

Project Capstone

TITLE: "Knowledge and Attitudes to Pain Management in Intensive Care and Surgery Nurses: A Cross-Section Study"

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SUBMITTED THESIS

FOR PARTIAL BACHELOR'S DEGREE IN NURSING

NAZARBAYEV UNIVERSITY, SCHOOL OF MEDICINE

2026

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DECLARATION

I hereby declare that the dissertation is an original work and I was supervised by Jonas Cruz and Ejercito Balay-Odao in conducting the research. I have duly acknowledged all the sources of information that were used in writing the dissertation.

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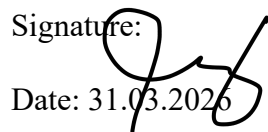
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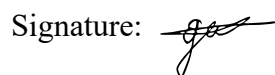
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ABSTRACT

Introduction: Incomplete pain management after surgery or in critically ill patients can lead to poor organ function, chronic pain, increased hospital stays, and poor quality of life. Nurses should have sufficient knowledge of pain management when confronted with patients who experience different degrees of pain.

Aim: The purpose of this study was to assess the level of pain management knowledge and attitudes among nurses and to identify the factors that influence the nurses' knowledge and attitudes.

Methods: This quantitative study surveyed 207 nurses working in intensive care and surgery departments in clinics in Kazakhstan such as University Medical Center, National Scientific Oncology Center, and Shymkent Heart Center from March to April 2026 to using the Knowledge and Attitudes Survey Regarding Pain (KASRP).

Results: A total of 207 nurses participated in the study, with an average age of 32.6 ± 9.96 years. The average level of knowledge and attitudes towards pain management was poor (19.06 ± 5.66). The proportion of correct answers to individual questions ranged from 11.6% to 82.1%. Female nurses had significantly better pain management knowledge and attitudes than male nurses ($p = .006$). Nurses who reported that their hospital provides professional development program on pain management reported significantly better knowledge and attitudes than nurses from a hospital without the same programs ($p = .048$).

Conclusions: The results demonstrate a critically insufficient and heterogeneous level of knowledge and attitudes of nurses in the field of pain management, despite their clinical experience. The absence of significant associations with most demographic and occupational characteristics indicates the systemic nature of the identified deficits and the limited effectiveness

of existing educational approaches. their key importance as a modifiable factor. These results highlight the need to develop and implement standardized, evidence-based educational strategies aimed at closing knowledge gaps and improving the quality of pain management in clinical practice.

Keywords: Pain management, Intensive care, Nurses, Surgery

INTRODUCTION

Effective pain management is a fundamental component of modern clinical practice and a key indicator of the quality of nursing care. Adequate analgesia should be viewed not only as a means of alleviating patients' subjective discomfort but also as a critical factor influencing postoperative recovery and overall treatment outcomes. Proper control of pain contributes to the stabilization of physiological functions and reduces the risk of complications, including respiratory dysfunction, adverse cardiovascular events, and delayed tissue regeneration.

Inadequate or insufficient analgesia may trigger a physiological stress response characterized by the release of catecholamines and cortisol, which negatively affects vital organ systems. This, in turn, increases the risk of chronic pain development, prolongs hospitalization, and worsens overall prognosis (Chou et al., 2021). Furthermore, effective pain control facilitates early patient mobilization, thereby decreasing the likelihood of thromboembolic events, pneumonia, and other postoperative complications. From an economic perspective, optimized pain management reduces the length of hospital stay and the incidence of complications, ultimately lowering healthcare costs while improving patient satisfaction and perceived quality of care (AlMazrou et al., 2020).

Nurses play a central role in pain assessment and management, as they are responsible for continuous patient monitoring and are often the first to identify changes in patient condition. According to the International Association for the Study of Pain (2020), pain is defined as a subjective sensory and emotional experience, making its assessment highly dependent on the clinical competence of healthcare professionals. Consequently, nurses' knowledge, clinical reasoning, experience, and attitudes directly influence the accuracy of pain assessment and the selection of appropriate management strategies. Competence in both pharmacological and non-

pharmacological interventions, along with the ability to demonstrate empathy and consider individual patient characteristics, is essential for effective pain management (Alanizi et al., 2025). Moreover, higher levels of nurses' self-efficacy have been associated with improved patient interaction and better clinical outcomes (Sayin & Kutmek, 2024).

Despite its clinical importance, evidence from international studies indicates that nurses' knowledge and attitudes toward pain management remain suboptimal in many settings. Deficiencies include limited understanding of pain assessment principles, underutilization of standardized assessment tools, and variability in clinical practice. Systematic reviews and cross-sectional studies consistently report that a substantial proportion of nurses demonstrate only moderate or below-average knowledge in this area, which directly impacts the quality of patient care (Yang et al., 2026).

These challenges are observed across diverse healthcare systems, including both high-resource and low-resource settings, highlighting the global nature of the problem. Studies conducted in regions such as the Middle East and Africa report predominantly moderate levels of knowledge among nurses, reflecting the absence of consistent and standardized educational frameworks in pain management (Fekede et al, 2023, Sweityet al, 2022). Standardized instruments, such as the Nurses' Knowledge and Attitudes Survey Regarding Pain (NKASRP) and the Knowledge and Attitudes Survey Regarding Pain (KASRP), are widely used to assess competencies in this domain. However, findings indicate that even when these validated tools are applied, knowledge scores frequently fall below recommended thresholds, suggesting persistent gaps in both undergraduate and continuing education (Antunez-Martinez et al., 2025).

Importantly, insufficient knowledge is often accompanied by limited translation of theoretical concepts into clinical practice. This is reflected in the inconsistent use of pain

assessment scales, lack of confidence in administering and monitoring analgesic therapy, and the absence of standardized clinical protocols within healthcare settings (Innab et al, 2022). Collectively, these findings underscore the need for systematic improvements in nursing education, including the integration of regular training programs, continuing professional development, and enhanced practical training in pain assessment and management.

A closer examination of the literature reveals that the most significant knowledge gaps are related to pharmacological aspects of pain management, particularly the use of opioid analgesics. Despite their proven efficacy in managing moderate to severe pain, concerns regarding addiction, respiratory depression, and other adverse effects persist among healthcare professionals. These concerns often result in inadequate opioid use, suboptimal dose titration, and ultimately insufficient pain control, negatively affecting patient outcomes (Ayoub,i et al., 2022).

In addition, nurses frequently report difficulties in clinical decision-making related to analgesic therapy, largely due to limited pharmacological knowledge and insufficient clinical training. This contributes to variability in practice and the lack of standardized approaches, particularly in high-acuity settings such as intensive care units and surgical departments (BMC Nursing, 2022–2024). Pain assessment in patients with impaired communication—such as those receiving mechanical ventilation or experiencing cognitive impairment—also presents significant challenges. In such cases, underutilization of validated behavioral pain assessment tools may lead to underestimation of pain and inadequate management (Geisen et al., 2021).

Furthermore, gaps in knowledge and attitudes are evident in the management of chronic pain, particularly in oncology settings, where patients often require complex, long-term analgesic regimens. Insufficient training in this area may compromise the quality of palliative care and negatively affect patients' quality of life (Alsaiani et al., 2024).

The level of nurses' knowledge and attitudes toward pain management is influenced by multiple factors, including educational background, clinical experience, participation in training programs, and access to updated clinical guidelines. Evidence suggests that additional training is significantly associated with higher levels of knowledge, whereas the absence of continuous professional development contributes to persistent deficiencies (Admassie et al., 2022; Al-Sayaghi et al., 2022; Liyew et al., 2020). Organizational barriers—such as high workload, time constraints, and staffing shortages—further hinder effective pain assessment and timely intervention (Kahsay & Pitkääjärvi, 2019).

In the Republic of Kazakhstan, the issue of pain assessment and management in nursing practice remains underexplored, despite the gradual adoption of international healthcare standards. Existing evidence is limited and does not provide a comprehensive understanding of nurses' knowledge, attitudes, and clinical practices, particularly in high-demand settings such as intensive care and surgical units. Moreover, the relationships between theoretical knowledge, clinical practice, and the quality of pain management have not been sufficiently investigated. Therefore, this study is both timely and relevant, aiming to provide a comprehensive assessment of nurses' knowledge and attitudes toward pain management, identify existing gaps, and develop practical recommendations to improve the quality of nursing care and patient outcomes.

Objectives of the study

This study aimed to examine the knowledge and attitudes of nurses working in intensive care and surgery units to pain management. Also to investigate the relationships between variables, such as demographic characteristics and work-related data, to the knowledge and attitudes of nurses to pain management.

