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Evaluation of Vocational School Students Knowledge and Attitudes Towards Traditional and Complementary Medicine: Cross-Sectional Study

Meslek Yüksekokulu Öğrencilerinin Geleneksel ve Tamamlayıcı Yöntemlere İlişkin Bilgi ve Tutumlarının Değerlendirilmesi: Kesitsel Çalışma

Nesibe ŞİMŞEKOĞLU[a], Neslihan SAYİR[b], Meşkure PAK[c], Ahmet BEYATLI[c], Kürşad Nuri BAYDİLİ[d]

[a]University of Health Sciences Hamidiye Vocational School of Health Services, Department of Health Care Services, İstanbul, Türkiye
[b]University of Health Sciences Hamidiye Vocational School of Health Services, Department of Medical Services and Techniques, İstanbul, Türkiye
[c]University of Health Sciences Hamidiye Vocational School of Health Services, Plant and Animal Production Department, İstanbul, Türkiye
[d]University of Health Sciences Hamidiye Vocational School of Health Services, Department of Management and Organization, İstanbul, Türkiye

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ABSTRACT Objective: In this study, it was aimed to evaluate the knowledge and attitude levels of health services vocational school students towards complementary and alternative medicine (CAM). **Material and Methods:** The sample of this descriptive study; It consisted of 435 students who were studying at a state university in the Spring Semester of the 2019-2020 Academic Year and agreed to be included in the study. Data was collected using the Introductory Information Form and the Attitude Towards Holistic Complementary and Alternative Medicine Scale (HCAMS)". Research data were analyzed in SPSS 25 package program with appropriate statistical methods. **Results:** It was determined that 49.2% of the participants were between the ages of 20-23, 76.6% were women, 2.3% were married and 49.4% had health vocational high school identified as a graduate. It was concluded that 52.2% of the participants had no prior knowledge of CAM. Mainly; It was determined that they had sufficient knowledge about massage, meditation, and cupping. For most of the participants who used CAM in the last year; It was determined that they used massage, meditation, music therapy, yoga and cupping methods. While the HCAMS total score average was 52 (11-66); It was determined that the "CAM" sub-dimension was 25 (6-36) and the "holistic health" sub-dimension was 27 (5-30). A positive significant difference was found in terms of HCAM score and "knowledge" about CAM ($p<0.05$). **Conclusion:** It has been determined that university students have negative attitudes toward CAM. However, it was determined that the participants with knowledge of CAM had a positive attitude towards the items containing the CAM sub-dimension.

Keywords: Students, health occupations; attitude to health; complementary therapies

ÖZET Amaç: Bu araştırmada, sağlık hizmetleri meslek yüksekokulu öğrencilerinin tamamlayıcı ve alternatif tıpa (TAT) yönelik bilgi ve tutum düzeylerinin değerlendirilmesi amaçlanmıştır. **Gereç ve Yöntemler:** Tanımlayıcı tipteki bu araştırmanın örneklemini; 2019-2020 eğitim yılı bahar döneminde bir devlet üniversitesinde öğrenim gören ve çalışmaya dâhil olmayı kabul eden 435 öğrenci oluşturdu. Veriler; Tanıtıcı Bilgi Formu ve Bütüncül Tamamlayıcı ve Alternatif Tıbba Karşı Tutum Ölçeği (BTATÖ) kullanılarak toplandı. Araştırma verileri SPSS 25 paket programında uygun istatistiksel yöntemlerle analiz edildi. **Bulgular:** Katılımcıların %49,2'sinin 20-23 yaş arasında, %76,6'sının kadın, %2,3'ünün evli, %49,4'ünün sağlık meslek lisesi mezunu olduğu tespit edildi. Katılımcıların %52,2'sinin TAT yöntemlerine yönelik daha önce hiç bilgisinin olmadığı sonucuna ulaşıldı. Ağırlıklı olarak; masaj, meditasyon, hacamat, müzik terapi ve yoga hakkında yeterli bilgiye sahip oldukları belirlendi. Son bir yıl içinde TAT yöntemlerini kullanan katılımcıların çoğunlukla; masaj, meditasyon, müzik terapi, yoga ve hacamat yöntemlerini kullandıkları saptandı. BTATÖ ortanca değeri 52 (11-66) iken; "TAT" alt boyutunun 25 (6-36), "bütüncül sağlık" alt boyutunun ise 27 (5-30) olduğu belirlendi. BTATÖ puanı ile "TAT yöntemlerine yönelik bilgi durumu" bakımından pozitif yönde anlamlı bir farklılık saptandı ($p<0,05$). **Sonuç:** Yüksekokul öğrencilerinin TAT yöntemlerine yönelik olumsuz yönde tutum sergiledikleri belirlenmiştir. Ancak, TAT yöntemlerine yönelik bilgisi olan katılımcıların TAT alt boyutunu içeren maddelere yönelik olumlu yönde tutum sergiledikleri tespit edilmiştir. TAT yöntemlerinin yükseköğretim müfredatına dâhil edilmesi önerilmektedir.

