Original Article

Examination of the Relationship between Nurses' Knowledge and Attitudes Regarding Pain and Empathic Ability

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Abstract

Purpose: The aim of this study is to examine the relationship between nurses' knowledge and attitudes regarding pain and their levels of empathic ability.
Design and Methods: A descriptive, correlational study. A Descriptive Form, the Basic Empathy Scale, and the Nurses' Knowledge and Attitudes Survey Regarding Pain were applied to 111 nurses.
Results: There was a weak, negative correlation between their pain knowledge-attitude scores and cognitive empathy scores. A statistically significant relationship was not found ($p>0.05$). It was revealed that nurses' knowledge and attitude scores regarding pain were below average, and that there was a weak but statistically insignificant relationship between their pain knowledge-attitude scores and their levels of empathy
Conclusions:
The implications for clinicians are primarily the need to increase knowledge about pain for effective pain management and evaluating how nurses manage pain according to their empathy level is important to better understand the relationship between pain and empathy.

Key words: Empathy, pain management, knowledge, attitude, nurses

Introduction

Pain is increasingly accepted as a global health problem that affects the individual and society (Carr et al., 2016). Pain is associated with serious disability and harmful economic consequences, and poor management of pain is a global health problem (Mackintosh-Franklin, 2017). Pain management requires cooperation among professionals (Carr et al., 2016). As an important member of the professional healthcare team, the nurse is in an effective position for pain management. Pain is a complex experience that is affected by neurological processes and psychological factors. Pain reduces life quality and physical activity, and as a reason for breakdown in social relationships, it has a significant effect on the individual, the workforce and society (Babaoglu, Inan, & Ozdel, 2017). For management of pain, physicians and nurses have an important role in ordering and administering drugs.

Nurses make assessments of patients' pain, utilise multimodal treatment methods, and motivate the members of the healthcare team to use a sufficient amount of analgesics. Furthermore, by following current information related to pain treatment, nurses can be effective in raising awareness and reducing incidence of pain (Acar et al., 2016). Nurses have important roles in the decision-making process related to pain management (Alqahtani & Jones, 2015).

There are many studies examining nurses' knowledge regarding pain assessment and management. In the conducted studies, it is reported that nurses' knowledge related to pain and pain management is inadequate, and that their attitudes are negative. Similar results reported in studies made in various countries reveal that the problem is on an international scale (Al-Quliti & Alamri, 2015; Alqahtani & Jones, 2015; Khalil & Mashaqbeh, 2019; Kusi Amponsah et al., 2019; Ozveren et al., 2018; Samarkandi, 2018; Shoqirat et al.,2019).

In studies made in our country, too, it is revealed that nurses' knowledge and behaviour scores regarding painful diseases and pain management are average or low, and that the majority of them have insufficient knowledge about pain diagnosis and management (Celik et al., 2018; Demir et al., 2012). In a study by Yava et al., in which they examined knowledge and attitudes regarding pain management, it was revealed that although nurses' attitudes towards pain management were positive, their knowledge about pain management was inadequate (Yava et al., 2013).

Pain management is one of the most important responsibilities of nurses, and it is widely accepted that empathy is required for them to fulfil these responsibilities and provide therapeutic care. Empathy is an indispensable part of nursing care (Campbell-Yeo, Latimer, & Johnston, 2008). The aim of nurse-patient communication is to determine the patient's needs and to provide care based on those needs. For nurses to determine those needs, they must fully understand patients' emotions, thoughts and conditions, and this requires empathic knowledge and ability (Hemsley et al., 2001). According to Rogers, empathy is the process by which an individual puts him/herself in the place of the person opposite, correctly understands his/her emotions, thoughts, perceptions and feelings, and communicates this situation to him/her (Rogers, 1983). It is stated that the presence of empathy is beneficial for attitudes and behaviours, and that its absence has negative effects. It is also established that empathy increases helping behaviour (Dokmen, 1994). Observing pain provides an interaction between the person observing and experiencing the pain. Observing someone else's pain can turn into helping behaviour. Observing someone experiencing pain can also make it easier to elicit empathic responses (Oktem & Cankaya, 2021). Empathy in pain management is important because nurses, who are in constant interaction and communication with patients, have a direct effect on patient health promotion, and most patients believe that nurses are mainly responsible for their health (Heidke, Howie, & Ferdous, 2018). Therefore, one of the most important aspects of increasing the performance of nurses is their empathy with patients (Bouzanjani, Bahadori, & Nikoonam, 2021). Empathy is an indispensable element of quality nursing care (Watt-Watson et al.,2000).

