Volume: 4 **Issue: 3**
Year: 2023
DOI: 10.53811/ijtcmr.1345986

International Journal of Traditional and Complementary Medicine Research

Publisher
Duzce University

ORIGINAL RESEARCH

Determination of Nurses' Attitudes Towards the Use of Traditional and Complementary Medicine in Children: A Comparative Study

Abdullah Sarman[1], Suat Tuncay[1]

[1] Faculty of Health Science, Department of Pediatric Nursing, Bingöl University, Bingol, Türkiye

* Corresponding Author: Abdullah Sarman, e-mail: abdullah.sarman@hotmail.com

Received: 18.08.2023 Accepted: 09.10.2023

Abstract
Objective: This study aimed to evaluate nurses' attitudes towards the use of traditional and complementary medicine (T&CM) practices in pediatric care.
Material-Method: The study employed a cross-sectional comparative descriptive design and was conducted between May and August 2023. Participants were nurses employed at a secondary healthcare hospital in eastern Turkey. The study analyzed demographic data on nurses and their attitudes towards holistic complementary and alternative medicine.
Results: : The results showed that the average age of participants was 33.92 years, with 69% working in state hospitals. Additionally, 25.4% of nurses reported prior use of T&CM, with cupping or leeching being the most commonly used method, chosen by 38.5% of respondents. Among those who had previously used T&CM practices, 63.5% reported positive outcomes, and 84.6% indicated that they would recommend the methods they had used to others. Furthermore, 51% of the nurses believed that T&CM practices could be suitable for children, with homeopathy being the most frequently considered T&CM method for pediatric use, chosen by 50.7%.
Conclusion: The study indicates that pediatric nurses generally have a positive view of T&CM practices and consider them safe for pediatric treatment. It is important to note that nurses often obtain information about T&CM from sources such as newspapers, magazines, or media programs. Therefore, integrating T&CM into nursing education curricula could be an effective way to promote awareness and understanding of these practices.
Keywords: Attitude, Child, Nurse, Traditional and Complementary Medicine (T&CM), Treatment

INTRODUCTION

Traditional and complementary medicine (T&CM) or complementary and alternative medicine (CAM) are supportive therapies, including dietary supplements, homeopathic medicines, herbal mixtures, and homemade compounded products.[1] These products are generally used to support, or as an alternative method to, modern treatment practices for the prevention and treatment of disease.[2] The most commonly used T&CM interventions in the literature include herbal therapy, aromatherapy, massage, acupuncture, acupressure, reflexology, therapeutic touch, prayer, meditation, relaxation, exercise, and biofeedback.[3] In recent years, the use of T&CM in children has increased.[4] It has been reported that the annual prevalence of T&CM use among adults in the United States is 34-38%, and 20-28% in the United Kingdom.[5] A study conducted by Harris and Rees found that T&CM has a worldwide prevalence of 23-62%.[6] Studies of T&CM use in children have found that it varies from 11-51%, similar to adults.[7] There are a limited number of studies showing that the prevalence of T&CM use in pediatric patients in Turkey varies between 48.9-77.0%.[8] In children and adolescents, T&CM is commonly used for the treatment of back, neck, head or chest pain, colds, anxiety or stress, attention deficit hyperactivity disorder and sleep disorders.[9]

There are several reasons for the widespread use of T&CM practices in children. Because these interventions are non-invasive, they are easily accessible and generally use natural products. In addition, these inexpensive practices can reduce the side effects of treatments.[10] It has also been reported that T&CM may be preferred to relieve physical symptoms such as pain, support the immune system, support medical treatments, improve overall health, and help children relax.[11]

Health care professionals have begun to integrate these therapies more and more into their daily interventions. It has been reported that their knowledge and attitudes about T&CM may influence patients' beliefs and behaviors related to these

practices.[12] Although T&CM supporting traditional medical practices is widely used in high-, middle-, and low-income countries, it has been noted that no research has been conducted to evaluate the opinions and attitudes of health care professionals other than physicians.[13] However, nurses play an important role in the selection of the therapeutic approach.[14] In addition, nurses are one of the most important groups of health care providers. In addition, nurses are one of the largest groups of health professionals in regular contact with the public, and they can help patients make informed decisions about T&CM.[15] Therefore, nurses need to increase their knowledge and experience of T&CM.[16] This study aimed to fill the existing gap in the literature and determine the attitudes of nurses towards the use of T&CM practices in children.