Anahtar Kelimeler: Öğrenciler, sağlık meslekleri; sağlık tutumu; tamamlayıcı terapiler

Correspondence: Nesibe ŞİMŞEKOĞLU
University of Health Sciences Hamidiye Vocational School of Health Services, Department of Health Care Services, İstanbul, Türkiye
E-mail: nesibe.simsekoglu@sbu.edu.tr

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One of the United States government agencies which is National Center for Complementary and Integrative Health defines complementary and alternative medicine (CAM) as a group of diverse medical and healthcare systems, practices, and products not presently considered to be part of conventional medicine.[1] Health Services General Directorate in Turkish Ministry of Health difines CAM as "Whole of knowledge, skills and practices that can be explained or not, based on theories, beliefs and experiences specific to different cultures, which are used in the prevention, diagnosis, improvement or treatment of physical and mental diseases as well as in maintaining good health".[2] Since the dawn of time, many ailments have been successfully treated with traditional medicine; nevertheless, research into holistic system approaches has lagged.[3] However, over the past few decades, research into CAM has begun to empirically reveal the underlying mechanisms of action and efficacy of traditional treatment modalities in a variety of diseases. As a result, these treatments are effective and cost-effective, with side effects that are comparable to placebo.[4,5]

It is stated that approximately one-third of people in the USA and high-income countries in Europe use CAM at some time in their lives. The most preferred CAM method among adults is the use of food supplements. Breathing exercises, yoga, homeopathic treatment, acupuncture, and naturopathy are other frequently preferred methods.[6,7] The use of CAM in treating acute and chronic illnesses is becoming more and more common, according to numerous surveys conducted around the world. This is likely due to several plausible factors, such as patients' dissatisfaction with the severe side effects and high costs of allopathic medications.[8,9] Additionally, according to the World Health Organization, 75% of the world's health care is technically an alternative. According to reports, underprivileged groups and poor populations around the world utilize CAM more frequently.[10]

The inclusion of CAM in the health system largely depends on the knowledge and attitude of health professionals about CAM. In this context, identifying and eliminating the lack of knowledge of students studying in a health-related program has gained importance in terms of the correct use of CAM and informing society correctly.[11,12] In the literature, it is seen that the knowledge and attitude levels of medical faculty, pharmacy, and nursing faculty students toward CAM are examined.[13,14] Vocational school students receive the title of technician after 2 years of education. Technicians are members of the health care team that can be considered more accessible by patients who receive consultancy services for CAM. In this context, it has become important to determine the knowledge and attitude levels of vocational school students, who are future technician candidates, towards CAM, which is widely preferred by society, and to include CAM in the health education curriculum in this direction.

This research sought answers to the following questions:

What is the level of knowledge of university students about CAM?

