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**The Knowledge, Attitude and
Behaviors of Adults towards
Alternative Medicine:
A Study in Turkey**

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Abstract

Complementary and alternative medicine (CAM) has become an attractive and a popular issue between academicians and researchers in the last decades. CAM is mostly used by individuals to support or to substitute the medical treatment. The studies from different disciplines have shown that the CAM use is expanding all over the world but the prevalence and the types of its use still remain unclear. A descriptive study was conducted using a questionnaire as the data collection technique to describe the CAM use. The questionnaire was created by evaluating the recent studies in the literature and the expert views in the field. The objective of this study is to evaluate CAM use among the adults living in Ankara and to identify the Socio-demographic factors that are associated with CAM use. Considering the constraints, the scope of this study was limited with the adults living in the central provinces of Ankara. Stratified and simple random sampling method was used to determine the sampling number. Frequency distributions and Chi-square test were used to analyse the collected data. 2.256 adults from nine central provinces completed the questionnaires. Herbalism and vitamin supplement are the most popular and commonly used alternative medicine methods. Most people had used alternative medicine to improve their health, eliminate the side effects of modern treatments or decrease the symptoms of chronic diseases such as cold and waist/back pain or problems.

Key words: Complementary and alternative medicine, health, adults, Ankara, treatment

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Introduction

The use of complementary and alternative medicine (CAM) has risen sharply in last two decades, and has excited much research and great interest in the general public. Lifetime prevalence of CAM use has been increasing since 1950s, with yearly prevalence rates increasing moderately or holding steady from the late 1980s to 2002. Levels and patterns of use, however, are difficult to estimate because of a lack of consensus on the definition and measurement of CAM. Consequently, the variability in definitions, classifications and measurements introduce thorny problems in fully documenting the prevalence levels, social group differentials, and use patterns of CAM therapies.¹

National Center for Complementary and Alternative Medicine (NCCAM) defines Complementary and alternative medicine (CAM) as a group of diverse medical and health care systems, practices, and products that are not generally considered part of conventional medicine. Conventional medicine (also called Western or allopathic medicine) is medicine as practiced by holders of M.D. (medical doctor) and D.O. (doctor of osteopathic medicine) degrees and by allied health professionals, such as physical therapists, psychologists, and registered nurses. The boundaries between CAM and conventional medicine are not absolute, and specific CAM practices may, over time, become widely accepted.² Complementary medicine is typically used together with conventional medicine, whereas alternative medicine is used in place of conventional medicine. CAM practices are not part of conventional medicine because there is insufficient proof that they are safe and effective.³ They refer to a broad set of health care practices that are not part of that country's own tradition and are not integrated into the dominant health care system.⁴

There are five categories of CAM: alternative medical systems (Ayurveda, naturopathy, homeopathy, acupuncture, Chinese/Oriental medicine), biologically-based therapies (vitamins, herbs, special diets), mind-body therapies (meditation, biofeedback, hypnosis, imagery, prayer), energy healing (Reiki, electromagnetic-based therapies), and manipulative and body-based therapies (chiropractic, massage).^{2,3,5}

CAM appears to be increasing in public popularity and is gaining credibility within biomedical health research. During the last two decades, conventional views about health care have been subjected to increasing criticism with one

¹ Fennell, D., A.S.Q. Liberato, B. Zsembik (2009). 'Definitions and patterns of CAM use by the lay public'. *Complementary Therapies in Medicine*. 17:71-77. Available at doi:10.1016/j.ctim.2008.09.002. (14.05.2012)

² NCCAM: <http://nccam.nih.gov/health/whatisacam/> 2008. (12.05.2012)

³ Kraft, K (2009). 'Complementary/Alternative Medicine in the context of prevention of disease and maintenance of health'. *Preventive Medicine*. 49:88-92 Available at doi:10.1016/j.ypmed.2009.05.003. (14.05.2012)

⁴ WHO: <http://www.who.int/medicines/areas/traditional/definitions/en/index.html>. (12.05.2012)

⁵ Bystritsky, A., S. Hovav, C. Sherbourne, M.B.Stein, R.D. Rose, L. Campbell-Sills, D. Golinelli, G. Sullivan, M.G. Craske, P.P. Roy-Byrne (2012). 'Use of Complementary and Alternative Medicine in a Large Sample of Anxiety Patients'. *Psychosomatics*. 53:266-272

