Opinions of University Hospital Physicians on Complementary and Alternative Medicine

Üniversite Hastanesi Doktorlarının Tamamlayıcı ve Alternatif Tıp Hakkında Fikirleri

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ABSTRACT Objective: Although interest in complementary and alternative medicine (CAM) therapies has been growing rapidly, studies about physicians' approaches to CAM therapies are limited in Turkey. The objective of the present study was to determine the university hospital physicians' opinions and attitudes on CAM therapies. **Material and Methods:** The study was conducted between April-June 2009 at the İbn-i Sina Hospital of School of Medicine of Ankara University. A cross-sectional survey was conducted among physicians about knowledge and use of CAM, and desire for being trained on it. There were 400 physicians practicing at the hospital. All physicians were invited to participate in the study. The invitation letters and questionnaires were sent through the head of departments and were collected back through the same route. The questionnaire was self-completed by all participants. All data were analyzed using Statistical Package for the social sciences (SPSS) version 11.5. Chi-square analysis was used to test for significant differences between groups. Categorical data were defined as "frequencies and percentages". A p value less than 0.05 was considered significant. **Results:** A total of 151 completed questionnaires were returned. The highest level of information among doctors regarding CAM was on acupuncture. Forty one percent of the respondents reported having used any kind of CAM treatments individually so far. Herbal medicine (14%), massage (11%), and acupuncture (9%) were the most common CAM types used by physicians. The precentage of physicians who held positive and negative attitudes toward patients requesting information on CAM were 42.4% and 25.8%, respectively. The top three factors influencing physicians to consider prescribing any CAM modalities were experimental studies or researches, proved efficacy mechanism, and published case reports. Fifty-seven percent of the physicians stated that if they were given a chance they would like to be trained on any CAM modality. **Conclusion:** The result of the present study implies that the knowledge level of physicians on CAM is low. This may be attributed to the unavailability of access to CAM training in medical schools in Turkey. Scientific evidence is the most important factor taken into account by physicians. More evidence based-studies are needed on the subject in order to draw the attention of the physicians on CAM.

Key Words: Complementary therapies; academic medical centers; attitude; physicians

ÖZET Amaç: Tamamlayıcı ve alternatif tıp (TAT) tedavilerine ilgi son zamanlarda hızla artış gösteriyor olsa da, Türkiye'de doktorların TAT tedavilerine yaklaşımları hakkındaki çalışmalar az sayıdadır. Bu çalışmadaki amaç, üniversite hastanesi doktorlarının TAT tedavileri hakkındaki fikir ve tutumlarını belirlemektir. **Gereç ve Yöntemler:** Bu çalışma, Nisan-Haziran 2009 tarihleri arasında Ankara Üniversitesi Tıp Fakültesi İbn-i Sina Hastanesi'nde gerçekleştirildi. Doktorların TAT hakkındaki bilgilerini, TAT kullanma durumlarını ve bu konuda eğitim alma isteklerini belirlemek için kesitsel bir araştırma planlandı. Hastanede çalışmakta olan 400 doktorun hepsi çalışma için hedeflendi. Davet mektupları ve anketler bölüm başkanlıkları aracılığıyla gönderildi ve yine aynı şekilde geri toplandı. Katılımcılar anketleri kendileri doldurdular. Bütün veriler SPSS 11.5 kullanılarak değerlendirildi. Gruplar arasındaki istatistiksel farklılıkları belirlemek için ki-kare testi kullanıldı. Kategorik veriler "sıklık ve yüzde" olarak belirtildi. $p<0,05$ istatistiksel olarak anlamlı kabul edildi. **Bulgular:** Toplam olarak 151 doldurulmuş anket geri geldi. Doktorlar, en fazla akupunktur hakkında bilgili idiler. Katılımcıların %41'i şimdiye kadar kişisel olarak herhangi bir TAT yöntemi kullanmış olduklarını belirttiler. Doktorlar TAT yöntemleri arasında en sık bitkisel tıp (%14), masaj (%11) ve akupunktur (%9) yöntemlerini kullanmışlardı. Hastaların TAT tedavileri hakkında bilgi alma talepleri karşısında doktorların % 42,4'ü pozitif, %25,8'i de negatif tutum içindeydi. Herhangi bir TAT yöntemini reçete etme hakkında doktorları yönlendirmede etkili ilk üç faktör, deneysel çalışmalar ya da araştırmalar, kanıtlanmış etki mekanizması ve yayınlanmış olgu sunumlarıydı. Doktorların %57'si fırsat verilmesi durumunda herhangi bir TAT çeşidi hakkında eğitim almak isteyeceklerini belirttiler. **Sonuç:** Bu çalışma, doktorların TAT hakkındaki bilgi düzeylerinin düşük olduğunu göstermektedir. Bu durum Türkiye'de tıp fakültelerinde TAT eğitiminin eksikliğinden kaynaklanıyor olabilir. Doktorlar tarafından dikkate alınan en önemli faktör bilimsel kanıttır. Doktorların dikkatini TAT yöntemlerine çekmek için daha fazla sayıda kanıta dayalı çalışmaya gereksinim vardır.