As cited by Campbell-Yeo et al., Tschudin suggested that in relation to holistic healthcare, increasing levels of empathy resulted in better nursing care and that it was necessary to develop and strengthen this as a part of professional nursing training (Campbell-Yeo et al., 2008; Tschudin, 1989). In a study by Watt-Watson et al., in which they examined the relationship of nurses' empathy levels with the severity of patients' pain and postoperative pain management, it was revealed that nurses' empathy levels were moderate and that empathy was not associated with severity of pain or the amount of analgesics given (Watt-Watson et al., 2000). It was determined that nurses with high levels of empathy gave analgesics to patients with severe pain 75% of the time. Researchers have reported that nurses' empathy levels are associated with their knowledge and attitudes regarding pain management. In neuroimaging research studies, it is revealed that when patients feel pain following a nociceptive

stimulus, those who observe or imagine these pains also experience an increase in activity in the cerebral pain matrix (Jackson et al., 2006). It is argued that this activity is based on empathic response as a subcomponent of pain assessment (Latimer et al.,2011).

In the national and international literature, the number of studies examining the relationship of nurses' empathy levels with their knowledge and attitudes regarding pain is rather limited (Latimer et al., 2011; Watt-Watson et al., 2000). It is considered that the knowledge and attitudes of nurses, who play a key role in pain management, towards pain will have an effect on their empathy ability.

In research, therefore, it is important to discover the relationship between nurses' knowledge and attitudes regarding pain and their levels of empathic ability in order for them to provide effective pain management. The aim of this study is to examine the relationship between nurses' knowledge and attitudes regarding pain and their levels of empathic ability. In the present study, the following research questions were addressed:

1. What are nurses' knowledge levels and attitudes regarding pain?
2. What are nurses' levels of empathic ability?
3. Are nurses' knowledge and attitudes regarding pain correlated with their levels of empathic ability?

Methods

Study Design and Participants: This descriptive and correlational study comprised 111 nurses who working in medical, surgical, intensive care and emergency clinics at a university hospital. The study was carried out between February and May 2017. The study universe consisted of 464 nurses working in medical, surgical, intensive care and emergency clinics at a university hospital. With a view to representing the universe, the stratified sampling method was used.

Data Collection: The nurses were informed about the aim and method of the research. After the nurses' written consent had been obtained, the questionnaires given to them were collected by the researchers after they had been completed. The questionnaires were given out to the nurses in each hospital department by the researchers and collected during the same day.

Data Collection Tools: The data were collected with a "Descriptive Information Form", the "Basic Empathy Scale" and the "Nurses' Knowledge and Attitudes Survey Regarding Pain" local version.

Descriptive Information Form

This form, which was prepared by the researcher by referring to the literature (Alotaibi, Higgins, & Chan, 2019; Khalil & Mashaqbeh, 2019), includes a total of 12 questions. There are questions inquiring about nurses' descriptive characteristics, namely their age, gender, educational status, length of service as a nurse, training related to pain management, keeping up with the literature, and use of a pain assessment scale in the clinic, as well as questions related to their practices towards pain assessment and pain.

Basic Empathy Scale: The Basic Empathy Scale was developed by Jolliffe and Farrington, and its Turkish validity and reliability study was conducted by Topcu et al. (Jolliffe & Farrington, 2006; Topcu, Baker, & Aydin, 2010). The Cronbach alpha coefficients of the Turkish version range between 0.76 and 0.80 (Topcu et al., 2010). The scale consists of 20 items and is a five-point, Likert-type scale. The scale has two subdimensions, namely Cognitive Empathy (9 items) and Emotional Empathy (11 items). The lowest and highest scores that can be obtained from the cognitive empathy subdimension are 9 and 45, respectively. For the emotional empathy subdimension, the lowest and highest obtainable scores are 11 and 55, respectively. As scores obtained from the scale increase, the level of empathy increases.

The Nurses' Knowledge and Attitudes Survey Regarding Pain (NKASRP)

The validity study of this survey, which was developed by McCaffery and Ferrell, was performed by Yava et al. (McCaffery & Ferrell, 2008; Yava et al., 2013). The Cronbach alpha coefficient of the Turkish version is 0.87. The questionnaire consists of a total of 38 questions, namely 22 correct/incorrect, 14 multiple choice, and 2 case questions (2 questions for each case).

The questionnaire is assessed with the percentage of correct responses. For each correct response to the questions in the survey, 1 point is given. The total score ranges between 0-40. Correct response rates are calculated by dividing the total number of correctly answered items by the total number of items. A score of 70% in the scale is accepted as satisfactory (Yava et al., 2013).

