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Knowledge, Attitude and Practices of Nursing Students About Complementary Health Approaches

Hemşirelik Öğrencilerinin Tamamlayıcı Sağlık Yaklaşımları Konusunda Bilgi, Tutum ve Uygulamaları

Ceyda UZUN ŞAHİN[a], Dilek ÇİLİNGİR[b], Sevilay HİNDİSTAN[b]

[a]Department of Medical Services and Techniques, Recep Tayyip Erdoğan University Vocational School of Health Services, Rize, TURKEY
[b]Department of Nursing, Karadeniz Technical University Faculty of Health Sciences, Trabzon, TURKEY

ABSTRACT Objective: The descriptive study was conducted to determine the knowledge, attitude and practices of nursing students when it comes to complementary health approaches (CHA). **Material and Methods:** The study was conducted with 264 nursing students who were studying at Recep Tayyip Erdogan University Health School in Turkey. Permission to conduct the study was obtained from the director of the college, students and ethics committee. Descriptive statistical methods were used. Percentage and frequency values were given as descriptive statistics. Spearman correlation coefficient was used to evaluate the relationship between numerical variables not showing normal distribution. $p<0.05$ was considered statistically significant. **Results:** The most common CHA were praying, exercising and imagery therapy. One third of the nursing students had received information about CHA. Students stated internet, TV, newspapers, magazines, books and family, respectively as information sources. Additionally, nearly half of the nursing students stated that they have used CHA. The most frequently used CHA by students was praying. About half of the students used CHA in stress situations. Most of the students stated that massage was useful. Three fourth of the students reported that CHA positively affected one's psychology and recovery. There was a statistically significant difference between students' class and use of CHA ($p<0.05$). A weak positive correlation was found between the status of nursing students benefiting from CHA and recommending CHA ($r=0.169$; $p=0.038$), and a positive correlation was found between the knowledge levels of CHA and recommending CHA ($r=0.193$; $p=0.029$) and benefitting from CHA ($r=0.985$; $p=0.001$). **Conclusion:** Based on the results of the research, it was determined that nursing students had a generally positive attitude about CHA but their knowledge level and practices related to CHA were insufficient; however, a positive relationship was found between students' levels of knowledge about CHA and their recommending and benefiting status of CHA.

Keywords: Complementary and alternative medicine; complementary health approaches; nursing students

ÖZET Amaç: Bu tanımlayıcı çalışma, hemşirelik öğrencilerinin tamamlayıcı sağlık yaklaşımları (TSY) konusunda bilgi, tutum ve uygulamalarını belirlemek amacıyla gerçekleştirildi. **Gereç ve Yöntemler:** Çalışma, Türkiye'de Recep Tayyip Erdoğan Üniversitesi Sağlık Yüksekokulu'ndaki 264 hemşirelik öğrencisiyle yapıldı. Çalışmanın yapılabilmesi için öğrencilerden, okul yöneticisinden ve etik kuruldan izin alındı. Verilerin analizinde tanımlayıcı istatistikler kullanılmıştır. Tanımlayıcı istatistikler olarak yüzde ve frekans değerleri verilmiştir. Normal dağılım göstermeyen sayısal değişkenler arasındaki ilişki ise Spearman korelasyon katsayısı ile değerlendirildi. $p<0.05$ istatistiksel olarak anlamlı kabul edildi. **Bulgular:** Dua, egzersiz ve hayal kurma en sık bilinen TSY idi. Öğrencilerin, üçte biri TSY hakkında bilgi aldıklarını ifade etti. Öğrenciler bilgi kaynaklarının sırasıyla internet, TV, gazete, dergi ve kitap olduğunu belirttiler. Öğrencilerin, yaklaşık yarısı TSY kullandıklarını belirtti. Öğrencilerin en sık kullandığı TSY dua idi. Öğrencilerin, yarıdan fazlası stresli durumlarda TSY'yi kullanmaktadır. Öğrencilerin çoğunluğu masajın yararlı olduğunu ifade etti. Öğrencilerin dörtte üçü TSY'nin bireyin psikolojisini ve iyileşmesini pozitif yönde etkilediğini belirttiler. Öğrencilerin, öğrenim gördükleri sınıflar ile TSY kullanma durumu arasında istatistiksel olarak anlamlı fark bulundu ($p<0,05$). Hemşirelik öğrencilerinin, TSY'den yarar sağlama ve TSY'yi tavsiye etme durumları arasında ($r=0,169$; $p=0,038$) pozitif yönde zayıf bir ilişki olduğu ve TSY hakkında bilgi düzeyi ile TSY'yi tavsiye etme ($r=0,193$; $p=0,029$) ve TSY'den yarar sağlama ($r=0,985$; $p=0,001$) durumları arasında pozitif yönde bir ilişki olduğu saptandı. **Sonuç:** Çalışmanın sonuçlarına göre hemşirelik öğrencilerinin, TSY hakkında genelde olumlu tutuma sahip olduğu, konuya ilişkin bilgi ve uygulamalarının yetersiz olduğu ancak öğrencilerin TSY hakkındaki bilgi düzeyi ile tavsiye etme ve yarar sağlama durumları arasında pozitif yönde bir ilişki olduğu bulundu.