Hypotheses:

H1: Nurses' chronic disease status is associated with attitudes towards T&CM.

H2: Nurses' previous use of T&CM is associated with attitudes towards T&CM.

H3: Nurses' educational level is associated with attitudes towards T&CM.

MATERIALS AND METHODS

Research design

This study was designed as a cross-sectional comparative descriptive study. The study was conducted between May and August 2023.

Population and sample

The study population consisted of nurses working in two different hospitals providing secondary health care services in a province located in eastern Turkey. The population was accessed without the use of any sampling method. This study involved the participation of 410 nurses. A power analysis was conducted using G-Power 3.1.9.4 software, which determined that the effect size of the study was 0.3 with 96% power and a 0.05 significance level.[17]

Inclusion criteria

The inclusion criteria consisted of volunteers who worked as nurses in the mentioned hospitals and who agreed to participate in the study verbally and in writing.

Exclusion criteria

The study excluded nursing students who were in the clinics and wards for compulsory internship practice, as well as individuals who declined to participate.

Data collection tools

The researchers collected data using face-to-face interviews and the following tools: a sociodemographic characteristics information form, an information form about T&CM interventions, and the Holistic Complementary and Alternative Medicine Questionnaire (HCAMQ).

Sociodemographic characteristics information form

The sociodemographic characteristics information form consisted of 22 questions that inquired about age, gender, level of education, level of income, and other relevant factors.

The holistic complementary and alternative medicine questionnaire

It was developed by Hayland et al. to assess individuals' attitudes towards T&CM, was used.[18] Turkish validity and reliability study was conducted by Erci.[19] The questionnaire, which has two subscales, consists of 11 items rated on a 6-point Likert-type scale. The questionnaire assesses attitudes towards complementary and alternative medicine (CAM) and holistic health. It consists of 11 items, with scores ranging from 11 to 66. A low score indicates a favorable attitude towards CAM. The original scale has a Cronbach α value of 0.72, while the scale in this study has a Cronbach α value of 0.89.

Pilot study

A pilot study was conducted to test the content, understandability, suitability for nurses, and time required to complete the questionnaire. The study results do not include the data collected from the pilot study, which involved 10 nurses testing the forms.

Application of data collection tools

Before deciding to participate in the research, volunteers received an explanation of the study's purpose and methodology. Data collection forms were introduced, and any unclear sections were clarified. It was emphasized that participation was entirely voluntary and that the information obtained from the forms would be used exclusively for study purposes. The questionnaires were completed in 10-15 minutes. To increase participation, hospitals were visited on both weekdays and weekends, and repeated visits were made to clinics in an attempt to involve all nurses in the study.

Statistical analysis

The research data was analyzed using the SPSS (Statistical Package for Social Sciences 25.0) program. Kurtosis and skewness values were examined to assess the multivariate normal distribution of the variables. For a multivariate normal distribution, it is desired that the skewness value falls within the range of -2 to +2, and the kurtosis value falls within the range of -10 to +10.[20] The analysis revealed that the skewness value ranged from 0.349 to 0.121, and the kurtosis value ranged from -0.951 to 0.240. Some variables met the criteria

for normal distribution, while others did not. Parametric tests were used for normally distributed data, and non-parametric tests were used for non-normally distributed data. Descriptive statistics and mean scores for HCAMQ data were calculated, and $p<0.05$ was set as the statistical significance level for all comparisons.