Compliance with Ethical Standards: Ethical approval for the research was obtained from the University Clinical Research Ethics Committee (Approval No. 640, November, 2017), while institutional approval was obtained from the hospital where the research was to be carried out, and the nurses gave their written informed consent. Written permission to use the scales in the research was obtained via email from the authors who conducted the Turkish validity and reliability studies of the scales. This study was performed in line with the principles of the Declaration of Helsinki (World Medical Association, 2013).

Statistical Analysis: Data were analysed by using SPSS 23.0 (IBM Company, Armonk, NY, USA). Descriptive statistics are given as number, percentage, mean and standard deviation. The mean scale and subscale scores of the basic empathy scale, and the total mean scores for level of pain knowledge were calculated. The nurses' descriptive characteristics and their mean pain knowledge scores were evaluated for normal distribution of groups with the Kruskal-Wallis and Mann-Whitney U tests. The relationships between nurses' mean scores for the Basic Empathy Scale and Knowledge and Attitudes Survey Regarding Pain were evaluated with Spearman's rho correlation analysis.

Results

Of the 111 nurses participating in the study, 73.8% were aged 26 and over, 32.4% had worked as a nurse for 6-10 years, and 75.7% had bachelor's degrees. It was determined that 39.6% of the nurses worked in medical units. It was revealed that 42.3% of the nurses had received training related to pain management, 8.1% of them kept up with publications related to pain management, 95.5% used a scale for assessing pain in the clinic, and that the scale used by 42.3% of them was the Numerical Pain Rating Scale (NPRS). It was determined that 68.5% of the nurses considered themselves to be very effective in management of patients' pain (Table 1). Nurses' mean scores for emotional and cognitive empathy were 38.95 ± 5.03 (11-55 points) and 35.33 ± 4.13 (9-45 points), respectively, while their mean score for the Knowledge and Attitudes Survey Regarding Pain was 14.68 ± 3.78 (0-40 points) (Table 2). It was revealed that mean scores of 95% of nurses for knowledge and attitudes regarding pain were 21, while mean scores of 50% of them were 15 (Fig. 1). Considering that a maximum score of 40 can be obtained from the scale, it can be said that their knowledge and attitudes related to pain were low. There was a weak, negative correlation between nurses' knowledge-attitude scores and their cognitive empathy scores. A statistically significant relationship was not determined ($p>0.05$) (Table 3).

Table 1: Descriptive Characteristics of Nurses (n=111)

Characteristic	n	%
Age		
≤25	29	26.1
26-35	41	36.9
≤36	41	36.9
Clinic		
Medical Clinics	31	27.9
Surgical Clinics	44	39.6
Intensive Care and Emergency Clinics	36	32.4

Length of Service		
>1	16	14.4
1-5	35	31.5
6-10	36	32.4
≤11	24	21.6
Educational Status		
Medical vocational high school/associate degree	12	10.8
Bachelor's degree	84	75.7
Postgraduate degree	15	13.5
Training related to pain management		
Training received	47	42.3
Training not received	64	57.7
Status of keeping up with publications related to pain management		
Keeps up with publications	9	8.1
Does not keep up with publications	102	91.9
Use of scales related to pain assessment in clinic		
Uses a scale	106	95.5
Does not use a scale	5	4.5
Pain assessment scale used[a]		
Wong-Baker	20	18.0
VAS	24	21.6
NPRS	47	42.3
Other[b]	20	29.1
Degree to which nurses consider themselves effective in pain management		
Somewhat effective	35	31.5
Very effective	76	68.5
Pain management effectiveness score		
≤ 50	24	21.6
51-75	54	48.7
≥76	33	29.7

[a] *Those stating the name of the pain assessment scale used* [b] *Those not stating the name of the pain assessment scale used*
Abbrevations: VAS, Visual Analogue Scale; NPRS, Numerical Pain Rating Scale

Table 2: Nurses' Scores for Basic Empathy Scale Subdimensions and Knowledge and Attitudes Survey Regarding Pain (n=111)

	$\bar{x}$ ± SD	Min	Max
Emotional Empathy	38.95 ± 5.03	18	52
Cognitive Empathy	35.33 ± 4.13	10	45
Knowledge and Attitudes Survey Regarding Pain	14.68 ± 3.78	4	29

Abbrevations: $\bar{x}$, Mean; SD, Standard Deviation.