METHODS

Design

This study has a quantitative, cross-sectional and correlational design, which allows us to assess the level of knowledge and attitude of nurses to pain management, as well as to identify relationships between the studied variables.

Settings

The study was conducted in the Intensive Care and Surgery Units of the National Cancer Science Center, a 406-bed national-level hospital specializing in cancer and organ and tissue transplantation, in the clinics of the University Medical Center Corporate Foundation, which includes the Heart Center, Maternal and Child Center, and Diagnostic Center, with an overall compatibility of 778 beds and 500 outpatient visits per shift. Also, at the Shymkent Heart Center, a leading specialized medical institution that provides high-quality cardiac and cardiac surgical care.

Sample

The total population of nurses in intensive care units was 163 and surgery 107, in the three hospitals there were 270 nurses. To ensure an adequate level of sample size, a universal sampling method was applied, including all nurses who meet criteria such as working in intensive care or surgery departments of these hospitals; full-time employees; who have submitted informed consent to participate. The exclusion criteria were nurses from other departments; midwives and other health professionals; nurses who are on leave or unavailable at the time of data collection; students and interns; part-time employees. At the conclusion of data collection, there were 207 nurses who participated in the study giving a response rate of 76.7%.

Measures

A self-completed questionnaire was used to collect data from participants. The questionnaire consisted of two parts. Part 1 included questions regarding the demographic and occupational characteristics of the participants, such as: age, gender, marital status, level of education, name of the hospital, department, total length of service as a nurse, length of service in the current department (intensive care or surgery), participation in advanced training programs in pain management in the last 12 months, study of pain management issues during nursing training, the hospital's availability of professional development programs for pain management, as well as the main source of information about pain management.

Part 2 included the *Knowledge and Attitudes Survey Regarding Pain (KASRP)* developed by Ferrel & McCafferty (2014). The KASRP tool was originally created in 1987 and revised in 2014 by the same authors. It has been widely used in various studies to assess the knowledge and attitudes of healthcare professionals towards pain management. The KASRP questionnaire includes 22 true/false questions, 15 multiple-choice questions, as well as two clinical scenarios, each accompanied by two questions.

The content validity of the KASRP has been validated by pain experts, with questionnaire content based on standards from the World Health Organization (WHO), the American Pain Society (APS), and the National Comprehensive Cancer Network (NCCN). Construct validity was confirmed by comparing outcomes between groups of nurses at different levels of training – undergraduates, oncology nurses, undergraduates, and pain experts (Ferrel & McCafferty, 2014). The tool showed high robustness, with a test-retest coefficient of $r > 0.80$ and internal consistency (Cronbach $\alpha > 0.70$) covering both knowledge and attitude (Ferrel & McCafferty, 2014). KASRP (or NKASRP) has been widely adapted and applied in a variety of languages and medical settings

in both developing and developed countries (Admassie et al., 2022; Alanizi et al., 2025; Kahsay & Pitkääjärvi, 2019; Samuel & Ye, 2025). Correct answers will be coded as 1, incorrect answers will be coded as 0. The maximum possible score is 41, the minimum is 0. The following scale will be used to interpret the results: participants who score 80% or more of correct answers will be considered to have a high level of knowledge and a positive attitude, and those who score less than 80% will be considered to have a low level of knowledge and attitude (according to the Admassie et al. methodology, 2022; Kahsay & Pitkääjärvi, 2019).

The tool was translated to Russian and Kazakh languages using the forward-backward translation method (Beaton et al., 2000). To confirm the relevance of the tool to the research context, the questionnaire was evaluated by three pain management experts from Kazakhstan. The experts were asked to assess the relevance of each item on the scale related to the construct of "knowledge and attitudes to pain management". The approach of Polit et al. (2007) was used to calculate the Content Validity Index (CVI). Each item was evaluated on a scale of 1 = not relevant, 2 = Partially relevant, 3 = Fairly relevant, and 4 = Highly relevant.

The experts were also asked to make recommendations to improve the questions that received a score of 1 or 2. Based on the recommendations of the pain management experts, questions No 16 were removed from the questionnaire – "Vicodin (hydrocodone 5 mg + paracetamol 300 mg) by mouth is approximately equal to 5–10 mg of morphine by mouth.", due to the lack of Vicodin RC (registration certificate) in the Republic of Kazakhstan and No33 "How likely is it that patients who have developed pain already have problems with alcohol and/or drug abuse?", due to the lack of data on the likelihood of pain in these patients in educational programs for nurses in Kazakhstan. Due to these revisions, the final survey contained 21 true or false

questions, 13 multiple choice questions, and two case studies. The scores can range from zero to 39 points.

Once the process was completed, the tool was considered appropriate to assess the nurses' knowledge and attitudes towards pain management in the context of this study. A CVI level of at least 0.78 for individual items and a total CVI on a scale above 0.90 were assumed (Polit et al., 2007).

KASRP-R was tested on 40 nurses, while the KASRP-R was piloted among 40 nurses. Participants filled out a questionnaire, and the reliability of the instrument was calculated based on the data obtained. The Kuder Richardson values for both versions were above 0.70, indicating acceptable reliability. Nurses were also commented that the items in both translations were readable and comprehensible.

Ethical considerations

The study protocol was reviewed and approved by the Institutional Research Ethics Committee of the School of Medicine (NUSOM-IREC) and the UMC Local Bioethics Commission. The study was conducted in strict accordance with the ethical principles established by the Declaration of Helsinki and the guidelines of the relevant ethics committees. The investigators provided participants with all the necessary information about the study, including the purpose, benefits, possible risks, procedures, as well as the rights of the participants. They ensured that participants fully understood the nature of the study, its voluntary nature and their right to withdraw at any time without repercussions. Participants were given sufficient time to ask questions and receive answers before signing informed consent. The study was anonymous - the researchers did not collect data that would allow identifying a specific participant. All questionnaires and the data obtained were reliably protected, and only the research group had

access to them. The results were analyzed and presented in a generalized form, without indicating any personal information of the participants.

Data collection procedure

Recruitment of participants and data collection was carried out in person from March to April 2026. The researchers reached out to potential participants during their free time, inviting them to take part in the study. They were explained in detail all the information about the study – its purpose, procedures, possible risks and benefits, as well as the rights of the participants. After signing the informed consent, the researchers handed the participants a questionnaire to fill out. Since the purpose of the study was to measure the knowledge and attitudes of the participants, the nurses were asked to fill out a questionnaire in the presence of the researcher. At the same time, participants were not allowed to consult with colleagues, use the Internet or other educational materials when answering questions. These measures were aimed at ensuring that the data collected really reflected the current level of knowledge of the respondents. To avoid pressure and ensure a comfortable environment, only one researcher was present during the survey, who observed the process at a distance without interfering with the participants' answers. It was explained to respondents that they could leave any question unanswered if they did not know the answer or did not want to answer it. They were also given sufficient time to complete the questionnaire. Completed questionnaires were stored in a lockable cabinet in the Principal Investigator's (PI) office, with limited access only to members of the study team.

Data analysis

The analysis was carried out using SPSS version 24.0. For demographic and occupational variables, as well as indicators of knowledge and attitude, descriptive analyses were performed: calculation of the mean, standard deviation, frequencies and percentages. The relationship and

differences between respondents' demographic/occupational variables and their knowledge and attitudes towards pain management were examined using appropriate two-dimensional statistical methods. Specifically: the relationship between knowledge/attitudes towards pain management and continuous variables (e.g., age, years of experience) was assessed using the Pearson correlation; comparison of knowledge and relationships between two independent groups (e.g., by gender) using the t-test for independent samples; differences between three or more groups (e.g., between hospitals and types of hospitals) using univariate analysis of variance (ANOVA). P-values below 0.05 were considered statistically significant findings.

RESULTS

There were 207 nurses who took part in the study. The mean age of respondents was 32.60 ± 9.96 years (SD: 20–57 years). The average length of service as a nurse was 10.48 ± 9.02 years (range 0.33 to 37 years), while the average length of service in the current department was 5.79 ± 5.42 years (range 0 to 26 years).

The majority of participants were women (83.6%, n=173), and the proportion of men was 16.4% (n=34). By marital status, 47.8% (n=99) were married, 43.5% (n=90) were unmarried, and 8.7% (n=18) were widowed or divorced.

In terms of education, the largest share was made up of nurses with diploma education (37.7%, n=78). The remaining participants had an associate degree (20.8%, n=43), an academic bachelor's degree (20.8%, n=43), an applied bachelor's degree (20.3%, n=42), and only 0.5% (n=1) had a master's degree.