Anahtar Kelimeler: Tamamlayıcı ve alternatif tıp; tamamlayıcı sağlık yaklaşımları; hemşirelik öğrencileri

The National Center for Complementary and Alternative Medicine or as currently named National Center for Complementary and Integrative Health (NCCIH) defines complementary health approaches (CHA) as "health care systems, products and practices that are not acknowledged as a part of conven-

Correspondence: Ceyda UZUN ŞAHİN
Department of Medical Services and Techniques, Recep Tayyip Erdoğan University Vocational School of Health Services, Rize, TURKEY/TÜRKİYE
E-mail: ceydam61@gmail.com

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tional medicine yet". According to this definition; NCCIH defines alternative therapies as those practices used in place of conventional therapies for diseases while complementary therapies as those used in conjunction with modern medicine. However, the limits of CHA have not been determined yet. Despite disputes when it comes to the CHA, complementary and alternative therapies are still used.[1-3]

NCCIH classifies CHA into three groups: natural products (herbal therapies, nutritional supplements, etc), body and mind practices (acupuncture, massage, reflexology, relaxation/meditation, reiki, qi gong, chiropractic and osteopathic manipulation, therapeutic touching, hypnosis, musical therapies, etc.) and other CHA (ayurveda, naturopathy, homoeopathy, etc.).[1] The basic principle of any CHA is holism. At the same time, holism is part of nursing practices as well. Today, it is known that many nursing practices such as therapeutic touching, hot-cold treatments, massage and stress management are accepted as complementary therapies which are CHA in their origin.[4,5]

Traditional, complementary and alternative medicine practices in Turkey have been regulated with "Traditional and Complementary Medicine Regulations" dated 27.10.2014 published in the Official Gazette No. 29158. This regulation aims "to determine the traditional and complementary medicine application methods for human health, to educate and authorize those who will apply these methods and to regulate the working procedures and principles of the health institutions where these methods will be applied". In the appendices of this regulation, 15 practices that can be done in the unit and application centers are defined. These practices are acupuncture, apitherapy, fitotherapy, hypnosis, leech therapy (hirudotherapy), homeopathy, chiropractic, cupping, maggot therapy, mesotherapy, prolotherapy, osteopathy, ozone therapy, reflexology, and music therapy.[6,7]

It is known that CHA are increasingly used by cancer patients and by many people all over the world in order to treat diseases and to improve their health.[2,3]According to a national health interview survey report in 2015, usage rate of any kind of CHAin 2012 was 33.2% among U.S. adults aged 18 and over.[8] Increasing number of diseases that are chronic, malignant and are hard to treat, leads individuals' to try and improve health and to maintain overall well-being. Furthermore doubts and fears exist about possible side effects of conventional treatment methods, uselessness of and no satisfaction with conventional therapies, and the belief that CHA are natural and therefore do not harm health and the idea that CHA are effective. These negative mentioned and the positives have been the main reasons why popularity of CHA has increased and continuously used.[5-10]

The roles and responsibilities of nurses have also changed with advances in the field of health and increasing knowledge with scientific value. In the education of nurses, it is very significant to integrate evidence-based complementary and integrated applications into the curriculum, to develop nursing practices related to these applications, to determine effective strategies, and to use complementary applications correctly in terms of contributing nurses to advise patients and their relatives about these methods.[10,11]

Although literature contains studies investigating different student groups' CHA knowledge, attitude and practices, it is limited for nursing students when it comes to this issue. Therefore; we are of the opinion that the current study which determines nursing students' knowledge, attitude and practices when it comes to CHA will help to contribute in developing a nursing curriculum program that includes CHA. The study was carried out in order to determine knowledge, attitude and practices of nursing students about CHA.