What is the CAM commonly used by university students?

What are the attitudes of university students toward CAM?

Is there a relationship between the descriptive characteristics of vocational school students and their level of attitude toward CAM?

MATERIAL AND METHODS

RESEARCH DESIGN

This research was designed as a descriptive cross-sectional type.

PLACE AND TIME OF RESEARCH

The research was carried out in a vocational school of health services affiliated with a state university in İstanbul in June 2020.

PLACE AND TIME OF RESEARCH

The universe of the research consists of students studying at a state university's health services vocational school in the Spring Term of the 2019-2020 Academic Year. The sample number of the study group was determined based on the G* Power

program (G*Power, version 3.1.9.7 for Windows 10, Germany). Through this program, it was concluded that a total of 235 students should be reached, while the amount of Type 1 error was 0.05 and the test power was 0.80. The sample of the study consisted of 435 students who agreed to be included in the study.

INCLUSION CRITERIA FOR RESEARCH

In the Spring Semester of the 2019-2020 Academic Year, students who were studying at a health services vocational school of a state university in İstanbul and who agreed to participate in the research were included in the research.

DATA COLLECTION FORMS

The questionnaire to be used in the collection of research data consists of 2 main parts. In the first part; "Introductory Information Form", and in the second part, "Holistic Complementary and Alternative Medicine Attitude Scale (HCAMS)" is included.

Introductory Information Form: The Introductory Information Form, which was created by the researchers in line with the literature and submitted for expert opinion, consists of a total of 9 questions. Of the multiple-choice questions in the form, 5 of them evaluate the demographic characteristics of the students, 1 of them evaluates their knowledge about CAM, and 3 of them their attitudes towards CAM.

Since the coronavirus disease-2019 (COVID-19) disease was common in the Spring Semester of the 2019-2020 Academic Year, the period when the data were collected, data collection forms were prepared in the form of e-surveys and delivered to the students via WhatsApp (Meta, Inc. WhatsApp Inc. USA). It took approximately 5 minutes to fill out the data collection forms.

Attitude Towards Holistic Complementary and Alternative Medicine Scale: The Turkish validity and reliability of the scale developed by Hyland were done by Erci.[15,16] The scale has two sub-dimensions: CAM and Holistic Health (HH). In the scale consisting of 11 items, 6 items (2, 4, 6, 8, 9, and 11) are based on beliefs about the scientific validity of CAM, and 5 items (1, 3, 5, 7 and 10) are HH are related to beliefs about A minimum of 11 and a maximum of 66 points can be obtained from the 6-point Likert-type scale. Scale scoring; (1)= Totally agree, (2)=Agree, (3)=Agree somewhat, (4)=Disagree somewhat, (5)=Disagree, and (6)= Totally disagree. Items 2, 4, 6, and 9 in the scale are negative and are reverse coded. The decrease in the score obtained from the scale indicates that the positive attitude towards Traditional and Complementary medicine increases.

In the study of the Turkish adaptation of the scale, the Cronbach alpha internal consistency reliability coefficient was 0.72; the CAM sub-dimension reliability coefficient was 0.62; The reliability coefficient of the HH sub-dimension was determined as 0.60. Item-total correlations were also reported to vary between 0.40 and 0.60. In this study, the Cronbach alpha internal consistency reliability coefficient of the scale was 0.77, the CAM sub-dimension reliability coefficient was 0.62; The reliability coefficient of the HH sub-dimension was determined as 0.76.

EVALUATION OF DATA

The analysis of the data was made using the SPSS 25 package program (SPSS for Windows, Version 25.0, IBM, Armonk, NY). Percentage and frequency values for categorical variables are presented. The conformity of the quantitative variables to the normal distribution was tested with the Shapiro-'Wilt test. The median, minimum and maximum values were presented because the data did not conform to the normal distribution. The Mann-Whitney U test was used to compare two-category qualitative and quantitative variables. The Kruskal-Wallis H test was used to compare qualitative variables with more than two categories and quantitative variables. A $p<0.05$ value was accepted for statistical significance.