Anahtar Kelimeler: Tamamlayıcı tedaviler; akademik tıp merkezleri; tutum; doktorlar

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Complementary and alternative medicine (CAM) is generally defined as the integration of nonallopathic methods into health care.[1] Although CAM has been used for all time periods, the usage of and interest in CAM have increased since 1990s and are currently on the rise.[2,3] The United States National Center for Complementary and Alternative Medicine (NCCAM) is the Federal Government's lead agency for scientific research on Complementary and Alternative Medicine. The mission of NCCAM is to define through rigorous scientific investigation, the usefulness and safety of CAM interventions and their roles in improving health and health care. NCCAM defines CAM as a group of diverse medical and healthcare systems, practices, and products that are not currently regarded as part of conventional medicine. The forms of CAM include:

1- Mind-body medicine such as prayer, mental healing or meditation.

2- Biologically based practices such as dietary supplements, herbal supplements, and other scientifically unproven therapies.

3- Manipulative and body-based practices such as spinal manipulation (chiropractic) and massage.

4- Energy therapies such as qiqong, reiki, therapeutic touch, and electromagnetic therapy.[4,5]

Studies conducted in Europe and the US have shown that a large proportion of the population use any nonconventional modalities to treat a broad spectrum of health problems, ranging from subjective to life threatening.[3,6] In Turkey, several national studies suggest that the prevalence of CAM ranges from 37% to 76%.[7] However, most patients obtain information on CAM from friends, CAM product vendors, and the media. Patients usually do not inform their physicians about their use of CAM.[8-10] Studies from abroad show a considerable variation in practices, beliefs, and attitudes of physicians towards CAM. Possible explanations cited for the variations between those surveys include the differences in demographic characteristics of the sample, wording of surveys, local or regional differences in the familiarity or availability of particular types of CAM, and differences in the ratio of general practitioners to specialists.[11] Although interest in CAM therapies has been growing rapidly, studies on physicians' approaches to CAM therapies are limited in Turkey.[12] Although CAM has appeared in the programmes of a few schools of medicine, it is not mentioned in the standard curriculums of all medical schools.

İbn-i Sina Hospital, situated on a large campus in Ankara, the capital of Turkey, is a significant medical and reference center. The physicians comprising the study group encounter many patients from different cultures. Therefore, we think that their ideas may guide the principles of CAM and its use in the country.

The objective of the present study was to determine the university hospital physicians' opinions and attitudes on CAM therapies.

MATERIAL AND METHODS

STUDY DESIGN AND SETTING

We conducted a cross-sectional survey about knowledge and use of CAM, and the desire for being trained on it among physicians. The study was conducted between April-June 2009 at the İbn-i Sina Hospital of School of Medicine of Ankara University. It was approved by the local ethical committee of the same university (17.11.2008 /141-4173). The hospital accommodated 400 practicing physicians.

STUDY SAMPLE AND DATA COLLECTION

All physicians were invited to participate in the study. The invitation letter and questionnaire were sent through the head of departments and were collected back through the same route. Out of 400 participants invited, 151 (38%) accepted to join. The questionnaire was self-completed by all participants.

Questionnaire: The researchers developed the questionnaire (Appendix) that included three sections.

