Original Article

Effect of Educational Intervention on Nursing Students' Attitudes Toward Complementary and Alternative Therapies

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Abstract

Background: Attitudes towards complementary and alternative therapies (CAT) among health professionals are generally reported negatively. This causes the patients to hide what they used as a CAT. As a potential future member of nursing profession, the attitudes toward CAT among nursing students are important.
Objective: This study aimed to evaluate the effect of educational intervention on nursing students' attitudes toward complementary and alternative therapies.
Method: The study was a quasi-experimental and prospective study and conducted in a nursing faculty of a public university. A 14 week (28 hours – 2 hours per week) complementary and alternative therapies education were given to the 47 nursing students. Data were collected with Holistic Complementary and Alternative Medicines Questionnaire (HCAMQ - ranged from 11 to 66 points, lower points show more positive attitudes)
Results: Participants (80.9% women, 22.06±1.45 years old) reported that the most common CAT used by participants is phytotherapy with 23.4%. The mean of HCAMQ total score was 32.9±4.58 before and 26.8±4.18 after the education. There were significant differences between before and after education ($p<0.001$).
Conclusions: It was found that the educational intervention was an effective method to improve attitude towards complementary and alternative therapies.

Key Words: Complementary and Alternative Therapies; Educational Intervention; Nursing Students; Attitudes.

Introduction

Complementary and alternative therapies (CAT) include a wide range of health-related practices and products. Complementary and alternative therapies are divided into two categories: natural products such as phytotherapy or dietary supplements, and mind and body practices such as acupuncture, chiropractic, massage, reflexology, meditation or yoga (Lindquist et al., 2018; Field, 2009). Complementary and alternative therapies acceptance and usage in the western countries and science have dramatically increased in recent decades (Frass et al., 2012; Clarke et al., 2015). It is much more common especially in chronic diseases such as cancer, diabetes mellitus (Ogbera et al., 2010; Horneber et al., 2012). Researches on CAT have also increased significantly in western countries in recent decades. According to the National Center for Complementary and Integrative Health (NCCIH), 38% of adults use complementary therapies in the United States. In Europe, 25.9% of the general population had used CAM in 12 months (Kemppainen et al., 2018; Hunt et al., 2010). With the increase in studies about it, CAT is becoming included in evidence-based practice. However, the attitudes toward the CAT vary according to the groups. For example, the attitudes of the general population towards CAT is reported to be generally

positive. However, the attitudes towards CAT among healthcare professionals is generally reported to be negative (Trail-Mahan et al., 2013). However, it was reported in the literature that the patients whose healthcare professionals know and practice CAT have 0-30% lower health care costs and mortality rates (Kooreman and Baars, 2011; Herman et al., 2012). The differences between the attitudes of health professionals and patients cause conflict between them. Health professionals have ignored the CAT. Thus, patients are often using CAT before taking professional advice. It was reported that 20% to 77% of the cancer patients do not disclosure their CAT usage to health professionals (Davis et al., 2012). When they examine why the patients do not disclosure their CAT usage, Oh et al. (2010) reported that the patients' main reasons are "doctor did not ask about the use of CAM" (40%), "thought CAM would not affect their conventional treatment" (29%), "thought doctors do not know much about CAM" (18%), and "afraid that the doctor would not approve" (15%). As long as health professionals do not approve of the patients' CAT usage, patients will continue to disclosure their CAT usage to health professionals. Health professionals cannot understand their patients prior to use such therapies and cannot provide reliable sources of information to their patients unless they do not accept CAT and improve their attitudes toward CAT (Trail-Mahan et al., 2013). So, it is necessary to improve the attitudes of health professionals toward CAT. Institute of Medicine (2005) reported that CAT-related education is necessary for health professionals to advise their patients about the other complementary or alternative care options. The educational intervention is one of the most common methods to improve attitudes and knowledge. It was reported in the literature; educational intervention is an effective intervention to improve attitudes in different groups (Economou et al., 2012; Soares et al., 2013; Seidel et al., 2013). This study was conducted with the aim of determining the effect of CAT education on the attitudes of nursing students towards CAT.

Materials & Methods: The study had a quasi-experimental and prospective design and conducted in a Faculty of Nursing of a public university between January – June 2019.

Participants: To determine sample size, Paired sample t-test approach was used for the single-group sample size calculation in the before-after education. Accordingly, within the 95% confidence interval limits ($\alpha = 0.05$), at 0.80 power and in the medium effect size (dz=0.5), the minimum number of samples was calculated as 27. Students (n = 56) who are in 3rd years in nursing education were the universe of the study. The reason for choosing these students is that they have successfully finished all the fundamental theoretical lessons about health, diseases, treatment, and care. Nine students declined to participate in the study and study were carried out with 47 students.

Intervention: For the educational intervention; 14-week and 2 hours per week (totally 28 hours) training about CAT was planned. In this training, CAT that accepted and allowed to usage by the Ministry of Health of the relevant country (Table 1) and the studies about these methods were discussed. For this education, PowerPoint presentations and pressed materials were used. The presentations and pressed materials were prepared by researchers with regards to current literature (Lewith et al., 2010; Micozzi, 2018; Lindquist et al., 2018; Kalner and Wellman, 2014).

