

Nursing department students' knowledge and use of complementary and alternative medicine methods

Edibe Pirincci¹, Ferit Kaya², Sultan Cengizhan³, Fulya Onal⁴

¹Firat University Faculty of Medicine Department of Public Health, Elazig, Turkey

²Elazig, Public Health Institution, Elazig, Turkey

³Firat University Hospital, Elazig, Turkey

⁴Ege University Hospital, Izmir, Turkey

Abstract

Aim: This study was conducted to evaluate the knowledge, use and views of health school nursing students about complementary and alternative medicine (CAM) practices.

Materials and Methods: In this descriptive study, the questionnaire was distributed to every student who was studying on the days when the research was applied. The study was conducted with 489 volunteer students who agreed to fill out the questionnaire. The obtained data were recorded in SPSS packaged software and statistical analyzes were done through this software.

Results: The CAM methods that are most known by the students who participated in the research are respectively, (82.6%) exercise, (79.6%) vitamins, (74.0%) diet, (73.0%) vegetable products and (71.3%) massage. The frequency of using CAM was found to be 51.3%. CAM usage rate in males is higher than females ($p < 0.05$). In this study, when the causes of using CAM were examined, 51.1% of the students stated that they used CAM methods to solve their health problems, 50.1% of them used CAM to reduce stress and 44.4% of them used CAM for hair and facial treatment. The rate of recommending CAM methods to others is 52.6%. The students were informed about CAM methods firstly from the internet, secondly from the family and thirdly from the friends.

Conclusions: Students of the nursing department have a lack of knowledge in this regard. Nevertheless, more than half of the students have used alternative treatment methods and recommended them to others.

Keywords: Nursing Students; Complementary and Alternative Medicine; Knowledg.

INTRODUCTION

Complementary and alternative medicine (CAM) are health care methods, products and practices that are not considered part of traditional medicine and are often used to prevent disease, to improve health, to prevent the recurrence of diseases, to cope with the symptoms of cancer and chronic diseases (1). Complementary treatments (acupuncture, meditation, aromatherapy, therapeutic massage and relaxation techniques, etc.) are used together with standard Western medical treatment; alternative treatments (diet and nutrition, pharmacological and biological treatments, etc.) are used instead of scientifically proven treatments (2,3).

The National Center for Complementary and Alternative Medicine (NCCAM) has grouped complementary and alternative treatments under five headings: 1. Alternative Medical Systems (homeopathy, naturopathy, traditional Chinese medicine, and culturally rooted systems like Ayurveda, 2. Body-Mind Interventions (music therapy,

spiritual healing, psychological counseling, and praying), 3. Biologically Based Treatments (herbs, dietary supplements, medicinal herbal teas or the use of animal parts, such as shark fins), 4. Manipulative and Body-Based Treatments (massage, chiropractic manipulation, and osteopathy), and 5. Energy Treatments (reiki, qigong, and electromagnetic therapies) (4).

The use of complementary and alternative medicine has broadened in recent years and has risen steadily in many industrialized countries (5). World Health Organization (WHO) have reported that more than three quarters of the world's population rely upon complementary and alternative medicine (CAM) for health care (6).

Recent studies report that the use of alternative medicine has been increasing in preventative health, as well as offering treatments for those with chronic illnesses. In countries such as China, India, and Cuba, standard Western medicine and alternative medical treatments have been used together for decades (7,8). It is not

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Corresponding Author: Edibe Pirincci, Firat University Faculty of Medicine Department of Public Health, Elazig, Turkey
E-mail: edibepirincci@yahoo.com

possible to provide accurate data regarding the use of complementary therapies in Turkey as there are few studies, complementary therapies are not sufficiently well-known or trusted, and only a few professionals are using them (9). In Turkey, there are many different CAM practices in use in the community; however, there is insufficient data regarding what these practices are, how often they are used, and how healthcare professionals approach this issue. This study surveyed Firat University Health College Department of Nursing students, who will shortly become members of health teams in constant contact with the public, to evaluate their knowledge, attitudes, and behaviors regarding CAM.