MATERIAL AND METHODS

STUDY DESIGN

The study was designed using a descriptive model.

SAMPLE AND SETTING

The universe of the study (390) consisted of all the students who were studying in a health school of a Turkish university during the 2015-2016 academic year. The sample consisted of 264 students who were

present at the school during the data collection and accepted to participate in the study. Participation rate was 68.0%. Of the students, 86.0% were in the 18-22 age group and the mean age was 20.6±1.77 (range, 18-26 years). Of the students, 27.7% were grade 1, 72.7% were female, 98.1% were single and 47.0% of their families lived in the city centers.

ETHICAL CONSIDERATIONS

In order to undertake the study, written official permissions were obtained from the institution where the study was done and the ethical suitability of the research was approved by Ethical Council of the KTU (date: 25.07.2016, protocol number: 2016/97). Also, informed consent was obtained from the students in line with principle of voluntariness. And also this study was conducted according to the Helsinki Declaration principles.

DATA COLLECTION AND INSTRUMENTS

Data were collected via a survey that was designed by the researchers. The survey form consisted of two parts that totaled 18 questions. The first part included five questions addressing socio-demographics of the students (age, gender, marital status, etc) and the second part contained 13 questions about CHA knowledge (status of receiving information about CHA, source of CHA information, status and reasons of using CHA, etc) of the students.

PROCEDURE

The data were gathered during the extracurricular hours in a classroom. The survey forms were filled out by the students and by the researchers during their face-to-face interviews. The form took 15-20 minutes to complete.

DATA ANALYSIS

The data were analyzed using SPSS for Windows 20.0 (Statistical Packet for Social Sciences for Windows). Descriptive statistical methods were used. Percentage and frequency values were given as descriptive statistics. Spearman correlation coefficient was used to evaluate the relationship between the level of knowledge of students about CHA, their status of benefitting and recommending them. $p<0.05$ was considered statistically significant.

RESULTS

There were no statistically significant differences between use of CHA and students' age, sex, marital status and family's place of residence ($p>0.05$) but there was a statistically significant differences between students' class and use of CHA ($p<0.05$).

Of the students, 123 (46.6%) expressed that they did not know the definition of CHA and 175 (66.3%) of them expressed that they had not received any information about CHA. Of the students, 52 (58.4%) who did receive information about CHA indicated that internet/TV was their information source. Furthemore, 169 (64.0%) of the students would prefer to have CHA included in their nursing curriculum and 152 (57.6%) of them wanted to have a course on CHA as an optional course. Finally, 111 (42.0%) of the students supported the usage of CHA in nursing practices (Table 1).

When students' knowledge levels were examined in terms of self-perceived CHA, it was noted that the students had insufficient knowledge when it came to vitamins [137 (51.9%)], herbal therapies [152 (57.6%)] and special diets [141 (53.4%)]. On the other hand, they had sufficient knowledge when it came to such body and mind practices as prayer [167 (63.3%)], exercise [140 (53.0%)] and imagery therapy [122 (46.2%)]. The students also expressed that they did not have any knowledge at all when it came to other complementary approaches such as homoeopathy [230 (87.1%)] and ayurveda [231 (87.5%)] (Table 2).

In the study, it was discovered that self-taught students thought that natural products, vitamins [176 (66.7%)], herbal therapies [173 (65.5%)] and special diets [164 (62.1%)] were clinically beneficial. Students also stated that body and mind practices, massaging [211 (79.9%)], praying [206 (78.0%)] and exercising [200 (75.8%)] might be beneficial. On the other hand, students expressed that they did not have any idea about benefits of such body and mind practices as homoeopathy [237 (89.8%)] and ayurveda [240 (90.9%)].

