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Orijinal Araştırma

The Relationship Between Nurses' Perceived Risk of COVID-19, Knowledge, Use and Attitudes of Complementary and Alternative Medicine Practices During The Pandemic: A Cross-Sectional Study

Pandemi Sürecinde, Hemşirelerin Algılanan COVID-19 Riski ile Geleneksel ve Tamamlayıcı Tıp Uygulamaları Bilgisi, Kullanımı ve Tutumları Arasındaki İlişki: Kesitsel Bir Çalışma

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ABSTRACT

Background: The study aimed to determine the relationship between nurses' perceived risk of COVID-19, knowledge, use and attitudes of complementary and alternative medicine practices during the pandemic.

Methods: The cross-sectional research was conducted between February 2021 and March 2021 in a training and research hospital in Turkey. The sample consisted of 250 nurses who volunteered to participate in the study and met the inclusion criteria. The data were collected with the Personal Information Form, the Attitudes Towards Holistic Complementary and Alternative Medicine Questionnaire, and the COVID-19 Perceived Risk Scale. The Mann Whitney U test, Kruskal Wallis test and Spearman's correlation test were used for data analysis.

Results: The mean age of the participants was 31.17±7.65. The mean scores of Holistic Complementary Alternative Medicine Questionnaire of the participants who used complementary and alternative medicine practices to protect themselves against COVID-19 were significantly lower than the mean scores of the participants who did not use (Z=3851; p=0.018). No statistically significant correlation was found between the mean scores of Holistic Complementary Alternative Medicine Questionnaire of the participants and the COVID-19 Perceived Risk Scale (p > 0.05).

Conclusion: The study revealed that the perceived COVID-19 risk level of the nurses was above the average and the level of knowledge about complementary and alternative medicine practices was low. It also determined that the nurses' perceived risk of COVID-19 and their attitudes towards complementary and alternative medicine practices were not related to each other.

Keywords: complementary and alternative medicine, COVID-19, nursing, perceived risk

ÖZET

Giriş: Bu çalışmada pandemi sürecinde, hemşirelerin algılanan COVID-19 riski ile geleneksel ve tamamlayıcı tıp uygulamaları bilgisi, kullanımı ve tutumları arasındaki ilişkinin belirlenmesi amaçlanmıştır.

Yöntem: Çalışma, Şubat 2021 - Mart 2021 tarihleri arasında bir eğitim ve araştırma hastanesinde ve kesitsel araştırma tasarımında yürütülmüştür. Örneklemi, araştırmaya katılmaya gönüllü ve çalışmaya dahil edilme kriterlerini karşılayan 250 hemşire oluşturmaktadır. Çalışma verileri Tanıtıcı Bilgi Formu, Bütüncül Tamamlayıcı ve Alternatif Tıbba Karşı Tutum Ölçeği ile Algılanan COVID-19 Riski Ölçeği ile toplanmıştır. Toplanan veriler Mann Whitney U testi, Kruskal Wallis testi, ve Spearman's korelasyon testi ile analiz edilmiştir.

Bulgular: Katılımcıların yaş ortalaması 31.17±7.65'tir. COVID-19'dan korunmak için geleneksel ve tamamlayıcı tıp uygulamalarını kullanan katılımcıların Bütüncül Alternatif ve Tamamlayıcı Tıbba Karşı Tutum Ölçeği puan ortalamalarının, kullanmayanların puan ortalamalarından anlamlı ölçüde düşük olduğu saptanmıştır (Z=3851; p=0.018). Katılımcıların Bütüncül Alternatif ve Tamamlayıcı Tıbba Karşı Tutum Ölçeği puan ortalamaları ile Algılanan COVID-19 Riski Ölçeği puanı arasında istatistiksel olarak anlamlı bir ilişki olmadığı saptanmıştır (p >0.05).