MATERIALS and METHODS

Study design

Descriptive study design was used in the study.

Setting and sample

The population was comprised entirely of students (n=550) studying in the nursing department at Firat University's Health College Department of Nursing School. In order to collect data, a questionnaire prepared by researchers using various literatures was used (10,11). The survey was conducted between March and May 2015. The questionnaire form was distributed to all the students who came to the school on the days which the survey took place. The participation criteria for the study were to be at school on the days when the questionnaire was applied and to voluntarily agree to fill the questionnaire. For students who were not in school, the school has been revisited for the second time. The students who did not want to participate in the study and the unfilled or half-finished surveys were excluded from the study.

The survey was offered to every student who came to school on the days the study was carried out and 489 students (88.9%) volunteered to complete it.

Ethical consideration

Written approval for this study was obtained from Firat University Ethics Committee (Ref No 67919; 2014 December 16) and the Health College Department of Nursing School Management.

Data collection/procedure

After necessary explanations were given to the students, the surveys were completed under supervision. The survey instrument contained 23 questions in two sections. In the first section, there were socio-demographic questions regarding the student's age, gender, mother and father's education and employment status, family type, and residential location. In the second section, there were questions pertaining to whether or not the students used alternative and complementary medicine practices, which ones they used, and why they used these methods, whether or not they received formal education on the subject, their knowledge about these practices, their views, and where they obtained their information.

Some complementary and alternative treatment methods are: Feng Shui; The purpose of the Feng Shui philosophy,

which is translated as wind and water to our language; to organize buildings, rooms, and furnishings in harmony with nature in the highest and most efficient manner (12). Tai Chi; a Chinese body-mind exercise based on slow and controlled movements. It is thought to provide psychological benefits at the same time increasing aerobic capacity, muscle strength and flexibility (13).

Meditation; It is a method aimed at ensuring people to contact intensively to what is happening in and around them. Reiki; It is a method aiming to stabilize the energy changes occur in the body and to enter into the spiritual and physical healing process. Homeopathy; Homeopathic medicines are a way of activating the body's self-healing power. Chiropractic; To regulate the nervous system, the spine, bones and muscles are treated by techniques similar to massage (14). Complementary and alternative medicine methods used in our country are: Acupuncture, Apitherapy, Phytotherapy, Hypnosis, Homeopathy, Chiropractic, Osteopathy, Ozone Therapy, Reflexology, Music Therapy, Cupping, Maggot Therapy, Mesotherapy, Prolotherapy (15).

Data analysis

Data were statistically evaluated using the SPSS 21.0 package program. Statistical analysis includes percentages, mean±standard deviation, and a chi-square test. In comparisons, $p < 0.05$ values were considered as statistically significant.

RESULTS

The mean age of participants in the study was 21.29 ± 2.02 . 56.2% were female and 43.8% were male. 25.0% of the students were freshman, 23.7% were sophomores, 27.6% were juniors, and 23.7% were seniors. While 40.1% of students' mothers had finished primary school, 31.7% of the fathers were high school graduates. 81.4% of the mothers were housewives and 37.0% of the fathers were manual workers. Almost half (47.2%) of the students lived with their families, 81.0% of which was a nuclear family. 62.8% had moderate economic status. Students participating in the study indicated that they had very good knowledge about exercise (82.6%), vitamins (79.6%), diet (74.0%), herbal products (73.0%), massage (71.3%), and religious practices (69.5%); 74.1% however, had no knowledge about light therapy, osteopathy (71.1%), and bio energy (69.6%) (Table 1).

51.3% of students indicated that they had used "any CAM practice". CAM-use ratio was much higher among male students compared to females ($p < 0.05$). The use of CAM significantly increased with increases in students' ages and parents' education status ($p < 0.05$). Far fewer CAM practices were used by those whose mothers were housewives (48.5%) when compared to working mothers (64.0%) ($p < 0.05$). Also, there was a significant difference between students who received CAM training (64.6%) and used CAM practice, compared to students who did not receive CAM training (49.4%), but still used CAM practices ($p < 0.05$) (Table 2).