Ethical approval

Approval was obtained from the XXX University ethics committee on 11.04.2023, with the approval number E.104135. Approval was obtained from the hospitals where the data would be collected for the study on May 22, 2023 (reference number 108639). Participants were informed both verbally and in writing about the study's purpose and methods, and their consent was obtained. The study was conducted in accordance with the ethical standards outlined in the Declaration of Helsinki. Personal information of the participating nurses was kept confidential.

RESULTS

The study found that the mean age of participating nurses was 33.92±4.86. The majority of participants were female (74.6%), undergraduate graduates (73.7%), and had a good income level (76.8%). Additionally, 69% of participants worked in a state hospital, 25.9% worked in internal services, and 62.4% had 5.1-10 years of experience. In the study, it was found that 58.1% of the nurses rated their general health status as 'middle', while 11.5% reported having a chronic disease. Additionally, 65.1% of the nurses reported having a family member with a chronic disease.

Regarding the use of traditional and complementary medicine (T&CM), 25.4% of the nurses reported having used T&CM before. Cupping or leeching was the most commonly used T&CM method, with 38.5% of the nurses reporting its use. Of those who used T&CM, 63.5% reported recovery with the method they used, and 84.6% recommended the method to others. The study found that 26.3% of the nurses' belief in traditional and complementary medicine (T&CM) was mostly influenced by newspapers, magazines, or media programs. Additionally, 51% of the nurses believed that T&CM practices could be used in children. Of the participants, 53.1% agreed that T&C practices were effective. Homeopathy was identified as the most commonly used method for children, with a prevalence rate of 50.7% (Table 1).

Table 1. Comparison of the sociodemographic characteristics of the nurses with the mean total scores of the HCAMQ (n=410)

Variables	n	%	HCAMQ Mean±SD	HCAMQ Test value	p
Gender					
Male	104	25.4	22.03 ± 6.03	[a]t=0.466	0.641
Female	306	74.6	21.72 ± 5.41		
Level of education					
High school	30	7.3	24.56 ± 6.95		
Associate degree	73	17.8	22.81 ± 4.86	[b]KW=6.325	**0.037**
Undergraduate	302	73.7	20.93 ± 5.22		
Postgraduate	5	1.2	21.64 ± 5.90		
Level of income					
Bad	37	9.0	22.09 ± 6.03	[c]F=5.151	**0.006**
Middle	315	14.1	21.67 ± 5.34		
Good	58	76.8	18.83 ± 4.88		
Worked hospital					
State hospital	283	69.0	22.63 ± 6.03	[a]t=4.661	**0.000**
Gynecology and pediatrics hospital	127	31.0	19.76 ± 5.10		
Worked unit					
Emergency	36	8.8	21.94 ± 6.68		
Operating room	27	6.6	21.62 ± 6.12		
Intensive care	45	11.0	23.33 ± 5.32		
Internal service	106	25.9	22.83 ± 6.06	[c]F=3.270	**0.002**
Surgical service	96	23.4	21.92 ± 5.64		
Day unit or outpatient service units	48	11.7	20.64 ± 5.34		
Maternity or labor services	25	6.1	20.08 ± 5.54		
Child services	27	6.6	17.74 ± 5.53		
Experience (years)					
0-5 years	61	14.9	22.26 ± 5.84		
5.1-10 years	256	62.4	21.76 ± 5.99	[c]F=0.448	0.639
10.1 years and above	93	22.7	21.34 ± 5.72		
General health status					
Bad	37	9.0	19.67 ± 3.25	[c]F=6.975	**0.001**

