Original Article

The Knowledge of Pain Management among Nursing Students

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BACKGROUND/AIMS

The aim of this study was to investigate the pain management knowledge of nursing students.

MATERIAL and METHODS

The sample of this study that was undertaken in descriptive design consisted of nursing department students of whom language of education was Turkish and English. To collect data, the study used a data collection form that was developed by the researchers between January and February 2018. In the evaluation of data, mean value, standard deviation, numbers, frequency analysis, Kolmogorov– Smirnov test, Levene test, Parametric hypothesis tests, t test, variance analysis, and Tukey test were used.

RESULTS

The sample consisted of 728 nursing students who voluntarily agreed to participate in the study. Of the participants, 66.76% were female, 32.14% were in the age-group of 22-23, and 72.80% education language was Turkish. The study found a statistically significant difference between the scores of their general knowledge relating to pain, pharmacological, and nonpharmacological methods. The students need to receive the most knowledge in the field of the pharmacological management of pain.

CONCLUSION

The study results show, based on the overall score averages the students achieved from statements regarding pain management, that they have medium level of knowledge. The study suggests that training programs should be designed and sustained to address the students' knowledge gap in respect of pain management and enhance their educational level.

Keywords: Pain, pain management, nursing, students

INTRODUCTION

Pain is a distressing and subjective experience of sensual and emotional nature, which results from a certain area in the body and is related to real or potential tissue damage.^{1,2} Pain negatively affects one's daily life activities, sleep cycle, working capacity, social life, and life quality.^{3,4} Pain level and control can vary depending on various aspects such as psychological state, fatigue, culture, and religious belief.⁵ Nowadays, pharmacological methods are generally used in controlling pain, which are preferred due to their easy implementation and rapid effects.⁶ Besides pharmacological methods such as massage, cold and heat applications, meditation, imagery, music therapy, aroma therapy, and acupuncture are also used to control pain.^{7,8}

The aim of pain control is to minimize the discomfort of the patient, eliminate the pain, protect the suffering person from adverse effects, and enhance the life quality. In case where the pain is not effectively treated, it would persist and have both physical and psychological impacts on the affected individuals.^{9,10}

Pain can be taken under control through a multidisciplinary team work.^{7,11} In their professional capacity as part of a healthcare team, nurses do play a pivotal role in relieving pain and improving the comfort of patients.¹² The approach of nursing staff in pain management is of essential importance in eliminating pain or reducing it to a minimum level.¹³ In all the phases of pain beginning with diagnosis, nurses are one of the most important members in a healthcare team that make the greatest effort with respect to pain elimination. That nurses should properly assess pain in order to eliminate it as a matter of great priority in



terms of an effective pain management.^{14,15} It is of great importance that nursing students have, as prospective nurses, due knowledge about pharmacological and nonpharmacological interventions used in pain management.

In the study investigating the student nurses' knowledge level, cultural awareness, and competence regarding pain management, Dirimeşe et al.¹⁶ report that they have medium level of knowledge in pain management, and their cultural awareness and competence in this respect are also at a medium level. In a study that examined the nursing students' attitudes to pain management, Fang et al.¹⁷ conclude that the students with a higher level of educational qualification have a higher level of knowledge of pain management compared with those with a lower educational level.

Plaisance and Logan¹⁸ demonstrated that nursing students had insufficient (64%) information about pain management and suggested to improve education curriculum about pain management. Similarly, Al-Khaweldeh et al.¹⁹ revealed that nursing students had insufficient information about pain management and insufficient attitudes (34.1%). Also, the other research which was conducted by Karaman et al.²⁰ revealed that nursing students scored low in pain knowledge scores (40.64%). It was thought that it might be beneficial to provide more education in baccalaureate about pain management to improve patients' life quality and to accelerate a healing process.

To educate and train student nurses into qualified nursing staff for the future, their knowledge level should be defined, and the deficiencies in this respect should be overcome. Defining the knowledge level of student nurses in pain management will provide a guiding framework for the planning regarding the required trainings. There was not found any study in Turkish Republic of Northern Cyprus (TRNC), which is similar to present study. This study aimed to investigate the pain management knowledge of nursing students of different nationalities in the nursing department of a university.

Research Questions

The study has addressed the following specific research questions:

- I. What is the current knowledge level regarding pain management among baccalaureate nursing students in TRNC?
- 2. Are there any significant differences in knowledge regarding with pain management and personal information properties among baccalaureate nursing students?