It was found that 131 (49.6%) of the students used CHA. The most popular being the body and

TABLE 1: Nursing students'status to receive information/training about complementary health approaches (n=264).

Definition of CHA	n (%)
It is a complementary medical practice to treatment and therapy	95 (36.0)
It is a practice without using medicines	46 (17.4)
I do not know	123 (46.6)
Receiving information/training about CHA	
Yes	89 (33.7)
No	175 (66.3)
Sources of information (n=89)*	
Internet, TV	52 (58.4)
Newspaper, magazines, books	38 (42.6)
Family, relatives, friends	32 (35.9)
Academicians	31 (34.8)
Health care personnel (physician, nurse)	12 (14.3)
Inclusion of CHA in curriculums	
Yes	169 (64.0)
CHA should be an optional course	152 (57.6)
CHA should be a compulsory course	17 (6.4)
No	40 (15.2)
No idea	55 (20.8)
Use of CHA in nursing practices	
Yes	111 (42.0)
No	47 (17.8)
No idea	106 (40.2)

CHA: Complementary health approaches. *n increased as more than one answers were given to questions and percentages were computed over the numbers of those who answered questions

mind practices, students used praying [111 (42.0%)] methods the most while they did not use biofeedback and acupressure methods at all. Of the natural products used by the students, herbal products [52 (19.7%)] were ranked first. Finally, use of other complementary health approaches, homoeopathy [1 (0.4%)] and ayurveda [1 (0.4%)] was used only by two students-one student per each method. Students [128 (48.5%)] pointed out that they resorted to CHA when they were stressed out. Moreover, 133 (50.4%) of the students emphasized that they felt that there was a psychological recovery as a result of using the CHA they used.

Of the students, 202 (76.5%) thought that CHA affected one's psychology and recovery positively (Table 3).

A weak positive correlation was determined between the status of nursing students benefiting from CHA and recommending CHA (r=0.169; p=0.038). Besides, a positive correlation was found between the knowledge levels of CHA and recommending CHA and (r=0.193; p=0.029) and benefitting from CHA (r=0.985; p=0.001).

DISCUSSION

In the current study, it was found that there was a statistically significant difference between nursing students' class and use of CHA. The studies done by Mhatre, Artani and Sansgiry, Liu et al. and Al-Omar and Al-Arifi on the use of CHA among university students revealed similar results.[12-14] In the current study, use of CHA by the students was higher among first and third graders as compared to other grades; which led to the conclusion that first grade students who were just beginning university education might have been affected by cultural and familial factors whereas the third graders who were coping with stress caused by intense academic work in the third year of their education might have been interested in CHA.

The current study also determined that almost half of the nursing students did not know the defini-

TABLE 2: Nursing students' self-perceived knowledge level regarding complementary health approaches (n=264).

	Knowledge level			
	Sufficient	Insufficient	No idea	Total
CHA	n (%)	n (%)	n (%)	n (%)
Natural products				
Vitamins	79 (29.9)	137 (51.9)	48 (18.2)	264 (100.0)
Herbal therapies	73 (27.7)	152 (57.6)	39 (14.8)	264 (100.0)
Special diets	51 (19.3)	141 (53.4)	72 (27.3)	264 (100.0)
Body and mind practices				
Praying	167 (63.3)	79 (29.9)	18 (6.8)	264 (100.0)
Exercising	140 (53.0)	99 (37.5)	25 (9.5)	264 (100.0)
Imagery therapy	122 (46.2)	109 (41.3)	33 (12.5)	264 (100.0)
Music therapy	105 (39.8)	130 (49.2)	29 (11.0)	264 (100.0)
Massage	99 (37.5)	128 (48.5)	37 (14.0)	264 (100.0)
Relaxation/meditation	86 (32.6)	141 (53.4)	37 (14.0)	264 (100.0)
Breath therapy	77 (29.2)	124 (47.0)	63 (23.9)	264 (100.0)
Behavior therapy	69 (26.1)	121 (45.8)	74 (28.0)	264 (100.0)
Hypnosis	63 (23.9)	150 (56.8)	51 (19.3)	264 (100.0)
Yoga	46 (17.4)	151 (57.2)	67 (25.4)	264 (100.0)
Therapeutic touching	36 (13.6)	85 (32.2)	143 (54.2)	264 (100.0)
Acupuncture	31 (11.7)	153 (58.0)	80 (30.3)	264 (100.0)
Qi gong	20 (7.6)	-	244 (92.4)	264 (100.0)
Hydrotherapy	18 (6.8)	104 (39.4)	142 (53.8)	264 (100.0)
Aromatherapy	16 (6.1)	67 (25.4)	181 (68.6)	264 (100.0)
Biofeedback	15 (5.7)	63 (23.9)	186 (70.5)	264 (100.0)
Reflexology	11 (4.2)	57 (21.6)	196 (74.2)	264 (100.0)
Reiki	11 (4.2)	30 (11.4)	223 (84.5)	264 (100.0)
Acupressure	7 (2.7)	34 (12.9)	223 (84.5)	264 (100.0)
Chiropractic	4 (1.5)	25 (9.5)	235 (89.0)	264 (100.0)
Other CHA				
Homoeopathy	4 (1.5)	30 (11.4)	230 (87.1)	264 (100.0)
Ayurveda	4 (1.5)	29 (11.0)	231 (87.5)	264 (100.0)