Sonuç: Çalışmada hemşirelerin algılanan COVID-19 riski düzeyinin ortalamanın üzerinde olduğu ve geleneksel ve tamamlayıcı tıp uygulamalarına ilişkin bilgi düzeyinin düşük olduğu belirlenmiştir. Algılanan COVID-19 riski ile geleneksel ve tamamlayıcı tıp uygulamalarına ilişkin tutumlarının birbiri ile ilişkili olmadığı ortaya konulmuştur.

Anahtar sözcük: geleneksel ve tamamlayıcı tıp, COVID-19, algılanan risk, hemşirelik

☆ The study was a master's thesis and was presented as a poster presentation at the 5th International 23rd National Public Health Congress held on 13-18 December 2021 (online).

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INTRODUCTION

The COVID-19 infection has influenced deeply the lives of billions of people biologically, psychologically, sociologically, and economically and caused lots of deaths. The global struggle against infection still continues (Harapan et al., 2020; Kang et al., 2020; Mo et al., 2020). Pregnant women, people who are above 65 years old, people with chronic diseases or suppressed immune system, and healthcare workers are the groups with the highest level of risk in terms of morbidity and mortality during the pandemic (Stawicki et al., 2020). Nurses contact the patients receiving treatment and care in the hospital and/or at home due to COVID-19 infection for the longest period of time to meet their primary healthcare needs (Labrague et al., 2020). Therefore, nurses have been defined as one of the highest-risk groups in terms of COVID-19 virus transmission in society (Mo et al., 2020).

Individuals who feel that their health is at high risk may tend to resort to complementary and alternative medicine (CAM) practices in order to reduce the risk (Hwang et al., 2020). During the pandemic, CAM recommendations are frequently encountered in the printed and audio-visual media in order to strengthen the immunity of society (Adams, Baker and Sobieraj, 2020; Günalan, Kaya and Çonak 2020). In the literature, it was reported that CAM may be effective in boosting the immune response against infectious diseases and may be used for prevention and treatment (Nilashi, Samad, Yusuf and Akbari 2020). It was further reported that CAM was used in Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS) and helped to achieve effective results (Shahrajabian, Sun, Shen and Cheng 2020). The perceived risk level for the disease is an important factor that leads individuals to use CAM. It was stated in the literature that individuals who perceive a high risk of disease are more likely to receive all kinds of health services, including modern medicine and/or CAM (Fouladbakhsh and Stomme, 2007). Simsek et al. (2017) revealed that the rate of adopting CAM practices was 60.5% in Turkey (Simsek et al., 2017). A study conducted in Turkey in 2019 reported that nurses used CAM to strengthen immunity, relieve pain, reduce stress, and relieve cold symptoms themselves (Toprak, Uysal, Erenel and Kutluturkan 2019).

Heavy workload in high-risk environments during the COVID-19 pandemic seriously threatens the physical and psychological health of nurses (Abdel Wahed, Hefzy, Ahmed and Hamed 2020). Not being able to meet physical needs adequately during long working hours, fatigue, insomnia, and psychological problems such as stress, anxiety and depression could lower nurses' immunity (Silva, Ono and Souza 2020). It was reported that CAM practices could be applied to prevent diseases and strengthen the immune system (Shorofi and Arbon, 2017). No studies have yet investigated the relationship between nurses' knowledge of and attitudes towards the CAM practice during the COVID-19 pandemic. This study aims to determine the relationship between nurses' perceived risk of COVID-19 and their CAM knowledge, practices, and attitudes during the pandemic.

METHODS

This cross-sectional design study was conducted in the clinic, outpatient clinic, emergency, and intensive care unit of a training and research hospital in Ankara between February 2021 and March 2021. The sample size was calculated using the sample calculation formula, which is used when the size of the target population is known ($n= N. t2. p*q/d^2 (N-1)+t^2p*q$ $t=1.96; d=0.05$); p was determined as 0.22 based on previous studies (Isik, Ünver and Yildirim 2020). Given that a total of 1616 nurses worked in the hospital where the study would be conducted, the sample size was calculated as at least 226 nurses. Taking into account the possible data loss, 10% more of the calculated sample size was added, and the study was completed with 250 nurses. The inclusion criteria were being a nurse, not taking medication due to a psychiatric illness diagnosed before February 2021 and being volunteer to participate in the study.

