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Original Article

Cultural Perceptions of Nursing Students Regarding Pain and Methods Used for Pain Management

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ABSTRACT

Background: Understanding cultural perception of pain and determining the methods used for pain management contribute to the assessment of the pain experienced by nursing students.

Aims: The aim of this study is to determine the effect of culture on nursing students' perception of pain and the modern, cultural, and traditional methods they use for pain self-management.

Design: This study is a cross-sectional descriptive study.

Participants/Subjects: This study was carried out with 319 nursing students between March 1 and May 1, 2020.

Methods: For data collection, a questionnaire created by the researchers after literature review and the Pain Beliefs Scale were used. Data were evaluated using SPSS Statistics 20.0 program.

Results: The type of pain experienced most often by nursing students is headache (56.7%). The pain they experienced negatively affected daily activities. The mean score of those who used cultural method of psychologic beliefs for reducing pain was statistically significant ($p < .05$).

Conclusions: Nursing students generally use massage, warm shower, and herbal tea drinking for pain management. The psychologic belief scores of those who applied these traditional methods of pain reduction were high.

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The concepts of health and illness have been shaped and influenced by values and culture (Fallon, 2018). Perception of pain is a concept that differs from culture to culture and is influenced by cultural perceptions and lifestyles (Karaman et al., 2019; Hroch et al., 2019; Hussain & Karim, 2019). The International Association for the Study of Pain (IASP) defines somatic pain as an unpleasant sensation or emotional experience that occurs because of tissue injury (International Association for the Study of Pain–IASP, 2020). According to the literature, pain can be classified as originating from organic and psychological beliefs. "Organic pain belief" is experienced by the individual due to biologic and physiological reasons. Organic pain is related to the organic nature of pain and the perceived cause of pain. "Psychological pain belief" is defined as the values an individual attributes to pain due to his or her psychological structure and the socio-cultural-environmental reasons. Psychological pain beliefs show the ef-

fect of psychological factors, such as anxiety and depression, on pain (Sertel Berk, 2006; Kennedy, et al., 2014; Gül & Erel, 2018; Erol Ursavaş & Karayurt, 2020).

Culture is defined as the material and spiritual integrity that provides the formation of social and individual life. Pain has always had various meanings for culturally different races. Race, age, and personal character of the individual also change the perception of pain. The change in perception of pain according to culture also leads to changes in the use of medications and treatment methods (Kuğuoğlu, 2012; George & Jung, 2016). Pain experiences, perceptions, behaviors, reactions, and pain acceptance processes are different for individuals from different cultures owing to environmental factors. An individual's perception of pain and the way they express it may vary according to their culture (Chan & Hamamura, 2015; Ng, 2019). An individual's pain experiences due to organic and psychological reasons, differences in individual characteristics such as age and gender, pain-oriented behaviors, and coping methods used also vary from culture to culture (Bell et al., 2018; Hroch et al., 2019; Hussain & Karim, 2019; Kazmi et al., 2018; Kim et al., 2019; Ng, 2019; Orhan et al., 2018; Rush et al., 2020; Shiraev and Levy, 2020). A

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study conducted by Kazmi et al. (2018) to determine the use of complementary medicine methods in individuals living in Al Majmaah, Saudi Arabia, determined that individuals who used complementary medicine (13%) mostly used herbal therapies, cupping, and acupuncture (Kazmi et al., 2018). Another study determined complementary medicine methods used by young Korean individuals as acupuncture (65.2%), massage (48.2%), cupping (41.8%), yoga (37.0%), diet therapy (29.7%), and aromatherapy (11.9%) (Kim et al., 2019).

Pain can affect mental health, daily activities, academic achievement, and efficiency in academic success. It is important to know the source of pain healthcare professionals experience and their cultural practices. Thus, better care can be provided to patients by being aware of different applications for pain management. There are some studies in the literature about the importance of determining the pain that nursing students experience and cultural methods they use for pain management, and providing education about pain management during nurse education (Quinn & Smolinski, 2018; Quinn & Serna, 2019; Van Dijk et al., 2017). Nowadays, interventions such as drugs, massage, heat and cold application, music therapy, distraction, and worship can be utilized by nursing students for pain management (Rush et al., 2020; Stewart & Cox-Davenport, 2015; Uzunçakmak & Kılıç, 2017; Vlachou et al., 2019). According to Vlachou et al. (2019), approximately half of the nursing students (48.3%) who experienced menstrual pain used non-steroid anti-inflammatory drugs and 43% used paracetamol (Vlachou et al., 2019). In a study conducted by Karabulut, Gürçayır, & Yeşim, 2016 nursing students used hot compresses, herbal medicine, massage, sleep, music therapy, exercise, rest, and lying on their back for pain management (Karabulut, Gürçayır, & Yeşim, 2016).