CHA: Complementary health approaches.

tion of CHA and two third did not receive any information about CHA. Unlike the current study, the study done by Ujiie and Okada indicated that rate of university students who knew the definition of CHA was lower than in the current study 11%.[15] Yet, in the study conducted by Liu et al. with university students, it was reported that four fifth of the students were familiar with CHA little or not at all.[13] This is very troubling since all the medical personnel-physicians, nurses and midwives-should have some knowledge of efficacy, reliability, benefits, harms, risks and action mechanism of CHA so that they can consult patients and their families when it comes to CHA. Therefore, health care personnel who are knowledgeable in CHA can recognize whether or not side effects can occur and therefore, can prevent damages to patients while observing them.[10] In this sense, it is very important and necessary that students who are

TABLE 3: Nursing students' attitude toward complementary health approaches (n=264).

Attitude*	n (%)
They positively affect one's psychology and recovery	202 (76.5)
They provide additional benefits to conventional therapies	191 (72.3)
They activate body's natural recovery abilities	180 (68.2)
There is no harm to perform conventional therapies together with conventional therapies	118 (44.7)

*n increased as more than one answers were given to questions and percentages were computed over the numbers of those who answered questions.

studying in the field of health care should be taught and trained in CHA as a part of curriculum during their education.

In the current study; nursing students stated internet, TV, newspapers, magazines, books and family, friends, academics and health care personnel, respectively as sources of CHA information. Results of some similar studies found similar results as the current study.[16-18] Contrary to the current study, the studies done by Mhatre et al. and Al-Omar and Al-Arifi revealed that CHA information sources were the same but the rate were different.[12,14] Likewise, it is known that health care personnel have a limited knowledge and experience with CHA and therefore do not have enough knowledge because they get their information from internet, friends and family members rather than professional journals.[4,10]

Two third of the nursing students stated that CHA should be included in nursing curriculum and nearly half of them emphasized that they supported the use of CHAin nursing practices. Similar to the current study; the study of Uzun and Tan conducted with nurse-students found that 172 (62.3%) of the students wanted to have classes related to traditional therapy methods and wanted to be able to use them in practice.[19] Again, Yıldırım et al. reported that 61.3% of nursing students and 37.9% of medical students indicated that CHA should be introduced into the academic curriculum.[17] Besides, 57.8% of the nursing students and 32.6% of medical students emphasized that CHA should be integrated into clinical care, too. It was understood that the rate of students who emphasized that CHA should be integrated into curricular programs was lower in the studies of Lohet al. and Zimmerman and Kandiah (50.2%-5.8%) than the current study.[20,21] On the other hand, the demand by students for CHA classes was higher in the studies done by Al-Omar and Al-Arifi James and Bah than in the current study (93.4%-80%).[14,18] CHA practices are taught through educational curriculums in most of the countries around the world. In order to design a curricular program, studies need to determine numerous variables of CHA use-such as regional and cultural differences, beliefs, traditional practices and income status- should first be examined in that country. Results from the current study could be used as a guide when it comes to which CHA should be included in curricular programs. To this end, it is very crucial that medical schools, pharmacological schools and nursing schools collaborate and build a consensus on how to implement CHA into a curricular program.[3,22]