Ethical Considerations

Ethical approval (No:30/11/2020;2020-469) was obtained from the Non-Interventional Research Ethics Committee of a training and research hospital before the data collection process, and the study followed all the principles of Helsinki Declaration. Institutional permission was obtained from the Ministry of Health Medical Specialization Education Board before the study. Also written permission was obtained

from the Health Care Services Directorate of the training and research hospital where the study would be conducted. The aim of the study was shared with the participants, and their written consent was obtained.

Survey Tool

The Data Collection Form consisted of three parts and a total of 40 questions prepared based on the literature (Alyami et al., 2020; Nejatian, Alami, Tehrani, Lael-Monfared and Jafari 2018). The first part includes the introductory information form (IIF, 21 questions), the second part includes the Attitudes towards Complementary and Alternative Medicine Questionnaire (HCAMQ; 11 items), and the third part includes the COVID-19 Perceived Risk Scale (CPRS; 8 items). Data were collected through face-to-face interviews, taking social distancing into account and using personal protective equipment. The data collection process lasted for about 20 minutes. The data collection forms were filled in anonymously without any personal identifiers.

Introductory information form: The first part of the data was collected by IIF and included six questions about sociodemographic characteristics, ten questions about COVID-19 infection history, and five questions about CAM practices (Alyami et al., 2020; Nejatian, Alami, Tehrani, Lael-Monfared and Jafari 2018).

Attitudes Towards Holistic Complementary and Alternative Medicine Questionnaire (HCAMQ): The second part of the data was obtained by HCAMQ which was developed by Hyland et al. in 2003 (Hyland, Lewith and Westoby 2003). The Turkish validity and reliability study of the questionnaire was performed by Erci in 2007 (Erci, 2007). The questionnaire includes two subscales, named as Complementary Alternative Medicine (CAM) and Holistic Health (HH), including 11 items. The items in the questionnaire are rated on a six-point Likert-type scale from "1= I completely agree" to "6= I completely disagree". The lowest and highest scores that could be obtained from the scale are 11 and 66, respectively. Low scores indicate more positive attitudes towards complementary and alternative medicine (Erci, 2007; Hyland et al., 2003). The Cronbach α value of the HCAMQ was reported as 0.72 in the original study and, was calculated as 0.51 in this study.

COVID-19 Perceived Risk Scale (CPRS): The CPRS is the adaptation of the SARS Risk Perception Scale developed by Brug et al. (2004) to COVID-19 by Yildirim and Guler in 2020 (Brug et al., 2004; Yildirim and Guler, 2020). This a total of eight items scale includes two subscales; cognitive dimension subscale (e.g. perceived likelihood of acquiring COVID-19 compared to other persons) and emotional dimension subscale (e.g. worry about emerging a health issue) of personal risk. Each item is rated on a five-point Likert scale from "1= negligible" and "5=very large". Both the total scores of the subscales and the scale total score are evaluated. The total score of the scale ranges between 8 and 40. Higher scores point to a higher level of perceived personal risk related to COVID-19. The Cronbach α value of the CPRS cognitive subscale was reported the range of 0.70 - 0.74 in the original study and, was calculated as 0.70 in this study. The Cronbach α value of the CPRS emotional subscale was reported the range of 0.84 - 0.88 in the original study and, was calculated as 0.76 in this study.

Data analysis: The data were presented as numbers and percentages for the variables determined by enumeration and as mean ± standard deviation and minimum-maximum values for the variables determined by measurement. The Single Sample Kolmogorov Smirnov Test was used to reveal whether the sample showed normal distribution. It was seen that the population did not have a normal distribution; thus, the independent variables with two sample groups were compared with the Mann-Whitney U Test, while the continuous data with more than two groups were compared using the Kruskal Wallis test. The group or groups that caused the difference were investigated using the Kruskal Wallis Analysis Multiple Comparison test. The relationship between scale scores and continuous data was examined using Spearman's Correlation analysis. The SPSS 20.0 was used to conduct statistical analyses. Statistical significance was set at $p < 0.05$.