outcome being a growing interest in CAM.¹ The use of alternative medical systems may have been potentially driven by mistrust of current pharmacological agents as well as patients' possible belief that natural and herbal medicine is safer, and possibly more efficacious. Combined with increased awareness, changing health practices, fear of addiction to conventional medications, and possible dissatisfaction with conventional care, the prevalence of CAM has been increasing for decades both worldwide and in the United States (USA).² The CAM use in the USA has been increasing at a substantial rate over the past two decades from a total of 34% (427 million) to 42% (628 million), which was in excess of the 385 million visits to a primary care physician visits in both 1990 and 1997 combined. Because the costs of CAM are mostly paid out-of-pocket, the annual spending for CAM is approximately \$27 to \$34 billion, compared with \$29 billion in out-of-pocket expenditures for all other USA physician services.³ Barnes et al. (2002) reported in the conclusion of National Health Interview Survey (NHIS) applied to 31,044 individuals that if the religious practices are included 62% and if excluded 36% of the adults over 18 years in USA stated they had used CAM methods in the last 12 months. Most used methods were stated as to pray for the others (43%), to pray for himself/herself (24.4%), natural herbal products (18.9%), deep breathing exercise (11.6%), meditation (7.6%), yoga (5.1%), massage (5%) and diet supplement (3.5%).⁴ NHIS 2007 also included a comprehensive survey on the CAM with 23,373 individuals revealed that approximately 38.3% of the Americans use CAM methods. Most commonly used methods in the last 12 months, were natural products (17.7%), deep breathing exercise (12.7%), mediation (9.4%), massage (8.3%) and yoga (6.1%).⁵

In Turkey, as a result of a research by Tan et al. (2004), seventy percent (70%) of 714 participants reported the use of CAM. Herbs (41%) were the most frequently cited therapies. Although 87% of the subjects reported that they were satisfied with their use of CAM, the majority (84.8%) did not discuss the use of these therapies with their primary physicians.⁶ Araz et al. (2009), reported as a result of a survey of 988 adults in İzmir, 40,9% were grouped as

¹ Babar, MG. S.H. Syed, C.M. Naing, N.H.B. Hamzah (2012). 'Perceptions and self-use of Complementary and Alternative Medicine (CAM) among Malaysian dental students'. *European Journal of Integrative Medicine*. 4:63-69. Available at doi:10.1016/j.eujim.2011.11.001. (12.05.2012).

² Bystritsky et al., 2012: 267.

³ Mainardi, T., S. Kapoor, L. Bielory (2009). 'Complementary and alternative medicine: Herbs, phytochemicals and vitamins and their immunologic effects'. *Journal of Allergy&Clinical Immunology* 123(2):283-294. Available at doi:10.1016/j.jaci.2008.12.023 (12.04.2012).

⁴ Barnes, P. M., E. Powell-Griner, K. McFann, R.L. Nahin (2002). 'Complementary and Alternative Medicine Use Among Adults'. *Seminars in Integrative Medicine*. No.2, p.54-71. United States, 2002, Available at doi:10.1016/j.sigm.2004.07.003 (12.04.2012).

⁵ Barnes, P.M., B. Bloom, R.L. Nahin (2008). 'Complementary and alternative medicine use among adults and children: United States, 2007'. *National Health Statistic Report*. 2008 Dec 10;(12):1-23.

⁶ Tan M., O. Uzun, F. Akçay (2004). 'Trends in complementary and alternative medicine in eastern Turkey'. *J Altern Complement Med*. 10(5):861-5.

regular CAM users” ($n = 404$), 45,04% were grouped as “irregular CAM users” ($n = 445$) and 14,06% grouped as “non-users” ($n = 139$). Praying was the most frequently used CAM method (76%) among regular CAM users.¹ In a review by Kav et al. (2008:32) between 2001 and 2007 related to alternative medicine included 21 studies (total sample: 5,252) on the patients with cancer, prevalence of CAM use was found as 43.2% with a range of 22.1% to 84.1%. It was reported that the most used method was herbal mixtures (the most commonly “*urtica urens*”) and that the factors such as gender, disease duration or the advanced stage cancer, socio-economic level and educational level affect the use of alternative medicine.² Tengilimoğlu et al. (2011) found that 72 % of 1.500 participants living in Ankara reported CAM use. Of the participants, 88% had preferred herbal therapies/products, 26% massage and 24% diet supplement as a CAM method.³ In another study, information was requested from 129 midwives at family health centers in Samsun concerning their suggestions for CAM use for pregnant women. 58.9% of the midwives in this study had suggested CAM methods to pregnant women.⁴

Studies on attitudes towards CAM generally fall into two categories: studies looking at the attitudes, beliefs, expectations and preferences of medically trained professionals, CAM practitioners, inpatients or prospective patients and the studies on the actual efficacy and safety of particular treatments.⁵ As investigators and policy makers seek to understand the cause of the growing popularity of CAM, the view of CAM users must be taken into account. There has been minimal research to date with respect to the use of CAM by adults in large populations in Turkey. Most of the studies are applied to identify the prevalence, methods of CAM use by defined diseases such as HIV, cancer, etc., health staff or patient groups. However, it may be more important to consider the use of CAM in larger populations. The objective of this study was to determine the prevalence of CAM use in adults and to define their attitudes, behaviors and knowledge about CAM and reveal whether there are differences in terms of demographic and socio-cultural characteristics. By clarifying the current conditions related CAM; it was targeted to provide the needed data to

¹ Araz, A. H. Harlak, G. Meşe (2009) Factors related to regular use of complementary / alternative medicine in Turkey. *Complementary Therapies in Medicine* 17;(5–6): 309–315.