Middle	238	58.1	22.78±5.36		
Good	135	32.9	23.39±6.06		
Chronic disease status					
Yes	47	11.5	20.10±5.45	[a]t=2.027	**0.043**
No	363	88.5	21.95±5.93		
Diagnosis of chronic disease (n=47)					
Asthma	10	21.3	19.33±3.51		
Goiter	4	8.5	21.01±6.20		
Hypertension	17	36.2	20.94±5.93	[b]KW=6.325	**0.029**
Lung cancer	3	6.4	18.53±3.17		
Diabetes	13	27.7	20.02±9.27		
Chronic disease in the family					
Yes	267	65.1	21.11±5.61	[a]t=2.950	**0.003**
No	143	34.9	22.90±6.26		
Previous use of T&CM/CAM					
Yes	104	25.4	20.08±5.97	[a]t=3.353	**0.001**
No	306	74.6	22.30±5.78		
T&CM/CAM practice (n=104)					
Acupuncture	20	19.2	20.17±5.45		
Aromatherapy	17	16.3	20.95±5.97	[b]KW=2.120	0.548
Apitherapy	27	26.0	19.85±6.55		
Cupping or leeching	40	38.5	18.92±5.53		
Curing status of the disease after the use of T&CM/CAM (n=104)					
Yes	66	63.5	18.75±5.25	[a]t=3.111	**0.002**
No	38	36.5	22.39±6.49		
Status of recommending T&CM/CAM to others (n=104)					
Yes	88	84.6	19.71±5.85		
No	7	6.7	22.71±6.23	[b]KW=2.547	**0.028**
Undecided	9	8.7	21.66±6.92		
Sources of information about T&CM/CAM					
Personal experiences	27	6.6	20.92±6.56		
Scientific research	11	2.7	25.45±5.24		
University education	66	16.1	21.01±5.46		
Cultural background	31	7.6	24.91±4.96	[b]KW=15.827	**0.015**
Newspapers. magazines, or media programmes	108	26.3	21.60±6.15		
Information from my environment	93	22.7	21.87±5.90		
Information from health professionals	74	18.0	20.87±5.69		
Usability of T&CM/CAM in children					
Yes	209	51.0	20.83±5.81	[a]t=3.101	**0.002**
No	201	49.0	22.62±5.88		
Which types of diseases should T&CM/CAM be used in children (n=209)					
Febrile disorders	68	32.5	19.67±5.33		
Oncological diseases	15	7.1	20.12±4.71		
Respiratory system diseases	96	45.9	18.22±4.78	[b]KW=13.775	**0.029**
Nutritional problems	11	5.2	21.15±3.49		
Gastrointestinal diseases	19	9.3	21.65±4.12		
Reasons for wanting to use T&CM/CAM in children (n=209)					
Belief in curing the disease	42	20.1	19.95±5.80		
Thinking that GETAT will support the effectiveness of other treatments	111	53.1	20.55±5.73	[b]KW=16.385	**0.001**
Wanting to do everything possible to cure the disease	32	15.3	20.62±4.95		
Advice from health professionals	24	11.5	19.95±5.11		
Which T&CM/CAM practices can be used in children (n=209)					
Homeopathy	106	50.7	17.77±4.32		
Phytotherapy	31	14.8	20.35±5.37		
Acupuncture	30	14.4	20.46±5.70	[b]KW=21.809	**0.001**
Prayer therapy	30	14.4	22.03±5.31		
Aromatherapy	8	3.8	25.45±5.80		
Massage	4	1.9	20.25±7.22		
			Mean±SD		
Age			33.92±74.6		

[a] Independent sample t test, [b] Kruskal Wallis H test, [c] ANOVA test, SD: Standard deviation, HCAMQ: Holistic Complementary and Alternative Medicine Questionnaire.

DISCUSSION

The study revealed that the three most commonly known and utilized T&CM interventions were cupping or leech intervention (38.5%), apitherapy (26%), and acupuncture (19.2%). The mean scores of the nurses' HCAMQ were compared, revealing that those who worked in children's hospitals or services, had chronic diseases or a family history of chronic diseases, had previously used T&CM practices, believed they had recovered with this method, and reported that T&CM practices could be used in children, had a more positive attitude. It is important to note that these findings are objective and based on statistical analysis. The HCAMQ mean scores and subscales were as follows: 21.74±5.91 for the overall questionnaire, 13.97±4.55 for complementary and alternative medicine, and 7.77±2.52 for holistic health (Table 2).

