

Knowledge and Attitudes of Pediatric Nurses Towards Traditional Complementary and Alternative Medicine and Applications Consulted by Families

Pediatric Hemşirelerinin Geleneksel Alternatif ve Tamamlayıcı Tıp Uygulamalarına Yönelik Bilgi ve Tutumları ile Ailelerin Danıştıkları Yöntemler

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ABSTRACT Objective: The study aimed to determine pediatric nurses' knowledge and attitudes about traditional complementary and alternative medicine (TCAM) and applications consulted to them by families. **Material and Methods:** This descriptive cross-sectional study was conducted with 236 pediatric nurses working in two different pediatric hospitals between May and July 2018. The data were obtained through participant forms questioning nurses' sociodemographic and professional characteristics, TCAM consulted by families, and the Holistic Complementary and Alternative Medicine Questionnaire (HCAMQ). Data analysis was performed by using SPSS 23.0 statistical program, and Kolmogorov-Smirnov Z test and non-parametric tests (Mann-Whitney U test, Kruskal-Wallis test) were used in addition to descriptive statistics. **Results:** Of the pediatric nurses participating in the study, 80.5% stated that they did not receive any training on complementary alternative medicine and 83.2% did not consider themselves competent in this regard. It was determined that parents mostly consult nurses about complementary and alternative medicine applications regarding neonatal care and some common symptoms seen in children (fever, cough, diarrhea, constipation, etc.). Nurses' mean HCAMQ score was 25.32±6.13. A statistically significant relationship was found between the nurses' mean HCAMQ scores and their marital status ($p<0.005$). **Conclusion:** The pediatric nurses' attitudes towards complementary alternative medicine were positive. It was concluded that the nurses had insufficient knowledge about complementary alternative medicine and that it should be included in the curriculum and in-service training in nursing.

ÖZET Amaç: Bu çalışma, pediatri hemşirelerinin geleneksel alternatif ve tamamlayıcı tıp (GETAT) hakkındaki bilgi düzeyleri ve tutumları ile ailelerin kendilerine danıştıkları yöntemleri belirlemek amacıyla gerçekleştirilmiştir. **Gereç ve Yöntemler:** Kesitsel ve tanımlayıcı nitelikte olan bu çalışma, Mayıs-Temmuz 2018 tarihleri arasında 2 çocuk hastanesinde çalışan 236 pediatri hemşiresi ile gerçekleştirildi. Veriler, hemşirelerin sosyodemografik, mesleki özellikleri ve ailelerin danıştıkları GETAT yöntemlerini içeren form ile Bütüncül Tamamlayıcı ve Alternatif Tıbbı Karşı Tutum Ölçeği (BTATKTÖ) kullanılarak elde edilmiştir. Verilerin değerlendirilmesinde SPSS 23.0 istatistik programı kullanılmış olup, tanımlayıcı istatistiklerin yanında, Kolmogorov-Smirnov Z testi ve nonparametrik testler (Mann-Whitney U testi, Kruskal-Wallis testi) ile değerlendirilmiştir. **Bulgular:** Çalışmaya katılan pediatri hemşirelerinin %80,5'i, tamamlayıcı alternatif tıpla ilgili herhangi bir eğitim almadıkları ve %83,2'si kendilerini bu konuda yeterli görmediklerini belirtmişlerdir. Ebeveynler, hemşirelere daha çok yenidoğan bakımı ve çocuklarda sık görülen bazı semptomlara yönelik (ateş, öksürük, diyare, konstipasyon vs.) GETAT yöntemlerini danıştıkları saptanmıştır. Hemşirelerin BTATKTÖ puan ortalaması 25,32±6,13 olarak bulunmuştur. Hemşirelerin, BTATKTÖ puan ortalamaları ile medeni durumları arasında istatistiksel olarak anlamlı bir ilişki olduğu saptanmıştır ($p<0,005$). **Sonuç:** Çalışmaya, pediatri kliniğinde çalışan hemşirelerin tamamlayıcı alternatif tıbbı karşı tutumlarının pozitif yönde olduğu belirlenmiştir. Hemşirelerin tamamlayıcı alternatif tıbbı karşı yeterli bilgiye sahip olmadıkları, hemşirelik eğitim müfredatı ve hemşirelikte hizmet içi eğitimlerde yer verilmesi önerilmektedir.