Table 1. Distribution of students knowledge of CAM methods

CAM Methods	Have no knowledge		Heard of it		Know it well	
	number	%	number	%	number	%
Herbal products(n=456)	47	10.3	76	16.7	333	73.0
Prayer/spiritual (n=443)	55	12.4	80	18.1	308	69.5
Vitamins (n=442)	32	7.3	58	13.1	352	79.6
Exercise (n=431)	28	6.5	47	10.9	356	82.6
Diet (n=430)	38	8.8	74	17.2	318	74.0
Massage (n=425)	33	7.8	89	20.9	303	71.3
Relaxation techniques (n=425)	118	27.8	148	34.8	159	32.5
Thermal Springs (n=424)	40	9.4	111	26.2	273	64.4
Music/Art /Dance therapy(n=421)	86	20.4	132	31.4	203	48.2
Yoga (n=419)	89	21.2	206	49.2	124	29.6
Breathing Exercises (n=415)	79	19.0	109	26.3	227	54.7
Acupuncture (n=411)	117	28.5	197	47.9	97	23.6
Osteopathy (n=411)	292	71.0	87	21.2	32	7.8
Biofeedback (n=411)	286	69.6	92	22.4	33	8.0
Chiropractic (n=410)	256	62.4	116	28.3	38	9.3
Feng shui (n=410)	250	61.0	129	31.4	31	7.6
Homoeopathy (n=410)	237	57.8	128	31.2	45	11.0
Reflexology (n=409)	282	69.0	93	22.7	34	8.3
Tai Chi (n=409)	220	53.8	156	38.1	33	8.1
Hypnosis (n=409)	158	38.6	190	46.5	60	14.7
Therapeutic touch (Reiki)(n=409)	218	53.3	129	31.5	62	15.1
Color Treatment (n=409)	218	53.3	129	31.5	62	15.2
Aromatherapy (n=406)	190	46.8	155	38.2	61	15.0
Ozone Treatment (n=405)	165	40.7	151	37.3	89	22.0
Light Therapy (n=405)	300	74.1	76	18.8	29	7.1

n; indicates the number of respondents this question.

The most commonly used CAM practices among students in this study were, in descending order, herbal products (51.1%), vitamins (49.1%), exercise (49.1%), religious practices (45.2%), and massage (42.3%). Homeopathy, chiropractic, and osteopathy were the least-used CAM practices (0.06%) (Table 3). When the reasons for using CAM were examined students indicated "solving health problems" (51.1%), "reducing stress" (50.1%), and "hair and facial care" (44.4%) (Table 4).

When students attitudes and thoughts on CAM methods were examined, 33.3% indicated that "CAM treatments were non-scientific practices", 21.5% believed that "CAM constituted a danger in terms of public health", and 34.4% believed that "CAM practices delayed people receiving

proper medical treatment." A majority (68.1%) indicated that "research is needed to evaluate the effects of CAM practices." Although 57.3% suggested that "CAM was seen as folk-medicine by the general public", 55.4% of students believed that "CAM and traditional practices should be combined with nursing practices", and 56.2% of students indicated that "CAM practices should be included in nursing training programs." Only 21.9% of nurses felt they had "enough knowledge on CAM" (Table 5).

With regards to information sources on CAM practices, 68.7% of students indicated that they turned to the Internet, 64.8% obtained information from their family, 51.1% from their friends, 50.9% from TV/radio, and 47.0% from a relative/neighbor (Table 6).