ETHICAL ASPECT OF RESEARCH

The research protocol was evaluated by the Scientific Research and Publication Ethics Committee of a Haydarpaşa Numune Training and Research Hospita and was found appropriate in terms of medical ethics with the decision number dated June 29, 2020 (no:

HNEAH-KAEK 2020/127). Permission was obtained from the relevant institution for the study to be carried out at a state university. To the individuals involved in the research; The purpose, duration, plan of the study, how and where the data will be used, and what is expected from them were explained through the Informed Voluntary Consent Form prepared in line with the Declaration of Helsinki. In the light of willingness and voluntariness, their written consent was obtained online for their participation in the study. The permissions obtained and the collected data are protected online by the responsible researcher.

TABLE 1: Socio-demographic characteristics of the participants (n=435).

	n	%
Age		
<20	184	42.3
20-23	214	49.2
>23	37	8.5
Gender		
Male	333	76.6
Famale	102	23.4
Marital status		
Married	10	2.3
Single	425	97.7
Type of high school graduated		
Highschool	31	7.1
Anatolian high school	119	27.4
Health vocational high school	215	49.4
Other	70	16.1

RESULTS

The findings regarding the sociodemographic characteristics of the individuals are given in Table 1. According to this; It was determined that 49.2% of the participants included in the study were between the ages of 20-23, 76.6% were women, 2.3% were married, and 49.4% were graduates of health vocational schools.

TABLE 2: Individuals' knowledge status about complementary and alternative medicine (n=435).

	I have no information n (%)	I have limited knowledge n (%)	I have enough knowledge n (%)
Acupressure	407 (93.6)	23 (5.3)	5 (1.1)
Acupuncture	127 (29.2)	262 (60.2)	46 (10.6)
Apitherapy	385 (88.5)	42 (9.7)	8 (1.8)
Aromatherapy	289 (66.4)	124 (28.5)	22 (5.1)
Ayurveda	412 (94.7)	17 (3.9)	6 (1.4)
Bioenergy	201 (46.2)	194 (44.6)	40 (9.2)
Chiropractic	405 (93.1)	20 (4.6)	10 (2.3)
Cupping	124 (28.5)	187 (43)	124 (28.5)
Homeopathy	360 (82.8)	56 (12.9)	19 (4.4)
Hydrotherapy	229 (52.6)	155 (35.6)	51 (11.7)
Hypnosis	76 (17.5)	258 (59.3)	101 (23.2)
Larva	368 (84.6)	48 (11)	19 (4.4)
Leech	90 (20.7)	228 (52.4)	117 (26.9)
Massage	37 (8.5)	202 (46.4)	196 (45.1)
Meditation	55 (12.6)	218 (50.1)	162 (37.2)
Megavitamin	361 (83)	59 (13.6)	15 (3.4)
Mesotherapy	355 (81.6)	59 (13.6)	21 (4.8)
Music therapy	96 (22.1)	215 (49.4)	124 (28.5)
Naturopathy	372 (85.5)	46 (10.6)	17 (3.9)
Osteopathy	354 (81.4)	60 (13.8)	21 (4.8)
Ozone therapy	293 (67.4)	113 (26)	29 (6.7)
Phytotherapy	300 (69)	107 (24.6)	28 (6.4)
Prolotherapy	412 (94.7)	18 (4.1)	5 (1.1)
Reflexology	294 (67.6)	106 (24.4)	35 (8)
Reiki	388 (89.2)	37 (8.5)	10 (2.3)
Therapeutic touch	359 (82.5)	52 (12)	24 (5.5)
Yoga	77 (17.7)	234 (53.8)	124 (28.5)