There are limited studies in the literature on pain beliefs of nursing students (Erol et al., 2020; Gül & Erel, 2018; Kennedy et al., 2014). In a study conducted by Erol et al (2020) with 79 student nurses, education on pain management did not have a significant effect on pain beliefs ($p < .05$). In the study conducted by Gül and Erel (2018) with physiotherapy assistant students, paramedic students, elderly care students, and child development and care students, no statistically significant difference was found between organic and psychologic pain belief scores of students who did and did not receive pain management education ($p > .05$) (Gül & Erel, 2018). Van Dijk et al. (2017) conducted a study with 760 patients, 1,184 nurses, and 98 student nurses to determine their knowledge and beliefs about pain during the surgical process. Although a statistically significant difference was determined among nurses who received pain management education, nurses and nursing students had more information and positive beliefs about pain management than the patient group (Van Dijk et al., 2017).

There are limited studies on nursing students' cultural perception of pain and methods they use for pain management (Babadag & Alparslan, 2017; Karabulut et al., 2016; Kılıçarslan, 2019; Uzunçakmak & Kılıç, 2017; Yorulmaz et al., 2019). While treating patients it is important to provide holistic care and meet their care expectations in line with their cultural values (Lin et al., 2016; Lin et al., 2019). The fact that nursing students have knowledge about the cultural pain approach when they start the profession will also increase the quality of the nursing care they provide. Integrating the subject of pain and culture into education in the nursing program can increase the awareness of cultural pain by nurses.

The aim of this study is to determine the effect of culture on nursing students' perceptions of pain and the modern, cultural, and traditional methods they use for pain management.

Methods

Study Design and Sample

This cross-sectional descriptive study was conducted on the methods used for pain management at Mersin University, Department of Nursing students in Turkey.

Study population and sample

The population of the study consisted of 953 first, second, third, and fourth year nursing students enrolled from March to May 2020. Sample size of 316 students was found to be appropriate for the study using <https://www.openepi.com/> with a 97% confidence interval (CI) and 3% margin of error (ME). A total of 319 nursing students participated in the study between March 1 and May 1, 2020. Inclusion criteria were (1) first, second, third, and fourth year nursing students; (2) age > 18 years; and (3) agreement to participate in the survey. Exclusion criteria were (1) graduate students, (2) age < 18 years, (3) disagreement to participate the survey, and (4) incomplete questionnaire.

Data collection forms/questionnaire

The questionnaire, which consists of four sections, was created by the researchers after conducting literature review (Babadag & Alparslan, 2017; Karabulut et al., 2016; Kılıçarslan, 2019; Yorulmaz et al., 2019). The first section consists of 10 questions about the demographic characteristics of the participants (age, gender, year of study, area lived in, health insurance, and economic status); the second section has questions about perception of pain (frequency, intensity and area of pain, and factors that influence pain) and the effects of it on daily activities, whereas the third section contains four questions about the modern, complementary and traditional medicine, and the cultural methods used for pain management.

The fourth section contains the Pain Beliefs Questionnaire developed by Edwards et al. (1992). Validity and reliability of the survey in Turkish was conducted by Sertel Berk in 2006 (Sertel Berk, 2006). The survey consists of two sub-dimensions and 12 questions in total: Organic Beliefs (8 items) and Psychological Beliefs (4 items). The items on the survey are scored on a Likert scale from 1 (always) to 6 (never). Scores are calculated by dividing the total score obtained in each sub-dimension by the number of items in that sub-dimension. As the scale scores increase, pain beliefs scores increase (Kılıçarslan, 2019). Sertel Berk found the Cronbach's Alpha coefficient as 0.71 for the organic beliefs sub-dimension and 0.73 for the psychological beliefs sub-dimension (Sertel Berk, 2006). For this study, Cronbach's Alpha internal consistency coefficient was found to be 0.66 for the organic beliefs sub-dimension and 0.77 for the psychological beliefs sub-dimension.