Main Points

- It is vital to assess the students' knowledge levels regarding pain management that are attributable to their education processes.
- Male students' general knowledge regarding pain management and knowledge of non-pharmacological methods was significantly lower than that of female students.
- There is no significant differences between the scores of students based on the language in which they received their education (Turkish/English).

MATERIAL and METHODS Design and Sample

The study was performed in descriptive design. The population of the study was composed of I,095 students who studied in the nursing department attending lectures in Turkish and English in a University located in Nicosia in the TRNC. The sample, on the other hand, comprised 728 students who agreed to participate in the study on voluntary basis. Thus, the inclusion rate was 66.48%.

The study was included all students of the nursing department in order to revealing the level of effect of pain management knowledge. Both Turkish and English department of nursing curriculum include 2 hours "pain and management" topics in the course of principles of nursing, 3 hours "surgical pain" topics in the course of surgical nursing, and I hour "birth pain" topics in the course of gynecology and obstetrics. Additionally, the course of Internal Medicine Nursing has included information on pain management in some topics.

Instruments

Personal information form and pain knowledge form were used, which were based on previous models and developed by the researchers to collect data. $^{3,5,14,15,2l-25}$

- a. *Personal information form*: This form that includes nine questions was used to record the socio-demographic form regarding the participating students' information such as age, gender, ethnicity, the year of study, as well as information on trainings that students have received about pain management.
- b. Pain knowledge form: This form was designed by the researchers based on a review of models available in the relevant literature. It is a form with 30 statements regarding pain management, which include general knowledge on pain and also the pain knowledge form consists of three subdimensions. The participants had to respond in options categorized as "true, false, and do not know." The first group of 10 statements in the form addresses general knowledge on pain, the second group of 10 statements in the form includes knowledge about pharmacological methods, and the third group of 10 statements in the form includes knowledge about nonpharmacological methods that are used in pain management.

For the evaluation of the responses, every statement indicated as "true" was scored with one (I), and statements indicated as "false" and "do not know" with zero (0). The level of general knowledge on pain management was evaluated on a scale varying between 0 and 30 scores; the total scores achieved showed whether the participant had higher or lower level of knowledge.

The form does not include cut point. Therefore, evaluation of the form was determined according to total score (30), which was accepted as (0-10) low, (10-20) middle, and (20-30) high.

Validity of the Form

The personal information form and pain knowledge form were designed in the first stage in a Likert-scale questionnaire with 50 questions with options "true, false, and do not know" as Turkish language. Then, the scales were translated to the English language by the translator and presented to four surgical nursing professors and one psychological professor specialized in the subject of the study reviewed and confirmed the content of the questionnaire, and a language specialist approved the clarity in terms of language. Based on the experts' opinions, the repeated, conflicting, and meaningless questions were excluded from the form. Then, the forms were amended in line with their views. The statements were categorized under three headings as general knowledge on pain, knowledge on pharmacological methods, and that on nonpharmacological methods, and as such the form included 30 statements in total. In the present study, the statement in the pain form was classified as true, false, and do not know which were included in the pain form. The form was then reviewed once more by the specialists, after which it was revised and adapted at some points and then finalized and adopted. Both forms were administered in a pilot questionnaire to examine their comprehensibility.

It was taken only expert opinions in order to apply the form. There was not to be done any analysis, because the form which was used in the study was not the scale.

Pilot Study

A pilot study was performed with 75 students, whom consist of 55 Turkish and 20 English nursing students for clarity on December 25-29, 2017. After the pilot study, no revision was necessary, and the nursing students who participated in the pilot study were included in the main sample.

Procedure

The data collection instruments were administered between January and February 2018. The aim of the study was explained to the students who had agreed to participate in the study, particularly with information on the principle of voluntary participation in the study. The questionnaire form was distributed in the classroom environment, where the participants completed the form in about 15-20 minutes.

Data Analysis

In statistical analysis of the forms, the Statistical Package for the Social Sciences (SPSS) version 24.0 (IBM SPSS Corp.; Armonk, NY, USA) was used. Besides, frequency analysis, Kolmogorov–Smirnov test, Levene test, parametric hypothesis test, t test, variance analysis, and Tukey test were used to evaluate the study data.