Section 1: Personal Knowledge and Use

In this section, CAM methods were sorted similar to NCCAM classification and physicians were asked to mark "yes" if they had information about a method and "no" if they did not. They were also

APPENDIX: CAM questionnaire.

Please Circle where appropriate:

Female O Male O Age:

Resident O Specialist O Assistant / Associate Professor O Professor O

Department: Internal medicine O

Surgical medicine O

Basic medical sciences O

How many years have you been practicing?

asked to mark any method they had used for themselves before.

Section 2: Attitude Towards Demands of Patients for CAM and Factors Influencing Administration of CAM to Patients

In this section, we asked physicians their attitudes when their patients requested any of the CAM methods. We asked them to mark one of the options "positive", "negative", and "abstain" in response to this question.

We also asked physicians to mark the CAM methods as "yes", which they may opt to administer to patients in their future professional practice.

Moreover, we asked the factors that would influence them to integrate CAM modalities into their practice. The choices were based on a five-point Likert scale ranging from strongly efficient to strongly inefficient.

SECTION 1

Please circle "yes" if you think you know and circle "no" if you do not know.
Please circle if you have ever used any CAM for self-care.

	Yes	No	I have Used
Acupuncture	O	O	O
Massage	O	O	O
Herbal medicine	O	O	O
Lifestyle diets	O	O	O
Lifestyle exercises	O	O	O
Relaxation exercises	O	O	O
Hypnosis	O	O	O
Praying	O	O	O
Megavitamin therapy	O	O	O
Energy healing	O	O	O
Folk remedy	O	O	O
Biofeedback	O	O	O
Self-help group therapy	O	O	O
Spiritual healing	O	O	O
Homeopathic medicine	O	O	O
Chiropractic	O	O	O

SECTION 2

1. What is your attitude towards your patients' demands for being informed about CAM or using CAM?
   - Positive
   - Negative
   - Abstaining / Uncertain

2. Which of the factors below influence you to integrate CAM modalities into your practice? Please choose the right statement

	Strongly agree	Agree	Abstaining	Disagree	Strongly disagree
Experimental studies or researches					
Published case reports					
Proved efficacy mechanism					
Personal beliefs					
Lack of conventional therapy					
Unsuccessful conventional therapy					
High cost of conventional therapy					
Colleague suggestion					
Patient's eagerness to use CAM					
Own patient benefited from CAM					
Patient's statement that benefited from CAM previously					

SECTION 3

If you had a chance would you desire to receive training on any CAM modalities?

Yes O No O

If yes please circle which one: (Please circle only one)

Acupuncture	O	Spiritual healing	O
Massage	O	Homeopathic medicine	O
Herbal medicine	O	Chiropractic	O
Lifestyle diets	O		
Lifestyle exercises	O		
Relaxation exercises	O		
Hypnosis	O		
Pray	O		
Megavitamin therapy	O		
Energy healing	O		
Folk remedy	O		
Biofeedback	O		
Self-help group therapy	O		

Questionnaire is finished, thank you for your participation.

Section 3: Physicians' Desires for Being Trained

This section focused on the physicians' desires for being trained on CAM modalities. In this section, physicians were asked if they would like to be trained on any CAM method. The subjects indicating a desire were asked to specify their first choice of CAM method that they would like receive training on.

STATISTICAL ANALYSIS

All data were analyzed using Statistical Package for the social sciences (SPSS) version 11.5. Chi-square analysis was used to test for significant differences between groups. Categorical data were defined as "frequencies and percentages. A p value less than 0.05 was considered significant.

RESULTS

A total of 151 completed questionnaires were returned with a 38% response rate. The mean age of the respondents was 37.39±11.42 years. Over half (58%) of the respondents were female and 42% were male. Forty-seven percent of the respondents were in departments of internal medicine, 26% in departments of surgical medicine, and 27% in departments of basic medical sciences. Sixty percent of the physicians were practicing for five or more years and 40% for less than five years. Mean years in practice was 12.83±11.14 years.

RESULTS OF SECTION 1

Knowledge

The level of knowledge of physicians on CAM modalities was as follows: Acupuncture 86.5%, massage 77.7%, herbal medicine 69%, lifestyle diets 66.7%, relaxation techniques 63%, hypnosis 59%, pray 56%, lifestyle exercise 56%, energy healing 48.5%, megavitamin therapy 40%, folk remedy 33.5%, biofeedback 27.5%, self-help group therapy 26%, spiritual healing 19%, homeopathic medicine 14%, and chiropractic 9.9%.