Participants came from three medical institutions: 37.7% (n=78) worked in Hospital A, 38.6% (n=80) worked in Hospital B, and 23.7% (n=49) worked in Hospital C. By departmental profile, 52.2% (n=108) of respondents worked in intensive care units, and 47.8% (n=99) worked in surgical departments.

Regarding professional development in pain management, 51.2% (n=106) of participants reported participating in relevant educational activities in the past 12 months, while 48.8% (n=101) did not participate. However, 57.0% (n=118) indicated that they had studied pain management during their college or university studies, while 43.0% (n=89) had either not studied it or were unsure about it. The majority of respondents (80.2%, n=166) noted that professional pain management training is provided in their health facilities, while 19.8% (n=41) reported no such programs. The main source of information on pain management was in-hospital education (57.5%,

n=119), followed by formal education (23.7%, n=49), peers (12.1%, n=25), continuing professional development programs (4.3%, n=9), online resources (1.4%, n=3), and other sources (1.0%, n=2).

Table 1 Demographic and work-related characteristics of the respondents (n = 207)

Variable	Mean	SD	Range	
Age	32.60	9.96	20.00	57.00
Total years of experience as a nurse	10.48	9.02	0.33	37.00
Years of experience in the current department	5.79	5.42	0.00	26.00
Gender	n	%		
Male	34	16.4		
Female	173	83.6		
Marital status				
Single	90	43.5		
Married	99	47.8		
Widowed/ Divorced	18	8.7		
Education				
Diploma in Nursing	78	37.7		
Associate in Nursing	43	20.8		
Bachelor's Degree in Nursing (Applied)	42	20.3		

Bachelor's Degree in Nursing (Academic)	43	20.8		
Master's Degree in Nursing	1	0.5		
Hospital				
Hospital A	78	37.7		
Hospital B	80	38.6		
Hospital C	49	23.7		
Department				
Intensive Care Unit	108	52.2		
Surgery Department	99	47.8		
Participation in Professional Development Activity on Pain Management in the Last 12 Months				
No	101	48.8		
Yes	106	51.2		
Studied Pain Management During College or University Nursing Education				
No/ Not sure	89	43.0		
Yes	118	57.0		

Does Your Hospital Provide Professional Development on Pain Management?				
No	41	19.8		
Yes	166	80.2		
Primary Source of Information about Pain Management				
Formal education (e.g., nursing school courses)	49	23.7		
Continuing professional development programs	9	4.3		
Hospital in-service training	119	57.5		
Colleagues/peers	25	12.1		
Online resources	3	1.4		
Others (not indicated)	2	1.0		

Nurses' Knowledge and Attitude to Managing Bolt

The average total score was 19.06 ± 5.66 (range: 11-37), which is equivalent to 48.9% of 100.0%. This indicates a poor level of knowledge and attitudes in pain management among the surveyed nurses.

The proportion of correct answers to individual questions ranged from 11.6% to 82.1%, indicating a significant variability in knowledge among participants. The highest proportion of correct answers was observed for questions No 14 (After an initial dose of opioid analgesic is

given, subsequent doses should be adjusted in accordance with the individual patient's response) (82.1%), No 21 (Sedation assessment is recommended during opioid pain management because excessive sedation precedes opioid-induced respiratory depression) (78.7%), No 19 (Narcotic/opioid addiction is defined as a chronic neurobiological disease, characterized by behaviors that include one or more of the following: impaired control over drug use, compulsive use, continued use despite harm, and craving) (74.9%) and No 20 (The term 'equianalgesia' means approximately equal analgesia and is used when referring to the doses of various analgesics that provide approximately the same amount of pain relief) (71.5%), indicating a good understanding of certain aspects of pain management.

At the same time, the lowest share of correct answers was noted for questions No 37 (safe, evidence-based opioid titration and clinical judgment to achieve effective pain relief while minimizing risk) (11.6%), No 4 (Patients may sleep in spite of severe pain) (15.5%) and No 22 (The recommended route of administration of opioid analgesics for patients with persistent cancer-related pain is) (15.9%), which indicates significant gaps in knowledge in these areas. Also, relatively low indicators were recorded for questions No 34 (Following abrupt discontinuation of an opioid, physical dependence is manifested by the following) (26.1%), No 1 (Vital signs are always reliable indicators of the intensity of a patient's pain) and No 36 (nurse's ability to prioritize patient self-reported pain over observable behavior when documenting pain intensity) (29.0% each), as well as No 8 (The usual duration of analgesia of 1-2 mg morphine IV is 4-5 hours) and No 33 (The time to peak effect for morphine given orally) (30.9% each).

For most of the questions (e.g., No 2 (Because their nervous system is underdeveloped, children under two years of age have decreased pain sensitivity and limited memory of painful experiences), No 3. Patients who can be distracted from pain usually do not have severe pain), No

5 (Aspirin and other nonsteroidal anti-inflammatory agents are NOT effective analgesics for painful bone metastases), No 9 (Opioids should not be used in patients with a history of substance abuse), No 15 (Giving patients sterile water by injection (placebo) is a useful test to determine if the pain is real), No 25 (A 30 mg dose of oral morphine is approximately equivalent to) and No 29 (Which of the following is useful for treatment of cancer pain?), the share of correct answers was in the range of 40–50%, which reflects the borderline level of knowledge and possible uncertainty of the respondents.

Table 2 Nurses' knowledge and attitudes toward pain management (n = 207)

Item	Correct answer		Incorrect answer	
	n	%	n	%
1. Vital signs are always reliable indicators of the intensity of a patient's pain.	60	29.0	147	71.0
2. Because their nervous system is underdeveloped, children under two years of age have decreased pain sensitivity and limited memory of painful experiences.	97	46.9	110	53.1
3. Patients who can be distracted from pain usually do not have severe pain.	102	49.3	105	50.7
4. Patients may sleep in spite of severe pain.	32	15.5	175	84.5

5. Aspirin and other nonsteroidal anti-inflammatory agents are NOT effective analgesics for painful bone metastases.	91	44.0	116	56.0
6. Respiratory depression rarely occurs in patients who have been receiving stable (the same dose for a long time) doses of opioids over a period of months.	129	62.3	78	37.7
7. Combining analgesics that work by different mechanisms (e.g., combining an NSAID with an opioid) may result in better pain control with fewer side effects than using a single analgesic agent.	139	67.1	68	32.9
8. The usual duration of analgesia of 1-2 mg morphine IV is 4-5 hours.	64	30.9	143	69.1
9. Opioids should not be used in patients with a history of substance abuse.	104	50.2	103	49.8
10. Elderly patients cannot tolerate opioids for pain relief.	143	69.1	64	30.9

11. Patients should be encouraged to endure as much pain as possible before using an opioid.	142	68.6	65	31.4
12. Children less than 11 years old cannot reliably report pain so clinicians should rely solely on the parent's assessment of the child's pain intensity.	113	54.6	94	45.4
13. Patients' spiritual beliefs may lead them to think pain and suffering are necessary.	125	60.4	82	39.6
14. After an initial dose of opioid analgesic is given, subsequent doses should be adjusted in accordance with the individual patient's response.	170	82.1	37	17.9
15. Giving patients sterile water by injection (placebo) is a useful test to determine if the pain is real.	95	45.9	112	54.1
16. If the source of the patient's pain is unknown, opioids should not be used during the pain evaluation period, as this could mask the ability to correctly diagnose the cause of pain.	72	34.8	135	65.2

17. Anticonvulsant drugs such as gabapentin (Neurontin) produce optimal pain relief after a single dose.	105	50.7	102	49.3
18. Benzodiazepines are not effective pain relievers and are rarely recommended as part of an analgesic regiment.	130	62.8	77	37.2
19. Narcotic/opioid addiction is defined as a chronic neurobiologic disease, characterized by behaviors that include one or more of the following: impaired control over drug use, compulsive use, continued use despite harm, and craving.	155	74.9	52	25.1
20. The term 'equianalgesia' means approximately equal analgesia and is used when referring to the doses of various analgesics that provide approximately the same amount of pain relief.	148	71.5	59	28.5
21. Sedation assessment is recommended during opioid pain management because excessive	163	78.7	44	21.3

sedation precedes opioid-induced respiratory depression.				
22. The recommended route of administration of opioid analgesics for patients with persistent cancer-related pain is	33	15.9	174	84.1
23. The recommended route of administration of opioid analgesics for patients with brief, severe pain of sudden onset such as trauma or postoperative pain is	117	56.5	90	43.5
24. Which of the following analgesic medications is considered the drug of choice for the treatment of prolonged moderate to severe pain for cancer patients?	117	56.5	90	43.5
25. A 30 mg dose of oral morphine is approximately equivalent to	89	43.0	118	57.0
26. Analgesics for post-operative pain should initially be given:	125	60.4	82	39.6
27. A patient with persistent cancer pain has been receiving daily opioid analgesics for 2 months. Yesterday the	71	34.3	136	65.7

patient was receiving morphine 200 mg/hour intravenously. Today he has been receiving 250 mg/hour intravenously. The likelihood of the patient developing clinically significant respiratory depression in the absence of new comorbidity is				
28. The most likely reason a patient with pain would request increased doses of pain medication is:	139	67.1	68	32.9
29. Which of the following is useful for treatment of cancer pain?	93	44.9	114	55.1
30. The most accurate judge of the intensity of the patient's pain is	110	53.1	97	46.9
31. Which of the following describes the best approach for cultural considerations in caring for patients in pain:	134	64.7	73	35.3
32. The time to peak effect for morphine given IV is:	136	65.7	71	34.3
33. The time to peak effect for morphine given orally is:	64	30.9	143	69.1