Table 2. Descriptive information and reliability coefficients for the general and subscales of the HCAMQ

Scale and subscale	Cronbach Alfa	Min.	Max.	Mean±SD
HCAMQ	0.76	11	36	21.74±5.91
Complementary and alternative medicine	0.71	6	25	13.97±4.55
Holistic health	0.76	5	16	7.77±2.52

Min.: Minimum, Max.: Maximum, SD: Standard deviation, HCAMQ: Holistic Complementary and Alternative Medicine Questionnaire.

There was a relationship between chronic disease (r=0.100, p=0.043), previous T&CM/CAM use (r=0.164, p=0.001), education level (r=0.117, p=0.038) and mean HCAMQ scores (Table 3).

Table 3. The relationship between some variables and mean HCAMQ score

Variables		(1)	(2)	(3)	(4)
(1) Chronic disease status	r	1	0,702	0,812	0,100**
	p	-	0,019	0,012	**0,043**
(2) Previous use of T&CM/CAM	r	0,702	1	0,107	0,164*
	p	0,019	-	0,080	**0,001**
(3) Level of education	r	0,812	0,107	1	0,117**
	p	0,012	0,080	-	**0,038**
(4) HCAMQ	r	0,100**	0,164*	0,117**	1
	p	**0,043**	**0,001**	**0,038**	-

*Correlation is significant at the 0.01 level (2-tailed), **Correlation is significant at the 0.05 level (2-tailed), HCAMQ: Holistic Complementary and Alternative Medicine Questionnaire.

Although it is known that T&CM is used in various diseases in children[21], the number of studies on the attitudes of nurses towards the use of T&CM in children is very limited. In this study, 51% of the participants reported that T&CM is a method that can be used safely in children. It was determined that all of those who reported having any chronic disease used T&CM. Similarly, 45.9% of the nurses stated that T&CM practices could be used in diseases related to the respiratory system in children. In this study, nurses with chronic diseases had more positive attitudes towards T&CM. Correlation analysis showed a significant relationship. Therefore, the hypothesis H_1 was confirmed. In a study conducted by McCann and Newell in the UK, the rate of use of T&CM in children with chronic diseases was reported to be 40% and 12% in healthy children.[22] Similarly, Ang et al. reported that the rate of T&CM use was 25% in children with asthma and 38% in healthy children.[23] Post-White et al. reported that T&CM was used 47-62% in children with chronic diseases and 36% in healthy children.[24]

T&CM practices

The use of T&CM practices was prevalent among children with chronic diseases and healthy children alike.

According to the nurses, homeopathy was the T&CM method considered safe for use in children with a percentage of 50.7%. Additionally, phytotherapy (14.8%), acupuncture (14.4%), and prayer therapy (14.4%) were also reported as safe T&CM practices for children. Attitudes towards T&CM were found to be associated with previous use of T&CM, confirming hypothesis H2. A study conducted by Gottschling et al. in Germany reported that homeopathy was the most commonly used T&CM method in children, with a usage rate of 25%.[21] Altunç et al. stated that healthcare professionals and parents perceived homeopathic drugs as safe, natural, and effective, leading many physicians to prescribe

these drugs.[25] Hughes et al. reported that phytotherapy and acupuncture were commonly used in both healthy and sick children, which is consistent with previous studies conducted in Europe.[26] Halkón et al. found that nurses employed various practices, including herbal medicines, nutritional supplements, prayer therapy, and meditation, for their patients. It is worth noting that prayer is the most frequently used therapy in Muslim societies. According to Muslim belief, prayer therapy is considered effective in curing diseases, alleviating troubles, and protecting from evil. It is believed to have no harmful effects.[27] 53.1% of the nurses interviewed believed that traditional and complementary medicine (T&CM) practices were effective in alleviating the symptoms of the child's illness and would support other treatments. According to Madsen et al., the main reasons for using T&CM were to strengthen the immune system, achieve physiological relaxation, and promote recovery. According to a report, the use of traditional and complementary medicine (T&CM) provided relief in 27% of patients with chronic diseases.[28] Lindly et al. suggest that T&CM practices are often sought out when medical treatments are perceived as insufficient or when patients desire to increase their effectiveness.[29] Although various T&CM practices are used in different studies, sociocultural characteristics, religion, lifestyle, and the use of local medicinal herbs are believed to influence the choice of T&CM method.[30] This study found that herbal practices, which are a cultural habit in Turkey, are applied more frequently than other T&CM practices. Additionally, most of the population believes that these practices are healthy and safe, which is consistent with previous studies.