Table 2. Distribution of student characteristics based on using CAM methods

Some Features	Uses CAM	n %	Does not use CAM	n %	χ^2 - test	p- value
Age group(years)						
20 and ↓	87	45.3	105	54.7	$\chi^2=4.58$	p=0.032
21 and ↑	164	55.2	133	44.8		
Gender						
Female	129	46,9	146	53,1	$\chi^2=4.91$	p=0.027
Male	122	57,0	92	43,0		
Academic Year						
Freshman	69	56.6	53	43.4	$\chi^2=2.49$	p=0.475
Sophomore	54	46.6	62	53.4		
Junior	70	51.9	65	48.1		
Senior	58	50.0	58	50.0		
Father's Education Level						
Did not graduate from any school	11	30.6	25	69.4	$\chi^2=22.59$	p=0.001
Primary school graduate	55	39.3	85	60.7		
Middle school graduate	47	57.3	35	42.7		
High school graduate	90	58.1	65	41.9		
University graduate	48	63.2	28	36.8		
Mother's Education Level						
Did not graduate from any school	51	42.9	68	57.1	$\chi^2=13.38$	p=0.010
Primary school graduate	93	47.4	103	52.6		
Middle school graduate	39	55.7	31	44.3		
High school graduate	50	65.8	26	34.2		
University graduate	18	64.3	10	35.7		
Father's Employment Status						
Unemployed	12	30.0	28	70.0	$\chi^2=20.38$	p=0.001
Worker	95	54.0	81	46.0		
Clerk	83	63.4	48	36.6		
Retired	31	43.1	41	56.9		
Self-employed	24	42.9	32	57.1		
Mother's Employment Status						
Not working (Housewife)	194	48.5	206	51.5	Fisher's Exact test	p=0.010
Working mother	57	64.0	32	36.0		
Family's Economic Status						
Bad	23	57,5	16	42,5	$\chi^2=5.55$	p=0.062
Moderate	145	47,2	162	52,8		
Good	83	58.5	59	41.5		
Received CAM Training						
Yes	42	64.6	23	35.4	Fisher's Exact test	p=0.024
No	209	49.4	215	50.7		

Table 3. Distribution of CAM method used by students

CAM Method Used (n=489)	n	%
Herbal products	250	51.1
Exercise	240	49.1
Vitamins	230	49.1
Prayer/spiritual	221	45.2
Massage	207	42.3
Diet	171	35.0
Thermal Springs	131	26.8
Music/Art /Dance therapy	126	25.8
Breathing Exercises	122	24.9
Relaxation techniques	114	23.3
Yoga	35	7.2
Akupuntur	29	5.9
Aromatherapy	20	4.1
Ozone Treatment	18	3.7
Hypnosis	16	3.3
Therapeutic touch (Reiki)	12	2.5
Biofeedback	11	2.2
Feng shui	7	1.4
Light Therapy	7	1.4
Tai Chi	7	1.4
Reflexology	4	0.8
Color Treatment	5	1.0
Homoeopathy	3	0.6
Chiropractic	3	0.6
Osteopathy	3	0.6

***More than one choice could be marked.**

Table 4. Reasons students used CAM

Reasons for Using CAM	n	%
Treat health problems	250	51.1
Reduce stress	245	50.1
Face and hair care	217	44.4
Weight loss	196	40.1
Strengthen the immune system	195	39.9
Stop illness from progressing	183	37.4
Comfortable sleep/insomnia	181	37.0
In addition to medical treatment	162	33.1
Evil Eye	123	25.2
It might work, it won't hurt	110	22.5
Anxiety and depression/psychological problems	78	16.0
Desperate	67	13.7

***More than one choice could be marked.**

Table 5. Distribution of students' attitudes towards CAM methods

Statement Regarding Attitudes	Yes		No		I have no idea	
	n	%	n	%	n	%
CAM treatments are non scientific practices	163	33.3	231	47.2	95	19.5
Nurses have sufficient knowledge about CAM	107	21.9	212	43.4	170	34.8
CAM constitutes a danger to public health	105	21.5	231	47.2	153	31.3
CAM methods delay people in receiving proper medical treatment	168	34.4	159	32.5	162	33.1
Research is needed to evaluate the effectiveness of CAM methods	333	68.1	37	7.6	119	24.3
CAM are known as "folk remedies" among the public	280	57.3	61	12.5	148	30.2
CAM methods and traditional practices should be combined with nursing practices	271	55.4	86	17.6	132	27.0
Healthcare personnel should provide counseling on CAM methods and inform patients	297	60.7	52	10.6	140	28.6
CAM methods should be in nursing education	275	56.2	64	13.1	150	30.7
I would recommend CAM methods to others	257	52.6	51	10.4	181	37.0