34. Following abrupt discontinuation of an opioid, physical dependence is manifested by the following:	54	26.1	153	73.9
35. Which statement is true regarding opioid induced respiratory depression:	83	40.1	124	59.9
36. Patient A: Andrew is 25 years old and this is his first day following abdominal surgery. As you enter his room, he smiles at you and continues talking and joking with his visitor. Your assessment reveals the following information: BP = 120/80; HR = 80; R = 18; on a scale of 0 to 10 (0 = no pain/discomfort, 10 = worst pain/discomfort) he rates his pain as 8. A. On the patient's record you must mark his pain on the scale below. Circle the number that represents your assessment of Andrew's pain.	60	29.0	147	71.0
37. Your assessment, above, is made two hours after he received morphine 2 mg IV. Half hourly pain ratings following the injection ranged from 6 to	24	11.6	183	88.4

8 and he had no clinically significant respiratory depression, sedation, or other untoward side effects. He has identified 2/10 as an acceptable level of pain relief. His physician's order for analgesia is "morphine IV 1-3 mg q1h PRN pain relief." Circle the letter of the action you will take at this time:				
38. Patient B: Robert is 25 years old and this is his first day following abdominal surgery. As you enter his room, he is lying quietly in bed and grimaces as he turns in bed. Your assessment reveals the following information: BP = 120/80; HR = 80; R = 18; on a scale of 0 to 10 (0 = no pain/discomfort, 10 = worst pain/discomfort) he rates his pain as 8. A. On the patient's record you must mark his pain on the scale below. Circle the number that represents your assessment of Robert's pain:	80	38.6	127	61.4
39. Your assessment, above, is made two hours after he received morphine 2	38	81.6	169	81.6

mg IV. Half hourly pain ratings following the injection ranged from 6 to 8 and he had no clinically significant respiratory depression, sedation, or other untoward side effects. He has identified 2/10 as an acceptable level of pain relief. His physician's order for analgesia is "morphine IV 1-3 mg q1h PRN pain relief." Check the action you will take at this time:				
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Note. Mean total score = 19.06 (SD = 5.66), range = 11.00 – 37.00

Results of the analysis of the relationship of knowledge and attitudes to pain management with demographic and occupational characteristics

The analysis showed that age ($r = 0.04$; $p = .558$), total length of service as a nurse ($r = 0.02$; $p = .748$) and length of service in the current department ($r = 0.09$; $p = .176$) had no statistically significant correlation with the level of knowledge and attitude to pain management. The gender comparison revealed statistically significant differences: women demonstrated higher levels of knowledge and attitudes towards pain management ($M = 19.54$; $SD = 5.81$) compared to men ($M = 16.65$; $SD = 4.06$) ($t = -2.77$; $p = .006$).

Marital status had no significant relationship with knowledge and attitudes ($F = 1.63$; $p = .199$). Similarly, educational attainment was not associated with differences in outcomes ($F = 0.75$; $p = .525$).

Differences between medical organizations also did not reach statistical significance ($F = 0.93$; $p = .396$). There were no significant differences between intensive care and surgical nurses ($t = 1.19$; $p = .236$).

Participation in pain management training within the past 12 months had no significant effect on knowledge and attitudes ($t = -0.18$; $p = .856$). There was also no difference between those who studied pain management during college or university and those who did not ($t = -0.06$; $p = .949$).

However, a statistically significant difference was found depending on the availability of professional training in pain management in a healthcare organization: nurses working in institutions where such training is provided had higher scores ($M = 19.36$; $SD = 6.02$) compared to those with no training ($M = 17.88$; $SD = 3.67$) ($t = -2.00$; $p = .048$).

Table 3 Results of the tests of comparisons of and relationships between pain management knowledge and attitudes and demographic and work-related variables ($n = 207$)

Variable	Mean	SD	Statistical test	p
Age			$r = 0.04$	.558
Total years of experience as a nurse			$r = 0.02$	.748
Years of experience in the current department			$r = 0.09$	.176
Gender				
Male	16.65	4.06	$t = -2.77$	.006**

Female	19.54	5.81		
Marital status				
Single	18.29	4.97	$F = 1.63$	.199
Married	19.55	6.07		
Widowed/ Divorced	20.28	6.29		
Education (n = 206)				
Diploma in Nursing	18.95	5.57	$F = 0.75$	.525
Associate in Nursing	18.74	4.66		
Bachelor's Degree in Nursing (Applied)	18.57	5.31		
Bachelor's Degree in Nursing (Academic)	20.21	6.94		
Hospital				
Hospital A	18.99	4.25	$F = 0.93$	.396
Hospital B	19.64	6.93		
Hospital C	18.24	5.29		
Department				
Intensive Care Unit	19.51	5.82	$t = 1.19$	.236
Surgery Department	18.58	5.45		
Participation in Professional Development Activity on Pain Management in the Last 12 Months				

No	18.99	4.96	$t = -0.18$	.856
Yes	19.13	6.27		
Studied Pain Management During College or University Nursing Education				
No/ Not sure	19.03	5.57	$t = -0.06$	.949
Yes	19.08	5.74		
Does Your Hospital Provide Professional Development on Pain Management?				
No	17.88	3.67	$t = -2.00$	.048*
Yes	19.36	6.02		

Note *Significant at .05 level, **Significant at .01 level

DISCUSSION

This study aimed to assess the level of knowledge and attitudes of nurses to pain management in intensive care and surgery units using a validated KASRP tool (Ferrell & McCaffery, 2014). The results showed that the poor level of knowledge and attitude (19.06 ± 5.66), but does not reach the recommended threshold value ($\geq 80\%$), which indicates insufficient training of nurses in this area. These results highlight the continuing problem of insufficient clinical competence in pain management, despite the availability of clinical experience and educational training.

The data obtained are consistent with the results of modern international studies in which the KASRP instrument or its modifications (NKASRP) were used. In particular, a study by Admassie et al. (2022) conducted among emergency department nurses showed an average level of knowledge of 52.8%, indicating a lack of competence in pain management. Similarly, a study by Al-Sayaghi et al. (2022) performed in an inpatient setting found a low level of knowledge despite the clinical experience of the participants. These results suggest that the lack of knowledge among nurses is global and is not limited to individual countries or health systems (Zaitoun et al., 2026).

Additional research in recent years also confirms these findings. For example, a study by Alanazi et al. (2025) conducted among nurses from various clinical units revealed a lack of knowledge, especially in the field of pharmacological management of pain. Similarly, Samuel and Ye (2025) showed that even with clinical experience and participation in educational programs, the level of knowledge of nurses remains below the recommended level, indicating the limited effectiveness of existing educational approaches. Thus, the results of this study confirm a persistent

trend observed in the current scientific literature – insufficient knowledge and heterogeneous attitudes of nurses to pain management (Atar et al., 2025).

One of the important results of this study is the significant variability of correct answers (from 11.6% to 82.1%), which indicates heterogeneity of knowledge on various aspects of pain management. Similar results have also been found in other studies, which note that nurses demonstrate relatively good knowledge of basic aspects of pain assessment, but have significant difficulties in more complex clinical and pharmacological issues (Kahsay & Pitkääjärvi, 2019; Lim et al., 2023). In particular, the largest gaps tend to be related to the calculation of analgesic dosages, the use of opioids, and the assessment of the risk of dependence. A similar variability in the results was noted in previous studies. For example, one review showed that the percentage of correct answers to individual questions ranged from 2.6% to 100%, indicating a pronounced heterogeneity of nurses' knowledge depending on specific aspects of pain management (Alzahrani, et al.2025). Similarly, a number of studies show significant differences at the level of individual questions: within the same questionnaire, the proportion of correct answers can vary from less than 30% to more than 70% (Ahmadi, et al. 2023). Meta-analytical data also confirm significant differences in different fields of knowledge, with estimates ranging from about 36.8% to 69.9% (Ortiz, et al. 2022). These findings highlight the need to strengthen nurse training specifically in clinically relevant aspects of pain management (McCabe et al, 2023).