² Kav S., Z. Hanoğlu, L. Algier (2008). 'Use of Complementary and Alternative Medicine by Cancer Patients in Turkey: A Literature Review (Türkiye’de Kanserli Hastalarda Tamamlayıcı ve Alternatif Tedavi Yöntemlerinin Kullanımı: Literatür Taraması)'. *UHOD* 1(18): 32–38.

³ Tengilimoğlu, T., E. Hasanoğlu, A. Güzel, A. Atilla, P. Yılık (2011). 'Evaluation of the Knowledge, Attitude And Behaviors of the Individuals Living in Ankara Towards Alternative Medicine'. *World Conference on Financial Crisis and Impact-WCFC 2011*. 28.09-2.10 2011. Başkent Üniversitesi, Ankara, Türkiye.

⁴ Koc Z., S. Topatan, Z. Sağlam (2012). 'Use of and attitudes towards complementary and alternative medicine among midwives in Turkey'. *Eur J Obstet Gynecol Reprod Biol*. 160(2):131-6.

⁵ Chua, S. A., A. Furnham (2008). 'Attitudes and beliefs towards complementary and alternative medicine (CAM): A cross-cultural approach comparing Singapore and the United Kingdom'. *Complementary Therapies in Medicine* 16: 247-253. Available at doi:10.1016/j.ctim.2008.02.009 (12.04.2012).

the policy makers for pointing out the fact of CAM use and to contribute to the legislative works for achieving the regulations about CAM.

The Methodology

This study was designed as a descriptive research and the survey method was used to collect data. Previous researches in the literature were reviewed and derived benefit from experts' opinions to create the survey questions. A three-page questionnaire was designed to achieve the aims of the study. The questionnaire consisted of totally 24 questions with 8 questions for the demographics of the respondents and 16 questions to obtain the following information: the prevalence and type of CAM use by the adults, and their knowledge, behaviors and attitudes about alternative medicine. The questions asked were both open- and close ended. The questions were conducted to a large part of the sampling group by face to face interviews and via e-mail to those who have e-mail addresses. The questionnaire was pilot-tested for content, language clarity, ease of use, and time required filling out the questionnaire. Thus the omissions, errors and expressions that were difficult to be understood by the respondents were eliminated and the final shape was given to the questionnaire.

The survey population consisted of the individuals residing in Ankara. Stratified sampling and simple random sampling methods were used in the sample selection. According to the 2009 data of Turkish Statistical Institute, population of Ankara is 4,650,802 individuals a total of 2,332,169 women and 2,318,633 men. There are 25 provinces in Ankara. Considering access, time and cost constraints, the scope of the research was limited with the citizens residing in Altındağ (367.340), Çankaya (794.288), Yenimahalle (625.826), Gölbaşı (95.109), Keçiören (796.646), Mamak (532.873), Sincan (456.420), Etimesgut (386.879) and Pursaklar (108.211) provinces which are the central districts of Ankara.¹ The total population of the research was estimated as 4.224.655 individuals and the population of these nine provinces covers 90% of the population of Ankara city.

The sample number was defined by using Yamane's formula (2001: 116-117)⁴ and minimum 384 people were calculated to be sufficient for the sampling at %95 confidence level and ± 0.05 sampling error. However, at the beginning, the sample number was planned to be 2.000 adults to reach to %99 confidence level and ± 0.03 sampling error, 2.256 people were reached at the end. Considering the population of each province, rates to present the sampling were defined according to probability-proportional-to-size (PPS) selection method. Accepting the total population rate as 100.0 (n: 2.256), rates to present the sampling were defined as 8,6% (n: 195) for Altındağ, 18,9% (n: 426) for Çankaya, 15,3% (n: 345) for Yenimahalle, 2,3% (n: 51) for Gölbaşı, 19,3% (n: 435) for Keçiören, 13% (n: 294) for Mamak, 10,9% (n: 245) for Sincan, 9,2% (n: 207) for Etimesgut and 2,5% (n: 58) for Pursaklar. Socio-demographic

¹ <http://tuikapp.tuik.gov.tr/adnksdagitapp/adnks.zul> (14.05.2012).

⁴YAMANE, T. (2001), *Temel Örnekleme Yöntemleri*. İstanbul: Literatür Yayınlar.

characteristics of the adults were hypothesised as having an impact on the CAM use. The hypotheses to be tested in order to reach to the objective of the research are as below:

Hypothesis 1= There is a difference between the CAM use and the gender of the adults.

Hypothesis 2= There is a difference between the CAM use and the age groups of the adults.

Hypothesis 3= There is a difference between the CAM use and the marital status of the adults.

Hypothesis 4= There is a difference between the CAM use and the level of education of the adults.

Hypothesis 5= There is a difference between the CAM use and the provinces they live.

Hypothesis 6= There is a difference between the CAM use and their occupation.

Hypothesis 7= There is a difference between the CAM use and the status of health services utilization.

Hypothesis 8= There is a difference between the CAM use and the income of the adults.