Keywords: Pediatrics; nurse; traditional complementary alternative medicine; knowledge; attitude

Anahtar Kelimeler: Pediatri; hemşire; geleneksel tamamlayıcı alternatif tıp; bilgi; tutum

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Traditional and complementary medicine is the sum total of the knowledge, skill, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health as well as in the prevention, diagnosis, improvement or treatment of physical and mental illness.¹ Complementary and alternative medicine (CAM) has gained popularity among patients and their families after its legal recognition with the publishing of “Regulation on Traditional and Complementary Medicine Practices” in Turkey on October 27, 2014.² Available studies show that parents frequently use traditional CAM applications without the advice or supervision of a physician and hide it from healthcare professionals.³⁻⁵ Although use of CAM is common among patients, it has been observed that most nurses do not interrogate patients in this regard and avoid informing the family about these applications.^{6,7} Children are more likely to be affected and harmed by CAM applications than adults. Children are particularly more prone to adverse effects due to the variability of the content of herbal medicines, the amount taken per kilogram of body weight and their insufficiently developed capacity to metabolize the substance taken.^{5,8,9} As health care professionals, nurses can easily identify patients’ health care requirements and practices as they communicate face-to-face with sick/healthy individuals.¹⁰ Therefore, it is important to determine knowledge levels and attitudes of pediatric nurses, who are most in contact with children and parents, regarding these methods so as to recognize incorrect CAM practices that may adversely affect the health of the child, and to inform and provide consultation to children and parents.^{7,9,11} Reviewing the literature, there was a limited number of studies investigating pediatric nurses’ knowledge and attitudes towards CAM and the applications consulted by families.^{7,11,12} For this reason, the present study aimed to determine pediatric nurses’ knowledge and attitudes about traditional CAM and the applications families consult them about.

MATERIAL AND METHODS

RESEARCH TYPE

The research was designed as a cross-sectional, descriptive and correlational study.

POPULATION AND SAMPLE

Research population: 252 pediatric nurses from two hospitals in the northern region of Turkey constituted the population of the study. No sample selection was made, and the study was completed with 236 nurses and 93.6% of the population was reached.

DATA COLLECTION

Research data were collected from pediatric clinics between May and July 2018. The data were collected by the researcher through face-to-face interviews during working hours in the nursing rooms for 15 minutes.

DATA COLLECTION TOOLS

Research data were collected through a questionnaire form created by the researchers upon scanning the literature.^{9,13} The form included a total of 14 questions investigating nurses’ socio-demographic characteristics (age, gender, marital status, educational status, etc.), occupational characteristics (duration of work, pediatric units, position), knowledge about traditional complementary and alternative medicine (TCAM) applications, previous training, perceived knowledge, opinion about the reasons why parents use TCAM, TCAM applications consulted by parents, and experience of the side effects of these applications in their professional life.

THE HOLISTIC COMPLEMENTARY AND ALTERNATIVE MEDICINE QUESTIONNAIRE

It was developed by Hyland et al. in 2003. The Turkish validity and reliability study was performed by Erci in 2003. The Cronbach alpha, which is the reliability coefficient of the scale, is 0.72. The questionnaire has two subscales: CAM and holistic health (HH). It is a Likert type scale consisting of 11 questions. The minimum and maximum scores range from 11 to 66. Higher scores indicate negative attitudes towards complementary and alternative medicine.^{13,14} In this study, the Cronbach’s alpha value of the Holistic Complementary Medicine Questionnaire (HCAMQ) and the validity and reliability of the Holistic Complementary and Alternative Medicine questionnaire was 0.68, whereas the validity and reliability of the HH subscale was 0.72, and the valid-

ity and reliability of the alternative medicine subscale was 0.54. Permission was obtained via e-mail for the questionnaire to be used in the study.

ETHICAL CONSIDERATIONS

Prior to the study, ethical approval was obtained from the Clinical Researches Ethics Committee of Ondokuz Mayıs University (Decision No. B.30.2.ODM.0.20.08/1592-1667) and institutional permission was obtained from the hospitals where the study was conducted. The purpose of the study was explained to the nurses and written consent was obtained from all participants. Permission was obtained from relevant authors via e-mail for the scales used in the study. The study was conducted in accordance with the Helsinki Declaration principles.