The absence of a statistically significant relationship between the level of knowledge and such variables as age, total work experience and experience in the department, identified in this study, is of particular interest. This result is consistent with the findings of other studies (Al-Sayaghi et al., 2022; Alanazi et al., 2025), where there was also no significant relationship between clinical experience and level of knowledge. This may indicate that the accumulation of experience

without systematic updating of knowledge does not lead to an increase in competence in pain management. Moreover, this indicates the need to introduce continuing professional education as a mandatory element of clinical practice (Achaliwie et al., 2022).

At the same time, the significant relationship between the availability of vocational training programs and the level of knowledge ($p = 0.048$) identified in this study confirms the data of modern studies. For example, Admassie et al. (2022) have shown that completing pain management training is a significant predictor of higher levels of knowledge. Similarly, Lim et al. (2023) demonstrated that participation in educational programs is associated with improvements in both the knowledge and clinical practice of nurses. These results highlight the importance of educational interventions as one of the most effective and modifiable factors in improving the quality of nursing care (Alnajjar et al., 2025).

An interesting and less studied result of the present study is the revealed statistically significant difference by sex, where women demonstrated a higher level of knowledge compared to men ($p = 0.006$). However, this result is rarely covered in the current scientific literature, which limits the possibility of its interpretation. Possible explanations may include differences in professional motivation, level of involvement in educational programs, or distribution of roles in clinical practice. However, this aspect requires further study in future studies (Shrestha et al., 2023). The primary source of information on pain management among respondents was predominantly hospital-based in-service training, reported by 57.5% of nurses. Similar results have been presented in a number of international studies, which emphasize that the clinical environment and on-the-job training are key sources of nurses' knowledge of pain management, especially with insufficient formal education (Alzahrani et al., 2025; BMC Nursing, 2022). This suggests that clinical knowledge in this area is largely acquired through workplace-based learning

rather than formal academic education. In contrast, only 23.7% of participants identified formal nursing education as their main source, indicating a potential gap in undergraduate preparation regarding pain management.

A smaller proportion of nurses reported relying on colleagues or peers (12.1%), reflecting the role of informal knowledge exchange in clinical settings. Notably, very few respondents identified continuing professional development programs (4.3%) or online resources (1.4%) as their primary sources of information, highlighting limited engagement with structured lifelong learning and evidence-based digital resources.

Overall, these findings indicate a strong dependence on institutional training, with comparatively low utilization of independent and continuing educational opportunities. This underscores the need to strengthen both formal education curricula and access to ongoing professional development in pain management.

Taking into account the specifics of the sample (nurses of intensive care and surgery departments), the results obtained are of particular importance. Patients in these units often experience severe pain associated with surgery, trauma, or critical conditions. Effective pain management in these settings is an integral part of quality care and has a direct impact on clinical outcomes, including length of hospital stay, risk of complications, and overall quality of life for patients (Dinse et al., 2022; An et al., 2026). However, the revealed poor level of knowledge of nurses in these conditions can limit the effectiveness of anesthesia and reduce the quality of care provided.

Thus, the results of this study emphasize the need to develop and implement standardized, evidence-based educational programs aimed at increasing the level of knowledge and building practical skills in pain management. Particular attention should be paid to pharmacological aspects,

pain assessment using validated scales, and the development of clinical thinking and decision-making skills. It is also important to introduce simulation training and an interdisciplinary approach, which will increase the effectiveness of educational interventions.

In conclusion, the present study, carried out using the validated KASRP tool and cross-sectional design, confirmed the results of modern international studies, revealing the insufficient level of knowledge and attitude of nurses to pain management. The data obtained highlight the need for a systematic approach to training, strengthening the role of medical organizations in the professional development of personnel and conducting further research aimed at assessing the effectiveness of educational interventions and their impact on

Limitations of the study

The study has a number of limitations: the cross-sectional design does not allow for the establishment of causal relationships; the use of self-reporting questionnaires can lead to subjectivity of data; The sample is limited to individual medical organizations, which reduces the generalizability of the results. In addition, additional factors such as workload and organizational environment were not taken into account.

CONCLUSIONS

The study showed that the level of knowledge and attitudes of nurses to pain management is generally at low level. While there are some areas of high awareness, there is considerable variability in responses, as well as significant gaps on a number of key issues, indicating the need for systematic improvement of training in this area.

The analysis showed that demographic and professional characteristics, such as age, total work experience and experience in the department, do not have a significant impact on the level of knowledge and attitudes. Similarly, education level, marital status, department profile, and type of medical organization are also not associated with differences in indicators. This indicates that the problem of insufficient training in the field of pain management is universal and affects various groups of nurses regardless of their experience and education.

At the same time, statistically significant gender differences were found: women showed a higher level of knowledge and attitudes towards pain management compared to men. However, this distinction requires further study to determine its causes and practical significance.

Particular attention should be paid to the fact that participation in pain management training within the last 12 months, as well as studying this topic during basic education, did not have a significant impact on the level of knowledge. This may indicate a lack of effectiveness of existing educational programs or their limited practical orientation.

At the same time, it has been established that the presence of systematic professional training in a medical organization is associated with higher indicators of knowledge and attitude. This result highlights the importance of an institutional approach to training and the need to implement regular, structured professional development programs directly in health facilities.

Thus, the results of the study indicate the need to revise and strengthen educational strategies in the field of pain management. It is recommended to develop and implement practice-oriented training programs, regular trainings and knowledge assessment standards aimed at addressing the identified gaps. Improving the training of nurses in this area can help improve the quality of patient care and the effectiveness of pain management in clinical practice.

Acknowledgement

The authors would like to express their sincere gratitude to their academic supervisors for their continuous guidance, valuable support, and constructive feedback throughout the research process. The authors also extend their appreciation to the administrations and staff of the hospitals where this study was conducted for their cooperation and assistance in facilitating data collection. Authors are deeply grateful to Dossova Nargiza for their assistance in organizing and collecting the data, which significantly contributed to the implementation of this study. Finally, the authors sincerely thank all nurses who participated in this study for their time and valuable contribution.

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APPENDIX A



NUSOM Research Ethics committee

to me ▾

Thu, Jan 15, 4:28 PM ☆ ↶ ⋮

Dear Jonas,

I am glad to inform you that your study research "**Knowledge and attitudes toward pain management among ICU and surgical nurses: a cross- sectional study (Reference number assigned: 2025Nov#07)**" has been approved from an ethical perspective.

Kindly bring the signed application form to NUSOM IREC secretary Aknur Rakhmetova (r.907/7) in two weeks time.

Best wishes,

Yuliya Semenova, MD, PhD | Assistant Professor

Chair of NUSOM-IREC

| Nazarbayev University | School of Medicine (NUSOM)

| Email: yuliya.semenova@nu.edu.kz | site: <http://nu.edu.kz/>

| Address: 5/1 Kerey and Zhanibek Khans street, [Astana, 010000 Kazakhstan](#)

| Office: NUSOM Building, room 459

NUSOM IREC office room 907/7.

APPENDIX B



ВЫПИСКА из протокола заседания Локальной комиссии по биоэтике Корпоративного фонда «University Medical Center» №2 от 19/03/2026
Номер заявки и дата 04-018 от 10.03.2026

11) Рассмотрение заявки на первичную экспертизу исследования «Знание и отношение к управлению боли медицинских сестер интенсивной терапии и хирургии: кросс-секционное исследование», главный исследователь – Макпал Иманберді, медицинская сестра, Департамент сестринского дела, сектор общебольничной службы, КФ «University Medical Center»;

Список рассмотренных документов:

1. Сопроводительное письмо;
2. Форма заявки на экспертизу;
3. Протокол исследования (Версия 2.0. от 10.03.2026);
4. Форма информированного согласия на казахском и русском языках (версия 2.0. от 10.03.2026);
5. Опросники на казахском и русском языках;
6. Резюме исследователей с сертификатами о прохождении тренинга по ICH GCP E6 (R3);
7. Одобрение КАД;
8. Одобрение NUSOM IREC 2025Nov#07.