Table 6. Student's information sources for CAM methods

Information Sources	n	%
Internet	317	68.7
Family	336	64.8
Friend	250	51.1
TV/Radio	249	50.9
Relative/neighbour	230	47.0
Newspaper/Magazine	224	45.8
Book	190	38.9
Health team members	174	35.6

***More than one choice could be marked.**

DISCUSSION

The most commonly known CAM practices were respectively; exercise, vitamins, diet, herbal products, massage, and religious practices. A study conducted by Araz et al. found that use of herbal products was the most common CAM practice (10), while in Cihangir's study, "praying" was the most common, followed by "namaz" which is one of the five pillars of Islam (16).

In a study conducted with medical students in Singapore, participants indicated that they knew something about/perceived that they knew a lot about acupuncture (56.8%), herbal treatments (49.7%), Tai-Chi (47.4%), and aromatherapy (45.0%) (17).

In this study, more than half (51.3%) of the survey respondents indicated that they had practiced any one of the named CAM practices. A study conducted in Izmir by Yildirim et al (18) reported CAM use frequency to be 38.5%. Camurdan ve Gul stated that the vast majority (72.4%) of the students used complementary and alternative medicine (19). McCaffery et al (20) found that one-third of Americans received at least one CAM practice in addition to their standard medical treatment. The use of CAM is increasing worldwide with between 9% and 80% of the general population turning to alternative medicine (21, 22). In Turkey, CAM use in the general population varies between 32% and 61% (2, 23, 24). The frequency of the use of CAM in this study was consistent with the literature.

In this study, the students who used CAM were mainly 21-years-old and older. For males, their parents' educational status was higher, fathers were clerical workers and mothers were also employed. In some studies, while the use of CAM was seen in lower educational status households (3, 25), and among women (3), in the study conducted by Yavuz et al (26) high use of CAM was seen amongst the highly educated, retired, and housewives. In a study conducted with a diabetic population, while 41.0% of the patients indicated they used CAM, high levels of CAM use was found in individuals with high levels of education, those ill for a long time, and those who were younger (27). In the literature, variations in the use of CAM treatments are based on socio demographic features. It has been reported that CAM use is much higher among American women who have high income and education status (28, 29). In Europe, it was found that CAM practices were used more frequently by women in younger age groups and by women with higher education (30). However, there are studies that do not support these findings. Ucan et al (31), Ceylan et al (25) and Inanc et al (32) reported that gender is not an important factor in CAM use, and Yildiz (24), found that male patients preferred to use CAM. In recent years, the use of CAM has grown globally with a steady increase in use in developing countries. It is assumed that as educational status increases, individuals gain greater awareness of CAM which allows them to approach CAM in a much more knowledgeable manner.

The most commonly used CAM practices include herbal

products, exercise, vitamins, religious practices, and massage. In a study conducted by Uzun & Tan with nursing students they found that the most commonly known and used methods were massage (55.1%), diet (52.2%), prayer (49.3%), musical therapy (44.6%), and vitamins (42.8%) (33). Ozkaptan and Kapucu reported that nurses had knowledge especially about massage (81%), hydrotherapy / spa (79.4%), herbal treatment (77.8%) and acupuncture (75.4%) (34). Sagkal et al reported the most common CAM use to be herbal therapies (70.7%), religious practices (70.5%), nutritional therapies (60.7%), exercise (53.9%), going to natural springs (34.9%), and massage (34.6%) (11). In their study with midwives, Koc et al reported the use of herbal therapies (32.6%), exercise (28.7%), diet (27.9%), massage (23.3%), music therapy (17.1%), psychotherapy (8.5%), and multivitamins (10.9%) (35).