Data Analysis: The data were analyzed by using the SPSS 16.00 (Statistical Package for the Social Sciences) package software. The independent t-test and the one-way ANOVA test were used to compare the quantitative data and normally distributed parameters in addition to descriptive statistics for evaluating the data on the knowledge and attitudes of pediatric nurses about holistic complementary alternative medicine.

RESULTS

The mean age of the participant pediatric nurses was 35.00±1.42 years, 95.3% were female and 79.2% were married. Of the nurses, 57.6% had bachelor’s degree, 30.9% had professional experience of twenty-one years or more, 54.3% worked in the pediatric unit and 93.2% worked as clinical nurses (Table 1).

Of the nurses, 80.5% reported not receiving any training about CAM and 83.2% did not consider themselves at a competent level to provide information about CAM (Table 2).

When asked about which CAM methods they were familiar with, 63.1% said massage, 41.1% spa, 39.4% cupping, 33.1% acupuncture, 28% ozone therapy, 27.1% music therapy, 26.7% leech therapy, 22% phytotherapy, 16.1% religious practices, 15.7% yoga and meditation, and 13.1% hypnosis. The applications that parents consult with nurses about were as follows: Making the forties (89%), wearing yellow to

TABLE 1: Nurses' socio-demographic and professional characteristics (n=236).

Age (Mean±SD) (Minimum-Maximum): 35.00±1.42 (18-56)		n (%)
Gender	Female	225 (95.3)
	Male	11 (4.7)
Marital status	Married	187 (89.2)
	Single	49 (20.8)
Educational background	High school	14 (5.9)
	Associate degree	69 (29.2)
	Bachelor's degree	136 (57.6)
	Master's degree	17 (7.2)
Professional experience	1-5 years	43 (18.2)
	6-10 years	51 (21.6)
	11-15 years	34 (14.4)
	16-20 years	35 (14.8)
	21 years and above	73 (30.9)
Unit	Pediatrics	128 (54.3)
	Neonatal intensive care	65 (27.5)
	Pediatric emergency	33 (14.0)
	Pediatric intensive care	10 (4.2)
Position	Supervisor	15 (6.4)
	Clinical nurse	220 (93.2)

SD: Standard deviation.

TABLE 2: Nurses' opinions on traditional complementary and alternative medicine.

		n (%)
Previous training on TCAM	Yes	57 (24.2)
	No	179 (75.8)
Perceived knowledge about CAM	Yes	34 (14.4)
	No	202 (85.6)
Experience of the side effects of TCAM applications in professional life	Yes	27 (11.4)
	No	209 (88.6)
Opinions on legal regulations about TCAM	Finds positive	145 (61.4)
	Finds negative	19 (8.1)
	No idea	72 (30.5)

CAM: Complementary and alternative medicine;

TCAM: Traditional complementary and alternative medicine.

relieve jaundice (94.9%), using vinegared water to reduce high fever (76.3%), herbs to increase breast milk (97.5%), certain foods for diarrhea (98.3%), drinking olive oil for constipation (97.9%), certain foods and herbs to relieve cough (94.9%), applying olive oil for rash (99.2%), eating raw meat and chewed bread for trauma (99.2%) and applying toothpaste and olive oil for burns (97.9%). According to the nurses, the reasons why parents used CAM were

TABLE 3: Applications known by nurses and applications consulted by families.

TCAM applications known by nurses		TCAM applications consulted by families		Reasons why parents use TCAM according to the nurses	
TCAM practices	n (%)	Applications consulted by parents	n (%)	Reasons why parents use TCAM	n (%)
Massage	149 (63.1)	Making the forties	210 (89.0)	Due to cultural trends	160 (67.2)
Hot spring	97 (41.1)	Wearing yellow to treat jaundice	224 (94.9)	Due to pressure from other family members	117 (49.6)
Cupping	93 (39.4)	Using vinegar water to reduce high fever	180 (76.3)	Belief in the effect of CAM	109 (46.2)
Acupuncture	78 (33.1)	Herbs to increase breast milk	230 (97.5)	Due to financial obstacles and lack of access to medical treatment	87 (36.9)
Ozone therapy	67 (28.4)	Foods for treating diarrhea	232 (98.3)	Belief in the safety of CAM	79 (33.5)
Music therapy	64 (27.1)	Drinking olive oil to treat constipation	231 (97.9)	Dissatisfaction with medical treatment	47 (19.9)
Leech therapy	63 (26.7)	Foods and herbs for cough relief (honey milk, mint lemon)	224 (94.9)		
Phytotherapy	52 (22.0)	Applying olive oil to treat diaper rash	234 (99.2)		
Religious practices	38 (16.1)	Eating raw meat, chewed bread crumbs for trauma	224 (94.9)		
Yoga and meditation	37 (15.7)	Using toothpaste or olive oil for burns	231 (97.9)		

