ODU TIP DERGİSİ/ODU MEDİCAL JOURNAL (ODU MED J) **Nisan 2021;8(1):1-9**

RESEARCH ARTICLE

Determination of Knowledge and Attitude of Nurses About Pain Management

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Published online: 30 Nisan 2021

Abstract
Objective: The purpose of this study is to determine of knowledge and attitude of nurses about pain management and their relationship to demographic.
Methods: The descriptive study design was used. The study was conducted with 172 registered nurses working at a hospital state. Permission was obtained from the relevant institution before the study (Date: 22.01.2019, Number: 82965765). The researchers explained the study aims, and procedures in the study to participants before they started. The study data were collected by using the Nurse Introductory Form and Nurses' Knowledge and Attitudes Questionnaire Regarding Pain. The study questionnaire was introduced to each participant, and each participant was asked to answer the questions. The completed questionnaires were collected personally after being checked by the researchers.
Results: The results showed that the mean knowledge score 10.75±2.11 and attitude score about pain 12.65±2.33. It was found that there were no significant differences between nurses' sociodemographic characteristics and the total knowledge and attitude score ($p > 0.05$). The working at a surgical clinic was 32.6% and 92.4% were worked as primary care nurses in clinic. Average age of nurses 35.15±8.97-, and 48–57-year age group had the highest pain attitude and behavior score, and higher scores health vocational level.
Conclusion: The study indicates that nurses do moderate level knowledge and attitude about management of pain. Pain educational programs need to be standardized in order to improve nurses' attitudes towards pain management.
Key Words: Nurses Practice, Attitudes, Knowledge, Pain Management

Özet
Amaç: Bu çalışmanın amacı, hemşirelerin ağrı yönetimine ilişkin bilgi ve tutumlarının demografik özellikleri ile ilişkisini belirlemektir.,
Yöntemler: Tanımlayıcı araştırma tasarımı kullanıldı. Araştırma bir devlet hastanesinde çalışan 172 hemşire ile gerçekleştirilmiştir. Çalışma öncesi ilgili kurumdan izin alınmıştır (Tarih: 22.01.2019, No: 82965765). Araştırmacılar tarafından çalışmaya başlamadan önce hemşirelere çalışmanın amacı açıklandı. Araştırma verileri Hemşire Tanıtım Formu ve Hemşirelerin Ağrıya İlişkin Bilgi ve Tutum Anketi kullanılarak toplanmıştır. Çalışma anketi her katılımcıya tanıtıldı ve her katılımcıdan soruları yanıtlaması istendi. Doldurulan anketler, araştırmacılar tarafından kontrol edildikten sonra toplanmıştır.
Bulgular: Sonuçlar, ortalama bilgi puanının 10.75±2.11 ve ağrıya ilişkin tutum puanının 12.65±2.33 olduğunu gösterdi. Hemşirelerin sosyodemografik özellikleri ile toplam bilgi ve tutum puanları arasında anlamlı bir farklılık olmadığı bulundu ($p > 0.05$). Hemşirelerin %32.6'sı cerrahi kliniğinde, ve %92.4'ü klinik hemşiresi olarak çalışmaktadır. Hemşirelerin yaş ortalaması 35.15±8.97, ve 48-57 yaş grubunda ağrı tutum ve davranış puanı en yüksek, sağlık meslek lisesi mezunlarının puanları daha yüksekti.
Sonuç: Araştırma, hemşirelerin ağrı yönetimi konusunda orta düzeyde bilgi ve tutum sergilediklerini göstermektedir. Hemşirelerin ağrı yönetimine yönelik tutumlarını geliştirmek için ağrı eğitim programlarının standardize edilmesi gerekmektedir.
Anahtar Kelimeler: Hemşirelik Uygulamaları, Tutum, Bilgi, Ağrı Yönetimi

Suggested Citation: Bölükbaş N, Şahin B. Black Disc During Lumbar Spinal Surgery: Two Case Reports with Ochronosis. ODU Med J, 2021;8(2):1-9.