Nursing students are expected to use massage because it is listed in the Nursing Interventions Classifications and it is one of the independent functions nurses use in patient care. In Turkey, herbal treatments are the most frequently used CAM practice. In addition to being in common use by the general public, herbal treatments are easily found and fairly cheap. It has been reported that many people use herbs because they believe that herbs are "natural" and "safe" (25).

Complementary and alternative medicine (CAM) practices vary from country to country and can show differences between cultural and ethnic groups. In this study, the lack of, or the low use rate of, homeopathy, relaxation treatments, reflexology, and mind-body approaches widely used in Western countries suggests that there may not be enough knowledge about these techniques, their access may be relatively difficult, and that they are not in common use among the general public.

In our study, reasons for using CAM were listed in order as "solving health problems", "reducing stress" and "hair and facial care." In a study by Araz et al it was reported that CAM was used for health problems (85.4%), hair and facial care (31.2%), to reduce stress (24.1%), to lose weight (22.7%), and to sleep comfortably (19.6%) (10). In Sagkal et al 71.2% of participants indicated that they used CAM because they believed it would provide additional benefits to standard medical treatments (11). These results suggest that individuals use CAM practices to reduce discomfort associated with many illnesses.

In this study, while 21.5% of nursing student participants agreed with the idea that CAM treatments constitute danger in terms of public health, 47.2% disagreed and 31.3% stated that they were ambivalent. When the same question was asked in the study by Yildirim et al 10.3% agreed, 64.3% disagreed, and 25.4% were ambivalent (36). In this study 60.7% agreed with the statement; Healthcare personnel should provide data regarding CAM practices and inform patients the study, and 56.2% indicated that CAM practices should be in nurse training programs. 61.0% of nursing students in Yildirim et al indicated that CAM

practices should be in the educational curriculum (36). In a survey with general practitioners, 74.4% of physicians indicated that they wanted to know much more about CAM, 51.0% believed that CAM could be effective, and 29.0% of physicians used CAM themselves, while 38.0% indicated they did not believe in the use of CAM (37).

Nursing students, as future healthcare professionals, should be informed about CAM in order to answer patients' questions accurately (38). More than half of the students (52.6%) recommended CAM methods to others. In the study Chen et al. 36.0% indicated that they found CAM methods useful and 4.0% evaluated them to be better than Western medicine (21).

In the study by Renzi et al. 26.7% of doctors who indicated that they used CAM, had much higher recommendation rates compared to others (39). With these results in mind, it can be said that there is a necessity for future healthcare workers to be informed about the public's approach to these practices, the benefits, and the possible risks and limitations. In addition they need to be able to inform the patient and their relatives on the use of CAM and to answer questions.

In this study students indicated that they learned about CAM from the Internet, family, friends, TV/radio, and relatives/neighbors respectively. In terms of choosing an alternative treatment, patients emphasized the importance of consulting friends or family (68.0%) and healthcare professionals (36.0%) (40).

CONCLUSION

This study shows that future health service providers lack adequate information regarding CAM. More than half of the students' surveyed indicated that they used CAM practices, the most commonly used CAM practice was the use of herbal therapies, and CAM practices were frequently used to solve health problems. However, more than half of the respondents also indicated that they obtained information on CAM via the Internet, family, and friends. In order to prevent harmful practices, it is important that healthcare professionals have good and reliable information. A relationship was identified between use of CAM and factors such as age, gender, in this regard in the field of education, education level and working status of the parents. As CAM practices are being widely used, it is recommended that these practices to be scientifically examined with clear information about their effects. It is also recommended that education regarding CAM be included in programs for healthcare professionals.

Ethical considerations: Ethical issues (Including plagiarism, Informed Consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc.) have been completely observed by the authors.