Data collection

Data were collected between March 1 and May 1, 2020 from nursing students at Mersin University. The study included those over the age of 18 attending the university and agreeing to participate in the study after meeting face-to-face to provide information. It took about 15-20 minutes to complete the questionnaire. In order to evaluate the comprehensibility and operability of the data collection form, 16 students (5% of the sample) completed the surveys before the study started. These students were not included in the sample.

Data analysis

SPSS 20 (IBM Corp. Released 2011. IBM SPSS Statistics for Windows, version 20.0. Armonk, NY: IBM Corp) statistical package

Table 1
Demographic Characteristics of Nursing Students

Age	Min-Max: 18-27	$\mu \pm SS: 21.26 \pm 1.62$	
		Number(n)	Percentage (%)
Sex	Female	209	65.5
	Male	110	34.5
Year of study	First year	75	23.5
	Second year	80	25.1
	Third year	75	23.5
	Fourth year	89	27.9
	Mother/father/sibling	269	84.3
Currently living with (during school breaks)	Friends	30	9.4
	Spouse/kids	13	4.1
	Living alone	5	1.6
	Other	2	0.6
Leisure activity	Listening to music	191	59.9
	Spending time with friends	170	53.3
	Reading books	162	50.8
	Watching TV	158	49.5
	Exercising	96	30.1
	Other	44	13.8
	Playing an instrument	28	8.8

program was used for data analysis. Descriptive statistics such as frequency, percentage, mean, and standard deviation (SD) were used. One-way analysis of variance (ANOVA) was used for comparing the means of more than two independent groups for continuous variables when the data showed normal distribution/ not normally distributed; *t* test and multiple regression analysis were used in multivariate groups to compare two independent groups. A *p* value of .05 was considered statistical significance.

Ethical considerations

Written approval was obtained from the institution where the study was conducted (Date: 27.02.2020) and the ethics committee (Number: 14371090-605.01, Date: 19.02.2020). After the participants were informed about the study in writing, their consent was obtained.

Results

The demographic characteristics of nursing students can be found in Table 1. The average age of the participants is 21.26 ± 1.6 (min: 18–max: 27). Overall, 65.5% of the students (209) are female and 27.9% (89) are in their fourth year of college. When asked what they like to do when they have free time, 59.9% of the participants listen to music, 53.3% spend time with their friends, 50.8% read books, and 49.5% watch television (Table 1).

Data on participants' pain perception and the effect of pain on their daily activities are included in Table 2. More than half of the students (56.7%) experience headache, in addition to abdominal pain by 26.6%, waist pain by 25.7%, and back pain by 24.5% (Figure 1). Two-thirds (67.1%) rarely experienced pain in their daily lives, 56.4% stated the pain they experience was moderate in severity, and 65.8% stated the reason for increased pain was mostly fatigue. Due to the pain experienced, participants were unable to study (55.2%), unable to attend classes (42.3%), were limited in movement (41.4%), and were not able to go to clinical practice (32.6%) (Table 2).

The modern and cultural methods used by nursing students for pain management are listed in Table 3. Nearly half of the students (43.6%) stated they use painkillers (paracetamol, arveles, ibuprofen), whereas 56.4% of the students do not use painkillers for pain management (Table 3). Some of the traditional and complementary medicine methods used to reduce pain were massage (60.5%), taking warm shower (59.2%), drinking herbal tea (28.5%),

exercising (27.6%), cold compress (21.3%), using positive thinking method (19.7%), and praying (9.4%). Some of the cultural methods used were applying St. John's Wort oil to the painful area (14.4%), other (5.0%) such as wrapping painful area tightly and salt-water gargle (5.0%), and applying yogurt on the painful area (5.0%) (Figure 2).

Most of the nursing students, 81.5%, stated they could manage the pain they were experiencing themselves. Students stated causes of pain experienced as environmental causes (noise, light) (67.1%), psychological reasons (58.9%), acute illness (44.2%), chronic illness (43.9%), negative energy (27.9%), evil eye (25.1%), and punishment from God (8.2%) (Table 3).

Nursing students' average organic beliefs score was 3.36 ± 0.60 whereas the average psychological beliefs score was 4.58 ± 0.88 . Pain beliefs scale total mean score was found to be 3.97 ± 0.62 .