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Introduction

Pain is a major stressor for hospitalized patients (1). According to the Pain Research Organization, it is defined as "the sensory and emotional experience that is accompanied by existing or possible tissue damage or that can be defined with this damage, and it is not tolerated" and "pain protection mechanism". Therefore, it is necessary to consider both physical and non-physical components together when evaluating pain (2,3,4). The pain was accepted by the American Pain Association and the Health Care Organization Accreditation Committee (JCAHO), as the "fifth vital finding" and it was emphasized that the pain should be constantly evaluated (4).

The pain is prevented the individual from performing daily life activities and which it is not eliminated, the individual experiences loss of role or role change in family relations, loss of self-productivity, self-confidence, irritability, sleep disorders, exhaustion, excessive dealing with the body, decreased libido, psychomotor slowdown, social withdrawal, causes symptoms, isolation of the patient, passivation of help, or being aggressive, and affect emotional changes by negatively affecting the self-esteem of the individual (5). Pain causes sleep disturbances and decreased quality of life (6). Today, it is accepted that the importance of conducting pain control with a multidisciplinary team approach is known to everyone and that three important members of the team are patients, nurses and physicians; among these team members, only the patient experiences pain and makes efforts to get rid of it (7,8,9). The success of pain management depends on the knowledge, behavior, attitude, and clinical decision-making skills of healthcare team members who carry out pain management. Within this team, the nurse has an indispensable role in pain control (10,11). The nurse has many tasks related to pain control such as defining, evaluating, monitoring the pain, applying analgesics in the physician's request, monitoring the effects of the medications given in the patient, eliminating the complications that may develop and applying nonpharmacological treatment methods (3). The main points that distinguish the nurse's role in pain control more important than other team members; since the nurse is together with the patient and other team members for a longer period of time, the patient learns the previous pain experiences and methods of coping and utilizes them, when necessary, teaches the patient the strategies of coping with pain, applies the planned analgesic treatment, monitors the results and provides an empathic approach (8,12,13,14).

In the studies carried out, it was found that nurses mostly preferred drug administration management in pain management and they did not use non-pharmacological applications, which is a field where they can easily exhibit their independent roles. It has been determined that their knowledge and experience about these methods are inadequate. These deficiencies have been shown as a cause of ineffective pain management (4). Determining the knowledge and attitudes of nurses about pain is a factor affecting their approach to painful patient. Özer and Bölükbaş determined that 96.23% of the nurses do not always believe in the patient who expresses their pain and 47.62% do not follow the pain-indicative behaviors of the patients who cannot express their pain (14).

In addition to knowledge, pain control also affects the cultural infrastructures of nurses and their own experiences. Studies have shown that nurses' decisions on pain management and pain are influenced by their own attitudes and misperceptions about pain, rather than defining their current state. Therefore, knowing nurses' attitudes towards pain management, knowledge levels and behavior patterns is the basic step in creating positive behavior change. Today, pain control is carried out with a multidisciplinary team approach (14). Despite there are several guidelines for effective pain management, it is estimated that 50% to 80% of hospitalized patients suffer from pain and affecting the quality of life of patients (15,16,17).

In addition, importance of knowledge in the approach to pain control, as well as the cultural infrastructure of healthcare professionals and their pain experiences are reported to be effective (18,19).

Methods

Study Design

This study was conducted as a descriptive study to determine the knowledge and attitude of nurses about pain. The study was planned with 295 nurses working in the medical, and surgical clinics between March 1 and May 30, 2019. However, the study completed with 172 nurses completed, a response rate of 58.3%.

Data Collection Tools

The data were collected after the necessary explanations were made by the researchers who volunteered to participate in the study. While the participating nurses filled in the data collection tools, they were left alone. The study data were collected by using the Nursing Information Form and Nurses' Pain, Information and Behavior Questionnaire.