Ethical Consideration

An ethical approval from the Ethical Review Board of the Near East University's Scientific Research Ethics Evaluation Board (approval date: December 2I, 2017; approval number: YDU/ 2017/53-504), and an institutional permission from the administration of the Faculty of Nursing were obtained. In addition, a written informed consent was obtained from all participants.

RESULTS

Of the participating students, 66.76% were female, 32.14% in the age group of 22-23, 72.80% education language was Turkish, and 27.34% continued their studies in the first year.

The study found, on the basis of participating students' knowledge on pain broken down by gender, a statistically significant difference between the scores of their knowledge on nonpharmacological methods and that on overall pain management (P < .05). The general knowledge of male students on pain, and also their knowledge on nonpharmacological methods and that on pain management were found to be significantly lower than the overall knowledge of female students. However, they had a similar level of knowledge on pharmacological methods. The general knowledge of pain of the students in the age group of I8-I9, and also their knowledge on pharmacological and nonpharmacological methods were found to be significantly lower than the knowledge of the students in the age group of 22-23 and also than that of the students over 24 years of age. The study further demonstrated that the students in the first year of their studies had a lower level of overall knowledge on pain management than those in the third- and fourth-year students (Table I).

In the present study, reviewing the distribution of the responses to the statements regarding pharmacological and nonpharmacological methods used in pain management, we see that the statement "Pain has a negative effect on one's life quality (T)" has received the most responses indicated as true, and the statement "Visual comparison scale should be used in every patient (F)" was indicated as "false" by most of the students. As for the pharmacological methods used in pain management, it was the statement "Drugs should be used in effective dosages in pharmacological applications (T)" that received the most "true" responses, and the statement "Short acting opioids should be used in patients with dull pain (F)" was indicated as false by most of the students. As for the nonpharmacological methods, on the other hand, the statement that received the most "true" responses was the one "Nurses should eliminate the factors that increase pain (T)," and the one which was indicated as false by most of the students was "Acupuncture treatment should only be used to treat headaches and pains at the abdominal area (F)" (Table 2).

The average score the participating students achieved in the statements concerning their general knowledge on pain was 6.71 ± 2.01 , that in pharmacological methods 5.22 ± 2.04 and the one in nonpharmacological methods 6.01 ± 2.63 , and their overall average score regarding their knowledge on pain was 7.95 \pm 5.53. The lowest and the highest scores, which the students achieved, were 0 and 28, respectively (Table 3).

The results show that 63.74% of the students had already received training on pain in general, of whom 74.57% expressed receiving this training at school, and 72.63% said that they were satisfied with the training they received.

What is more, results also demonstrated that the students who had training about pain were scored higher than students who had not any training about pain. There were not any statistically significant difference between place which students received training about pain and total pain of knowledge (P > .05). Although students who were receive training about pain at school scored more higher than others, it was not statistically significant. Additionally, students, who were found sufficient in the education about pain, were found that statistically significant differences between knowledge about pain, knowledge about pharmacological methods in pain management, and total score of pain knowledge (P < .05). Students who were found sufficient in the education about pain were scored more higher than students who were not found sufficient in the education about pain were not found sufficient in the students who were not found sufficient in the students who were not found sufficient in the education about pain were not found sufficient in the students who were not fou

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>	ariables			Gene	al knowledg. on pain	Ð	đ	Kno	wledge on ological meth	spo	or	Knc	wledge on Icological met	thods			Total	
Personal inforr	nation	(%) N	Σ	SD	+/F	<i>P</i> value	Σ	SD	-+/F	<i>P</i> value	Σ	ß	t/F	P value	Σ	S	+/F	P value
Gender	Female	486 (66.76)	6.9	1.90	t = -3.675	*000.	5.30	1.97	t = -1.282	.200	6.15	2.63	t = -2.061	.040*	I8.35	5.31	t = -2.782	*900.
	Male	242 (33.24)	6.33	2.16			5.09	2.16			5.72	2.60			17.14	5.88		
Age	18-19	73 (10.03)	6.07	2.02	F = 4.114	.007*	4.40	2.07	F = 9.282	*000.	5.01	2.51	F = 14.873	*000.	15.48	5.68	F = 13.055	*000.
	20-21	231 (31.73)	6.60	2.08			4.93	2.02			5.35	2.76			16.88	5.62		
	22-23	234 (32.14)	6.69	1.87			5.60	2.02			6.48	2.52			18.91	5.20		
	24 and ↑	190 (26.10)	6.81	2.02			5.22	2.03			6.60	2.35			19.03	5.24		
Education language	Turkish	530 (72.80)	6.69	1.98	t =522	.602	5.22	2.01	t =157	.875	6.00	2.01	t =84	.933	17.91	5.46	t =287	.774
	English	198 (27.20)	6.78	2.07			5.24	2.10			6.02	2.10			18.04	5.73		
Years of study	First year	199 (27.34)	6.10	2.19	F = 13.104	*000.	4.46	2.07	F = 23.007	*000.	4.92	2.75	F = 30.180	*000.	15.48	5.87	F = 33.180	*000.
	Second year	196 (26.92)	6.61	2.09			4.94	2.03			5.54	2.63			17.10	5.53		
	Third year	190 (26.10)	7.30	19.1			5.93	I.88			6.98	2.23			20.21	4.43		
	Fourth year	143 (19.64)	6.94	I.84			5.74	1.73			6.87	2.16			19.54	4.61		
M: mean; SD: standard *Statistical significance	deviation. set at values P	<05.																