Data Collection: Data collected from the students before the first training and three weeks after the last training. Student identification form and the Holistic Complementary and Alternative Medicines Questionnaire (HCAMQ) used to collect data.

Student identification form: This form was developed by the researchers according to literature. The form included age, gender, income level, the place where they were living, the use of Phytotherapy or not as complementary or alternative, and the use of any CAT.

Holistic Complementary and Alternative Medicines Questionnaire (HCAMQ): This is an 11 item, the self-completed questionnaire that measures attitudes to complementary and alternative medicine and holistic health beliefs. The scale has two subscales that are holistic health and complementary and alternative therapies. The questionnaire is valid and reliable in Turkish society. The lowest score in this questionnaire is 11 and the highest score is 66. A lower score indicates a more positive attitude towards holistic health belief and CAT (Hyland et al., 2003; Erci, 2007).

Data Analysis: Power calculation of the study was performed using the G-Power 3.0 program. Data were analyzed with IBM SPSS 25.0 package program. Descriptive statistics for the study are given in numbers (n) and percentages (%). Data were analyzed using parametric tests if the normal distribution assumptions were met and using nonparametric tests if the normal distribution assumptions failed. The results of the parametric tests are given as mean values and standard deviations; the results of the nonparametric tests are given as the median, minimum, and maximum values. For dependent multiple group comparisons, the Friedman test was applied, and the Dunn test was used to determine the pairs that met the

significance criteria. p<0.05 was determined to be the level of significance.

Ethics: Written approval to conduct the research was obtained from Scientific Research and Publication Ethics Committee of relevant university (protocol number 236), from the relevant Faculty of Nursing, and from the students who participated in the study.

Results

Of 47 participants, %80.90 were female, 40.40% were living in town, 93.60% did not have any chronic disease, and the mean age was 22.1±1.45 years. Most of the parents of students were primary school graduates. Most of the participants (83%) reported that their income is equal to their expenses (Table 2). Phytotherapy is the most common method used by students. 53.2% of students are using phytotherapy and 72% were using phytotherapy as complementary medicine. 25.5% of the students were using any CAT other than phytotherapy (Table 3).The CAT education decreased the scores in the Holistic Health subscale (p<0.001), Complementary and Alternative Therapies subscale (p<0.001), and the total score (p<0.001). CAT education decreased the score of males and females. However, for males, there were only statistically significant differences in Holistic Health subscale (p=0.010) between the before and after education. For females, there were statistically significant differences between the before and after education in both subscales (p<0.001) and the total score (p<0.001). The CAT education decreased the total score of the students whose family had lower income (p=0.036) and higher income levels (p<0.001). For the students who are living in a village, there were no significant differences in both subscales (HH; p=0.414, CAT; p=0.218) and the total score (p=0.130) between the before and after the education (Table 4).

Discussion

Complementary and alternative therapies usage have increased in recent years. The attitudes of health professionals, especially nurses, toward CAT are becoming more important, as more people tend to use CAT (Lindquist et al., 2018). In the current study, we studied attitudes toward CAT in nursing students who are potential members of this profession.More than half of the students reported that they used at least one form of phytotherapy in their life. In their study, Khorasgani and Moghtadaie (2014) reported that phytotherapy is the second most common method known and used by nursing students. Yıldırım et al. (2010) reported that phytotherapy is one of the most well-known complementary and alternative therapies among nursing students. Nworu et al. (2015) reported that approximately 70% of the students have used at least one form of herbal therapies. Herbs have used in the treatment of symptoms or diseases for thousands of years and it is still the most common CAT in most societies. Because peoples tend to believe that natural is best and in fact that natural is safe (Ramzan, 2015, p555-566). We think this is why phytotherapy is the most common method in our study and in the literature. We found that an educational intervention with nursing students is an effective way to improve positive attitudes toward CAT. Hessing et al. (2004) reported that educational intervention with oncology nurses is effective in improving knowledge about CAT and attitudes towards CAT. In a systematic review assessing CAT education for the medical profession, Quartey et al. (2012) stated that positive changes were mostly reported after the educational intervention. Our results reflect this literature. Females had more positive attitudes before and after education than males, and there were significant differences between females and males after the educational intervention. Nedrow et al. (2007) also reported that female students had more positive attitudes than male students at five health professional schools. Cobb (2016) reported females had more positive attitudes than males toward CAT. Alwhaibi and Sambamoorthi (2015) reported that ever CAT usage and CAT usage in the last 12 months was significantly higher in female than male.Students from families with higher income levels show more positive attitudes toward CAT before and after the educational intervention. In a systematic review assessing use and acceptance of complementary and alternative therapies among the general population, Frass et al. (2012) stated that some studies reported higher income level shows higher acceptance and usage of CAT. Alwhaibi and Sambamoorthi (2015) reported that women with lower income levels were less likely to use CAT. However, there are some studies that reported that there are no differences among the different income levels CAT usage and attitudes (Kupferer et al., 2009). Ganasegeran et al. (2014) reported that CAT usage among peoples with low-income (82.6%) is higher than peoples with high income (47.5%) in Malaysia. We thought that this difference is about the reimbursement system of the countries. In some countries, patients often do not extra pay for modern therapies, drugs and healthcare systems (Franken et al., 2012; Whedon et al., 2017). So, CAT usage is an extra cost for the patients who are living in these countries. However, in other countries, patients have to pay for modern therapies, drugs, and healthcare systems and in these countries, CAT is an inexpensive method for patients (Quek, 2009; Bamidele et al., 2009; Ganasegeran et al., 2014).