Personal Use

Forty one percent of the respondents reported having used some kinds of CAM treatments individually so far. Herbal medicine (14%), massage (11%) and acupuncture (9%) were the most common CAM types used by physicians. The use of herbal medicine, massage and acupuncture among female physicians was 15.2%, 10.1%, 12.7% and among male physicians was 12.2%, 13.8%, 5.2%. The practice of herbal medicine and acupuncture were higher among female physicians while the practice of massage was higher among male physicians, and the differences were statistically insignificant. The physicians never mentioned use of chiropractic, homeopathic medicine, biofeedback, spiritual healing, and folk remedy.

RESULTS OF SECTION 2

Attitude

The ratio of the physicians who held positive and negative attitudes toward requests from patients on being informed about CAM were 42.4% and 25.8%, respectively; the remaining were either uncertain or abstaining. When physician attitudes were compared in terms of departments, the difference was statistically insignificant (p=0.690) (Table 1). The percentage of positive attitude was higher in the group of physicians younger than 35

years compared to older physicians (p=0.392) (Table 2).

Physician preferences for CAM modalities, if needed in the future, were acupuncture 35.8%, massage 25.4%, relaxation techniques 25.4%, lifestyle exercise 21.6%, lifestyle diets 23.0%, herbal medicine 20.9% and hypnosis 13.4%.

Factors influencing physicians' consideration about prescribing any CAM method were given in Table 3. The top three effective factors making physicians to consider prescribing any CAM modalities were experimental studies or researches, proved efficacy mechanism and published case reports.

RESULTS OF SECTION 3

Fifty-seven percent of the physicians stated that, if they were given a chance, they would like to receive training on any CAM modalities. Although there was no significant relationship between the desire for training and either physician department or age (p=0.697 and p=0.133, respectively), those younger than 35 years were more likely to be trained. Female physicians were significantly more ambitious than male physicians (p=0.007) (Figure 1).

TABLE 1: Attitude according to department.

	Attitude		
Department	**Positive**	**Negative**	**Abstaining/uncertain**
Basic Medical Sciences			
n	18	10	13
%	43.9	24.4	31.7
Internal Medicine			
n	28	17	26
%	39.4	23.9	36.6
Surgical Medicine			
n	18	12	9
%	46.2	30.8	23.1
Total			
n	64	39	48
%	42.4	25.8	31.8

p=0.690.

TABLE 2: Attitude according to age.

		Attitude		
Age		**Positive**	**Negative**	**Abstaining/uncertain**
≤ 35	n	42	22	23
	%	48.3	25.3	26.4
36-45	n	9	7	12
	%	32.1	25.0	42.9
>45	n	13	9	14
	%	36.1	25.0	38.9
Total	n	64	38	49
	%	42.4	25.0	32.4

p=0.392.

TABLE 3: Factors influencing the doctor's consideration to integrate complementary and alternative medicine modalities into their practice.

	Strongly agree		Agree		Abstaining		Disagree		Strongly disagree	
Factors	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**
Experimental studies or researches	75	113	25	38	-		-		-	
Proved efficacy mechanism	71	107	20	30	9	14	-	-	-	-
Published case reports	62	94	30	45	8	12	-	-	-	-
Lack of conventional therapy	49	74	42	63		-	-	9	14	
Own patient benefited from CAM	45	68	40	60	15	23	-	-	-	-
Unsuccessful conventional therapy	41	62	30	45	20	30	9	14	-	-
Patient's statement that benefited from CAM previously	38.5	58	35	53	13	20	3	5	10.5	15
Patient's eagerness to use CAM	38	58	13	20	20	30	7	10	22	33
Colleague suggestion	31.5	48	40	60		25	38	3.5	5	
Personal beliefs	21	32	30	45	-	-	49	74	-	-
High cost of Conventional therapy	10.8	16	13	20	29	44	-	-	47.2	71

CAM: Complementary and alternative medicine.