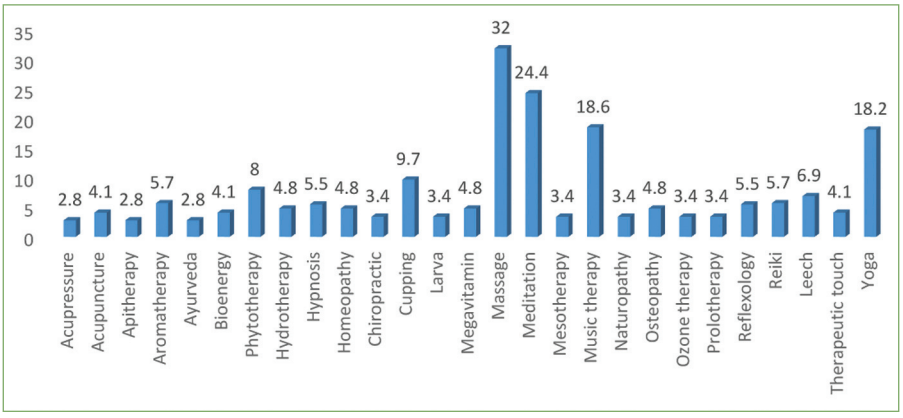

FIGURE 1: Participants' use of complementary and alternative medicine (%, n=435).

The findings regarding the knowledge status of individuals about CAM are given in Table 2. It was determined that 52.2% of the individuals included in the study had no previous knowledge of any CAM method. When the participants' knowledge status about CAM are examined in detail, respectively; massage (45.1%), meditation (37.2%), cupping (28.5%), music therapy (28.5%), yoga (28.5%), leech (26.9%) and hypnosis It was determined that (23.2%) had sufficient knowledge about the methods. Participants mostly did not know about ayverda (94%), prolotherapy (94%), acupressure (93.6%), chiropractic (93.1%), reiki (89.2%) and naturopathy (85.5%) methods.

The findings regarding the characteristics of individuals using CAM are given in Figure 1. It was determined that 48.3% of the individuals included in the study had used any of the CAM applications in the last year. Most of the CAM used in the last year are respectively; massage (32%), meditation (24.4%), music therapy (18.6%), yoga (18.2%), and cupping (9.7%).

The median and min-max. values are given in Table 3. According to this; While the median value for the HCAMS scale was 52, the median value for the CAM sub-dimension was 25, and the median value for the HH sub-dimension was 27.

The findings regarding the comparison of some socio-demographic characteristics of the individuals included in the study and the median values of the attitudes towards HCAMS and its sub-dimensions are given in Table 4. The median, minimum and maximum values were presented because the data did not conform to the normal distribution. According to this, it was determined that there was no significant difference in the comparison made with the median values of HCAMS and its sub-dimensions in terms of age, gender, type of high school graduate, and the status of applying CAM in the last year ($p>0.05$).

TABLE 3: HCAMS and sub-dimension scores (n=435).

	Med (minimum-maximum)
Complementary and Alternative Medicine Subscale	25 (6-36)
Holistic health subscale	27 (5-30)
HCAMS-total score	52 (11-66)

HCAMS: Holistic Complementary and Alternative Medicine Scale.

The difference between the knowledge of CAM and the median values of the CAM sub-dimension of the individuals included in the study was found to be statistically significant ($p<0.05$). In the further analysis performed to determine which group the difference originated from, it was determined that the CAM sub-dimension score average of the participants who had previous knowledge of CAM methods was low.

DISCUSSION

When the socio-demographic characteristics of the individuals constituting the sample of this study are ex-

TABLE 4: Comparison of socio-demographic characteristics with HCAMS and its sub-dimensions (n=435).