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education about pain in knowledge about pain, knowledge about pharmacological methods in pain management, and total score of pain knowledge (Table 4).

The study found statistically significant, positive, and strong correlations between the students' knowledge scores regarding general knowledge on pain and that on pharmacological and nonpharmacological methods (P < .05), meaning that higher scores in any of these knowledge fields referred to higher scores in others as well (Table 5).

DISCUSSION

The present study discusses the findings concerning the nursing students' knowledge on pain management in line with the findings observed in previous research.

In this study, there are 66.76% female and 33.24% male students. Results demonstrated that, male students' general knowledge of pain in pain management and knowledge of nonpharmacological methods were found to be significantly lower than female students.

The study did not demonstrate any significant differences between the students education language (Turkish/English) and also results demonstrated that their knowledge level was similar. Therefore, the results demonstrated that their department curriculum is similar.

Furthermore, results demonstrated that there is a significant difference between students' ages. Students who are between 18 and 19 scored lower in pain knowledge in totally compared to students who are between 22-23 ages and 24 and above. This result might be because the most of students who are between 18 and 19 ages was studying at first class. Additionally, there was a difference between first, second, third, and fourth class of students in their general knowledge scores. It was not surprising situation that students who were studying at first class scored lower in knowledge level compared to students who were studying at third and fourth class.

Nowadays, despite significant developments in the field of education, it is generally observed that healthcare providers have poor knowledge and attitudes toward pain management. The literature has reported that medical and nursing students lack satisfactory knowledge of pain management, and that this lack has a negative effect on their knowledge and skills regarding pain management when working in healthcare settings after graduation.^{3,22,23} It is therefore indispensable to investigate the students' knowledge levels of pain management in educational processes and overcome their lack of knowledge to enhance their knowledge and attitudes toward pain management in their professional life.

The accurate assessment of pain is the basis of effective pain management. Nurses who have important responsibilities in the evaluation of pain should have sufficient knowledge to evaluate their patients effectively. Students received the highest score from the subdimension, where general pain information was expressed. Therefore, this result demonstrated that students have moderate pain knowledge about pain.

The use of pharmacological management is common in pain control nowadays. This method provides to control pain with