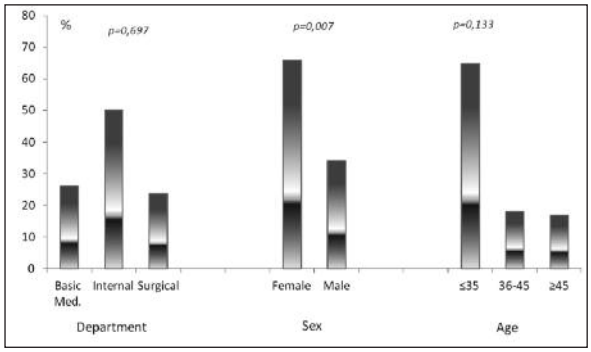

FIGURE 1: Training desire according to department, sex and age groups.

DISCUSSION

Acupuncture was the most preferred (32%) modality, followed by lifestyle exercises (29%), lifestyle diets (27%), energy healing (17%) and herbal medicine (14%).

Studies have shown a considerable variation in practices, beliefs and attitudes of physicians towards CAM. Those variations have been related to the country, demographic characteristics, explanation of CAM therapies, the specialty of physicians and access to CAM therapies.[11] In the meantime, interest in CAM therapies has been growing in Turkey as in other industrialized countries. Studies from Turkey so far have focused on social use or on specific diseases like cancer or asthma.[13]

Given the widespread public interest in CAM methods and their use, we were interested in hearing the opinions of physicians working in university hospitals on CAM. We found that the physicians in general were quite cautious about CAM while younger and female physicians were slightly more eager.

The knowledge level of physicians on different CAM modalities showed variation. While the best known methods were acupuncture, massage and herbal medicine, spiritual healing, homeopathic medicine, and chiropractic were the least known methods. Diversity of the methods known may increase when information and/or training on different modalities of CAM are included in the medical curriculum.

A study by Mıstık et al., which is among the first reports from Turkey, focused on knowledge on and attitudes towards CAM among academic physicians.[14] Acupuncture (90.7%), herbal therapy (62.5%), and massage (60.5%) were the most commonly known CAM methods among academicians. The results of the present study had similar results as acupuncture, massage, and herbal therapy being the most commonly known modalities.

Another study on CAM from Turkey by Özçakır et. al. including 255 primary care physicians, revealed that almost 60.8% of the physicians had no knowledge about the methods. Similar to the results of the present study, acupuncture was the most and chiropractic was the least known CAM modalities in Özçakır's study.[12]

Mıstık et al. reported that 17% of the physicians had tried a CAM method for themselves at least once, and acupuncture, reiki, herbal therapy and massage were the most common modalities.[14] Personal CAM use by physicians was 29% in the study by Özçakır. Herbal medicine and vitamins were the most frequently used methods.[12] Forty-one percent of physicians in our study have used any CAM method for themselves and herbal medicine was the most common CAM method, similar to the study by Özçakır.

Winslow L Corbin et al., in their study at the University of Colorado, reported the CAM methods used by physicians for self-therapy as massage (24%), relaxation exercises (17%), and herbal medicine.[15]

Ben-Arye et al. from Israel reported that 52% of primary care physicians had used CAM in the preceding year. Physicians had used, in descending order, movement manual, diet supplements, and herbal medicine.[16] Self-use of CAM modalities by the physicians was 34.8% in Jump's study. In this study, the attitude of physicians with a professional career less than 10 years towards CAM was more positive than physicians with longer careers.[17]

Mıstık et al. reported that 50.7% of physicians had a positive CAM attitude and they suggested any CAM method in the case of an incurable disease. The authors reported that female physicians

might recommend CAM methods significantly more frequently than their male counterparts in case of incurable diseases.[14]

In the study by Ozcakır et al., 66% of doctors had a neutral attitude towards and 29% were satisfied with CAM use by their patients.[12]

Half of the physicians in the study by Winslow L Corbin et al. recommended CAM for a patient. Forty percent of those physicians had neutral and 9% had very positive overall feelings when discussing complementary and alternative medicine with patients. Similar to this study, female physicians were more interested in CAM than male physicians were. In contrast, age was not a significant factor for being interested in training for CAM in the study by Winslow.[15]

Ben Arye et al. investigated the attitudes of both primary care physicians and patients towards CAM. The most common CAM methods used by physicians for their patients were diet supplements and herbal medicine at a percentage of 34% and 31%, respectively. In our study, on the other hand, acupuncture ranked first among methods physicians may recommend their patients.[16] "The Regulation about Acupuncture Practicing Private Health Centers and about Practicing Acupuncture" prepared by the Republic of Turkey Ministry of Health was published in the official gazette on September 17, 2002 and came into force on hte date of publication.[18] According to this regulation, it is mandatory to practice acupuncture only by certified doctors in Turkey. Absence of any regulation about other CAM modalities may account for acupuncture ranking first among others recommended by physicians.