Organic and psychological beliefs do not affect nursing students' pain frequency, pain intensity, factors that increase pain, the effect of pain on daily activities, and the use of painkillers ($p > .05$).

Table 4 shows the comparison of participants' somedemographic characteristics, pain perception, pain management and pain beliefs scale scores. Female participants' average psychological beliefs score (4.66 ± 0.88) and male participants' organic beliefs average score (3.45 ± 0.57) were found to be statistically significant ($p < .05$, Table 4). As pain frequency and intensity increased average organic beliefs score increased. Psychological beliefs mean scores were found to be statistically significant in students who used cultural methods to reduce pain ($p < .05$, Table 4). However, there was no statistically significant difference between the use of cultural methods in reducing pain and organic beliefs ($p > .05$, Table 4). The average psychological beliefs score of the nursing students who used apitherapy (it is a form of using bee and bee products as a preventive and complementary application method in the treatment of some diseases) (6.00 ± 0.0), worship (5.02 ± 0.64), and aromatherapy (4.84 ± 0.91) methods were found to be higher than other cultural methods (Table 4).

Going to the doctor to manage pain received the highest score and the organic beliefs score of those who believed in going to the doctor was statistically significant ($p < .05$, Table 4). Pain management was not affected by the psychological beliefs score ($p > .05$). There was a significant difference between psychological beliefs average score ($p < .05$, Table 4) and the following causes of pain: psychological reasons (4.72 ± 0.82), environmental causes (4.66 ± 0.84), evil eye (4.66 ± 0.81), negative energy (4.64 ± 0.78), chronic

Table 2
Perception of Pain and its Effects on Daily Activities

		Number (n) ^a	Percentage (%)
Pain frequency	Never	35	11.0
	Rarely	214	67.1
	Often	62	19.4
	Always	8	2.5
Pain intensity	Light	86	27.0
	Medium	180	56.4
	Severe	50	15.7
	Very severe	3	.9
Factors increasing pain	Fatigue	210	65.8
	Environmental factors	146	45.8
	Insomnia	139	43.6
	Psychological factors	139	43.6
	Other	15	4.7
Daily activities affected by pain	Inability to study	176	55.2
	Inability to attend classes	135	42.3
	Difficulty/inability moving	132	41.4
	Inability to attend clinical practice	104	32.6
	Difficulty eating	89	27.9
	Postponing bathing	63	19.7
	Difficulty getting dressed and undressed	63	19.7
	Difficulty with digestive system	61	19.1

^a Folded.

Area Affected by Pain in Nursing Students (n:319)

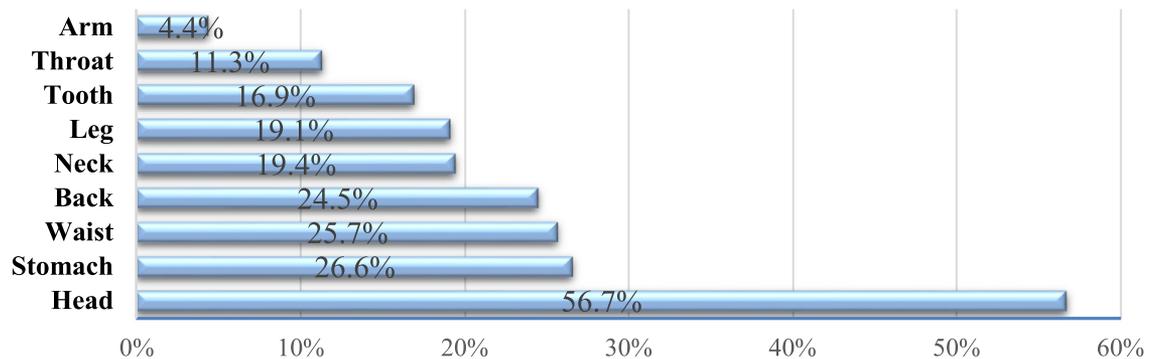


Figure 1. Area affected by pain in nursing students (n = 319).