The study found that individuals with higher levels of education tend to exhibit positive health behaviors. Specifically, nurses who received both undergraduate and postgraduate education scored lower on the T&CM attitude scale, indicating a more positive attitude towards T&CM. Additionally, the study confirmed the hypothesis that level of education is related to T&CM. Crawford et al.[31] reported that individuals with higher education and income levels had higher rates of T&CM use. The authors suggest that higher education levels may be associated with greater access to information about the effectiveness of these treatment practices. The study also found that newspapers, magazines, and media programs were the primary sources of information about T&CM. According to Holroyd et al.[32], newspapers and magazines were the primary sources of information regarding T&CM. The study suggests that the abundance of information obtained from the media may be attributed to its accessibility, the inclusion of T&CM-related content, and the increased media follow-up rates.

It has been documented that certain T&CM practices can be costly, leading to their use primarily by individuals with higher socioeconomic status.[7] However, some researchers have argued that the effectiveness of these practices may outweigh their cost.[33] In this study, nurses who reported having good socioeconomic status also reported a more positive attitude towards T&CM.

Among all users, 75% consulted a physician regarding the use of T&CM, and 84.6% recommended T&CM to others. These findings contradict studies reporting that most T&CM users act without the approval of healthcare professionals.[7,34] This result may be due to the fact that the participants were health personnel and therefore more knowledgeable about T&CM-related practices. According to Gottschling et al., 48% of physicians recommended the use of T&CM in children.[21] Additionally, 60% of general practitioners and 36% of pediatricians had a positive attitude towards the use of T&CM in children. Samuels et al. reported that 70% of nurses used T&CM, with approximately half of them recommending it to their patients.[35] According to a report, healthcare professionals are more likely to recommend T&CM to others when they witness its positive effects on children.[36] This may be due to the perception that T&CM is a natural, personalized, non-invasive, and holistic approach. The use of clear and concise language with a logical flow of information is important in conveying this message. Many healthcare professionals believe that T&CM practices are tested for quality and side effects and are more reliable than modern practices.[37] Nurses can benefit from T&CM practices in the context of spiritual care to ensure the psychological and emotional well-being of the patient, reduce stress, and facilitate compliance with treatment.[38] Such practices can be beneficial to the patient because they have no adverse effects.

CONCLUSION

T&CM is accepted as a very common method that supports modern medical practices in both sick and healthy children. Although side effect rates are generally low, it has been reported that uncontrolled and irregular T&CM practices may lead to many problems and deaths.[21] Although interactions between herbal mixtures and prescription drugs have

been demonstrated by studies, it should be kept in mind that some T&CM practices should be used with caution in vulnerable groups such as children. Since a T&CM method contraindicated for a child may delay the diagnosis or treatment process of the disease, caution should be exercised, and a decision should be made to apply such practices after a detailed evaluation for each child. With spirituality, the health care providers can learn to support the values for the art of healing. Nurses and health professionals should be trained to integrate spiritual care with T&CM practices to understand patients' needs and determine the best treatment approach.

Limitations

There are several limitations to this study. The fact that the study participants were nurses working in two hospitals in only one province limits the generalizability of the findings to the population. In addition, causality cannot be inferred from this study because of the cross-sectional design of the study. Therefore, longitudinal studies with large numbers of participants are needed. Another limitation is that the data were collected using self-report questionnaires. These limitations should be considered in future studies. Despite these limitations, the strength of the study is that it is the first study to obtain data on nurses' attitudes toward the use of T&CM in children.