Schmidt and colleagues compared CAM behaviour between British and German general practitioners (GPs). Although statistically insignificant, the attitude of German GPs toward CAM was more positive compared to British GPs. However, British GPs reported higher levels of referral to alternative therapies than German GPs did. They most commonly referred their patients to chiropractic treatment (79%) and acupuncture (67%). German GPs referred their patients mainly to acupuncture treatment (82%) followed by chiropractic treatment (73%). Irrespective of country, most GPs of the study were concerned about the lack of scientific evidence about CAM. British GPs were also highly concerned about lack of knowledge about CAM indications and the lack of availability on the National Health Service.[19] Accordingly, our physicians also focused on experimental studies or researches, proved efficacy mechanism, and published case reports about CAM. The abstention of our physicians from refering patients to complementary and alternative therapies may be attributed to lack of knowledge about CAM methods and to the absence/scarcity of health centers practicing CAM treatments and this differs them from the physicians in the study mentioned above.

In a study by Fadlon et al. including 22 general hospitals in Israel, most physicians had a positive attitude regarding the effectiveness of CAM modalities and felt that CAM treatment could improve the patient's well-being.[3] However, they were deeply concerned about possible misuse of CAM and subsequent harm to patients. More than half of the respondents expressed concern that use of CAM could increase the possibility of patients not receiving appropriate medical care.

Dedicated to the notion of "First do no harm", our physicians were cautious about CAM and whenever they felt like offering any CAM method they were mostly influenced by experimental studies or researches.

Mıstık et al. also asked the physicians' opinions on incorporating CAM methods in medical curriculum. There were 151 physicians (77%), who thought that students could be informed about CAM and 93 (48%) thought that CAM should be taught in medical schools. We did not ask the physicians' opinions on incorporating CAM methods into medical curriculum; nonetheless, 57% of the physicians were eager to receive training on CAM.

In the study by Özçakır et al. 49% of physicians reported to be interested in CAM methods while 74% indicated that they would like to be informed more about this subject. They demanded more information about herbal medicines (24.5%) and acupuncture (21.5%).[12]

Winslow et al found that most physicians (60%) wanted to learn more about CAM. Female physicians were more interested than male physicians. The mean ages of physicians who were and were not interested in CAM training did not differ significantly. The most commonly cited reason was "want to dissuade patient if alternative method is unsafe and/or ineffective". Physicians who had positive attitudes toward CAM were those who were most interested in learning more about CAM.[15]

Fadlon et al. aimed to enroll 420 physicians from 22 hospitals in Israel, however, they could only include 70% of the targeted number. The main reason for not participating in the study was the physicians' difficulty in finding enough time for the interview.[3]

In the study by Schmidt et al., the behaviors of British and German GPs about CAM were compared and the overall response rate was 68%.[19]

The low response rate in the present study may be the consequence of inadequate time or it may indicate a negative overall attitude toward CAM. Therefore, this is the limitation of the study. On the other hand, the strength of our study is that the attitude of our study group is an important reference for others as our study subjects work in a reference hospital with a high number of graduate students annually.

Considering that many CAM users in our country usually do not inform their physicians on their CAM use, and that they opt to obtain information from other sources, it may be wise to draw the attention of physicians to CAM. The subject may be incorporated both into the undergraduate and postgraduate curriculums of all medical schools.

CONCLUSION

The result of the present study suggests that the knowledge level of physicians on CAM is low. This may be the consequence of unavailability of access to CAM training in medical schools in Turkey. In the present study, the fact that younger physicians are more eager to be trainned on this subject than their older counterparts may show the rising public demand for CAM methods. Moreover, physicians need to be aware of safety, efficacy, indications, and contraindications of CAM interventions. Scientific evidence is the most important factor taken into account by physicians. More evidence based-studies are needed on the subject in order to draw the attention of physicians on CAM.