Table 3
Modern, Traditional, and Complementary Medicine and Cultural Methods Used for Pain Management

		Number (n)	Percentage (%)
Medical treatment: Use of pain reliever (paracetamol, arveles, ibuprofen)	Yes	139	43.6
	No	180	56.4
Cultural methods used in pain management	St. John's Wort oil application	46	14.4
	Other (wrapping painful area tightly, saltwater gargle)	16	5.0
		16	5.0
	Yogurt application		
Pain control	Self	260	81.5
	Nurse	22	6.9
	Doctor	20	6.3
	God	17	5.3
Causes of pain	Environmental reasons	214	67.1
	Psychological reasons	188	58.9
	Acute diseases	141	44.2
	Chronic diseases	140	43.9
	Negative energy	89	27.9
	Evil eye	80	25.1
	Punishment from God	26	8.2

Traditional and Complementary Medicine Methods Used to Reduce Pain (n:319)

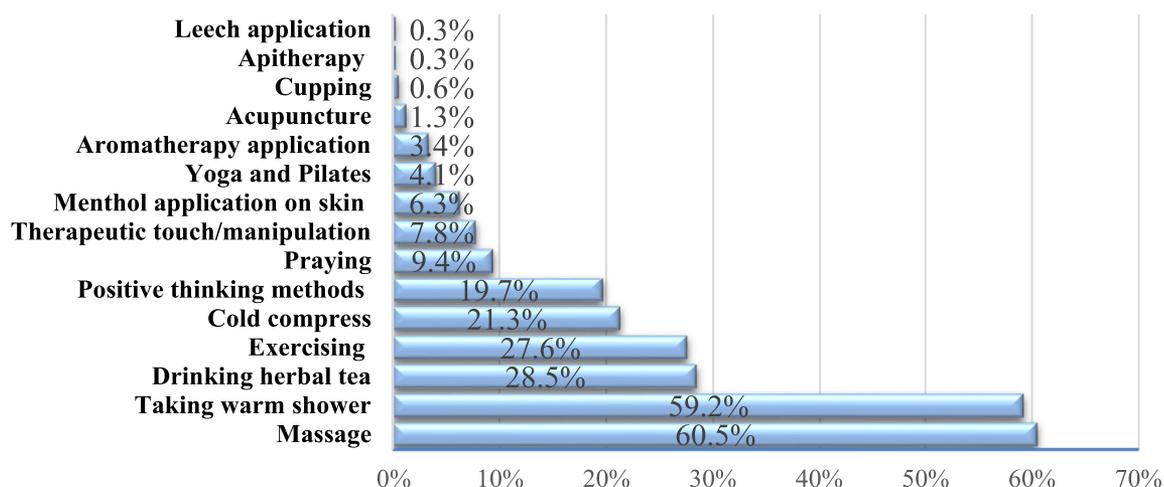


Figure 2. Traditional and complementary medicine methods used to reduce pain (n = 319)

diseases (4.63 ± 0.82), acute diseases (4.60 ± 0.85), and punishment from God (4.35 ± 0.79).

Discussion

Pain is one of the negative experiences people of all ages experience (Uzunçakmak & Kılıç, 2017). More than half of the nursing students experience headache, whereas one-fourth experience abdominal, waist, and back pain. In a study by Uzunçakmak & Kılıç (2017), nursing students experienced head (53.3%), abdominal (42.4%), and waist pain (33%). In another study, nursing students experienced gastrointestinal related pain (69.1%), back and low-back pain (59.3%) (Karabulut et al., 2016). The results of these studies are parallel to the results of our study.

In our study, men's organic beliefs scores were significantly higher than women's, whereas women's psychological beliefs scores were significantly higher than men's. Unlike our study, Kılıçaraslan's (2019) graduate thesis with nursing students concluded that the women's organic beliefs average score is higher than that of men ($p < .05$) and no significant difference was found in psychological beliefs point average (Kılıçaraslan, 2019). Another study conducted with students in a health department found no significant difference between male and female students in terms of organic and psychological pain beliefs ($p > .05$) (Gül & Erel, 2018). It can be concluded that these results predominantly attribute pain men experience to organic causes (injury) and women experience to psychological causes (anger, anxiety, stress).

In patriarchal Turkish culture, because women are raised with traditional values more intensely than men (Işık & Can, 2019; Ünsal, 2020), they practice traditional and cultural practices more often in their daily lives.