TCAM: Traditional complementary and alternative medicine; CAM: Complementary alternative medicine; *: The n value was multiplied in case of more than one response given by nurses.

TABLE 4: Distribution of the mean holistic complementary and alternative health questionnaire and subscale scores.

	Mean±SD	Minimum-Maximum
The holistic complementary and alternative medicine questionnaire	25.32±6.13	11-41
Complementary and alternative medicine	16.16±4.32	6-26
Holistic health	9.17±3.11	5-20

SD: Standard deviation.

as follows: cultural trends (67.2%), family pressure (49.6%) and belief in the effect of CAM (46.2%) (Table 3).

The mean HCAMQ and subscale scores were as follows: the mean total HCAMQ score=25.32±6.13, the mean CAM subscale score=16.16±4.32, and the mean HH subscale score=9.17±3.11 (Table 4).

When the distribution of the relationship between the nurses' sociodemographic characteristics and the mean HCAMQ total scores was evaluated, a significant relationship was detected between marital status and it was observed that nurses who were married displayed more positive attitudes than those who were single (p<0.05). No significant relationship was found between the mean HCAMQ scores and gender, educational status, length of professional experience, position and unit (p>0.05) (Table 5).

DISCUSSION

Most of the participating nurses reported not receiving any previous training on CAM and they did not consider themselves competent in this regard. Since nurses engage in face-to-face communication with sick/healthy children and their parents, they have the opportunity to determine their health care needs and health care practices more easily.^{6,12} Therefore, it is recommended that nurses have comprehensive knowledge on the subject, as they can warn patients about the possible risks and side effects of CAM and answer their questions as well.^{10,15} Available domestic studies show that pediatric nurses and nurses in other units have not received any previous training and they need information on this subject.^{11,12,15} Similarly, many other studies have reported low rates of CAM education and requirement for more knowledge.¹⁶⁻²¹ A study conducted with pediatric nurses (n=268) in Mexico found that although most of the nurses used CAM and believed in the safety of these practices, very few informed or recommended the family about

TABLE 5: Comparison of mean holistic complementary and alternative medicine questionnaire scores and some variables.

		Mean±SD	Test value, p value
Gender	Female	25.29±6.13	1,220.500 0.967
	Male	26.00±6.37	
Marital status	Married	24.82±5.86	3,600.000 0.025
	Single	27.20±6.80	
Educational background	High school	23.78±7.33	3,741 0.291
	Associate degree	25.75±5.89	
	Bachelor's degree	24.99±6.13	
	Master's degree	27.47±5.92	
Professional experience	1-5 years	25.60±6.72	4,202 0.379
	6-10 years	25.54±7.04	
	11-15 years	25.64±6.29	
	16-20 years	23.45±5.83	
	21 years and above	25.75±5.05	
Unit	Pediatrics	25.72±5.08	9,166 0.516
	Newborn intensive care	24.81±6.41	
	Pediatric emergency	26.21±5.65	
	Pediatric intensive care	24.20±7.02	
Position	Supervisor	27.53±3.58	1,227.000 0.108
	Clinical nurse	25.11±6.24	

SD: Standard deviation.

these methods.²² A meta-analysis of fifteen studies investigating nurses' knowledge and attitudes towards CAM methods demonstrated that the majority of nurses did not have comprehensive information about the related risks and benefits and reported feeling uncomfortable while discussing complementary and alternative medicine therapies with their patients.²³ Review of the studies conducted with student nurses reveals that they have a low education rate in CAM.^{24,25} These results are consistent with the results of our study, suggesting that CAM is not sufficiently included in neither the nursing curriculum nor in-service training, and nurses should be empowered in this regard. The findings indicate the necessity of knowledge about CAM practices among healthcare professionals. Given the increasingly positive attitudes of individuals towards this form of medicine, the limited number of studies on CAM knowledge, practice, and attitudes of health professionals has proven the necessity for greater attention on this topic.