The questionnaire was applied to 2.256 people, selected with simple random sampling method, by previously trained interviewers after receiving their verbal approval between December 2011 and February 2012. Each interview was completed approximately in 4 minutes. The data obtained from the questionnaires were coded and computerized by the researchers and the frequency distributions were calculated using SPSS 15.0 statistic software. Comparison of the categorical data was carried out using Chi-square test. The values of $P < 0.03$ were considered statistically significant.

Findings

A total of 3.500 questionnaires were distributed to adults with 2.256 returned, indicating a response rate of 64,4%. More than half, 58.8% of the participants were over 36 years and the mean age was 39.44 years. The married population of the study is 1.542 adults(68,4%). The dominant gender is female with a ratio of 53,9% (n:1.217) and almost one fifth of the respondents cited their occupation as housewife (19,2%, n: 434) while the government employees take a proportion of 16,6% (n: 375). In this study, all health staff counts totally 11,8% (n: 266) of the respondents. More than one third of the total has a high school degree and more than one quarter has a bachelor degree while the literates have only a small rate such as 3% (n: 67). Almost nine of ten adults (84,62%, n: 611) have social security status. Respondents preferring SSI and private insurance together have a small proportion such as 5,95% (n: 43). It can be seen that the monthly income of the respondents is generally about 1.501 TL to 2.500 TL (30.6%) and the participants that have an income of 2,500 TL and less were defined to use these methods more than those with a higher income. Table 1 shows the sociodemographic characteristics of the respondents.

Table 1. Socio Demographic Characteristics

GENDER	Frequency	%	OCCUPATION	Frequency	%
Female	1217	53,9	Student	196	8,7
Male	1039	46,1	Housewife	434	19,2
Total	2256	100,0	Government employee	375	16,6
AGE	Frequency	%	Worker	222	9,8
Between 17-25	291	12,9	Self employed	153	6,8
Between 26-35	641	28,4	Sportsman/Artist	22	1,0
Between 36-45	687	30,5	Retired	171	7,6
Between 46-55	392	17,4	Tradesman	69	3,1
Between 56-65	169	7,5	Academician	54	2,4
Between 66-83	76	3,4	Physician	45	2,0
Total	2256	100,0	Nurse	114	5,1
MARITAL STATUS	Frequency	%	Other health staff	107	4,7
Married	1542	68,4	Other	294	13,0
Single	714	31,6	Total	2256	100,0
Total	2256	100,0	HEALTH INSURANCE	Frequency	%
PROVINCE	Frequency	%	Only a member of SSI	1982	87,9
Altındağ	195	8,6	Only private health insurance	46	2,0
Çankaya	426	18,9	SSI and private health insurance together	86	3,8
Yenimahalle	345	15,3	Out of Pocket Payment	54	2,4
Gölbaşı	51	2,3	Other	88	3,9
Keçiören	435	19,3	Total	2256	100,0
Mamak	294	13,0	INCOME	Frequency	%
Sincan	245	10,9	Less than 750 TL	450	19,9
Etimesgut	207	9,2	751-1.500 TL	637	28,2
Pursaklar	58	2,6	1501-2.500 TL	767	34,0
Toplam	2256	100,0	2501-3.500 TL	274	12,1
EDUCATION	Frequency	%	3501-5.000TL	85	3,8
Literate	67	3,0	More than 5.001TL	43	1,9
Primary Graduation	379	16,8	Total	2256	100,0
High School Graduation	799	35,4			
Associate Degree	246	10,9			
Graduate Degree	593	26,3			
Master's Degree	128	5,7			
Doctorate / Phd	44	2,0			
Total	2256	100,0			

Thirty two percent (n:722) of the respondents stated that they have used any form of CAM in the last 12 months. In response to the question ‘which of the following alternative therapies you use’, 72,6% (n:524) of CAM users acknowledged using herbal therapies/products. More than one fifth of CAM users (21.9%, n: 158) were using vitamin supplement as an alternative therapy. Other CAM methods used by individuals included (21.2%, n: 153) massage, (11.4%, n: 82) religious methods, and (9.7%, n: 70) music therapies. Table 2 displays the rank order of each CAM method used.

Table 2. Methods Used in CAM

Methods	YES		NO		TOTAL	
	Frequency	(%)	Frequency	(%)	Frequency	(%)
Herbal therapies/products	524	72,6	198	27,4	722	100,0
Vitamin supplement	158	21,9	564	78,1	722	100,0
Massage	153	21,2	569	78,8	722	100,0
Religious practices	82	11,4	640	88,6	722	100,0
Music therapy	70	9,7	652	90,3	722	100,0
Acupuncture	56	7,8	666	92,2	722	100,0
Diet supplement	47	6,5	675	93,5	722	100,0
Yoga	46	6,4	676	93,6	722	100,0
Deep breathing exercises	44	6,1	678	93,9	722	100,0
Aromatherapy	41	5,7	681	94,3	722	100,0
Meditation	38	5,3	684	94,7	722	100,0
Bio Therapy	28	3,9	694	96,1	722	100,0
Ayurveda	14	1,9	708	98,1	722	100,0
Neurotherapy	14	1,9	708	98,1	722	100,0
Colour therapy	14	1,9	708	98,1	722	100,0
Homeopathic	14	1,9	708	98,1	722	100,0
Reiki	14	1,9	708	98,1	722	100,0
Tai Chi	12	1,7	710	98,3	722	100,0
Traditional Anatolian folk medicine	10	1,4	712	98,6	722	100,0
Hypnotherapy	9	1,2	713	98,8	722	100,0
Ozone therapy	8	1,1	714	98,9	722	100,0
Reflexology	6	0,8	716	99,2	722	100,0
Oxygen therapy	5	0,7	717	99,3	722	100,0
Qi Gong	4	0,6	718	99,4	722	100,0
Osteopathy	4	0,6	718	99,4	722	100,0
Naturopathy	1	0,1	721	99,9	722	100,0
Chiropractic	1	0,1	721	99,9	722	100,0