REFERENCES

1. Davis MP, Darden PM. Use of complementary and alternative medicine by children in the United States. Arch Pediatr Adolesc Med 2003;157(4):393-6.
2. Eisenberg DM, Davis RB, Ettner SL, Appel S, Wilkey S, Van Rompay M, et al. Trends in alternative medicine use in the United States, 1990-1997: results of a follow-up national survey. JAMA 1998;280(18):1569-75.
3. Fadlon J, Granek-Catarivas M, Roziner I, Weingarten MA. Familiarity breeds discontent: Senior hospital doctors' attitudes towards complementary and alternative medicine. Complement Ther Med 2008;16(4): 212-9.
4. Furlow ML, Patel DA, Sen A, Liu JR. Physician and patient attitudes towards complementary and alternative medicine in obstetrics and gynecology. BMC Complement Altern Med 2008;8:35.
5. Samano EST, Ribeiro LM, Campos AS, Lewin F, Filho ESV, Goldenstein PT, et al. Use of complementary and alternative medicine by Brazilian oncologists. Eur J Cancer Care (Engl) 2005;14(2):143-8.
6. Fisher P, Ward A. Complementary medicine in Europe. BMJ 1994;309(6947):107-11.
7. Akcay F, Akturk Z. [Complementary and alternative medicine for gastrointestinal diseases]. Turkiye Klinikleri J Fam Med-Special Topics 2010;1(3):68-75.
8. Kav S, Hanoğlu L, Algier L. Use of complementary and alternative medicine by cancer patients in Turkey: a literature review. Int J Hematol Oncol 2008;18:32-8.
9. Eisenberg DM. Advising patients who seek alternative medical therapies. Ann Intern Med 1997;127(1):61-9.
10. Yavuz M, Özcan İlçe A, Kaymakçı S, Bildik G, Dıramalı A. [Examination of the complementary and alternative treatment use with breast cancer patients]. Türkiye Klinikleri J Med Sci 2007;27(5):680-6.
11. Wahner-Roadler DL, Vincent A, Eklin PL, Loehrer LL, Cha SS, Bauer BA. Physicians' attitudes toward complementary and alternative medicine and their knowledge of specific therapies: a survey at an academic medical center. Evid Based Complement Alternat Med 2006;3(4):495-501.
12. Ozcakir A, Sadikoglu G, Bayram N, Mazicioglu MM, Bilgel N, Beyhan I. Turkish general practitioners and complementary/alternative medicine. J Altern Complement Med 2007;13(9): 1007-10.
13. Tan M, Uzun O, Akçay F. Trends in complementary and alternative medicine in eastern Turkey. J Altern Complement Med 2004;10(5): 861-5.

14. Mistik S, Toprak D, Evereklioglu C, Ozturk A. Complementary and alternative training in medical schools: half of residants and professors agree that it should be taught. Middle East Journal of Family Medicine 2005;3(5):18-22.
15. Winslow LC, Shapiro H. Physicians want education about complementary and alternative medicine to enhance communication with their patients. Arc Intern Med 2002;162(10):1176-81.
16. Ben-Arye E, Frenkel M, Klein A, Scharf M. Attitudes tuwards integration of complementary and alternative medicine in primary care: perspectives of patients, physicians and complementary practitioners. Patient Educ Couns 2008;70(3):395-402.
17. Jump J, Yarbrough L, Kilpatrick S, Cable T. Physicians' attitude toward complementary and alternative medicine. Integrative Med 1998;1(4):149-53.
18. Resmi Gazete (17.09.2002, Sayı: 24879) sayılı Akupunktur Tedavisi Uygulanan Özel Sağlık Kuruluşları İle Bu Tedavinin Uygulanması Hakkında Yönetmelik; 2002. p.1-17.
19. Schmidt K, Jacobs PA, Barton A. Cross-cultural differences in GPs' attitudes towards complementary and alternative medicine: a survey comparing regions of the UK and Germany. Complement Ther Med 2002;10(3): 141-7.