RESULTS

Participants' demographic characteristics, CAM knowledge and use

The mean age of the participants was 31.17 ± 7.65 (min.:21, max.: 54). 90.8% of the participants (n=227) were women, and 73.2% (n=219) had an undergraduate or a higher degree education. 56% of the participants (n=138) worked in the COVID-19 units and 33.2% (n=83) stated that they had been infected with COVID-19. When the question "Do you know about CAM?" was posed to the participants, 27.2% (n=68) responded to it as "Yes", 49.2% (n=123) as "Partly", and 23.6% (n=59) as "No". The question "Have you used the CAM for protection from COVID-19 infection during the pandemic?" was posed to the participants, and 80.4 % (n=201) responded to it as "No" (Table 1).

Table 1. Distribution of participants' demographic characteristics and history of COVID-19 infection (N=250)

Characteristics		n	%
Gender	Female	227	90.8
	Male	23	9.2
Age groups	21-27 years	90	36
	28-35 years	89	35.6
	36-43 years	41	16.4
	44-51 years	28	11.2
	Higher than 51 years	2	0.8
Marital status	Married	126	50.4
	Single	124	49.6
Educational status	Associate degree or below	31	12.4
	University degree or upper	219	73.2
Professional experience	<2 years	61	24.4
	2-5 years	38	15.2
	6-10 years	61	24.4
	11-15 years	28	11.2
	16-20 years	27	10.8
	21 years or higher	35	14.0
Working area	In the COVID-19 unit	138	56.0
	Out of the COVID-19 units	110	44.0
Income status	Income more than expense	37	14.8
	Income equal expense	126	50.4
	Income less than expense	87	34.8
Have you had a PCR sample taken during the pandemic?	Yes	223	89.2
	No	27	10.8
Have you been in quarantine due to COVID-19 infection?	Yes	64	25.6
	No	186	74.4
Have you had the COVID-19 infection?	Yes	83	33.2
	No	167	66.8
Have you had a relative who died due to COVID-19 infection?	Yes	93	37.2
	No	157	62.8
Do you know about CAM?	No	59	23,6
	Partly	123	49.2
	Yes	68	27.2
Have you used the CAM method to protect yourself from COVID-19 infection during the pandemic?	No	49	19.6
	Yes	201	80.4

Participants' HCAMQ and CPRS scores

The mean HCAMQ score of the participants was 29.80 ± 4.85. The mean CPRS score of the participants was 32.31 ± 5.09 (Table 2).

Table 2. Distribution of participants HCAMQ and CPRS mean scores

Scales	Item numbers	Mean ± SD	Median (Min.-Max.)	Standard Min.-Max.
HCAMQ [a]	11	29.80±4.85	30 (15-45)	11-66
CAM[b]	6	21.08±3.98	21 (10-32)	6-36
HH[c]	5	8.72±2.60	8,5 (5-21)	5-30
CPRS[d]	8	32.31±5.09	33 (8-40)	8-40
Cognitive CPRS	4	14.80±3.03	15 (4-20)	4-20
Emotional CPRS	4	17.52±3.01	18 (4-20)	4-20

a = Attitudes Towards Holistic Complementary and Alternative Medicine Questionnaire
b= Complementary Alternative Medicine subscale of HCAMQ
c= Holistic Health subscale of HCAMQ
d= COVID-19 Perceived Risk Scale