Table 3: Correlation between Scores for Knowledge and Attitudes Survey Regarding Pain and Basic Empathy Scale Subdimensions

		Knowledge and Attitudes Survey Regarding Pain
Emotional Empathy	r	-0.11
	p	0.27
Cognitive Empathy	r	-0.12
	p	0.22

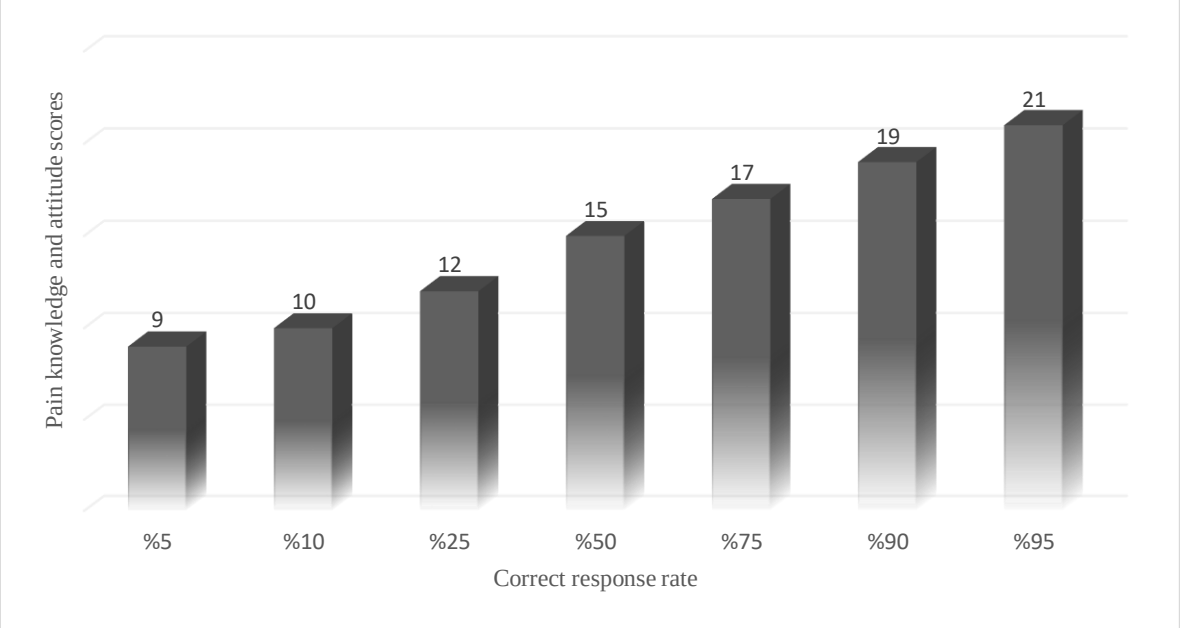

Fig. 1. Scores of Nurses in Knowledge and Attitudes Survey Regarding Pain

Discussion

Pain management forms an important part of clinical care and nurses' knowledge and attitudes have an impact on their management of pain. Empathy, however, is one of the ten basic principles required by nurses for them to take the lead in clinical care. It is regarded as an indispensable part of emotional intelligence and facilitates understanding of people's needs (Stanley, 2017). Empathy also affects the attitude towards an individual who has pain. It can increase the quality of and satisfaction with patient care in terms of effective pain management. Nurses' empathy skills are necessary in order to provide pain management and therapeutic care. Understanding how a patient feels is an empathic skill. Pain management is a reflection of the desire to apply pharmacological treatment in particular, and of the ability to establish empathy with the patient (Freise, 2013). In this study, the relationship between nurses' knowledge and

attitudes regarding pain and their levels of empathic ability was examined. It was revealed that although nurses' cognitive and emotional empathy levels were above average, their mean scores for knowledge and attitudes regarding pain were below average, while a weak correlation between nurses' knowledge and attitudes regarding pain and their levels of empathic ability was found.

Knowledge and Attitudes Regarding Pain Management: This study gives important information about the knowledge and attitudes related to pain of nurses working in a university hospital. The research findings show that nurses' knowledge levels and attitudes regarding pain and pain management were poor. These findings correspond to those of previous studies (Alotaibi et al., 2019; Kusi Amponsah et al., 2019; Ozveren et al., 2018; Shoqirat et al., 2019).