In the study, the pediatric nurses were mostly familiar with massage, spa, and cupping therapy. Çırık and Efe found that pediatric nurses opted for massage (76.6%) frequently.⁷ Many domestic studies with

medical professionals showed that herbal treatment methods were widely known and used.^{11,15,26} Similarly, a study conducted by Bahall and Legal with nurses in the Caribbean found that they were also more familiar with herbal treatment methods.²⁰ A study by Tracy et al. reported the 5 most popular methods among intensive care nurses as diet, exercise, massage, prayer and music therapy.²⁷ The difference between these results is thought to be due to the study universe and cultural differences between countries.

The present study, in line with other domestic studies, shows that nurses display a positive attitude towards CAM.^{9,13,15} In the literature, different studies revealed opposing results in which some nurses displayed positive attitudes, while others displayed negative attitudes and stated that they avoided informing patients and their relatives about CAM.^{16-18,21,28}

In the study, it was observed that the attitude of the married nurses towards CAM was more positive than that of single nurses ($p < 0.05$). Sağkal Midilli et al. found that nurses and female healthcare professionals exhibited more positive attitudes towards CAM.¹⁵ The study of Erci with adults showed that the

attitude towards complementary and alternative medicine was significantly negative in male and single individuals.¹⁴ In our study, it was observed that nurses' other sociodemographic and professional characteristics were not correlated with their attitudes towards CAM. While there are studies in which no relationship was found between nurses' sociodemographics and attitudes towards CAM methods, correlation was reported with some characteristics (age, gender, marital status, income, etc.) in other studies.^{9,18,20,21,28}

In our study, it was observed that the applications that parents consult with nurses were mostly about jaundice, breast milk and diaper rash in the neonatal period, and some common symptoms (fever, diarrhea, constipation) and traumas in childhood. Domestic studies demonstrate that families mostly prefer herbal remedies and religious practices in Turkey.^{3-5,8} Foreign studies show that CAM methods preferred by families vary according to the characteristics of the country.²⁸⁻³²

According to the nurses, the reasons for parents to use TCAM are mostly due to cultural trends and other family members. Available studies show that the reasons as to why families CAM differ. This difference is thought to be due to the sociodemographic and cultural characteristics of the societies. Akçay and Yıldırım reported that parents believed it would be more beneficial for the child to combine CAM methods with medical treatment.³³ Studies with families of children diagnosed with pediatric oncology demonstrated that families opted for CAM as they believed it would help their children heal.^{29,32,34,35}

CONCLUSION

It is known that pediatric nurses are team members who can easily communicate with children and their families and can closely observe their psychological,

social, and financial problems. Nurses should not overlook TCAM applications that families consult and apply, and they should try to determine the reasons and conditions behind its use. In this context, nurses should learn more about TCAM and educate patients and their families. Also, it is important and necessary for pediatric nurses to provide communication between family and healthcare professionals about these practices.

Therefore, it is recommended to conduct larger studies to determine various variables such as regions, cultural differences, beliefs, and traditional practices. Our results can be used as a guide regarding which CAM applications should be included in the curriculum. In addition, the knowledge of pediatric nurses on TCAM should be updated with in-service training programs.

Source of Finance

During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject, nor from a company that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.

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: Esra Tural Büyük; **Control/Supervision:** Esra Tural Büyük, Hasret Yasemin Bayrak; **Data Collection and/or Processing:** Esra Tural Büyük, Hasret Yasemin Bayrak; **Analysis and/or Interpretation:** Esra Tural Büyük, Hasret Yasemin Bayrak; **Literature Review:** Esra Tural Büyük, Hasret Yasemin Bayrak; **Writing the Article:** Esra Tural Büyük, Hasret Yasemin Bayrak; **Critical Review:** Esra Tural Büyük, Hasret Yasemin Bayrak.

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