The relationship between the characteristics of the participants and HCAM scores

A statically significant difference was revealed between the income level of the participants and the mean CAM and HCAMQ scores ($p < 0.05$). The difference between the mean HH score of the participants with an associate degree or below (9.87 ± 3.30) and that of the participants with undergraduate and graduate education (8.55 ± 2.44) ($p<0.05$) was also statically significant. Moreover, the difference between the mean HH score and the mean HCAMQ score of the participants according to having a relative who died due to COVID-19 infection ($p<0.05$) was statically significant. It was also determined that there was a statistically significant difference between the participants' knowledge about CAM and the mean HCAMQ score and subscale scores ($p < 0.05$). A significant difference was also found between the participants who used CAM practices for protection from COVID-19 and those who did not in terms of HH mean scores ($Z = 3720$; $p = 0.007$). The mean HCAMQ score of those who used CAM practices for protection from COVID-19 was found to be significantly lower than the mean score of those who did not ($Z = 3851$; $p = 0.018$) (Table 3).

Table 3. Comparison of some characteristics of the participants and, mean scores of HCAMQ total and subscales

	CAM[c]			HH[d]			HCAMQ [e]		
	Mean ± SD	Test statistic	*p*	Mean ± SD	Test statistic	*p*	Mean ± SD	Test statistic	*p*
Income status									
Income more than expense	22.43±2.75	7.037[a]	0.03*	9.03±2.43	1.169[a]	0.557	31.46±3.72	6.541[a]	0.038*
Income equal expense	20.46±4.08			8.74±2.64			29.20±4.82		
Income less than expense	21.40±4.13			8.55±2.63			29.95±5.16		
Educational status									
Associate degree or below	21.19±4.62	338.0[b]	0.976	9.87±3.30	2590.5[b]	0.031*	31.06±5.07	2754.5	0.089
University degree or upper	21.06±3.89			8.55±2.44			29.62±4.79		
Have you had a relative who died due to COVID-19 infection?									
Yes	20.86±4.40	688[b]	0.454	8.14±2.71	5552.0[b]	0.001*	29.00±5.25	6075.5[b]	0.026*
No	21.21±3.72			9.06±2.47			30.27±4.54		
Do you have any information about CAM practices?									
Yes	20.12±4.52	7.27[a]	0.026*	8.10±2.58	7.537[a]	0.023*	28.22±4.78	11.674[a]	0.003*
Partially	21.15±3.34			8.91±2.47			30.06±4.33		
No	22.05±4.34			9.02±2.81			31.07±5.49		
Have you used the CAM practices to protect against COVID-19?									
Yes	20.47±4.03	4437.5[b]	0.282	7.92±2.26	3720[b]	0.007*	28.39±4.77	3851[b]	0.018*
No	21.23±3.97			8.91±2.64			30.14±4.81		

a = Kruskal Wallis,
b = Mann Whitney U,
c= Complementary Alternative Medicine subscale of HCAMQ, d= Holistic Health subscale of HCAMQ, e= Attitudes Towards Holistic Complementary and Alternative Medicine Questionnaire
*= $p < 0.05$

Table 4. Comparison of some characteristics of the participants and, mean scores of CPRS total and subscales

	Cognitive CPRS			Emotional CPRS			CPRS[c]		
	Mean ± SD	Test statistic	*p*	Mean ± SD	Test statistic	*p*	Mean ± SD	Test statistic	*p*
Income status									
Income more than expense	14.30±2.97	16.936[a]	0.001*	17.30±2.21	6.002[a]	0.061*	31.59±3.90	15.451[a]	0.001*
Income equal expense	14.18±3.22			17.10±3.59			31.29±5.74		
Income less than expense	15.90±2.72			18.21±2.16			34.10±3.98		
Working area									
In the COVID-19 units	15.32±2.80	6086[b]	0.004*	17.57±2.87	7699.5b	0.999	32.89±4.65	6785.5[b]	0.106
Out of the COVID-19 units	14.13±3.19			17.45±3.19			31.57±5.54		
Have you been in quarantine due to COVID-19 infection?									
Yes	15.44±2.68	4967.0[b]	0.047*	17.98±2.37	5434.0[b]	0.284	33.42±4.39	4887.0[b]	0.032*
No	14.58±3.12			17.35±3.19			31.93±5.27		

a = Kruskal Wallis test, b = Mann Whitney U test,
c = COVID-19 Perceived Risk Scale
* = $p < 0.05$