		CAM	HH	HCAMS
		Med (minimum-maximum)	Med (minimum-maximum)	Med (minimum-maximum)
Age	<20	25 (6-36)	27 (5-30)	52 (11-66)
	20-23	25 (6-36)	27 (5-30)	52 (11-66)
	>23	25 (17-36)	27 (18-30)	51 (37-66)
		H=0.299	H=1.122	H=0.541
		p=0.861	p=0.571	p=0.763
Gender	Female	25 (12-36)	27 (10-30)	52 (22-66)
	Male	25 (6-36)	27 (5-30)	51 (11-66)
		U=16842	U=15580.5	U=16208.5
		p=0.899	p=0.201	p=0.485
Type of graduated vocational school	Highschool	24 (17-36)	27 (19-30)	51 (42-66)
	Anatolian high school	25 (6-36)	26 (5-30)	51 (11-66)
	Health vocational high school	25 (6-36)	27 (5-30)	52 (11-66)
	Other	25 (12-32)	26.5 (10-30)	52 (22-62)
		H=2.455	H=2.623	H=2.967
		p=0.483	p=0.453	p=0.397
State of knowledge for CAM	Yes	24 (14-36)	27 (19-30)	51 (36-66)
	No	26 (6-36)	27 (5-30)	53 (11-66)
		U=-19184	U=21801	U=-21601
		p=0.001*	p=0.162	p=0.125
CAM use during last year	Yes	25 (6-36)	27 (5-30)	52 (11-66)
	No	25 (6-36)	27 (5-30)	52 (11-66)
		U=22957.5	U=21690	U=23105.5
		p=0.609	p=0.135	p=0.691

U: Mann-Whitney U test calculation value; H: Kruskal-Wallis H test calculation value; Holistic Complementary and Alternative Medicine Scale; CAM: Complementary and alternative medicine; HH: Holistic health.
*p<0.05.

amined, it is seen that 49.2% are between the ages of 20-23, 76.6% are female, 2.3% are married, and 49.4% are health vocational school graduates determined (Table 1). It is thought that the fact that the population of the research is formed by the individuals in the education period affects the results obtained in terms of age and marital status. The fact that the participants are predominantly health vocational school graduates is associated with the fact that the research was conducted in a health services vocational school. It is normal for students to want to continue their education in the field of health, which has more opportunities to find a job after graduation. The higher number of female students in this study is associated with the higher number of female students studying in Associate Degree Programs in Türkiye in the 2019-2020 academic year.[17] The individuals forming the sample of Sahin et al.'s study are similar to the results of this study in terms of age and gender distribution.[18] It is seen that the sample of many studies aiming to evaluate the status of knowledge and attitude of students towards CAM consists mostly of female students.[13,19-26] While it is similar to the results of this study in terms of age variable, some studies do not show similarity with the results of this study in terms of gender variable due to the high number of male students.[12,14,27]

It was determined that more than half of the individuals included in the study had no previous knowledge of any CAM method (Table 2). When the participants' knowledge status about CAM are examined in detail, respectively; massage (45.1%), meditation (37.2%), cupping (28.5%), music therapy (28.5%), yoga (28.5%), leech (26.9%) and hypnosis It was determined that (23.2%) had sufficient knowl-

edge about the methods. The participants did not know ayverda (94%), prolotherapy (94%), acupressure (93.6%), chiropractic (93.1%), reiki (89.2%), and naturopathy (85.5%) methods. found not to exist. The participants have sufficient knowledge about the methods in the written and visual media; On the other hand, it is thought that they have less knowledge about the methods that are not included in the media. It is thought that the lack of CAM in the curriculum is also effective in the insufficient knowledge of the participants.