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REFERENCE

1. Fouladbakhsh JM, Stommel M. Gender, symptom experience and use of complementary and alternative medicine practices among cancer survivors in the U.S. cancer population. *Oncol Nurs Forum* 2010; 37:7-15.
2. Algier LA, Hanoglu Z, Ozden G, Kara F. The use of complementary and alternative (non-conventional) medicine in cancer patients in Turkey. *Eur J Oncol Nurs* 2005;9:138-46.
3. Gozum S, Tezel A, Koc M. Complementary alternative treatments used by patients with cancer in eastern Turkey. *Cancer Nurs* 2003;26:230-36.
4. National Center For Complementary and Alternative Medicine, CAMBASICS, <http://nccam.nih.gov/health/whatiscam> (Date of access) 10.09.2017
5. Vallerand AH, Fouladbakhsh JM, Templin T. The use of complementary/alternative medicine therapies for the self-treatment of pain among residents of urban, suburban, and rural communities. *Am J Public Health* 2003;93(6):923-35.
6. Joos S, Musselmann B, Miksch A, Rosemann T, Szecenyi J. The role of complementary and alternative medicine (CAM) in Germany- A focus group study of GPs. *BMC Health Serv Res* 2008;8:127-10.
7. Ben-Arye E, Frenkel M, Klein A, Scharf M. Attitudes Toward Integration of Complementary and Alternative Medicine in Primary Care: Perspectives of Patients, Physicians and Complementary Practitioners. *Patient Educ Couns* 2008;70:395-402.
8. Vohra S, Feldman K, Johnston B, Waters K, Boon H. Integrating Complementary and Alternative Medicine Into Academic Medical Centers: Experience and Perceptions of Nine Leading Centers in North America. *BMC Health Serv Res* 2005;5:78.
9. Kutlu S, Ekmekci TU, Koslu A, Purisa S. The Use of Complementary and Alternative Medicine in Cases at a Dermatology Polyclinic. *Turkey Clinics J Med Sci* 2009;9(6):1496-502.
10. Araz NC, Tasdemir HS, Kılıc SP. Evaluation of health sciences students' views on non-medical alternative and traditional practices. *Gumushane University Health Sciences J* 2012;1(4):239-51.
11. Sagkal T, Demiral S, Ordabas H, Altunok E. The use of complementary and alternative treatment methods among elders living in rural areas. *Firat University Health J Sci* 2013;27(1):19-26.
12. http://www.tekirdag.bel.tr/content/file/dokuman/1464153340_verimli-calisma-motivasyon-yaratma.pdf
13. Tsang WW, Hui-Chan CW. Comparison of muscle torque, balance, and confidence in older tai chi and healthy adults. *Med Sci Sports Exerc* 2005;37:280-89.
14. NCCAM (National Center for Complementary and Alternative Medicine) <http://nccam.nih.gov> (Erişim tarihi: 10.09.2017).
15. Traditional and Complementary Medicine Practices Policy (<http://www.resmigazete.gov.tr/eskiler/2014/10/20141027-3.htm>)
16. Cihangir Pinar DG. The use of complementary and alternative treatments with lung cancer patients and quality of life. Master's Thesis, Istanbul University, Health Sciences Institute, Istanbul, 2014.
17. Yeo AS, Yeo JC, Yeo C, Lee CH, Lim LF, Lee TL. Percept in of complementary and alternative medicine amongst medical students in Singapore- a survey. *Acupunct Med* 2005;23(1):19-26.