The relationship between the characteristics of the participants and CPRS scores

Furthermore, the difference between the cognitive subscale means score of the participants working in COVID-19 units and the mean score of those working in non-COVID-19 units (Z = 6086; p = 0.047) was found to be statically significant. Differences were found between the income level of the participants and the cognitive subscale, emotional subscale and CPRS mean scores ($p < 0.05$). It was revealed that the cognitive subscale scores and CPRS mean scores of the participants who were in quarantine due to COVID-19 infection were higher than the other participants ($p < 0.05$) (Table 4).

The relationship between the participants' HCAM and CPRS scores

A statistically significant, positive and very weak correlation was found between the participants' mean CAM score, cognitive subscale mean score (r = 0.160; $p < 0.011$), and CPRS mean score (r = 0.160; $p < 0.011$) (Table 5).

Table 5. Correlation between the participants' mean HCAMQ total and subscales' scores, and CPRS total and subscales' scores

	Cognitive CPRS		Emotional CPRS		CPRS	
	r	*p*	*r*	*p*	*r*	*p*
CAM[a]	0,160	0,011*	0,067	0,294	0,160	0,011*
HH[b]	0,058	0,361	0,065	0,308	0,057	0,370
HCAMQ[c]	0,104	0,100	0,028	0,665	0,108	0,090

a= Complementary and Alternative Medicine Questionnaire of HCAMQ, b= Holistic Health subscale of HCAMQ, c= Attitudes Towards Holistic Complementary and Alternative Medicine Questionnaire
r = Spearman's Correlation,
*= p < 0.05

No statistically significant difference was found between the participants' gender, age, marital status, professional experience, department, history of COVID-19 infection, and HCAMQ total and subscale mean scores ($p > 0.05$). In addition, no statistically significant difference was revealed between the participants' gender, age, marital status, educational status, professional experience, department, history of COVID-19 infection, and CPRS total and subscale mean scores ($p>0.05$).

DISCUSSION

Nurses are expected to have scientific knowledge about the risks and benefits of CAM practices and guide society (Trail-Mahan, Mao and Bawel-Brinkley 2013). The systematic review of Balouchi et al. (2018) examining 21 studies from 13 different countries reported that only 15 studies questioned the level of knowledge of nurses about CAM practices, and nurses had knowledge varying between 29.7% and 93.6% (Balouchi et al., 2018). Zeighami and Soltani-Nejad (2020) revealed that the vast majority of nurses had little knowledge about CAM practices (Zeighami and Soltani-Nejad, 2020). Similar to the literature, in our study, a majority of the participants were found to have no or partial knowledge of CAM. The widespread and unconscious use of CAM in society is considered as an important problem threatening public health. It is believed that nurses can play an important role in eliminating this problem and in protecting and maintaining both their own health and the health of society. Thus, it is necessary to equip nurses with sufficient knowledge and skills about CAM.

During the pandemic, CAM methods approved and recommended by various authorities have been frequently featured in social media to protect from COVID-19 infection and strengthen the immune system (Günalan et al., 2021). News in the media about the protective features of CAM in infectious diseases, especially the use of supplements, is reported to be an important factor that increases immunity (Adams et al., 2020; Hamulka, Jeruszka-Bielak, Zielinska-Pukos, Magdalena and Drywie 2021; Utlu, Turan and Metin 2021). Teke et al. (2021) stated that nearly half of healthcare workers used CAM practices to protect themselves against COVID-19 infection during the pandemic (Teke, Özer and Bahçecioğlu Turan 2021). Our study revealed that nearly about one-fifth of the participants used CAM practices like phytotherapy, apitherapy, and yoga to protect themselves against COVID-19 infection. This difference may be due to the

fact that our sample consists only of nurses, Teke et al.'s sample consists of health workers from different professions. With the increasing interest in the use of CAM practices in the world and in Turkey, it has become a necessity for nurses, who are important members of the health care team, to inform the society about the correct use, benefits, and risks of the CAM methods (Trail-Mahan et al., 2013). It was found that nearly all of the participants having CAM practices recommended these methods to others, which is noteworthy.