Our study results revealed that nursing students' pain frequency, pain intensity, factors that increase pain, the effect of pain on daily activities and the use of painkillers were not affected by organic and psychological beliefs. In Kılıçaraslan's (2019) study, no significant difference was found between pain intensity and organic beliefs ($p > .05$), whereas a significant difference was found between psychological beliefs ($p < .05$). In our study, it was revealed that there was no statistical difference among the students' pain frequency, pain intensity, factors that increase pain, the effect of pain on daily activities and the use of painkillers, organic

and psychological beliefs, but students' psychological beliefs were higher in these variables.

In our study, although there was no statistically significant difference between the complementary and traditional medicine method and the cultural method used to reduce pain and the organic beliefs score, the psychological beliefs score was statistically significant. This result reveals that as the psychological beliefs of those with pain increase, the need to utilize cultural methods increases. Unlike our study, in a study by Yorulmaz et al. (2019), although there was no significant difference between the psychological beliefs scores of nursing students who utilized non-pharmacologic methods ($p > .05$), the organic beliefs score was significantly higher ($p < .05$) (Yorulmaz et al, 2019). It is noted that 83.5% of cancer patients in China use these methods for pain. Traditional and complementary methods, such as acupressure, acupuncture, specific to Chinese medicine, are commonly used (McQuade et al., 2012; Smith et al., 2020) Sharma et al. (2017). noted in their study that complementary and traditional methods used by older Indians were mostly Ayurveda, homeopathy, natural treatment/naturopathy, vitamin use, unani, and yoga (Sharma et al., 2017) Irmak et al. (2019). determined that patients undergoing chemotherapy treatment used methods such as herbal product use, prayer, cupping, St. John's Wort oil, ginger, and bee pollen use as traditional and complementary methods (Irmak et al., 2019). The traditional methods used to cope with pain in Turkey are parallel to other countries.

Our study results show that those who have psychological beliefs use the complementary and traditional medicine and cultural method more intensively while managing pain. Nursing students' use of complementary, traditional and cultural pain management methods will be a guide in the approach they take caring for patients with psychological beliefs pain. Knowing the methods used to cope with pain will allow nurses to take a holistic approach to care for patients without judgment (Alavi Fili et al., 2017; Červený et al., 2020; Smith et al., 2018). In a study conducted in Slovakia, Červený et al. (2020) found that only 28% of nurses are culturally competent in caring for patients and that cultural competence is important in nursing care (Červený et al., 2020) Karimzadeh et al. (2021). looked at the effect of aromatherapy with lavender and citrus aurantium/citrus on pain in intensive care patients. It was suggested that lavender is effective in reducing pain and can be used in nursing care (Karimzadeh et al., 2021). In

Table 4
Comparison of Demographics, Pain Perception, Pain Management, and Pain Beliefs Scale Score in Pain Management

	Organic beliefs ($\mu \pm SS$)	<i>p</i>	Psychological beliefs ($\mu \pm SS$)	<i>p</i>
Gender				
Female	3.31 \pm 0.61	.03 ^a	4.66 \pm 0.88	.04 ^a
Male	3.45 \pm 0.57		4.45 \pm 0.88	
Traditional and complementary medicine and cultural methods used in pain management				
Cold compress	3.43 \pm 0.55		4.61 \pm 0.79	
Taking a warm shower	3.35 \pm 0.61	.22 ^b	4.74 \pm 0.85	.001 ^b
Menthol application on skin	3.52 \pm 0.49		4.76 \pm 0.86	
Massage	3.40 \pm 0.57		4.75 \pm 0.82	
Therapeutic touch/application	3.23 \pm 0.49		4.58 \pm 0.75	
Acupuncture	3.40 \pm 0.42		4.12 \pm 1.23	
Cupping	2.87 \pm 0.88		4.50 \pm 1.41	
Praying	3.44 \pm 0.59		5.02 \pm 0.64	
Drinking herbal tea	3.26 \pm 0.54		4.68 \pm 0.78	
Aromatherapy	3.56 \pm 0.59		4.84 \pm 0.91	
Apitherapy (pollen, milk)	3.50 \pm 0.0		6.00 \pm 0.0	
Leech application	4.00 \pm 0.0		4.25 \pm 0.0	
Positive thinking methods	3.37 \pm 0.55		4.77 \pm 0.76	
Yoga and Pilates	3.17 \pm 0.61		4.44 \pm 1.33	
Exercise	3.29 \pm 0.64		4.51 \pm 0.98	
Other (wrapping painful area tightly, saltwater gargle)	3.22 \pm 0.59		4.40 \pm 1.06	
Yogurt application	3.38 \pm 0.39		4.29 \pm 0.89	
St. John's Wort oil application	3.27 \pm 0.47		4.45 \pm 0.88	
Pain control				
Self	3.31 \pm 0.58		4.60 \pm 0.86	
Nurse	3.44 \pm 0.63	.001 ^c	4.19 \pm 1.09	.17 ^c
Doctor	3.86 \pm 0.57		4.72 \pm 0.96	
God	3.41 \pm 0.55		4.61 \pm 0.75	
Causes of pain				
Evil eye	3.32 \pm 0.51		4.66 \pm 0.81	
Negative energy	3.31 \pm 0.62	.56 ^c	4.64 \pm 0.78	.03 ^c
Pain as a punishment from God	3.55 \pm 0.53		4.35 \pm 0.79	
Chronic diseases	3.36 \pm 0.54		4.63 \pm 0.82	
Acute diseases	3.34 \pm 0.55		4.60 \pm 0.85	
Environmental reasons	3.36 \pm 0.57		4.66 \pm 0.84	
Psychological reasons	3.33 \pm 0.54		4.72 \pm 0.82	