Заявитель/Спонсор	Школа Медицины Назарбаев Университет;
Повторное рассмотрение Да ☐ Нет ☒	Дата предыдущего рассмотрения:
Решение	☐ Одобрено ☐ Одобрено с рекомендациями ☐ Вынести на повторное рассмотрение комиссии ☐ Отклонено ☐ Принято к сведению ☒ Освобождено от рассмотрения комиссией

Примечание: Согласно пункту 11 Приказа МЗ РК от 21 декабря 2020 года №ҚР ДСМ-310/2020 "Об утверждении правил проведения биомедицинских исследований и требований к исследовательским центрам" необходимо ежегодно предоставлять промежуточный отчет, в конце исследования – заключительный отчет. В случае СНЯ/СННР уведомить ЛКБ в течение 7 дней. По всем вопросам обращаться в секретариат ЛКБ: asanova.aruzhan@umc.org.kz, +77059009721

Председатель

Косумов А.К.

Дата: 19/03/2026

Секретарь

Асанова А.А.



APPENDIX C



Ақпараттандырылған келісім формасы

Кіріспе. Сізді *«Интенсивті терапия және хирургиялық бөлімдердегі мейіргерлердің ауырсынуды басқару туралы білімдері мен көзқарастары: кесінді зерттеу»* атты зерттеуге қатысуға шақырамыз.

Әдістемелер. Сіз ауырсынуды басқаруға қатысты біліміңіз бен көзқарасыңызды бағалайтын сауалнамаға жауап беруге шақырыласыз. Сауалнама сұрақтарына жауап беруге сізде 60 минуттан аспайтын уақыт болады.

Зерттеу мақсаты (зерттеу сұрағы) және кіріспе. UMC клиникаларының, ҰҒОО және Шымкент жүрек орталығының жансақтау және хирургия бөлімдерінде жұмыс істейтін мейіргерлердің ауырсынуды басқару бойынша білім деңгейі мен көзқарастарын бағалау, сондай-ақ осы көрсеткіштерге әсер ететін, оның ішінде демографиялық және кәсіби сипаттамаларды анықтау. Зерттеудің мақсаты – осы айнымалылар арасындағы маңызды байланыстарды анықтау және практикада ауырсынуды басқаруға қатысты мейіргерлердің білім мен көзқарас деңгейін болжауға мүмкіндік беретін факторларды анықтау.

Әдістер мен процедуралар. Бұл зерттеу сандық, кесінді және корреляциялық дизайнға ие. Зерттеу алты ай бойы жүргізіледі және зерттеушінің қатысуымен мейіргерлер өздігінен толтыратын анкета қолданылады. Қатысушыларға сұрақтарға жауап берген кезде әріптестерімен кеңесуге, интернетті немесе басқа оқу материалдарын пайдалануға рұқсат

етілмейді. Бұл шаралар жиналған деректердің респонденттердің қазіргі білім деңгейін шынайы көрсетуін қамтамасыз етуге бағытталған.

Күтілетін нәтижелер (мүмкін болатын пайдасы).

Мейіргерлердің білім деңгейі мен көзқарастарын бағалау мамандардың науқастардың ауырсынуын тиімді басқаруға қаншалықты дайын екендігін анықтауға көмектеседі. Елдегі бірнеше жетекші клиникаларды қамтитын бұл зерттеу медбикелерді оқытуды жақсарту және ауырсынуды басқару стандарттарын мейіргерлердің клиникалық тәжірибесіне енгізу бастамаларының негізін қазуы мүмкін.

Қауіптер. Сауалнама сұрақтарының сипатына байланысты қатысушылар аз мөлшерде физикалық және эмоционалдық күйзеліске ұшырауы мүмкін. Кейбір сұрақтар қатысушылардан кейбір ыңғайсыздық тудыруы мүмкін ақпаратты еске түсіруді талап етуі мүмкін.

Қауіп деңгейі. Зерттеу минималды қауіпті білдіреді.

Мүмкін болатын тәуекелдер. Осы зерттеуге қатысумен байланысты тәуекелдер мынадай:

- физикалық және эмоционалдық стресс минималды.

Дегенмен, мейіргерлер мен мейірбике көмекшілері сауалнаманы толтырған кезде аз мөлшердегі тәуекел болуы мүмкін. Аз мөлшердегі тәуекел кезінде сауалнаманы толтыру барысында жеңіл ыңғайсыздық болуы мүмкін.

Қауіпсіздік шаралары. Егер қатысушы жоғары мазасыздық деңгейін сезсе, зерттеуші сауалнаманы толтыруды бастамас бұрын зерттеуден шығу құқығы туралы еске салады.

Пайдасы. Зерттеуге қатысушылар үшін айқын пайда бар. Зерттеу нәтижелері мейіргерлердің ауырсынуды басқару жөніндегі білімдерін жақсартуға бағытталған білім беру бағдарламаларын жүзеге асыруда қолданылуы мүмкін.

Компенсация. Қаржылық өтемақы қарастырылмаған. Зерттеу аяқталғаннан кейін мекенжайы бойынша зерттеу нәтижелерінің көшірмесі қолжетімді болады (*сұрату бойынша электрондық пошта арқылы жіберіледі*).

Құпиялылық. Зерттеу анонимді түрде жүргізіледі — зерттеушілер нақты қатысушыны анықтауға мүмкіндік беретін деректерді жинамайды. Барлық анкеталар мен алынған деректер қауіпсіз қорғалады және оларға тек зерттеу тобының мүшелері қол жеткізе алады. Нәтижелер қатысушылардың жеке деректерін жарияламай-ақ қорытынды түрде талданып, ұсынылады.

Зерттеудің ерікті сипаты. Осы зерттеуге қатысу ерікті, және қатысуға келісім берілген жағдайда оны кез келген уақытта ешқандай салдарсыз қайтарып алуға болады.

Байланыс мәліметтері. Мен осы жобаға қатысты сұрақтарым немесе пікірлерім болса, не зерттеуге байланысты қандай да бір зиян шексе, бас зерттеушіге хабарласуым керек екенін түсінемін.

Егер осы зерттеу туралы сұрақтарыңыз болса немесе қосымша ақпарат алғыңыз келсе, негізгі зерттеуші Джонас Крузға +77051510152 телефоны немесе jonas.cruz@nu.edu.kz электрондық поштасы арқылы хабарласуыңызға болады.

Зерттеу протоколы Медицина мектебінің институционалдық этика кеңесі (NUSOM-IREC) және UMC жергілікті этика комитеті тарапынан қаралып, мақұлданды. Егер

қатысушы ретінде құқықтарыңызға немесе зерттеудің жүргізілуіне қатысты қандай да бір алаңдаушылықтарыңыз немесе сұрақтарыңыз болса, мына мекенжайға хабарласыңыз:

1. Медицина мектебінің институционалдық этика кеңесі resethics@nu.edu.kz
2. УМС жергілікті биоэтика комитеті, Тел. +7 7172 69-25-86

Келісім формасы.

Мен, _____

Осы зерттеуге қатысуға өз еркіммен келісім беремін.

Зерттеушілер маған зерттеу туралы жеткілікті ақпарат беріп, зерттеудің мақсаттарын және оған қатысуым нені білдіретінін түсіндірді.

Мен осы зерттеуге қатысуым ерікті екенін түсінемін. Мен кез келген уақытта ешқандай түсініктемесіз келісімімді қайтарып ала аламын және бұл маған ешқандай теріс салдар әкелмейді.

Мен осы зерттеу барысында жиналған ақпарат тарапынан құпия сақталатынын түсінемін.

Қолы: _____ Күні:

Зерттеуші:

Қол қойылды _____ Күні

Форма информированного согласия

Введение. Вас приглашают принять участие в исследовании под названием *«Знания и отношение к лечению боли среди медсестер отделений интенсивной терапии и хирургических отделений: перекрестное исследование»*.

Процедуры. Вам предлагается ответить на вопросы анкеты, которая оценивает ваши знания и отношение к лечению боли. На ответы на вопросы анкеты вам будет отведено не более 60 минут.

Цель исследования (исследовательский вопрос) и введение. Оценить уровень знаний и отношение медсестер, работающих в отделениях интенсивной терапии и хирургии клиник UMC, NROC и Шымкентского кардиологического центра к лечению боли, а также выявить факторы, влияющие на эти показатели, включая демографические и профессиональные характеристики. Исследование направлено на выявление значимых взаимосвязей между этими переменными и определение факторов, которые могут предсказать уровень знаний и отношение медсестер к лечению боли на практике.

Методы и процедуры. Данное исследование имеет количественный, кросс-секционный и корреляционный дизайн. Исследование будет проводиться в течение шести месяцев с использованием анкеты для самостоятельного заполнения, которую медсестры заполняют в присутствии исследователя. Участникам не разрешается консультироваться с коллегами, использовать интернет или другие учебные материалы при ответе на вопросы. Эти меры призваны обеспечить, чтобы собранные данные действительно отражали текущий уровень знаний респондентов.