More than one option is cited.

The reasons given by users for their use of CAM varied widely. CAM is mostly used for (42.8%, n: 309) relaxation and for (39.1%, n: 282) therapeutic reasons. To feel mentally and physically better (56.1%, n: 405) and having less adverse effects (26.4%, n: 191) are the most common reasons for respondents to apply CAM methods. They expect as a result from CAM to strengthen their immune system (27.7%, n: 200) and to reduce their health complaints (25.5%, n: 184). Conditions for which individuals reported using CAM included cold (54.7%, n: 395), waist / back pain or problems(30,5%, n: 220), stomach and intestinal diseases(18.1%, n: 131), and insomnia and sleeping problems(13.2%, n: 95). Table 3 displays the rank order of each disease and problem.

Table 3. Conditions That CAM Used For

Conditions	YES		NO		TOTAL	
	Frequency	(%)	Frequency	(%)	Frequency	(%)
Cold	395	54,7	327	45,3	722	100,0
Waist / Back pain or problem	220	30,5	501	69,4	722	100,0
Stomach and intestinal diseases	131	18,1	591	81,9	722	100,0
Insomnia and sleeping problems	95	13,2	627	86,8	722	100,0
Joint pain or arthritis	90	12,5	632	87,5	722	100,0
Table 3						
Psychological disorders	85	11,8	637	88,2	722	100,0
Chest pain	81	11,2	641	88,8	722	100,0
Recurrent pain	81	11,2	641	88,8	722	100,0
Neck pain or problem	80	11,1	642	88,9	722	100,0
Headache and Migraine	64	8,9	658	91,1	722	100,0
Anxiety or depression	58	8	664	92,0	722	100,0
Diabetes	37	5,1	685	94,9	722	100,0
Sinusitis	33	4,6	689	95,4	722	100,0
Cholesterol	31	4,3	691	95,7	722	100,0
Asthma	18	2,5	704	97,5	722	100,0
Fractures and dislocations	17	2,4	705	97,6	722	100,0
Hypertension	17	2,4	705	97,6	722	100,0
Cancer	14	1,9	708	98,1	722	100,0
Menopause	11	1,5	711	98,5	722	100,0
Stroke / Paralysis	10	1,4	712	98,6	722	100,0
Prostate	9	1,2	713	98,8	722	100,0
Infertility	3	0,4	719	99,6	722	100,0
Total	722	100				

More than one option is cited.

Eighteen percent (n: 130) of the CAM users stated that they use regularly at least one type of CAM. Herbal therapies/products (42,3%, n: 55) are the most common continuously used type while vitamin supplement(19,2%, n: 25) is preferred as the second and massage(12,3%, n: 16) as the third. Media (28.88%, n: 208) and family & friends (28,6%, n: 206) are the factors influencing the CAM use. Surprisingly, web (9,44%, n: 68) has not been found much popular as an influencing factor in our study. In response to the question 'do you inform your physician about the use of alternative medicine', it is defined that 70.13% (n: 505) of respondents do not inform their physician. While 38,9% (n:85) of informed physicians(n: 218) are recommending their patients to use CAM methods, only 10% (n: 22) do not support the use of them. Surprisingly, more than half (50.9%, n: 111) do not want to involve in the patient's decision process and let them free. Herbal therapies/products are being used by a big proportion of the CAM users. Mostly preferred places to buy these products are herbalists or spice stores (60%, n: 432) and drugstores (16, 35%, n: 118). For promoting own health status, %35(n: 252) of CAM users have spent less than 50 Turkish Lira while 23.38% (n: 172) spending between 100-250TL in last twelve months to buy these products. It can be seen that 60.55 % (n: 436) of CAM users believe that he/she availed her/himself of CAM methods, and 85.13% (n: 613) stated that they have not experienced any adverse effect after using any form of CAM. As a response to the question "do you prefer CAM therapies instead of conventional medicine", CAM users reported that these therapies are mostly used (58.88 %, n: 424) with conventional medicine as a complementary while 16,6% (N: 120) of do not prefer in substitution for conventional medicine. More than three fourth, 78.75% (n: 567) stated that they can recommend CAM therapies to other people.