1. The Nursing Information Form

The form consists of 16 items questioning the participating nurses' such as gender, age, education status, and such as occupational characteristics.

2. The Knowledge and Attitudes Survey Regarding Pain (KASRP)

The scale was developed by Ferrell and McCaffery in 2008, (20). The validity and reliability stuy of the Turkish version of the scale was performed by Özer et al. The KASRP scale consists of 16 items rated on a true/false question. Total score and average scores were calculated for each item in inventory it was calculated as 1 for "correct answers" and as "0" for incorrect answers. The higher score from the survey is 16, and the lowest score is 0. In this direction, 5.9200 points are low, 5.9201- 11.3800 points are medium, 11.3801 and above are high knowledge and behavior (11).

Statistical Analysis

Comparison of the knowledge scores according to sociodemographic and occupational characteristics was evaluated with parametric and non parametric test. $p<0.05$ was taken into account as statistical significance level.

Ethical Considerations

Before the study was conducted, the written permission from the institution where the study was to be conducted were obtained (Decision no: 22.01.2019 Number, 82965765). After informing the nurses who will participate in the research, they were asked whether they participated in the research and verbal consent was obtained.

Results

A total of 172 (58.3% response rate) nurses completed the study questionnaire. Nurses were predominantly female (87.8%), with an average age 35.15±8.97, more than half of the nurses were bachelor graduates (62.8%). In total, 22% of the respondents had worked as nurses between 0-4 years, and 57.5.6% worked as nurses between 6 month-4 years. 7.6% of the respondents worked, and 32.6% of the nurses worked in the surgical clinics whereas 21.5% worked in the intensive care ward. Further, 84.3% of nurses reported receive pain education. 90.2% of the nurses stated that they made pain assessment, 76.2% stated that they used the scale for evaluation, and 96.5% pain assessment was the responsibility of the nurse. No significant differences was found between pain attitude and behavior and demographic characteristics (Table 1).

The items evaluated are shown in Table 2. 95.3% of nurses knew that the following statement was correct: "The changes observed in vital signs are an important indicator in diagnosing a patient has severe pain", about 84.3% of nurses knew "Non-drug interventions are very effective for moderate to severe pain, but not very serious pain", and 83.7% of nurses knew following statement was correct; "Sedative drug is effective in reducing pain". Howewer 24.4% of the patients stated that they could sleep despite moderate or severe pain (Table 2).

When 16 pain knowledge questions evaluated, the mean number of correctly answered questions was 10.75±2.11 with a range of 0 to 16, and pain attitude mean score 12.65±2.33 (Table 3).

Discussion

Nurses' displaying sensitive behavior towards patients who suffer from pain and their relatives plays a very important role in increasing of quality of care and patient satisfaction (21). Quality of pain management knowledge, behavior and skills to the healthcare team forward depends (11). It is stated in the literature that effective pain management is a patient's right and that the nurse plays a key role in its elimination (8, 22). This study provides information about knowledge and attitudes of nurses working in an area state hospital about pain management. In this study, the pain knowledge score was determined as 10.75±2.11 and pain attitude scores 12.65±2.33 was at a medium level. Yava et al., in study among the 40 pain knowledge questions assessed, the average of the questions answered correctly was 15.86=7.33, (23). The average pain knowledge score in the present study was low compared to studies reported elsewhere (7,24,25). The results revealed that nurses' knowledge and attitute about pain management in Turkey was still far from expected levels. There are no standards about the duration and content of pain courses in Turkish nursing schools (26,27). Eşer et al., stated in their study that they gave drugs to patients and that these nurses did not perform heavy treatments and continued to be interested in dependent functions (27). We can say that this situation continues today. A study on Chinese nurses showed that poor knowledge about pain management is linked with negative attitudes regarding pain management. The results of studies on pain management are consistent with the results of this study. Of nurse's knowledge of pain management, it has been reported to be weak (28).

