAMs than the patients with no use of CAMs. The number of patients who use CAMs were higher in the patients with education level of under college than those with education level above college (43.7 % versus 33.5 %, $p < 0.05$). Mean monthly family income was not different between the patients with the use of CAMs and with no use of CAMs ($442.2 \pm 376.9 \times 10^3$ Turkish Liras (TL) versus $506.5 \pm 413.2 \times 10^3$ TL, $p > 0.05$).

Taking into account of the covariates in table I in a multiple logistic regression analysis, older age (OR = 1.03, 95 % Confidence Interval (CI) = 1.01-1.05, $p = 0.006$) and having asthma as compared to SAR (OR: 1.86, 95 % CI = 0.96-3.63, $p = 0.06$) were ass-

Table I
Demographic characteristics and the prevalence of the use of CAMs in each patients' group

	Asthma	SAR	CU	Total
n (%)	300 (75 %)	70 (17.5 %)	30 (7.5 %)	400
Sex (male/female)	64/236	26/44	10/20	98/302
Age (year)	42.4 ± 12.3^a	29.8 ± 9.2	34.8 ± 8.1	39.6 ± 12.6
Atopy (%)	152 (38 %)	70 (100 %)	13 (43.3 %)	235 (58.8 %)
Duration of disease (year)	10.7 ± 8.5^b	6.9 ± 5.2	7.2 ± 9.4	9.8 ± 8.2
Use of CAMs (n/%)	129 (43 %) ^c	15 (21.4 %)	8 (26.7 %)	152 (38 %)
Monthly family income in TL.10 ⁶ (median)	300	500	550	400
Education \geq college	140 (46.7 %)	61 (87.1 %)	23 (76.7 %)	224 (56 %)

SAR, Seasonal allergic rhinitis; CU, Chronic urticaria; n, number; CAMs, complementary and alternative medicines; TL, Turkish Lira.

^aSignificantly higher than both SAR ($p < 0.0001$) and CU ($p < 0.001$) patients.

^bSignificantly longer duration of disease than SAR ($p < 0.001$) and CU patients ($p < 0.05$).

^cSignificantly higher than SAR ($p < 0.01$) and mildly higher than CU patients ($p = 0.07$).

Table II
Prevalence of the use of CAMs in each group.

CAMs type	Asthma (n = 300)	SAR (n = 70)	CU (n = 30)	Total (n = 400)
Herbal teas and foods	103 (34.3 %)	15 (21.4 %)	4 (13.3 %)	122 (30.5 %)
Speleotherapy	23 (7.6 %)	–	–	23 (5.8 %)
Quails' egg	16 (5.3 %)	–	–	16 (4.0 %)
Psycho-religious	1 (0.3 %)	–	4 (13.3 %)	5 (1.3 %)
Massage	5 (1.6 %)	1 (1.4 %)	–	6 (1.5 %)
Acupuncture	3 (1 %)	–	–	3 (0.8 %)
Turkish-baths	2 (0.6 %)	–	–	2 (0.5 %)
Yoga	1 (0.3 %)	–	–	1 (0.3 %)
Honey ^a	19 (6.3 %)	2 (13.3 %)	–	21 (5.3 %)

^a Alone or occasionally mixed with herbal teas.

sociated with the use of CAMs in all patients. All other covariates; having education level of less than college (OR = 0.90, 95 % CI = 0.55-1.45, $p > 0.05$), monthly family income (OR = 0.99, 95 % CI = 0.99-1.00, $p > 0.05$), duration of disease (OR = 1.00, 95 % CI = 0.99-1.04, $p > 0.05$) and being nonatopic (OR = 1.10, 95 % CI = 1.0-1.5, $p > 0.05$) were not associated significantly on the use of CAMs.

Reported prevalence of different kinds of CAMs are summarized in table II. Herbal products were the most popular alternative treatment method in each group (table III). Asthmatic patients reported a variety of CAMs although SAR and CU patients tried limited types of CAMs.

The patients were asked whether their symptoms showed improvement or not during use of CAMs. Reported overall prevalence of this subjective sense of improvement by these patients was 42 %. All the patients were asked about their general opinion on usefulness of CAMs. Use of CAMs was higher in

Table III
**Percentages of herbal teas in all herbs used
(total 122 patients)**

Type of herbal product	Prevalence (%)
Linden tea	25.2
Thyme	23.8
Stinging-nettle	16.4
Mixed herbal teas (unknown)	11.5
Rosehip	10.7
Garden sage	9.8
Ginger	7.4
Mint tea	5.7
Camomil	4.1

those patients who believe in usefulness of CAMs than those patients who do not believe (72 % vs 28.3 %; $\chi^2 = 58.9$, $p < 0.0001$).