In our study, the attitudes of the participants towards CAM practices were found to be moderate and positive, similar to the literature (Aktas, 2017; Koç and Baltacı, 2018; Teke et al., 2021). Studies reported that although nurses had a positive attitude towards CAM, they did not have sufficient knowledge and experience about it (Cutshall et al., 2010; Gyasi, Abass, Adu-Gyamfi and Accam 2017; Uzun and Tan, 2004; Zeighami and Soltani-Nejad, 2020). In the light of the information obtained in this study, it is predicted that the positive attitudes of nurses towards CAM might be a facilitating factor in gaining knowledge and skills about this subject.

Traditional treatments are easy to use, inexpensive, and accessible, which plays an important role in increasing the use of CAM (Isik et al., 2020). There are studies in the literature arguing that the relationship between income status and CAM usage is not significant (Hwang et al., 2020). There are also studies maintaining that individuals with high income are more likely to use CAM (Fox, Coughlan, Butler and Kelleher 2010; Shorofi, 2011). Our study revealed no relationship between income status and the use of CAM to protect against COVID-19. However, it was found that the participants whose income was equal to their expenses had more positive attitudes towards the use of CAM than those whose income was more than their expenses. When evaluated from a broader perspective, it could be stated that the use of CAM usage differs from country to country, from region to region, and even from province to province (World Health Organization [WHO], 2019). There are very economical CAM applications as well as methods with high financial value (Ventegodt, 2013). The data obtained in this study draws attention to the fact that the use of CAM to protect against COVID-19 is not associated with income status, but there is a difference between income levels and attitudes towards CAM. No studies in the literature have yet examined the relationship between income level and attitudes toward CAM.

When the studies conducted in different societies with different measurement tools were examined, it was reported that participants with a high level of education generally exhibit positive attitudes toward CAM (Demirbag, Kurtuncu and Erkaya 2015; Erci, 2007; Teke et al., 2021). Our study revealed that the participants with graduate degrees or upper had more positive attitudes toward holistic health than the participants with an associate degree or below. Holistic health refers that the individual is a whole with physical, mental, social, and spiritual aspects and each of these affects one another. The higher level of education may have caused the events to be analyzed with a broader perspective. Traditional health-seeking behavior is a remedy-seeking behavior with CAM methods that are believed to work outside of modern medicine. Ozdemir and Arpacıoğlu (2020) found that the participants who lost their loved ones due to COVID-19 exhibited more traditional health-seeking behaviors than the other participants (Ozdemir and Arpacıoglu, 2020). Consistent with these results, the study also revealed that the participants with relatives who died due to COVID-19 had more positive attitudes toward CAM. With the knowledge that supplements increasing immunity can be useful in protecting against COVID-19 and some other diseases that modern medicine has not yet found a definitive treatment, the nurses who lost their relatives due to COVID-19 might have adopted a positive attitude towards CAM to protect themselves from COVID-19.

Attitudes consist of cognitive, affective and behavioral elements. Having knowledge about a subject affects having a positive or negative attitude toward that subject (Abun, Magallanes and Incarnacion 2019). The study revealed that the participants with knowledge about CAM have more positive attitudes towards CAM, compared to the other participants. Similarly, it was reported in the literature that nurses who had knowledge about CAM had more positive attitudes towards it (Demirbag et al., 2015; Shorofi and Arbon, 2010; Shorofi and Arbon, 2017). Individuals exposed to disease threat may tend