Eight hypotheses were tested in the study. Chi-square test was conducted in order to define whether use of the alternative medicine methods is correlated with the participants' personal information. $P < 0.03$ value is found significant. According to chi-square outcomes, $H_2(p:0,921 > 0,03)$, $H_3(p:0,190 > 0,03)$, $H_5(p:0,099 > 0,03)$, and $H_8(p:0,083 > 0,03)$ hypotheses have been rejected. There is no statistically significant difference between CAM use and age, marital status, provinces and income of the respondents. Table 4 shows the socio demographic characteristics of the respondents and chi square outcomes.

According to chi-square outcomes, females prefer alternative medicine methods (58,72%) more than males (41,27%). A statistically significant difference was found between the gender groups ($p:0,002 < 0,03$) and CAM use. H_1 hypothesis was accepted. Females are much more interested in searching information about health and beauty for themselves and their families in the media channels and web. Therefore, females prefer alternative medicine methods more than males. When chi-square outcomes are examined according to the education level of the respondents, a statistically significant difference was found between the education levels ($p:0,000 < 0,03$) and the CAM use. The H_4 hypothesis was accepted. The difference occurs from the higher CAM use of the respondents who have high school and graduate degree. It can be seen

that the usage of these methods was defined to increase with the education level. As a result of examining chi-square outcomes according to the occupation of the respondents, a statistically significant difference was found between the occupation groups ($p:0,000<0,03$) and the CAM use. H6 hypothesis was accepted. The reason for this difference is preferences of housewives and government employees on CAM. They prefer CAM methods more than the participants in other occupation groups. When chi-square outcomes according to the status of health services utilization of the respondents are examined, a statistically significant difference was found between the status of health services utilization groups ($p:0,000<0,03$) and the CAM use. H7 hypothesis was accepted. The difference arises from the preferences of respondents who are members of Social Security Institution.

Table 4. The Relationship between Usage Status of CAM and Socio Demographic Characteristics

	USAGE STATUS						P
	YES		NO		TOTAL		
GENDER	Frequency	%	Frequency	%	Frequency	%	
Female	424	34,84	793	65,16	1.217	100,0	0,002*
Male	298	28,68	741	71,31	1.039	100,0	
Total	722		1.534		2.256		
Age							
Between 17-25	101	34,70	190	65,30	291	100,0	0,921
Between 26-35	202	31,51	439	68,49	641	100,0	
Between 36-45	220	32,02	467	67,98	687	100,0	
Between 46-55	120	30,61	272	69,39	392	100,0	
Between 56-65	54	31,95	115	68,05	169	100,0	
Between 66-83	25	32,90	51	67,10	76	100,0	
Total	722		1.534		2.256		
Marital Status							
Married	480	31,12	1.062	68,88	1.542	100,0	0,190
Single	242	33,90	472	66,10	714	100,0	
Table 4							
Total	722		1.534		2.256		
Education							
Literate	18	26,86	49	73,14	67	100,0	0,004*
Primary Graduation	111	29,28	268	70,72	379	100,0	
High School Graduation	252	31,54	547	68,46	799	100,0	
Associate Degree	75	30,48	171	69,52	246	100,0	
Graduate Degree	189	31,88	404	68,12	593	100,0	
Master's Degree	52	40,62	76	59,38	128	100,0	
Doctorate / Phd	25	56,82	19	43,18	44	100,0	
Total	722		1.534		2.256		
Province							
Altındağ	62	31,780	133	68,20	195	100,0	0,099
Çankaya	152	35,68	274	64,32	426	100,0	
Yenimahalle	115	33,34	230	66,66	345	100,0	
Gölbaşı	15	29,42	36	70,58	51	100,0	

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Keçiören	145	33,34	290	66,66	435	100,0	
Mamak	97	33,00	197	67,00	294	100,0	
Sincan	62	25,30	183	74,70	245	100,0	
Etimesgut	63	30,43	144	69,57	207	100,0	
Pursaklar	11	18,96	47	81,04	58	100,0	
Total	722		1.534		2.256		
Occupation							
Student	66	33,67	130	66,33	196	100,0	0,000*
Housewife	144	33,18	290	66,82	434	100,0	
Government employee	110	29,34	265	70,66	375	100,0	
Worker	49	22,08	173	77,92	222	100,0	
Self employed	58	37,90	95	62,10	153	100,0	
Sportsman/Artist	10	45,45	12	54,55	22	100,0	
Retired	60	35,08	111	64,92	171	100,0	
Tradesman	24	34,78	45	65,22	69	100,0	
Academician	31	57,40	23	42,60	54	100,0	
Physician	14	31,12	31	68,88	45	100,0	
Nurse	35	30,70	79	69,30	114	100,0	
Table 4							
Other health staff	21	19,62	86	80,38	107	100,0	
Other	100	34,00	194	66,00	294	100,0	
Total	722		1.534		2.256		
Status of Health Services Utilization							
Only a member of SSI	611	30,82	1.371	69,18	1.982	100,0	0,000*
Only private health insurance	20	43,48	26	56,52	46	100,0	
SSI and private health insurance together	43	50	43	50	86	100,0	
Out of Pocket Payment	28	51,86	26	48,14	54	100,0	
Other	20	22,72	68	77,28	88	100,0	
Total	722		1.534	100,0	2.256	100,0	
Income							
Less than 750 TL	135	30,00	315	70,00	450	100,0	0,083
Between 751-1500 TL	191	29,98	446	70,02	637	100,0	
Between 1501-2500 TL	252	32,85	515	67,15	767	100,0	
Between 2501-3500 TL	89	32,48	185	67,52	274	100,0	
Between 3501 TL-5.000TL	35	41,12	50	58,88	85	100,0	
More than 5.001TL	20	46,52	23	53,48	43	100,0	
Total	722		1.534		2.256		