	т	rue	F	alse	Do no	ot know
Knowledge on pain management	N	%	Ν	%	Ν	%
General knowledge on pain						
Pain is an indicator of an illness (T)	593	81.46	100	13.74	35	4.81
Pain should be accepted as the fifth vital sign (T)	396	54.40	125	17.17	207	28.43
Pain is a measurable indicator (T)	525	72.12	4	19.37	62	8.52
Treatable pain is not a serious pain (F)	263	36.13	385	52.88	80	10.99
Pain has a negative effect on one's life quality (T)	600	82.42	67	9.20	61	8.38
The first stage in pain management is pain assessment (T)	573	78.71	63	8.65	92	12.64
It is the person herself/himself who can correctly assess the pain (T)	580	79.67	85	11.68	63	8.65
During assessment, a person's self-report of pain has to be taken seriously (T)	544	74.73	97	13.32	87	11.95
As pain provides clues in diagnosis and treatment of diseases. it should be accepted as a vital sign (T)	505	69.37	105	14.42	118	16.21
Visual comparison scale should be used in every patient (F)	376	51.65	187	25.69	165	22.66
Knowledge on pharmacological methods						
Drugs should be used in effective dosages in pharmacological applications (T)	585	80.36	75	10.30	68	9.34
In pain treatment only pharmacological methods should be used (F)	228	31.32	379	52.06	121	16.62
Analgesics should only be administered through the oral way (F)	199	27.34	334	45.88	195	26.79
Analgesics should be administered to the patients who have pain where necessary (T)	486	66.76	94	12.91	148	20.33
Short acting opioids should be used in patients with dull pain (F)	375	51.51	136	18.68	217	29.8
Patients should be informed about probable adverse effects of the analgesics used in pain management (T)	541	74.31	87	11.95	100	13.74
Proper dosage should be administered to patients who have pain on a continual manner (T)	357	49.04	258	35.44	112	15.38
Pain treatment in surgical patients should start with strong pain-killers (F)	350	48.08	155	21.29	223	30.63
The dosage should be tailored in line with the needs of patients (T)	501	68.82	113	15.52	4	15.66
If PCA is to be applied, patients should be informed about the device, alarm system and usage of buttons (T)	529	72.66	78	10.71	121	16.62
Knowledge on nonpharmacological methods						
Nurses can apply nonpharmacological methods proper for the characteristics and gen- eral condition of a patient (T)	519	71.29	93	12.77	116	15.93
Nurses should do planning for the reasons that cause an increase in pain (T)	529	72.66	101	13.87	98	13.46
Nurses should eliminate the factors that increase pain (T)	540	74.18	91	12.50	97	13.32
In case of pain the position should be frequently changed (T)	409	56.18	149	20.47	170	23.35
In using music in pain management, it is important to choose the type of music the patient treated likes and prefers (T)	505	69.37	88	12.09	135	18.54
Techniques like vibration, meditation, aromatherapy and acupuncture are nonpharma- cological methods (T)	437	60.03	96	13.19	195	26.79
Aromatherapy relieves pain by distracting the patient or reducing the pain sensation (T)	449	61.68	82	11.26	197	27.06
Therapeutic touches reduce the pain by relaxing the patient (T)	472	64.84	91	12.50	165	22.66
Acupuncture treatment should only be used to treat headaches and pains in abdominal area (F)	315	43.27	145	19.92	268	36.8
Vibration is a method that can be used in acute and chronic muscle spasm pains, phan- tom pains and malign pains (T)	368	50.55	80	10.99	280	38.4

TABLE 3. Knowledge Scores of Students Relating to Pain 1	∕Ianagement (n =	728)			
Knowledge on pain management (score range)	N	м	SD	Min	Max
General knowledge on pain (0-10)	728	6.71	2.01	0	10
Knowledge on pharmacological methods (0-10)	728	5.22	2.04	0	10
Knowledge on nonpharmacological methods (0-10)	728	6.01	2.63	0	10
Total scores (0-30)	728	17.95	5.53	0	28
M: mean; SD: standard deviation.					

pills. Pills are preferred by most of the people, because they have quick effect and used easily.⁷ This study demonstrated that students had moderate knowledge level in pain management about pharmacological applies and lowest knowledge in

pain management. Dirimeşe et al.¹⁶ revealed that nursing students preferred mostly pharmacological methods considering patients' complaints, but they had a low level of knowledge about pharmacological methods. Furthermore, previous

	General knowledge on pain			Knowledge on pharmacological methods			Knowledge on nonpharmacological methods				٦	「otal					
Pain training information	N (%)	М	SD	t/F	<i>P</i> value	М	SD	t/F	Ρ	М	SD	t/F	<i>P</i> value	м	SD	t/F	<i>P</i> value
Information about pain training																	
Received training 46	64 (63.74)	6.91	1.91	3.470	.001*	5.48	1.96	4.453	.000*	6.31	2.49	4.178	.000*	18.69	5.21	4.178	.000*
Not received training 26 Training place	64 (36.26)	6.38	2.12			4.79	2.08			5.47	2.78			16.63	5.82		
School 34	46 (74.57)	6.98	1.94	1.158	.315	5.59	2.00	2.887	.057	6.44	2.51	1.756	0.174	19.01	5.37	2.684	.069
Seminar 7	79 (17.03)	6.62	1.79			5.01	1.71			5.94	2.21			17.57	4.23		
Course	39 (8.41)	6.85	1.87			5.38	2.07			5.95	2.72			18.18	5.38		
Sufficient training																	
Sufficient training for students 33	37 (72.63)	7.04	1.82	2.364	.018*	5.60	1.87	2.325	.021*	6.42	2.40	1.527	0.127	19.06	4.87	2.476	.014*
Insufficient training for students 12	27 (27.37)	6.57	2.11			5.13	2.16			6.02	2.68			17.72	5.94		