to use CAM more than individuals who do not perceive threats in order to manage the process better (Hwang et al., 2020). It was recommended to use supplements that were reported to be effective in strengthening immunity to protect against COVID-19 infection (Ahmed et al., 2020). In support of this recommendation, the study revealed that the participants who used various CAM practices to protect themselves against COVID-19 indicated more positive attitudes toward CAM. Teke et al. (2021) found that those who used CAM practices within the last month to avoid COVID-19 had more positive attitudes toward CAM. The studies conducted with different population groups in Turkey before the COVID-19 pandemic reported that CAM users had more positive attitudes towards CAM (Demirbag et al., 2015; Erci, 2007; Koç and Baltacı, 2018). The findings suggest that positive attitudes towards CAM might be effective in terms of the use of CAM by affecting the behaviors of the participants.

Perception of risk refers to how one perceives the negative situation or danger he/she is in (Waters et al., 2011). Consistent with the literature, our study revealed that the participants had above-average perceived risk levels of COVID-19 (Abdel Wahed et al., 2020; Harapan et al., 2020; Hassan et al., 2020). However, it should be noted that the perceived COVID-19 risk level of the participants working in the COVID-19 units is higher than the participants working in other units. The high perceived risk level may be because more than half of the participants in the study were working in COVID-19 clinics, a significant part of the hospital was reserved for COVID-19 patients, and the nurses were in contact with COVID-19 units at regular intervals.

Income is an important determinant of the subjective assessment of psychosocial well-being and general health status (Benzeval and Judge, 2001). Our study revealed that the participants with low income levels had a higher perceived risk of COVID-19 than the other participants. It was thought that the participants who reported that they were more economically limited may feel limited in maintaining health, i.e. in reaching sufficient resources to protect themselves from diseases, which would lead to higher levels of the perceived risk of COVID-19.

Individuals in quarantine experience compulsory social isolation, insufficient social support, and anxiety and uncertainty about infection (Brooks et al., 2020). The participants in quarantine due to COVID-19 contact were found to experience a higher level of perceived COVID-19 risk than other participants. Being infected with COVID-19 does not provide permanent immunity (To et al., 2021). It was stated in the literature that individuals who remained in quarantine were concerned about the recurrence of the difficulties they experienced (Brooks et al., 2020). It was reported that the perceived COVID-19 risk level of the participants who stayed in quarantine is higher as they consider the possibility of re-infection.

Contreras-Yanez et al. (2020) investigated the relationship between the perceived risk of disease and the use of CAM. They conducted the study with rheumatoid arthritis patients admitted to the hospital before the pandemic, and used a risk perception measurement tool developed specifically for rheumatoid arthritis patients. In the study, the perceived risk for adverse disease outcomes was associated with the use of CAM. Our study revealed a very weak positive correlation between the CAM attitudes of the participants and the perceived cognitive risk and the perceived COVID-19 risk level; however, the correlation value was considered to be quite low in revealing the relationship. Correlation references reported by Hinkle et al. (2003) were used to evaluate the relationship strength. According to the reference ranges and descriptions of Spearman correlation coefficient values, a value in the range of 0.01-0.30 is considered a negligible low correlation. When the findings were evaluated, it was interpreted that there was no relationship between the scales (Hinkle et al., 2003; Mukaka, 2012).

Limitations of the study

There are limitations of this study, which necessarily inform interpretation of these results. First, this is a single-center study, second it is a self-report study that might threaten the reliability and validity of measurements.

CONCLUSION

In this study, the nurses were found to have positive attitudes towards CAM; however, it may be stated that no relationship exists between the perceived risk of COVID-19 and the use of CAM since it was found that the rate of CAM use among the nurses was 19.6%. However, given that the perceived risk level might change over time, it is necessary to conduct studies in order to reveal how knowledge, attitudes, and behaviors toward CAM are affected over time. In this context, it is important for nurses to have knowledge about CAM in order to improve both individual and social well-being. It is recommended to organize in-service training programs for nurses and to include CAM practices in the nursing undergraduate curriculum.

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Declaration of competing interest

There are no conflicts of interest.

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