Conclusions

People worldwide who want to prevent themselves from diseases and illnesses, heal their pains, treat their diseases or illness and promote their health status are using CAM methods in an increasing trend and the popularity of

CAM has risen rapidly in last years. In this study, it has been seen that 32% of the adults living in Ankara are using CAM methods. Herbal therapies/products, vitamin supplement, massage, and religious methods are the most popular methods used by respondents to relax and to heal the diseases for mentally and physically feeling better and experiencing less adverse effects. Strengthening the immune system and reducing the complaints related to health are the major expectations of the respondents. These CAM methods are used mostly under the conditions of cold, waist/back pain, intestinal diseases and insomnia. Factors such as gender, educational level, occupation and health service utilization affect the use of CAM. In Turkey, some diseases such as cold, headache are discounted and mostly a medical advice or consultation is not being sought. In health care, even a small problem or a disease should be attention paid because a small problem may sometimes be an important matter of concern and cause bigger health problems.

Respondents who used CAM methods in the last twelve months have mostly received at least high school degree and over with a ratio of 82,13%. The expectations are changing with the degree of graduation. The respondents with a graduate degree or, higher degree prefer these methods as a supplementary instead of therapeutic reasons. The preferences of the people with a low level of education are changing at this point for curing their diseases. These preferences may clarify the low ratio of continuous CAM use because under these conditions the CAM use can only happen as a complementary when the adult is sick.

More than half of the respondents do not inform their physicians that they use any form of CAM. This can affect the treatment process because some CAM methods may neutralize the effect of conventional treatments or medicines. The need of health care is changing from person to person and the treatment can be varied for any body. What is good for a person can be unavailing for another. By the way, to inform the physician can enhance the communication between physician and patient and both may find a better way combined with CAM and conventional medicine for the treatment and this may help to promote the individuals' health.

Recommendation of CAM use show differences between the occupation groups. It is found that the housewives recommend these methods much more than the other groups. This can be clarified by some reasons such as spending most of the time in the house, being responsible of the family members' health and having more time to spend on watching TV or surfing the web. In Turkey, the day time TV shows are mostly targeting this audience and marketers of CAM products are using these programs to reach to this audience. As a striking result of the study, it was seen that recommendations of the CAM use to other people was realized by the health staff too.

It can be seen that CAM can be used by any kind of people and the results obtained from the study supports this issue. In Turkey, some CAM providers and products in the market are registered and under the license of Ministry of Health and Ministry of Agriculture but some are not. Some CAM providers are not officially trained or registered either. CAM products and service providers

should be registered by the governments in order to regulate the legislations and monitor the conditions. Ministry of Education and High Education Council should identify the competences and prepare programs to ensure training opportunities for CAM providers. By the way, health is wide open to abuse and a very sensitive issue, so regulations may ensure preventing adults from the damage of inexpert providers and unregistered products.

The results of this study can not be generalized to whole country. Much more population based research needs to be done concerning to understand the public's attitudes and identify the market variables. Further research also needs to be done to identify all parts of the market and to clarify the structure, economy and needs of the market. That may help policy makers to make more informed decisions as to the appropriate level of service provision.

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TABLES

Table 1. Socio Demographic Characteristics

GENDER	Frequency	%	OCCUPATION	Frequency	%
Female	1217	53,9	Student	196	8,7
Male	1039	46,1	Housewife	434	19,2
Total	2256	100,	Government employee	375	16,6
AGE	Frequency	%	Worker	222	9,8
Between 17-25	291	12,9	Self employed	153	6,8
Between 26-35	641	28,4	Sportsman/Artist	22	1,0
Between 36-45	687	30,5	Retired	171	7,6
Between 46-55	392	17,4	Tradesman	69	3,1
Between 56-65	169	7,5	Academician	54	2,4
Between 66-83	76	3,4	Physician	45	2,0
Total	2256	100,	Nurse	114	5,1
MARITAL	Frequency	%	Other health staff	107	4,7
Married	1542	68,4	Other	294	13,0