In the descriptive study of James et al., in which medical, pharmacy, and nursing senior students examined the level of knowledge and attitude toward CAM, it was stated that the level of knowledge about CAM was high in medical students and low in nursing students.[14] In the study of Ameade et al., it was determined that the CAM method with the highest level of knowledge of the participants was herbal supplements. This is followed by acupuncture, hypnosis, and yoga. It was stated that the student's high level of knowledge about these methods may be a result of the screenings of films from Asian countries such as India and China, where these applications are most commonly used.[12] In a study conducted by Radi et al. with medical, pharmacy, and engineering faculty students, it was determined that 22% of engineering faculty students did not know CAM. It has been reported that 14% of those who do not know CAM are 2nd-year students. It was stated that medical faculty students viewed CAM with suspicion and did not believe that using these methods together with medical treatment was effective in improving the quality of treatment.[28]

The findings regarding the characteristics of individuals using CAM are given in Figure 1. It was determined that 48.3% of the individuals included in the study used any of the CAM applications in the last year. The CAM that has been widely used in the last year are respectively; massage (32%), meditation (24.4%), music therapy (18.6%), yoga (18.2%), and cupping (9.7%). In the study of Li and Boker, similar to this study, massage and meditation took the first two places, followed by; herbal supplements and chiropractic practice followed.[29] In a descriptive study conducted with medical school students, it was reported that 3rd-year students had less positive attitudes towards CAM.[30] The result obtained supports the result of this study. In the study of Ilori et al., it was stated that 74.7% of the students constituting the sample had a good attitude towards the use of CAM for COVID-19 disease.[13] Among the first three CAM commonly used in Ashraf et al.'s study; are meditation, herbal supplements, and massage.[23]

In a study designed for pharmacy students to acquire knowledge-based behavior towards CAM with structural equation modeling in the light of Planned Behavior Theory, the demand for acquiring knowledge-based behavior was found to be 32%. It has been stated that the high level of students' desire to obtain information about CAM applications has a strengthening effect on their acquisition of knowledge-based behavior toward CAM.[26]

The median, minimum, and maximum values of the Attitudes towards HCAMS and sub-dimension scores of the individuals included in the study are given in Table 3. According to this; The median value of the HCAMS scale was found to be 52. This value, which is above the scale average, indicates that the participants have a negative attitude toward CAM. This result is associated with the fact that more than half of the participants in the sample do not have sufficient knowledge of CAM. As a matter of fact, in the study of McFadden et al., it was stated that those who gain knowledge by believing in the healing power of CAM are more likely to use CAM.[31] The HCAMS scale means the score obtained from Altunkurek and Çak study supports the results of this study.[32] In the descriptive study of Karaman et al, it was determined that individuals had a negative attitude toward the use of CAM during the pandemic period.[24] The result obtained supports the findings of this study. In a study examining the effect of 14-week CAM training applied to nursing students on students' attitude levels, it was concluded that the post-test HCAMS scale scores were lower, and therefore, the students displayed more positive attitudes towards CAM at the end of the training.[33]

In this study, the median value of the CAM subdimension of the HCAMS scale was determined to

be 25. This result indicates that the participants have negative attitudes towards the items containing the CAM sub-dimension, therefore, their beliefs about the scientific validity of CAM are at a low level. In a descriptive study by Karaman et al. examining the relationship between the use of CAM and the attitudes of individuals towards the perceived risk of COVID-19 during the pandemic period in Türkiye, it is seen that the CAM sub-dimension score of the HCAMS scale is above the average.[24] The CAM sub-dimension score obtained from Altunkurek and Çak study was found above the average. The result obtained is similar to the results of this study and states that the participants have a negative attitude towards the items containing the CAM sub-dimension. It was also stated that there is a statistically significant relationship between the CAM sub-dimension of the HCAMS scale and the" emotional risk sub-dimension of the Perceived COVID-19 Risk Scale.[32] In a study designed with nursing students, it was stated that the CAM sub-dimension post-test mean scores were significantly lower. The result obtained, unlike this study, indicates that the participant's beliefs about the scientific validity of CAM are positive.[34] In Ozsaker's study, the CAM sub-dimension score was found to be 21.38±3.60, which is above the average. The result obtained indicates that the participant's beliefs about the scientific validity of CAM are at a low level, as in this study.[35]