TABLE 5. Correlations Between the Students' Kno	wledge Sc	ores Related to Pai	n Management (n = 728)		
Knowledge on pain management		General knowledge on pain	Knowledge on pharmacological methods	Knowledge on nonpharmacological methods	Total scores
General knowledge on pain	r	I.			
	Р	.000			
Knowledge on pharmacological methods	r	0.474	I		
	Р	.000*			
Knowledge on nonpharmacological methods	r	0.496	0.586	I	
	Р	.000*	.000*		
Total scores	r	0.776	0.818	0.874	1
	Р	.000*	.000*	.000*	
*Statistical significance set at values $P < .00$ I.					

research demonstrated that students were mostly insufficient in pharmacological methods in pain management.¹⁹ The present results are similar to previous research.

Nonpharmocological methods, which were using in pain management, can be provided to control the pain without medicine. Nonpharmacological methods could apply alone or by pharmacological methods. This method also has advantages such as low cost, applied easily, and does not have any side effects.⁶ In the present study, results demonstrated that there is a moderate level of knowledge about nonpharmacological methods and also there is not high level of differences compared to knowledge of pharmacological methods. Previous research demonstrated that there was a moderate level of knowledge about nonpharmacological methods (n = 244).⁷

Furthermore, the present study demonstrated that there was a moderate level of pain management knowledge and pharmacological and nonpharmacological knowledge level methods slightly higher.

The present study demonstrated that 63.74% students received training about pain and 36.26% students did not receive training about pain. Research demonstrated that students who received pain management training scored more higher in a total score of pain knowledge compared to students who did

not receive training. Previous research, which was conducted by Al-Khaweldeh et al.¹⁹ investigated the pain management training on students (n = 240), and the results demonstrated that students who received training scored more higher in the pain information level compared to students who did not receive any training. Constantly, Chiang et al.²⁶ revealed that nursing students scored more higher in pain information and their skills after receiving the pain training. Results are similar to previous research.

This study also revealed the place that students receive pain training. 74.56% of students received training at school. The previous study that was conducted by Ozer et al.²⁷ at nursing students demonstrated that 70.7% of students received training about pain so this result is similar to present study. Moreover, nursing students who received training about pain except school and scored a low level of pain knowledge might be because of the insufficient training, insufficient training program, or lack of training intervals.

Additionally, the study demonstrated that there was a statistically significant correlation between pain management scores, and these correlations are both positive and strong. Therefore, there is a positive correlation between knowledge about pain and general, pharmacological, and nonpharmacological pain. There were not any similar results in previous research. Previous research demonstrated that insufficient of practice about pain management and insufficient education about pain management might be the reason for lower level of pain knowledge.^{28,29}

Furthermore, results demonstrated that nursing students who received pain management training were scored more higher in the knowledge level. In conclusion, it is thought that it might be beneficial to increase students' knowledge about pain management by putting to curriculum pain management topics.

In conclusion, based on the rate of the correct answers given by the students to the statements regarding pain management, the study found that they had a medium level of knowledge, which, however, increased in higher semesters. The study further showed that the students gave the most correct answers to the statements in the group general pain knowledge, and that their level of knowledge in this group was slightly higher than their knowledge on pharmacological and nonpharmacological techniques.

The present study also includes some limitations. First, most of students might have negative attitudes about survey form and these attitudes might affect their answers. Second, there were I,095 students in total but some of them rejected to participate in the study. Therefore, the study consisted of 728 students. Third, the study was conducted only at a University, Department of Nursing Students so results were not generalized in TRNC.

Based on these results, the study recommends, besides ensuring the participation of students in teamwork in clinical and professional settings, overcoming students' deficiency in knowledge on pain management by including study courses of pain management in the curricula of nursing education and providing trainings with richer content of knowledge.

Ethics Committee Approval: Ethical committee approval was received from the Near East University's Scientific Research Ethics Evaluation Board (approval date: December 2I, 2017; approval number: YDU/2017/53-504).

Informed Consent: Informed consent was obtained from the nursing students who participated in this study.

Peer-review: Externally peer-reviewed.

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