Single	714	31,6	Total	2256	100,0
Total	2256	100,	HEALTH FINANCE	Frequency	%
PROVINCE	Frequency	%	Only a member of SSI	1982	87,9
Altındağ	195	8,6	Only private health	46	2,0
Çankaya	426	18,9	SSI and private health	86	3,8
Yenimahalle	345	15,3	Out of Pocket	54	2,4
Gölbaşı	51	2,3	Other	88	3,9
Keçiören	435	19,3	Total	2256	100,0
Mamak	294	13,0	INCOME	Frequency	%
Sincan	245	10,9	Less than 750 TL	450	19,9
Etimesgut	207	9,2	751-1.500 TL	637	28,2
Pursaklar	58	2,6	1501-2.500 TL	767	34,0
Toplam	2256	100,	2501-3.500 TL	274	12,1
EDUCATION	Frequency	%	3501-5.000TL	85	3,8
Literate	67	3,0	More than 5.001TL	43	1,9
Primary Graduation	379	16,8	Total	2256	100,0
High School	799	35,4			
Associate Degree	246	10,9			
Graduate Degree	593	26,3			
Master's Degree	128	5,7			
Doctorate / Phd	44	2,0			
Total	2256	100,0			

Table 2. Methods Used in CAM

Methods	YES		NO		TOTAL	
	Frequency	(%)	Frequency	(%)	Frequency	(%)
Herbal therapies/products	524	72,6	198	27,4	722	100,0
Vitamin supplement	158	21,9	564	78,1	722	100,0
Massage	153	21,2	569	78,8	722	100,0
Religious practices	82	11,4	640	88,6	722	100,0
Music therapy	70	9,7	652	90,3	722	100,0
Acupuncture	56	7,8	666	92,2	722	100,0
Diet supplement	47	6,5	675	93,5	722	100,0
Yoga	46	6,4	676	93,6	722	100,0
Deep breathing exercises	44	6,1	678	93,9	722	100,0

Aromatherapy	41	5,7	681	94,3	722	100,0
Meditation	38	5,3	684	94,7	722	100,0
Bio Therapy	28	3,9	694	96,1	722	100,0
Ayurveda	14	1,9	708	98,1	722	100,0
Neurotherapy	14	1,9	708	98,1	722	100,0
Colour therapy	14	1,9	708	98,1	722	100,0
Homeopathic	14	1,9	708	98,1	722	100,0
Reiki	14	1,9	708	98,1	722	100,0
Tai Chi	12	1,7	710	98,3	722	100,0
Traditional Anatolian folk medicine	10	1,4	712	98,6	722	100,0
Hypnotherapy	9	1,2	713	98,8	722	100,0
Ozone therapy	8	1,1	714	98,9	722	100,0
Reflexology	6	0,8	716	99,2	722	100,0
Oxygen therapy	5	0,7	717	99,3	722	100,0
Qi Gong	4	0,6	718	99,4	722	100,0
Osteopathy	4	0,6	718	99,4	722	100,0
Naturopathy	1	0,1	721	99,9	722	100,0
Chiropractic	1	0,1	721	99,9	722	100,0

More than one option is cited.

Table 3. Conditions That CAM Used For

Conditions	YES		NO		TOTAL	
	Frequency	(%)	Frequency	(%)	Frequency	(%)
Cold	395	54,7	327	45,3	722	100,0
Waist / Back pain or problem	220	30,5	501	69,4	722	100,0
Stomach and intestinal diseases	131	18,1	591	81,9	722	100,0
Insomnia and sleeping problems	95	13,2	627	86,8	722	100,0
Joint pain or arthritis	90	12,5	632	87,5	722	100,0
Table 3						
Psychological disorders	85	11,8	637	88,2	722	100,0
Chest pain	81	11,2	641	88,8	722	100,0
Recurrent pain	81	11,2	641	88,8	722	100,0
Neck pain or problem	80	11,1	642	88,9	722	100,0
Headache and Migraine	64	8,9	658	91,1	722	100,0
Anxiety or depression	58	8	664	92,0	722	100,0
Diabetes	37	5,1	685	94,9	722	100,0

Sinusitis	33	4,6	689	95,4	722	100,0
Cholesterol	31	4,3	691	95,7	722	100,0
Asthma	18	2,5	704	97,5	722	100,0
Fractures and dislocations	17	2,4	705	97,6	722	100,0
Hypertension	17	2,4	705	97,6	722	100,0
Cancer	14	1,9	708	98,1	722	100,0
Menopause	11	1,5	711	98,5	722	100,0
Stroke / Paralysis	10	1,4	712	98,6	722	100,0
Prostate	9	1,2	713	98,8	722	100,0
Infertility	3	0,4	719	99,6	722	100,0
Total	722	100				

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Table 4. The Relationship between Usage Status of CAM and Socio Demographic Characteristics

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Worker	49	22,08	173	77,92	222	100,0	
Self employed	58	37,90	95	62,10	153	100,0	
Sportsman/Artist	10	45,45	12	54,55	22	100,0	
Retired	60	35,08	111	64,92	171	100,0	
Tradesman	24	34,78	45	65,22	69	100,0	
Academician	31	57,40	23	42,60	54	100,0	
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Income							
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Between 3501 TL-5.000TL	35	41,12	50	58,88	85	100,0
More than 5.001TL	20	46,52	23	53,48	43	100,0
Total	722		1.534		2.256	