Ожидаемые результаты (потенциальные преимущества).

Оценка уровня знаний и отношения медсестер поможет определить, насколько хорошо подготовлены специалисты для эффективного лечения боли у пациентов. Это исследование, охватывающее несколько ведущих клиник страны, может стать основой для инициатив по улучшению подготовки медперсонала и внедрению стандартов лечения боли в клиническую практику медсестер.

Потенциальный риск. Участники могут испытывать минимальный физический и эмоциональный стресс в связи с характером вопросов анкеты. Некоторые вопросы могут потребовать от участников вспомнить информацию, что может вызвать определенный дискомфорт. Медицинские сестры могут испытывать в некоторой степени стресс во время заполнения опросника, так как опросник имеет характер оценки знаний.

Защита от риска. Если участник испытывает высокий уровень тревоги, исследователь напомнит ему о его праве отказаться от участия в исследовании перед началом анкетирования.

Преимущества. Участники исследования получают непрямую пользу от этого исследования. Исследование направлено на изучение слабых сторон медсестер в управлении болью. Результаты исследования могут быть использованы для реализации образовательных программ, направленных на улучшение знаний медсестер в области лечения боли.

Компенсация. Финансовая компенсация не предоставляется.

Конфиденциальность. Исследование будет анонимным — исследователи не будут собирать данные, которые могли бы идентифицировать конкретного участника. Все анкеты и собранные данные будут надежно защищены, и доступ к ним будет иметь только исследовательская группа. Результаты будут проанализированы и представлены в обобщенном виде, без раскрытия какой-либо личной информации об участниках.

Добровольный характер исследования. Участие в этом исследовании является добровольным, и если согласие на участие дано, его можно отозвать в любое время без каких-либо последствий.

Контактная информация. Я понимаю, что если у меня возникнут какие-либо вопросы или комментарии по поводу этого проекта или если я понесу какой-либо ущерб в связи с исследованием, я должен связаться с главным исследователем.

Если у вас есть какие-либо вопросы об этом исследовании или вы хотите получить дополнительную информацию, вы можете связаться с главным исследователем, Мақпал Иманберді, по телефону +77005500382 или по электронной почте makpal.imanberdi@nu.edu.kz.

Протокол исследования был рассмотрен и одобрен Институциональным комитетом по этике Школы медицины (NUSOM-IREC) и Локальной комиссией по биоэтике Корпоративного фонда «УМС». Если у вас есть опасения или вопросы относительно ваших прав как участника или того, как проводится исследование, вы можете связаться с:

3. Институциональный комитет по этике исследований Университета Назарбаева,
resethics@nu.edu.kz.
4. Локальная комиссия по биоэтике Корпоративного фонда «УМС», тел. +7 7172 69-
25-86

Форма согласия.

Я _____

даю свое добровольное согласие на участие в данном исследовании.

Исследователи предоставили мне достаточную информацию об исследовании и объяснили его цели, а также то, что влечет за собой мое участие в этом исследовании.

Я понимаю, что мое участие в данном исследовании является добровольным. Я могу отозвать свое согласие в любое время без объяснения причин, и это не повлечет за собой никаких негативных последствий для меня.

Я понимаю, что информация, собранная в ходе данного исследования, будет обрабатываться конфиденциально.

Подпись: _____ Дата: _____

Исследователь: _____

Подписано _____ Дата _____

APPENDIX D**САУАЛНАМА****А бөлімі: Демографиялық мәлімет**

Тиісті жауапты белгілеңіз (✓) немесе қажетті ақпаратты толтырыңыз.

1. **Жасы:** _____ жас

2. **Жынысы:**

☐ Ер

☐ Әйел

3. **Отбасылық жағдайы:**

☐ Бойдақ

☐ Үйленген/тұрмыста

☐ Жесір

☐ Ажырасқан/бөлек тұрады

4. **Білімі:**

☐ Мейіргер ісі бойынша диплом

☐ Мейіргер ісі бойынша қауымдастырылған дәреже

☐ Мейіргер ісі бойынша бакалавр дәрежесі (қолданбалы)

☐ Мейіргер ісі бойынша бакалавр дәрежесі (академиялық)

☐ Мейіргер ісі бойынша магистр дәрежесі

☐ Мейіргер ісі бойынша докторлық дәреже

☐ Басқа (нақты көрсетіңіз): _____

5. **Аурухананың атауы:**

6. **Бөлімше:**

☐ Жансақтау бөлімі

☐ Хирургия бөлімі

7. **Мейіргер ретінде жалпы еңбек өтілі: ____ жыл**

8. **Қазіргі бөлімшедегі еңбек өтілі: ____ жыл**

9. **Соңғы 12 ай ішінде ауырсынуды басқару бойынша кәсіби даму іс-шараларына қатыстыңыз ба?**

☐ Иә

☐ Жоқ

10. **Колледжде немесе университетте оқу кезінде мейіргерлік білім алу барысында ауырсынуды басқару пәнін оқыдыңыз ба?**

☐ Иә

☐ Жоқ

☐ Нақты білмеймін

11. Сіздің аурухананызда ауырсынуды басқару бойынша кәсіби оқыту жүргізіле ме?

☐ Иә

☐ Жоқ

12. Ауырсынуды басқару туралы негізгі ақпарат көзіңіз:

☐ Ресми білім беру (мысалы, мейіргерлік пәндер)

☐ Үздіксіз кәсіби даму бағдарламалары

☐ Аурухана ішіндегі қызметтік оқыту

☐ Әріптестер

☐ Онлайн ресурстар

☐ Ғылыми журналдар мен зерттеу мақалалары

☐ Басқа (нақты көрсетіңіз): _____

В бөлімі: Ауырсынуға қатысты білім мен көзқарасты бағалау сауалнамасы

Бұл бөлім ауырсынуды басқару бойынша біліміңіз бен көзқарасыңызды бағалауға арналған. Әр тұжырымға қазіргі біліміңізге немесе сеніміңізге сәйкес жауап беріңіз.

Дұрыс / Бұрыс – Тұжырым дұрыс болса – «Д», бұрыс болса – «Б» деп белгілеңіз.

_____ 1. Өмірлік көрсеткіштер әрдайым науқастың ауырсыну деңгейін сенімді көрсетеді.

_____ 2. Жүйке жүйесі толық жетілмегендіктен, екі жасқа дейінгі балалар ауырсынуды аз сезінеді және ауырсыну тәжірибесін есте сақтамайды.

_____ 3. Егер науқастың назарын ауырсынудан басқа нәрсеге аударуға болса, онда оның ауырсынуы қатты емес.

_____ 4. Науқас қатты ауырсыну кезінде де ұйықтай алады.

_____ 5. Аспирин және басқа да стероидты емес қабынуға қарсы дәрілер сүйек метастаздары кезіндегі ауырсынуға тиімді анальгетиктер болып табылмайды.

_____ 6. Ұзақ уақыт бойы тұрақты мөлшерде опиоид қабылдап жүрген науқастарда тыныс алудың бәсеңдеуі сирек кездеседі.

_____ 7. Әртүрлі әсер ету механизмі бар анальгетиктерді біріктіру (мысалы, стероидты емес қабынуға қарсы дәріні опиоидпен бірге) ауырсынуды жақсырақ бақылауға және жанама әсерлерді азайтуға мүмкіндік береді.

_____ 8. Көктамыр ішіне енгізілген 1-2 мг морфиннің әдеттегі анальгезиялық әсер ету ұзақтығы 4-5 сағат.

_____ 9. Бұрын психобелсенді заттарды шамадан тыс қолдану тарихы бар науқастарға опиоидтарды қолдануға болмайды.

_____ 10. Егде жастағы науқастар ауырсынуды басу үшін опиоидтарды көтере алмайды.

_____ 11. Опиоид қолданбас бұрын науқастар мүмкіндігінше ауырсынуға төзуі тиіс.

_____ 12. 11 жасқа дейінгі балалар ауырсынуды сенімді түрде бағалай алмайды, сондықтан ауырсыну қарқындылығын бағалауда тек ата-анасының бағасына сүйену тиіс.