61 % of the patients were evaluated as compliant with the follow up visits and therapies. There was no difference in regard to the use of CAMs between compliant and noncompliant patients (43.2 % vs 33.3 %; $\chi^2 = 4.5$, $p > 0.05$).

70 (46 %) of the patients who used alternative therapy reported either to cease their pharmacological therapies or to start CAMs as a first step of treatment at that moment.

323 patients were coming from urban and 77 patients were from rural areas of Turkey. However the use of CAMs was not different between those patients (45.5 % vs 36.2 %; $\chi^2 = 2.2$, $p > 0.05$).

Patients reported that they heard about the use of CAMs from friends-relatives (137 patients) and communication devices such as newspaper or television (15 patients).

Asthmatic patients

When we considered the asthmatics as a predominant group, 26.2 % (79 patients) of the patients reported the use of CAMs within the previous 12 months. Mean age (45.5 ± 11.5 years vs 39.9 ± 12.5 years, $p < 0.0001$) and duration of disease (12.1 ± 9.2 years vs 9.6 ± 7.9 years, $p < 0.05$) were higher in those patients with use of CAMs than the patients with no use of CAMs. Use of CAMs was not different in the patients with education level of under college than those with education level above college (45.0 % versus 40.3 %, $p > 0.05$). No significant difference was found with respect to mean monthly family income between the patients with the use of CAMs and with no use of CAMs ($393.8 \pm 327.0 \times 10^3$ Turkish Liras (TL) versus $449.0 \pm 418.0 \times 10^3$ TL, $p > 0.05$). The use of CAMs within the previous one year was higher in those patients with hospitalization (54.2 % vs 39.5 %) and acute attack (51.6 % vs 36.6 %) than those without hospitalization or acute attack during the last year ($p < 0.01$).

When we took into consideration of possible risk factors on the use of CAMs in the asthmatics older age (OR: 1.03, 95 % CI = 1.01-1.05, $p < 0.05$) and severity of disease (OR: 2.02, 95CI = 1.86-2.60, $p < 0.05$) were important covariates on the use of CAMs, although acute attack (OR = 1.38, 95 % CI = 0.74-2.56, $p > 0.05$) and hospitalization (OR = 0.93, 95 % CI = 0.45-1.93, $p > 0.05$) during previous one year were not important factors on lifetime use of CAMs. The duration of asthma (OR = 1.0, 95 % CI = 0.5-4.4, $p = 0.08$) had a mild effect on the use of CAMs.

41.2 % (54 patients) of patients who were in CAMs used group reported that they gave up their pharmacological therapy or had not started yet at the time of CAMs use. One hundred-ten (36.7 %) of asthmatics were evaluated as non compliant to the prescribed pharmacologic therapies according to clinical follow up visits in our clinic. There was no difference on the use of CAMs between noncompliant and compliant patients (38.2 % vs 47.8 %; $\chi^2 = 2.6$, $p > 0.05$).

DISCUSSION

The present study showed the prevalence of the use of CAMs and its covariates in Turkish allergic patients. The overall prevalence of CAMs was 38 %. Asthmatic patients showed higher prevalence of CAMs than that of SAR and CU patients. Among the covariates determined in this study increasing age and having asthma were associated with the increased use of CAMs.

CAMs have been used for centuries mostly in China, Japan and other Asian countries. Turkey, located in Asia minor, lying between Asia and Europe, probably was effected by both Eastern and Western cultures. As a result, Turkish people have been using a wide spectrum of CAMs including, herbs, speleotherapy, acupuncture, yoga, massage, some foods such as quails' egg and honey and other authentic methods such as Turkish baths that are believed as effective.

There is a whole spectrum of complementary treatments worldwide. Among these therapies, mostly self-treatments by the patients themselves, herbalism, acupuncture, homeopathy, yoga and speleotherapy are reported to be frequent in the asthmatics¹.

Studies showed that the prevalence of the CAMs use in asthmatics varies from 8 % to 60-70 %^{3,10}. Similar to these results 43 % of our asthmatic patients had used CAMs^{6,11}. All study group showed high prevalence of the use of herbal products which had a whole spectrum of herbs.