It was found in the current study that in relation to self-perceived CHA; nearly two third of the nursing students expressed that they had sufficient knowledge in praying, exercising and imagery therapy methods, and more than half of them had insufficient knowledge in herbal therapies, special diets and vitamins and more than four fifth of them did not have any knowledge at all about the homoeopathy and ayurveda. Likewise, in the study done by Yıldırım et al. with nursing students and medical students revealed that the most widely known CHA were prayer (59.2%), massage (56.1%) and imagery therapy (54.0%).[17] While the least known CHA were acupressure, chiropractic and homoeopathy among the two groups. Again, the same study suggested that the most widely known CHA by medical students were diet therapy (40.2%), vitamins (35.0%) and praying (33.2%). In the studies done by Al-Omar and Al-Arifi, Lohet al. and James and Bah, it was identified that herbals/botanicals/supplements and spirituality/praying were better known by the students then chiropractic, biofeedback, reflexology, ayurveda, naturopathy and osteopathy which were the least known.[14,18,20] Unlike the current study, it was found that the use of herbal teas was the most known CHA in the study conducted by Araz et al. using the students from health sciences faculty (80.8%) while diet and vitamins were the best known CHA by the students of specialty in medicine and medical students in the study of Ergin et al.[16,23]

It was identified in the current study that in relation to self-perceived CHA; nearly two third of the nursing students said that natural products (vitamins, herbal therapies and special diets) were useful and four fifth of them expressed that body and mind practices (massages, praying, exercising, music therapy, relaxation/meditation, imagery therapy, behavior therapy, breath therapy) were helpful. Also, nearly all of the students said that they did not have any idea about benefit of homoeopathy or ayurveda. Similarly,

in a study by Yıldırım et al. which was done with nursing students and medical students revealed that nursing students were of the opinion that diet (84.5%), massage (82.3%), relaxation techniques (82.0%) and herbal therapy (76.9%) were beneficial while medical students were of the opinion that diet (79.5%), massage (76.2%), vitamins (76.2%) and relaxation techniques (63.4%) were helpful.[17] Both groups considered acupuncture and hypnosis which are both CHA to have harmful effects. It was also identified in the study by Loh et al. that students thought that massage (82.8%), meditation (69.0%), spirituality (56.7%), and herbalism (48.9%) were the most beneficial CHA while homeopathy (33.9%) and chiropractic (23.2%) were looked at in a negative light and more than the half of the students said that they did not have any idea about the 7 of the 15 CHA.[20] Other relevant studies done about this topic explored students' thoughts about CHA such as herbal medicine, spirituality, massage and relaxation exercises found that they found them beneficial whereas some CHA such as homeopathy, hypnosis and chiropractic were harmful in their mind.[13,14,16,18]

Today, people generally use CHA in order to relieve signs of a disease or a disorder and to cope with problems and stress more easily. To this end, students also use CHA. In the current study, it was found that nearly half of the nursing students resorted to CHA. According to the relevant studies; rate of CHA use among university students was lower in the studies by Al-Omar and Al-Arifi (39.1%), Mhatre, Artani and Sansgiry (35.8%) and Liu et al. (35.1%) than in the current study while it was higher in the studies done by Versnik Nowak et al. (82%), Nowak and Dorman (98%), La Caillea and Kuvaas (77.8%), Nguyen et al. (67%) and Araz et al. (61.2%) than in the current study.[12-14,16,24-27]