Table 1. Comparison of nurses' demographic characteristics and pain attitude and behavior average

Characteristic	n	%	Score (M ± SD)	Statistical Quantity	p Value
Gender					
Female	151	87.8	10.7881±2.12794		
Male	21	12.2	10.4762±2.01542	MWU(Z)= .-683	.494
Education level					
Health vocational	12	6.9	11.7500±1.21543		
Associate degree	39	22.7	10.8974±2.26872	KW(x^2)= 5.810	.121
Bachelor	108	62.8	10.6944±2.11562		
Master	13	7.6	9.8462±1.99358		
Age					
18-27 age	44	25.6	10.5000±1.95888		
28-37 age	48	27.9	10.9792±2.14862	KW(x^2)=3.635	.304
38-47 age	61	35.5	10.5574±2.29873		
48-57 age	19	11.0	11.3684±1.64014		
Total working year					
0-4 year	38	22.0	10.7368±2.00922		
5-8 year	28	16.3	10.9286±2.24316		
9-12 year	16	9.3	10.5000±1.71270	KW(x^2)=0.719	.949
13-16 year	20	11.6	10.9500±2.11449		
17 year over	70	4.0	10.6857±2.23635		
Clinic working year					
0-4 year	99	57.5	10.5455±2.03175		
5-8 year	29	16.8	11.1724±2.01900	KW(x^2)=3.845	.427
9-12 year	17	9.8	10.9412±2.60937		
13-16 year	8	4.6	10.1250±2.53194		
17 year over	19	11.0	11.2632±1.99561		
Working area					
Surgical unit	56	32.6	11.0357±2.00875		
Medical unit	36	20.9	11.2500±1.66261	KW(x^2)=6.003	.199
Intensive care unit	37	21.5	10.1351±2.54036		
Emergency unit	13	7.6	10.3846±2.21880		
Other special units	30	17.4	105333±2.04658		
Position					
Nursing manager	13	7.6	10.7692±2.58695	MWU(Z)= ¨,299	.765
Clinical nurse	159	92.4	10.7484±2.07751		
Pain education					
Yes	145	84.3	10.7517±2.12306	MWU(Z)= ¨.113	.910
No	27	15.7	10.7407±2.08645		
Pain assessment status					
Yes	155	90.2	10.7097±2.14708		
No	12	6.9	11.0833±1.88092	KW(x^2)= .385	.535
Unanswered	5	2.9	11.2000±1.64317		
Use of scale					
Yes	131	76.2	10.7863±2.15552		
No	19	11.0	10.4737±2.43512	KW(x^2)=.115	.734
Unanswered	22	12.8	10.7727±1.54093		
Nurse's responsibility in pain assessment					
Yes	166	96.5	10.7831±2.13228	MWU(Z)= ¨1.388	.165
No	6	3.5	9.8333±1.16905		

Table 2. Distribution of nurses' of answers to knowledge and behavior ınventory about pain

	False		Correct	
	n	**%**	**n**	**%**
1. Changes in vital signs are an important indicator in diagnosing a patient's severe pain. **(F)**	164	95.3	8	4.7
2. Pain severity should be evaluated by the medical staff, not by the patient. **(F)**	96	55.8	76	44.2
3. A patient can sleep despite moderate or severe pain. **(C)**	130	75.6	42	24.4
4. If the patient's attention can be drawn in another direction, this means that the patient does not have a high intensity of pain, as stated. **(F)**	110	64.0	62	36.0
5. Before resorting to a pain relief method, the patient must be encouraged to withstand the pain as much as possible.**(F)**	65	37.8	107	62.2
6. If a patient is relieved by placebo (sterile water injection), his pain is not real. **(F)**	132	76.7	40	23.3
7. Not effective analgesics for chronic pain caused by aspirin and other NSAID metastases. **(F)**	110	68.8	45	28.1
8. Non-drug interventions are very effective for moderate to severe pain but not very serious pain. **(F)**	145	84.3	27	15.7
9. Respiratory depression rarely occurs in patients taking opioids for a long time (months). **(C)**	59	34.3	113	65.7
10. In a patient with pain, a single analgesic agent should be used rather than combined drug groups (eg opioid + NSAID). **(F)**	91	52.9	81	47.1
11. Sedative drugs are effective in reducing pain. **(F)**	144	83.7	28	16.3
12. Opioids should not be given to patients with a history of substance abuse, as their addiction risks are high. **(F)**	72	41.9	100	58.1
13. A patient should be advised to use non-drug techniques alone, not in combination with pain medications. **(F)**	89	51.7	83	48.3
14. For it to be effective, hot and cold application should be applied only to the painful area. **(F)**	133	77.3	39	22.7
15. When choosing the pain measurement method, the patient's age, level of understanding, emotional and functional status, etc. should be considered. **(C)**	8	4.7	164	95.3
16. The patient's behaviors (such as sighing, posture, irritability, rubbing the pain area, supporting, not being in the same position all the time) should be examined in the pain assessment. **(C)**	8	4.7	164	95.3