Disclosure statement: The authors have no conflicts of interest to declare.

Author contributions: Conceptualization: [AS, ST]; Design: [AS, ST]; Writing: [AS]; Investigation/Data collection: [AS, ST]

Conflict of interest: There is no potential conflict of interest relevant to this article..

REFERENCES

1. Dalla Libera D, Colombo B, Pavan G, Comi G. Complementary and alternative medicine (CAM) use in an Italian cohort of pediatric headache patients: the tip of the iceberg. *Neurol Sci*. 2014;35(1):145-148.
2. Pitetti R, Singh S, Hornyak D, Garcia SE, Herr S. Complementary and alternative medicine use in children. *Pediatr Emerg Care*. 2001;17(3):165-169.
3. Helms JE. Complementary and alternative therapies: a new frontier for nursing education? *J Nurs Educ*. 2006;45(3):117-123.
4. Posadzki P, Watson LK, Alotaibi A, Ernst E. Prevalence of use of complementary and alternative medicine (CAM) by patients/consumers in the UK: systematic review of surveys. *Clin Med*. 2013;13(2):126-131.
5. Lorenc A, Ilan-Clarke Y, Robinson N, Blair M. How parents choose to use CAM: a systematic review of theoretical models. *BMC Complement Alternalternative Med.* 2009;9:9.
6. Harris P, Rees R. The prevalence of complementary and alternative medicine use among the general population: a systematic review of the literature. *Complement Ther Med.* 2000;8(2):88-96.
7. Lim A, Cranswick N, Skull S, South M. Survey of complementary and alternative medicine use at a tertiary children's hospital. *J Paediatr Child Health*. 2005;41(8):424-427.
8. Turhan AB, Bör Ö. Use of herbs or vitamin/mineral/nutrient supplements by pediatric oncology patients. *Complement Ther Clin Pract*. 2016;23:69-74.
9. Meyer S, Goda Y. Complementary and alternative medicine in pediatric gastroenterology. *J Pediatr Gastroenterol Nutr*. 2016;63(6):e208.
10. Loman DG. The use of complementary and alternative health care practices among children. *J Pediatr Heal Care*. 2003;17(2):58-63.
11. Bishop FL, Prescott P, Chan YK, Saville J, von Elm E, Lewith GT. Prevalence of complementary medicine use in pediatric cancer: a systematic review. *Pediatrics*. 2010;125(4):768-776.
12. Hessig RE, Arcand LL, Frost MH. The effects of an educational intervention on oncology nurses' attitude, perceived knowledge, and self-reported application of complementary therapies. *Oncol Nurs Forum*. 2004;31(1):71-78.
13. Asadi-Pooya AA, Brigo F, Lattanzi S, et al. Complementary and alternative medicine in epilepsy: a global survey of physicians' opinions. *Epilepsy Behav*. 2021;117:107835.
14. Smith GD. Editorial: The need for complementary and alternative medicine familiarisation in undergraduate nurse education. *J Clin Nurs*. 2009;18(15):2113-2115.
15. Chu FY, Wallis M. Taiwanese nurses' attitudes towards and use of complementary and alternative medicine in nursing practice: a cross-sectional survey. *Int J Nurs Stud*. 2007;44(8):1371-1378.
16. Uzun Ö, Tan M. Nursing students' opinions and knowledge about complementary and alternative medicine therapies. *Complement Ther Nurs Midwifery.* 2004;10(4):239-244.
17. Cochran WG. Sampling Techniques. 3rd ed. John Wiley & Sons; 1997.
18. Hyland ME, Lewith GT, Westoby C. Developing a measure of attitudes: the Holistic Complementary and Alternative Medicine Questionnaire. *Complement Ther Med.* 2003;11(1):33-38.
19. Erci B. Attitudes towards holistic complementary and alternative medicine: a sample of healthy people in Turkey. *J Clin Nurs.* 2007;16(4):761-768.
20. Collier J. Applied Structural Equation Modeling Using AMOS Basic to Advanced Techniques. 1st ed. Routledge; 2020.