18. Yildirim Y, Tinar S, Yorgun S, Toz E, Kaya B, Sonmez S, et al. The use of complementary and alternative medicine (CAM) therapies by Turkish women with gynecological cancer. *Eur J Gynaecol Oncol* 2006;27(1):81-5.
19. Camurdan C, Gul A. Complementary and alternative medicine use among under graduate nursing & midwifery students in Turkey. *Nurse Educ Pract* 2013;13(5):350-4.
20. Mc Caffrey AM, Pugh GF, O'Connor BB. Understanding patient preference for integrative medical care: results from patient focus groups. *J Gen Intern Med* 2007;22(11):1500-5.
21. Chen YF, Chang JS. Complementary and alternative medicine use among patients attending a hospital dermatology clinic in Taiwan. *Int J Dermatol* 2003;42(8):616-21.
22. Nottingham EN. Complementary and alternative medicine: nurse practitioner education and practice. *Holist Nurs Pract* 2006;20(5):242-6.
23. Isikhan V, Komurcu S, Ozat A, Arpacı F, Balbay O, et al. The Status of Alternative Treatment in Cancer Patients in Turkey. *Cancer Nurs* 2005;28(5):355-62.
24. Yildiz I. The use of complementary-alternative treatment in cancer patients. Specialist Thesis, Istanbul University, Cerrahpasa Medical School Internal Medicine, Istanbul, 2006.
25. Ceylan S, Hamzaoglu O, Komurcu S, Beyan C, Yalcin A. Survey of the use of complementary and alternative medicine among Turkish cancer patients. *Complement Ther Med* 2002;10(2):94-9.
26. Yavuz M, Ilce A, Kaymakci S, Bildik G, Diramali A. Examination of complementary and alternative treatment methods in breast cancer patients. *Turkey Clinics J Med Sci* 2007;27(5):680-86.
27. Ceylan S, Azal O, Taslipinar A, Turker T, Acikel CH, Gulec M. Complementary and alternative medicine use among Turkish diabetes patients. *Complement Ther Med* 2009;17(2):78-83.
28. Barnes PM, Bloom B, Nahin RL. Complementary and alternative medicine use among adults and children: United States, 2007. *Natl Health Stat Report* 2008;10(12):1-23.
29. Gansler T, Kaw C, Crammer C, Smith T. A population-based study of prevalence of complementary methods use by cancer survivors. *Cancer* 2008;113(5):1048-57.
30. Molassiotis A, Fernandez-Ortega P, Pud D, Ozden G, Scott JA, Panteli V, et al. Use of complementary and alternative medicine in cancer patients: a European survey. *Ann Oncol* 2005;16(4):655-63.
31. Ucan O, Pehlivan S, Ovayolu N. The use of complementary and alternative therapies in cancer patients. *Am J Clin Oncol* 2008;31:589-94.
32. Inanc N, Sahin H, Cicek B, Tasci S. Use of herbs or vitamin/mineral supplements by patients with cancer in Kayseri, Turkey. *Cancer Nurs* 2006;29(1):17-20.
33. Uzun O, Tan M. Nursing students' opinions and knowledge about complementary and alternative medicine Therapies. *Complement Ther Nurs Midwifery* 2004;10(4):239-44.
34. Ozkaptan BB, Kapucu S. Views of Turkish Nurses and Physicians about Complementary and Alternative Therapies. *International Journal of Caring Sciences* 2014;7(3):914-24.
35. Koc Z, Topatan S, Sağlam Z. Use of and attitudes toward complementary and alternative medicine among midwives in Turkey. *Eur J Obstet Gynecol Reprod Biol* 2012;160(2):131-6.
36. Yıldırım Y, Parlar S, Eyigor S, Ozen OS, Eyigor C, Fadiloglu C, et al. An analysis of nursing and medical students' attitudes towards and knowledge of complementary and alternative medicine (CAM). *J Clin Nurs* 2010;19(7-8):1157-66.
37. Ozcakır 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.
38. Reed FC, Pettigrew AC, King MO. Alternative and complementary therapies in nursing curricula. *J Nurs Educ* 2000;39(3):133-9.
39. Renzi C, Mastrocin S, Paradisi M, Mazzotti E, Pasquini P. Complementary and alternative medicine: knowledge and attitudes among dermatologists. *Acto Derm Venereol* 2009;89(6):642-4.
40. Shakeel M, Little SA, Bruce J, Ah-See KW. Use of Complementary and Alternative Medicine in Pediatric Otolaryngology Patients Attending a Tertiary Hospital in the UK. *Int J Pediatr Otorhinolaryngol* 2007;71(11):1725-30.