Among them, linden, thyme, stinging nettle, mixed herbal teas, rosehip and garden sage were the most popular herbs. This high ratio of herbs use could be related to the natural ubiquitousity, relative cheap sales and beliefs of effectiveness. Herbal medicines are also reported to be used commonly by asthmatic and allergic patients in other countries although their clinical value is uncertain^{3,12}. In a review about herbal medicines for asthma no definitive evidence for any of herbal medications emerged¹³. Herbal remedies offer some nonspecific mucoregulatory, antitusive and bronchospasmodic effects

which are inferior to antiasthmatic drugs. Herbs such as thyme, rose hip, linden and ginger which are used by our patients known as mostly mucoregulatory effects. Our SAR patients also preferred herbal products as CAMs methods.

The present study showed that some methods were preferred by certain group of patients. For example, speleotherapy, quails' egg, acupuncture and yoga were used mainly by asthmatic patients. But psycoreligious (prayers) therapy was only tried by CU patients. The use of a group of CAMs such as Turkish-baths, quails' egg and honey which has not been reported before suggests that cultural features may have an effect on preference of different CAMs. In keeping with that, studies demonstrated that the use of CAMs varies between cultures according to general beliefs, religions, geographical characteristics which may effect the growth of special types of plants. Herbal teas are used mostly in Asian countries whereas prayers come into priority in South America¹⁴. Speleotherapy, a special kind of climatotherapy, is based on the principle that the microclimate of the caves can beneficially affect the respiratory diseases¹⁵. This form of therapy is used mainly by asthmatics in the countries of Balkans and in our study only asthmatics reported the use of speleotherapy. There are some caves in certain parts of Turkey which are believed to improve respiratory diseases particularly asthma. In addition, acupuncture and yoga are used frequently in Western countries, however only a few of our asthmatics tried these methods.

Our study also showed that not only cultural, religious and geographical differences but also diagnosis of the patients effect the use of CAMs. Among all patients, asthmatics showed higher prevalence of the use of CAMs. We believe that, chronicity and frustrating features of the disease make them seek various ways to get free of the symptoms. Supporting this opinion severity of disease significantly associated with the use of CAMs.

Beside having asthma, age was the most important factor which affected the use of CAMs in study patients. However, the number of patients with the use of CAMs were higher in the patients with long duration of the disease and lower education level although they were not significantly determining factors on the use of CAMs. Monthly family income was not different between the groups with use of CAMs and with no use of CAMs. Contrary to our data, Eisenberg et al reported that higher income values were associated with the use of CAMs in the asthmatic patients¹⁶.

The estimates for the use of CAMs are more limited for subjects with AR and CU than those with

asthma. According to our knowledge there is no data about the use of CAMs in the patients with AR and CU in Turkey. In our study, patients with AR showed the similar tendency to asthma patients by using herbal products as the main alternative treatment method. On the other hand, psycho-religious methods were almost only used by CU patients. We found that half of the patients with CU that used alternative treatment tried psycho-religious remedies such as prayers. This may be related to the general belief of effectiveness of prayers for some dermatological diseases such as urticaria and psoriasis which may be effected by stress factors. The effectiveness of this type of application on the psychological status of the patient may have a role in the improvement of some types of idiopathic urticarias.

Complementary treatments, especially herbal products are generally accepted as safe but serious conditions may occur with herbs^{17,18}. They may induce allergic and toxic reactions, some CAMs such as acupuncture may cause trauma of vital tissue¹⁷⁻¹⁹. Many patients started to use of these products by hearing from friends-relatives (137 patients) and communicating devices such as newspaper or television (15 patients) without estimating the side effects. Some herbal preparations could be contaminated with pollens and may have adverse effects on pollen sensitive patients. Some herbs cause smooth muscle contraction or platelet dysfunction etc.^{20,21}. The association of hospitalization with asthma attacks and the use of herbal products has been reported previously¹⁰. Therefore patients and physicians must be aware of such side effects of these products. Although we did not systematically evaluated side effects of CAMs, anecdotally 3 of our asthmatic patients reported worsening of their symptoms and one reported an abortion during pregnancy after drinking an unknown mixed herbal tea.

In summary, it is obvious that the majority of our allergic patients mainly asthmatics use some forms of CAMs and nearly half of them stop taking prescribed medications during this period. In the light of this data; physicians dealing with these patients should ask and discuss this issue not only to provide more appropriate treatment for their patients but also to protect them from adverse effects of these therapies.

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