In the current study; of the body and mind practices that are part of CHA, praying was found to be the most often used followed by music therapy and exercise. In addition to natural products; herbal therapies were the most preferred. However; it was noted that of body and mind practices used as part of CHA; aromatherapy, reiki, chiropractic, hypnosis, reflexology, Qi-Gong, biofeedback, acupressure and other complementary health practices like homoeopathy and ayurveda were not preferred by students. When literature is investigated, although there was a limited number of studies done using nursing, medical and health science students to study CHA use; some studies do exist and they revealed that students often used vitamins, praying, massage, thermal water, breath exercises, imagery therapy and herbal therapies, on the other hand they do prefer chiropractic, acupressure biofeedback and acupuncture.[16,17] It was also noted that students in pharmacology schools generally use herbal medicine nutrition, massage and spirituality/praying methods.[14,18] As for the university students who studied at different academic schools; it was identified that non-vitamin and non-mineral products, herbal medicine, yoga, deep breathing exercises, massage therapy, meditation, vitamins supplement/natural products, nutritional drinks, relaxation techniques, chiropractic, aromatherapy and diet/nutrition were used.[12,13,15,24-27] In light of these results, although CHA that students did not prefer were similar a conclusion was reached that geography, cultural factors and academic schools might have a bigger effect upon students' familiarity with and use of CHA.

In the current study, nearly half of the nursing students said that they used CHA when they were stressed and emphasized that they felt that CHA produced a positive effect on their psychological status. Concurring with the current study, the study done by Al-Omar and Al-Arifi revealed that students used CHA in such cases as mild ailments (36.5%), acute illness (32.6%), nutrition (32.6%) and chronic disease (23.0%).[14] In the same study; 48.9% of the students felt that there was a mild recovery in their medical conditions, 23.3% of them felt no change and 10.5% of them felt that there was a strong improvement in their medical conditions thanks to CHA. In the study done by Nguyen et al. found that university students used CHA in order to reduce stress (37.0%), to maintain health (35.5%), nutrition (26.6%) and to cope with cold/flu (24.1%).[27] Conversely, the study done by Versnik Nowak et al. indicated that students' general attitudes towards CHA were slightly negative.[24] However 77% of them looked at CHA favorably since there were many approaches that they

could choose from. Similarly, in a study done by Nowak and Dorman found that students' general attitudes towards CHA were slightly negative.[25] As for the study of Yıldırım et al., it was identified that nursing students had more positive opinions when compared to medical students about CHA.[17]

Three fourth of the students in the current study reported that CHA positively affected one's psychology and recovery, nearly three fourth of them expressed that CHA produced extra benefits to conventional therapies and that they activated body's natural recovery abilities. Some relevant studies provided similar results.[12,14,16,18,20,28]

Our study revealed that as the knowledge level of nursing students about CHA increased, their status of recommending it increased, and as the status of benefiting from CHA increased, their status of recommending it increased. Literature reports that academic education, gender, paternal education, employment, and out-of-school activities affect the level of knowledge about CHA. In addition, it has also been determined that the use of CHA is lower than the level of knowledge about CHA and that CHA positively affects health.[29,30]

CONCLUSION

The study results indicate that although nursing students had positive attitude about CHA, their CHA knowledge and CHA practices were not at the level that it need to be or the level they wanted it to be. Therefore, with CHA becoming widely accepted by society and being officially approved by public institutions, it has become necessary to systematically integrate CHA into nursing curriculum as the first step followed by other health related educational curriculum programs. In this sense, nursing students, who will be the nurses of the future, should be taught through optional courses about CHA that have been officially approved by their educational program.

LIMITATION OF THE STUDY

One of the greatest limitations of this study is that the subjects consisted of nursing students from just one nursing college in Turkey. Therefore, it is not possible to generalize its results to other nursing colleges throughout the country. Besides, because some CHA applications (apitherapy, hirudotherapy, cupping, mesotherapy, neural therapy, osteopathy, ozone therapy, prolotherapy) were just started on the date of our study and most of them were not included in the CHA applications in those years, students were not asked about these issues, and this is one of the limitations of our study.

Source of Finance

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Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: *Dilek Çilingir, Sevilay Hindistan, Ceyda Uzun Şahin;* ***Design:*** *Ceyda Uzun Şahin;* ***Control/Supervision:*** *Dilek Çilingir;* ***Data Collection and/or Processing:*** *Ceyda Uzun Şahin;* ***Analysis and/or Interpretation:*** *Ceyda Uzun Şahin, Dilek Çilingir;* ***Literature Review:*** *Dilek Çilingir, Ceyda Uzun Şahin;* ***Writing the Article:*** *Dilek Çilingir, Sevilay Hindistan, Ceyda Uzun Şahin;* ***Critical Review:*** *Dilek Çilingir;* ***References and Fundings:*** *Ceyda Uzun Şahin.*

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