In this study, the median value of the HH sub-dimension was found to be 27. This result indicates that the participants have a negative attitude towards the items containing the HH sub-dimension, that is, their beliefs about HIH are negative. In Karaman et al. research, it is seen that the HH sub-dimension score is below the average.[24] This result obtained, unlike the results of this study; states that the participants have a positive attitude towards the items containing the HH sub-dimension. Altunkurek and Çak study also supports this result.[32] In a study designed with nursing students, it was stated that the mean scores of the HH sub-dimension post-test were significantly lower. The result obtained, unlike this study, states that the beliefs of the participants about HIH are positive.[34]

The findings regarding the comparison of some socio-demographic characteristics of the individuals included in the study and the median values of the Attitudes towards HCAMS and its sub-dimensions are given in Table 4. According to this, it was determined that there was no significant difference in the comparison made with the median values of HCAMS and its sub-dimensions in terms of age, gender, type of high school graduate, and the status of applying CAM in the last year. It was determined that the CAM sub-dimension score average of the participants who had previous knowledge of CAM was low. This result indicates that participants who know CAM have positive beliefs about the scientific validity of CAM.

In the literature, it is seen that there are different results between the socio-demographic characteristics of individuals and their knowledge and attitude levels toward CAM. In a study conducted with nursing students, there was a difference in attitude scale scores in terms of gender; no significant difference was found in terms of class, education level of parents, income status, and use of complementary medicine methods.[18] In Baltaci and Koç study, it was stated that the level of attitude towards CAM evaluated with HCAM was positive in female students. It has been determined that the attitude increases positively as age decreases.[34] In Ameade et al. study, no significant difference was found in terms of gender in the level of knowledge that supports the results of this study. However, there is a significant difference in terms of attitude, according to this; It has been determined that male students use CAM more. In addition, it was determined that students living in the city center had a high level of knowledge about CAM, but those living in rural areas used CAM more. In this study, the level of satisfaction with the use of CAM was also evaluated and it was determined that the satisfaction level of women was higher.[12] The difference in the results of all these works, which were evaluated in detail, is associated with the diversity of the sample groups.

CONCLUSION

In line with the findings obtained from this research, it is seen that more than half of the participants do not know CAM. In order of the methods that they have sufficient knowledge about, massage, meditation, and

cupping. The most used methods; are massage, meditation, and music therapy. It was determined that the participants exhibited a negative attitude toward CAM. In addition, it was determined that their beliefs about the scientific validity of CAM and their beliefs about HIH were negative. It has been determined that the participants who know CAM have positive beliefs about the scientific validity of CAM. In light of these results, it is recommended that CAM be included in the higher education curriculum. The data obtained from this study will be a guide for curriculum studies.

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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: *Nesibe Şimşekoğlu, Neslihan Sayir, Meşkure Pak, Ahmet Beyatlı;* ***Design:*** *Nesibe Şimşekoğlu, Neslihan Sayir, Meşkure Pak, Ahmet Beyatlı, Kürşad Nuri Baydili;* ***Control/Supervision:*** *Nesibe Şimşekoğlu, Neslihan Sayir, Meşkure Pak, Ahmet Beyatlı, Kürşad Nuri Baydili;* ***Data Collection and/or Processing:*** *Nesibe Şimşekoğlu, Neslihan Sayir, Meşkure Pak, Ahmet Beyatlı, Kürşad Nuri Baydili;* ***Analysis and/or Interpretation:*** *Kürşad Nuri Baydili;* ***Literature Review:*** *Nesibe Şimşekoğlu, Neslihan Sayir, Meşkure Pak, Ahmet Beyatlı, Kürşad Nuri Baydili;* ***Writing the Article:*** *Nesibe Şimşekoğlu, Neslihan Sayir, Meşkure Pak, Ahmet Beyatlı, Kürşad Nuri Baydili;* ***Critical Review:*** *Nesibe Şimşekoğlu, Neslihan Sayir, Meşkure Pak, Ahmet Beyatlı, Kürşad Nuri Baydili.*

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