^a *t* test.

^b Multiple regression analysis was performed in multivariable groups.

^c One-way ANOVA.

Chinese medicine, non-pharmacologic methods such as acupressure and acupuncture are also used to reduce pain (Smith et al., 2020). Nursing students knowing cultural, traditional, and complementary medicine practices for pain can facilitate the process of providing care to patients in pain.

In our study, the organic beliefs score was statistically significant in nursing students who believed that pain would end after going to the doctor. The pain of those nursing students is caused by organic beliefs and can be solved with modern methods.

In our study, although no statistical significance was found between the causes of pain experienced (evil eye, negative energy, pain as a punishment from God, chronic diseases, acute diseases, environmental factors, psychological factors) and organic beliefs score, the psychological beliefs score was statistically significant. Nursing students base their psychological beliefs on the factors that may cause pain, such as evil eye, negative energy, punishment from God, chronic diseases, acute diseases, environmental factors, and psychological factors. In the study conducted by Babadağ and Alparslan (2017), nursing students' organic and psychological beliefs were found to be statistically significant ($p < .05$) according to external factors that may cause pain. In a study where the cultural practices of patients were evaluated by nurses, it was determined that patients believed they would heal by using methods like cupping, acupuncture, moxibustion, therapeutic massage, or putting a blessed bracelet, necklace, or magic paper next to their bed (Lin et al., 2019). It is important to identify the type of pain experienced by nursing students and the cultural methods they

use to cope with pain, and organize education about pain management in the nursing education (Quinn & Smolinski, 2018 Quinn & Serna, 2019). Those students utilizing some of the cultural and traditional approaches to manage their pain may be less judgmental and more understanding of their patients and their cultural beliefs when they work as nurses.

Limitations

The results of this study should be interpreted within its limitations. The results of this study might be generalizable to a large population since the sample size is large. Since there is a lack of research on this topic in the literature, further studies should be conducted with larger and more diverse populations.

Conclusions

Conducting more studies on this subject is recommended since there is a limited number of studies in the field. This study will guide the organization of a program aimed at raising awareness of traditional and complementary medicinal practices in nursing education.

Implication for Nursing Education, Practice, and Research

Differences have been found in cultural beliefs about pain and methods used for pain management among nursing students. Traditional methods used in pain management vary from individual

to individual and are also affected by psychological beliefs. Nursing students who experience more headaches and pain in the abdomen, waist, and back exhibit differences culturally in their coping methods. Traditional and complementary medicine and cultural methods used the most for pain management by nursing students are massage, warm shower, drinking herbal tea, exercising, cold compress, using positive thinking methods, and applying St. John's Wort oil. Nursing students coming from different races and different cultural backgrounds study together at universities in Turkey. These factors will guide the nursing education process by revealing the differences in traditional and complementary medicine practices in culturally perceiving and coping with pain. In nursing education, the importance of cultural values and pain approach should be emphasized in order to provide holistic care. For the purpose of increasing students' awareness, topics related to culture and pain should be added to the nursing course content.

Declaration of Competing Interest

The authors declared no conflicts of interest with respect to the authorship and/or publication of this article.

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