Table 3. Pain attitude and pain knowledge score averages of nurses

Scale Score	**Pain Attitude Mean ± SD**	**Pain Knowledge Mean ± SD**
Pain score	12.65 ± 2.33 (8- 21)	10.75 ± 2.11 (6 - 16)

In this study, the nurses' sociodemographic and rofessional characteristics did not affect their knowledge and attitude scores (p> 0.05). The highest pain attitude and behavior scores were found in the 48-57 age group, nurses who graduated from health vocational high school.

The pain attitude and behavior scores of nurses with more work experience and working in the medical unit were found to be higher. In the study of Meijin et al., age, working years, and frequency of pain training showed statistically significant differences (22). In the study of Yava et al., stated that nurses with a master's degree or higher and those with baccalaureate training had a higher knowledge score than nurses with an associate degree (23). These results were like with those of other studies (23,29,30). Meijun et al. commented these results as insufficient support for continuing education on pain management in hospitals (22).

In this study, it was determined that nurses working in medical units had the highest pain knowledge score. Pain attitude and behavior scores were found to be higher in nurses working in the medical unit and those with longer nursing experience. (23). Wang & Tsai, and Moceri & Drevdahl indicated effect of baccalaureate and higher education related knowledge and attitudes (29,31). Nurses with a higher education level tended to have better knowledge of pain management (31,32, 33,34).

In this study, 76.2 of the nurses stated that they used a scale in pain assessment, but this did not statistically significant difference in pain knowledge. In the study conducted by Ay and Alpar, it was determined that 67.7% of the nurses did not use the pain assessment scale, there was a significant relationship between the institution where the nurses worked and the use of the pain scale, and those working in the private hospital

used a higher rate of pain assessment (33). These findings like those of other studies (30,31,35,36). In the study conducted by Çelik et al, it was determined that the pain assessment scale, which turned out to be important in assessing pain, was not used by the majority of nurses (4). In studies conducted by Özer et al., before it becomes mandatory to use pain scale by the Turkey Ministry of Health most of the nurses (74.5%) stated that they did not use a pain scale to measure the pain of the patient, only 18.7% of them stated that they used a pain scale (11). It is indisputable that those who use the scale that measures the severity of pain in the effective management of the pain of nurses will positively affect the success of the treatment.

In this study, very few nurses (4.7%), stated that vital signs are an important indicator in the diagnosis of pain. In the literature, approximately one-third (32%) of nurses stated that pain intensity was positively associated with changes in vital signs. Studies emphasized the importance of physiological changes in vital signs due to pain and evaluating non-verbal behavioral symptoms. Thes rate was stated as 8.5% in the study of Yava et al. (23).

In the studies, vital for only a short time in severe pain with sudden onset increase in symptoms, and this the situation has also been shown to be rare. The most important role of nurses in this process; to contribute to the relief of the patient by knowing the factors that cause pain, the qualities of pain, the factors affecting pain management (3).