21. Gottschling S, Gronwald B, Schmitt S, et al. Use of complementary and alternative medicine in healthy children and children with chronic medical conditions in Germany. *Complement Ther Med.* 2013;21:S61-S69.
22. McCann LJ, Newell SJ. Survey of paediatric complementary and alternative medicine use in health and chronic illness. *Arch Dis Child*. 2006;91(2):173-174.
23. Ang JY, Ray-Mazumder S, Nachman SA, Rongkavilit C, Asmar BI, Ren CL. Use of complementary and alternative medicine by parents of children with HIV infection and asthma and well children. *South Med J*. 2005;98(9):869-875.
24. Post-White J, Fitzgerald M, Hageness S, Sencer SF. Complementary and alternative medicine use in children with cancer and general and specialty pediatrics. *J Pediatr Oncol Nurs*. 2009;26(1):7-15.
25. Altunç U, Pittler MH, Ernst E. Homeopathy for childhood and adolescence ailments: systematic review of randomized clinical trials. *Mayo Clin Proc*. 2007;82(1):69-75.
26. Hughes R, Ward D, Tobin AM, Keegan K, Kirby B. The use of alternative medicine in pediatric patients with atopic dermatitis. *Pediatr Dermatol*. 2007;24(2):118-120.
27. Cevik Guner U, Günay U, Demir Acar M. Opinions of Turkish parents of children with autism spectrum disorder on use of complementary and alternative medicine methods. *Res Autism Spectr Disord*. 2021;88:101847.
28. Madsen H, Andersen S, Nielsen RG, Dolmer BS, Høst A, Damkier A. Use of complementary/alternative medicine among paediatric patients. *Eur J Pediatr*. 2003;162(5):334-341.
29. Lindly OJ, Thorburn S, Heisler K, Reyes NM, Zuckerman KE. Parents' use of complementary health approaches for young children with autism spectrum disorder. *J Autism Dev Disord*. 2018;48(5):1803-1818.
30. Ozturk C, Karatas H, Längler A, Schütze T, Bailey R, Zuzak TJ. Complementary and alternative medicine in pediatrics in Turkey. *World J Pediatr*. 2014;10(4):299-305.
31. Crawford NW, Cincotta DR, Lim A, Powell CVE. A cross-sectional survey of complementary and alternative medicine use by children and adolescents attending the University Hospital of Wales. *BMC Complement Altern Med.* 2006;6(1):16.
32. Holroyd E, Zhang AL, Suen LKP, Xue CCL. Beliefs and attitudes towards complementary medicine among registered nurses in Hong Kong. Int J Nurs Stud. 2008;45(11):1660-1666.
33. Spigelblatt L, Laîné-Ammara G, Pless IB, Guyver A. The use of alternative medicine by children. *Pediatrics*. 1994;94(6):811-814.
34. Cincotta DR, Crawford NW, Lim A, et al. Comparison of complementary and alternative medicine use: reasons and motivations between two tertiary children's hospitals. *Arch Dis Child*. 2006;91(2):153-158.
35. Samuels N, Zisk-Rony RY, Singer SR, et al. Use of and attitudes toward complementary and alternative medicine among nurse-midwives in Israel. *Am J Obstet Gynecol*. 2010;203(4):341.e1-341.e7.
36. Shaw A, Thompson EA, Sharp D. Complementary therapy use by patients and parents of children with asthma and the implications for NHS care: a qualitative study. *BMC Health Serv Res*. 2006;6(1):76.
37. MacLennan AH, Myers SP, Taylor AW. The continuing use of complementary and alternative medicine in South Australia: costs and beliefs in 2004. *Med J Aust*. 2006;184(1):27-31.
38. McSherry W, Ross L. Dilemmas of spiritual assessment: considerations for nursing practice. *J Adv Nurs*. 2002;38(5):479-488.