This variety results in differences in CAT usage between the income levels according to countries.

METHODS	
Phytotherapy	Apitherapy
Acupuncture	Prolotherapy
Cup Therapy	Osteopathy
Hirudotherapy	Reflexology
Hypnosis	Homeopathy
Ozone Therapy	Chiropractic
Mesotherapy	Music Therapy
Larva Therapy	

Table 1: Complementary and Alternatives Therapies accepted by Ministry of Health

Table 2. Distribution of Students by Sociodemographic Characteristics

	n	%
Gender		
Male	9	19.1
Famale	38	80.9
Marital Status		
Married	1	2.1
Single	46	97.9
Mothers education		
illiterate	4	8.5
Literate	2	4.3
Primary education	40	85.1
High school	1	2.1
Fathers education		
illiterate	1	2.1
Literate	2	4.3
Primary education	27	57.4
High school	8	17
University	9	19.1
Living in		
Metropolitan	16	34
City	7	14.9
Town	19	40.4
Village	5	10.6
Total income of family		
Income less than expense	6	12.7
Income equal to expense	39	83
Income higher than expense	2	4.3
Chronic disease		
Yes	3	6.4
No	44	93.6

Table 3. Distrubition of used any phitotherapy or any other CAT

	n	%
Used any phytotherapy		
Yes	25	53.2
No	22	46.8
İf yes – used as		
Complementary	18	72
Alternative	7	28
Used any CAT except phytotherapy		
Yes	12	25.5
No	35	74.5

Table 4. Subscale and scale total mean points according to groups

	Holistic Health			Complementary and Alternative Thearapies		
Gender						
	Before	After	p	Before	After	p
Male	12.9±2.03	11.0±3.64	p=0.010	20.8±4.92	18.6±2.30	p=0.243
Famale	12.3±2.45	9.4±2.06	p<0.001	20.4±3.40	16.7±3.18	p<0.001
	p=0.539	p=0.085		p=0.782	p=0.109	
Have any chronic disease						
	Before	After	p	Before	After	p
Yes	13.3±2.52	11.0±2.00	p=0.423	17.0±1.73	16.3±4.93	p=0.878
No	12.4±2.37	9.6±2.50	p<0.001	20.7±3.66	17.1±3.01	p<0.001
	p=0.508	p=0.361		p=0.091	p=0.677	
Living in						
	Before	After	p	Before	After	p
Metropolitan	12.1±2.25	9.4±1.93	p=0.020	19.4±3.79	16.4±3.16	p=0.001
City	12.4±0.98	9.4±2.51	p=0.062	20.9±5.11	17.0±3.46	p=0.075
Town	12.4±2.34	9.8±2.57	p=0.001	21.1±2.90	17.4±3.32	p=0.001
Village	13.6±4.16	10.8±3.90	p=0.414	21.0±4.24	18.2±1.10	p=0.288
	p=0.699	p=0.717		p=0.603	p=0.661	
Income level						
	Before	After	p	Before	After	p
Income less than expense	14.3±2.66	9.5±1.98	p=0.038	19.3±2.50	17.1±2.14	p=0.218
Income equal to expense	12.2±2.28	9.9±2.51	p=0.256	20.7±3.89	17.2±3.21	p=0.150
Income higher than expense	12.5±0.71	6.5±0.71	p<0.001	*	14.0±2.83	*
	p=0.109	p=0.158		p=0.596	p=0.367	
Total (n=43)						
	Before	After	p	Before	After	p
	12.5±2.37	9.7±2.42	P<0.001	20.5±3.68	17.1±3.10	P<0.001

Limitations: The study was conducted in one nursing faculty and in one society. While it was sufficient for statistical analysis, the sample size was small. The distribution of gender was not equal, so it wasn't possible to compare subjects between males and females. The data were based on self-reported answers, there was no observation in the study.

Implications to Education: In this study, we found that CAT education increases the positive attitudes toward CAT among nursing students. For nursing and all other medical professions, we suggest that CAT should be a part of the curriculum to improve the quality of care of patients and provide the reliable source of information.

Conclusion: Educational intervention is an effective method to increase positive attitudes among nursing students toward CAT. Females show more positive attitudes toward CAT than males. People with higher income levels show more positive attitudes towards CAT. Further studies in this field are recommended.

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