In this study, most of the nurses stated that the severity of pain should be evaluated by the patient (%55.8). This result suggests that in the current study, nurses attached importance to the patient's statements in determining the severity of pain. This result was stated as 61.7% in the study of Özer et al. and 79.7% in the study of Eti Aslan and Badır (9,11). In this current study, "If a patient is relieved with placebo, his pain is not real." It was seen that the vast majority of nurses answered the question correctly (76.7%). This rate is similar the findings of Özer et al., Demir et al. and Çelik et al. was reported as 84.5%, (11,37,8) Although placebo is said to be ineffective or less effective, it is not possible to deny the placebo effect especially in chronic pain and many psychiatric disorders (20).

In the study, the majority of nurses said non-drug interventions are very effective in moderate to severe pain. But "It is not effective in very serious pain" (%84.3). It has been shown that the nurses participating in the study had moderate knowledge and attitude scores regarding pain, these results are in line with the previous research results (19,30,38). Nurses are directly responsible for the assessment of pain and administration of drugs. Opioids are procured daily from the institutional pharmacy in Turkey upon the doctor's request, according to the needs of the patient.

In our study, the pain knowledge scores of nurses who graduated from health vocational was found to be higher than the nurses with a master's or bachelor's degree. Similarly, Lui So & Fong did not find a significant difference between the increase in the education level of nurses and their knowledge and attitude scores (39). In nursing graduate education programs, it is necessary to review pain management courses and restructure them according to current information and developments and to ensure that they can be applied in hospital settings.

It was determined that nurses with the highest score of knowledge about pain between 13 and 16 years of working in the clinic. But we did not find a statistically significant difference between work experience and pain knowledge scores. It is expected that the increase in work experience in nursing will increase the level of knowledge. However, Lui So & Fong have reported that nurses' knowledge scores increased markedly with increased work experience. These results may be related to the work areas of nurses (39).

There was not a statistically significant difference between the unit in which the nurses are currently working, and their pain knowledge scores. Pain knowledge scores were found higher in nurses working in medical units and lower in nurses working in surgery units. This result may indicate that nurses in surgical units need more information as they are constantly care for patients with postoperative pain. Lui et al. have reported the percentage of correct scores (47.72%) with the NKASRP was low of nurses worked in medical units 96.5% (39). 96.5% of the nurses stated that the responsibility of evaluating patient pain belongs to the nurse. In the literature on pain, the assessment of patient pain is emphasized as the most important task of the nurse (3,7,9,19).

In the study, 84.3% of the nurses stated that they received pain training. The theoretical and practical training given to nurses on pain increased their awareness of pain assessment tools at a rate of 93% (23,33,40). Horton & Davidhizar stated that nurses who had received training had a positive attitude towards using pain assessment tools (more than 90%), (41).

Conclusion

Nurses play important role in the management of acute and chronic pain, and they can only turn this

important role into a positive attitude for the benefit of the patient with sufficient information. As a result, the study showed that nurses did have moderate knowledge about pain diagnosis and management. In line with this result, in education programs, it is recommended to give more importance to the issue of pain and to expect management nurses to evaluate clinical nurses to provide comfort. Nurses should pay attention to the practices that they can make independently as much as the pharmacological applications and the effects of these applications. In undergraduate education programs, it may be suggested to give more importance to the place and importance of cultural factors in the diagnosis and treatment of pain. Pain education programs need to be addressed using clinical needs and the latest pain management guidelines.

Acknowledgement

We gratefully acknowledge the contribution of nurses who participated in this study.

Ethics Committee Approval: Permission was obtained from the relevant institution before the study (Date: 22.01.2019, Number: 82965765).

Peer-review: Externally peer-reviewed.

Author Contributions:

Concept: NB, BŞ *Design:* BŞ *Literature search:* NB *Data Collection and Processing* NB, BŞ *Analysis or Interpretation:* NB, BŞ, *Written by:* NB

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: The authors declared that this study hasn't received no financial support.

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