In a study by Alotaibi et al., it was determined that the mean correct score obtained by nurses for paediatric pain management was 18.1 out of 40, and it was concluded that their general knowledge and attitudes were inadequate (Alotaibi et al., 2019). Similarly, in Latchman's study, a weak-moderate relationship (r 0.33, s 0.038) between pain knowledge and attitudes was reported (Latchman, 2014). In the conducted studies, it is seen that there are deficiencies in nurses' knowledge and attitudes on an international scale, and this is a cause for concern. However, in order to eliminate pain in patients, there is a need for nurses who possess a strong knowledge base and suitable attitudes related to pain management (Alkhatib, Al Qadire, & Alshraideh, 2020). The International Association for the Study of Pain (IASP) emphasises the need for all healthcare professionals to receive better training related to pain and pain management (Mackintosh-Franklin, 2017). In a study carried out by Khalil and Mashaqbeh, it was revealed that nurses' lack of pain knowledge mostly involved pain assessment and pharmacotherapeutic components (Khalil & Mashaqbeh, 2019).

Identifying the areas in which nurses lack knowledge regarding assessment and management of pain, and planning training related to these deficient areas can improve nurses' knowledge and attitudes, and their clinical practices related to pain. Increasing knowledge and attitudes regarding pain can also contribute to the development of leadership skills related to pain management in the clinic.

Relationship of Pain Knowledge and Attitudes with Empathy: In the study, it was revealed that there was a weak, negative correlation between nurses' pain knowledge-attitude scores and their cognitive empathy scores, but that this difference was not statistically significant. However, cognitive empathy skills have an effect on structural problem-solving skills, and the focus of nursing healthcare is solving patients' problems. Solving the problems of patients is vitally important for increasing the healthcare quality and patient satisfaction. This result contradicts those of another study by Lee (Lee, 2019). In this study, which was conducted with geriatric patients with dementia and which aimed to determine factors related to nurses' pain management, attitudes and empathy, a relationship between empathy and pain management was revealed, and a significant, positive relationship between empathic concern and attitudes, empathic perspective-taking and pain management was reported. Stepwise linear regression analysis showed that the significant factors affecting the performance of pain management were empathic perspective-taking, use of pain management in the dementia guideline, and attitudes toward pain (Cánovas et al., 2018). Despite the fact that the relationship between pain and empathy is important, the number of studies examining this relationship in the literature is very limited.

In this regard, a study can also be found which reports that physicians' empathy and patients' optimistic tendencies have a role in determining positive outcomes in patients with chronic pain (Cánovas et al., 2018). In addition, in a quantitative study which also reveals the importance of the pain-empathy relationship, three themes were identified. These themes revealed that for satisfaction with pain management, there was a need for patient care to include the provision of timely and adequate

information related to the patient's individual needs, for nurses to have a compassionate attitude, and for pain to be controlled effectively. As a result of the study, it was reported that satisfaction related to pain management was affected by good communication and information transfer, appropriate pain management, and an empathic approach throughout the process (Mubita, Richardson, & Briggs, 2020). In acute healthcare settings, pain in hospitalised patients confronts us as a significant problem. Management of pain, which reduces patients' comfort, decreases their life quality and can lead to additional problems, is critically important. Nurses, who are the members of the healthcare profession that spend the most time with patients, can take the lead in pain management. For nurses to carry out their responsibilities in pain management, in addition to knowledge and attitudes related to the subject, empathic ability for understanding the patient is also important. In this study, it was found that nurses' levels of empathic ability required for understanding the patient were above average, while their knowledge and attitudes regarding pain were below average. It is considered that the study is important in terms of revealing the relationship between pain and empathy.

Limitations: The findings of this study are limited to nurses included in the research. The fact that the study was conducted in one hospital and is based on a questionnaire may have influenced the results. The fact that the number of nurses willing to participate in the research was low can be regarded as a limitation. The strength of the study, on the other hand, is that it revealed the effect of nurses' empathic ability in developing their attitudes towards pain.

Implications for Nursing Practice: The first implication for clinicians is primarily the need to increase knowledge related to pain for effective pain management. Secondly, evaluation of how nurses manage pain according to their levels of empathy is important for better understanding of the relationship between pain and empathy.

Conclusion: According to the findings of this study, it was determined that nurses' mean scores for knowledge and attitudes regarding pain were below average, and that there was a weak but statistically insignificant relationship between their knowledge and attitude scores and their empathy levels. Furthermore, since the findings made in this study are limited in the international literature, and it is the first study on this subject in our country, it is considered that the study will make a significant contribution to the literature. Since a significant relationship between knowledge and attitudes regarding pain and the basic empathy scale was not found, in similar studies that are conducted in the future, different scales that measure empathy especially in nurses can be used instead of the basic empathy scale.

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