_____ 13. Науқастың діни немесе рухани сенімі ауырсыну мен азапты қажет деп қабылдауына әсер етуі мүмкін.

_____ 14. Опиоидтың алғашқы дозасынан кейінгі келесі дозалар науқастың жеке реакциясына сәйкес түзетілуі тиіс.

_____ 15. Стерильді суды инъекция арқылы енгізу (плацебо) ауырсынудың шынайылығын тексерудің тиімді тәсілі.

_____ 16. Vicodin (гидрокодон 5 мг + ацетаминофен 300 мг, ішке қабылдау) шамамен морфиннің 5-10 мг ішке қабылданатын дозасына тең.

_____ 17. Егер науқастың ауырсыну көзі белгісіз болса, диагноз қою мүмкіндігін жасырмау үшін ауырсынуды бағалау кезеңінде опиоидтарды қолдануға болмайды.

_____ 18. Габапентин (Neurontin) сияқты құрысуға қарсы препараттар бір реттік дозадан кейін оңтайлы ауырсынуды басу әсерін береді.

_____ 19. Бензодиазепиндер ауырсынуды басатын тиімді дәрілер болып табылмайды және анальгезиялық ем құрамында сирек ұсынылады.

_____ 20. Наркотикалық/опиоидтық тәуелділік – есірткіні қолдануды бақылаудың бұзылуы, мәжбүрлі қолдану, зиянына қарамастан жалғастыру және құмарлық сияқты мінез-құлық белгілерімен сипатталатын созылмалы нейробиологиялық ауру.

_____ 21. «Эквиванальгезия» термині шамамен тең анальгезияны білдіреді және ауырсынуды шамамен бірдей деңгейде басатын әртүрлі анальгетиктердің дозаларын сипаттау үшін қолданылады.

_____ 22. Опиоидпен ауырсынуды басқару кезінде шамадан тыс седация тыныс алудың опиоидқа байланысты бәсеңдеуінен бұрын байқалатындықтан, седация деңгейін бағалау ұсынылады.

Көп таңдаулы сұрақтар – Дұрыс жауаптың әрпін белгілеңіз.

23. Қатерлі ісікке байланысты тұрақты ауырсынуы бар науқастарға опиоидты анальгетиктерді енгізудің ұсынылатын жолы:

- a. көктамыр ішіне
- b. бұлшықет ішіне
- c. тері астына

d. ішке

e. тік ішек арқылы

24. Жарақат немесе операциядан кейінгі ауырсыну сияқты кенеттен басталатын қысқа мерзімді, қатты ауырсынуы бар науқастарға опиоидты анальгетиктерді енгізудің ұсынылатын жолы:

a. көктамыр ішіне

b. бұлшықет ішіне

c. тері астына

d. ішке

e. тік ішек арқыл

25. Қатерлі ісікпен ауыратын науқастардағы ұзаққа созылған орташа немесе қатты ауырсынуды емдеуде бірінші таңдау препараты болып саналатын анальгетик:

a. кодеин

b. морфин

c. меперидин

d. трамадол

26. Морфиннің 30 мг ішке қабылданатын дозасы шамамен қайсына тең:

a. Морфин 5 мг көктамыр ішіне

b. Морфин 10 мг көктамыр ішіне

c. Морфин 30 мг көктамыр ішіне

d. Морфин 60 мг көктамыр ішіне

27. Операциядан кейінгі ауырсынуды басу үшін анальгетиктер бастапқы кезеңде:

- a. белгіленген кесте бойынша, тәулік бойы тұрақты түрде берілуі тиіс
- b. тек науқас сұраған кезде ғана берілуі тиіс
- c. тек мейіргер науқаста орташа немесе одан жоғары деңгейдегі жайсыздық бар деп анықтаған кезде ғана берілуі тиіс

28. Тұрақты қатерлі ісік ауырсынуы бар науқас 2 ай бойы күн сайын опиоидты анальгетиктер қабылдап келеді. Кеше оған көктамыр ішіне сағатына 200 мг морфин енгізілді. Бүгін көктамыр ішіне сағатына 250 мг енгізілуде. Қосымша жаңа қатарлас аурулар болмаған жағдайда клиникалық мәні бар тыныс алудың бәсеңдеуінің даму ықтималдығы:

- a. 1%-дан төмен
- b. 1-10%
- c. 11-20%
- d. 21-40%
- e. 41%-дан жоғары

29. Ауырсынуы бар науқастың ауырсынуды басатын дәрінің дозасын арттыруды сұрауының ең ықтимал себебі:

- a. Науқастың ауырсынуы күшейген.
- b. Науқаста мазасыздық немесе депрессия күшейген.
- c. Науқас медициналық персоналдың көбірек назарын аудартқысы келеді.
- d. Науқастың сұранысы тәуелділікке байланысты.

30. Қатерлі ісік ауырсынуын емдеуде төмендегілердің қайсысы тиімді:

- a. Ибупрофен (Motrin)
- b. Гидроморфон (Dilaudid)
- c. Габапентин (Neurontin)

d. Жоғарыда аталғандардың барлығы

31. Науқастың ауырсыну қарқындылығын ең дәл бағалай алады:

- a. емдеуші дәрігер
- b. науқастың негізгі мейіргері
- c. науқастың өзі
- d. фармацевт
- e. науқастың жұбайы немесе отбасы мүшесі

32. Ауырсынуы бар науқастарға күтім көрсету кезінде мәдени ерекшеліктерді ескерудің ең дұрыс тәсілі:

- a. АҚШ-та халықтың әртүрлілігіне байланысты мәдени ықпалдар енді әсер етпейді.
- b. Мәдени ерекшеліктерді адамның этникалық тегі арқылы анықтауға болады (мысалы, азиялықтар сабырлы, италиялықтар эмоциялы және т.б.).
- c. Әр науқас мәдени ерекшеліктерін анықтау үшін жеке бағалануы тиіс.
- d. Мәдени ерекшеліктерді әлеуметтік-экономикалық жағдайына қарай анықтауға болады (мысалы, қара жұмысшылар офис қызметкерлеріне қарағанда ауырсынуды көбірек хабарлайды).

33. Ауырсыну дамыған науқастардың арасында бұрыннан алкогольге және/немесе есірткіге тәуелділік мәселесі болуының ықтималдығы:

- a. 1%-дан төмен
- b. 5-15%
- c. 25-50%
- d. 75-100%

34. Көктамыр ішіне енгізілген морфиннің ең жоғары әсеріне жету уақыты:

- a. 15 минут
- b. 45 минут
- c. 1 сағат
- d. 2 сағат

35. Ішке қабылданған морфиннің ең жоғары әсеріне жету уақыты:

- a. 5 минут
- b. 30 минут
- c. 1-2 сағат
- d. 3 сағат

36. Опиоидты препаратты кенеттен тоқтатқаннан кейін физикалық тәуелділік келесі белгілермен көрінеді:

- a. препаратты кенеттен тоқтатқан кезде тершендік, есінеу, іш өту және қозу
- b. препаратты қолдануды бақылаудың бұзылуы, мәжбүрлі қолдану және құмарлық
- c. сол әсерге жету үшін жоғары дозаның қажеттілігі
- d. a және b

37. Опиоид әсерінен болатын тыныс алудың бәсеңдеуіне қатысты қай тұжырым дұрыс:

- a. Опиоидтың ағзада жиналуына байланысты операциядан кейін бірнеше түн өткен соң жиірек кездеседі.
- b. Обструктивті ұйқы апноэсы маңызды қауіп факторы болып табылады.
- c. Операцияға дейін опиоидтардың жоғары дозаларын қабылдап жүрген науқастарда жиірек кездеседі.
- d. Үздіксіз емес (аралық) пульсоксиметрия арқылы оңай бағалануы мүмкін.

Екі науқастың клиникалық жағдайы ұсынылған. Әр науқас бойынша сізден ауырсыну мен дәрiлiк емге қатысты шешiм қабылдау сұралады.

Нұсқаулық: Әр сұрақ бойынша бiр ғана жауапты таңдаңыз.

38. Науқас А: Эндрю 25 жаста. Бұл - құрсақ қуысына жасалған операциядан кейiнгi бiрiншi күнi. Сiз палатаға кiрген кезде ол сiзге күлiмсiреп, келушiсiмен сөйлесiп, әзiлдесiп отыр. Сiздiң бағалауыңыз бойынша келесi мәлiметтер анықталды: Қан қысымы (BP) = 120/80. Жүрек соғу жиiлiгi (HR) = 80. Тыныс алу жиiлiгi (R) = 18. 0-ден 10-ға дейiнгi шкала бойынша (0 = ауырсыну/жайсыздық жоқ, 10 = ең күштi ауырсыну/жайсыздық) ол өзiнiң ауырсынуын 8 деп бағалайды.

А. Науқастың медициналық құжатында оның ауырсыну деңгейiн төмендегi шкала бойынша белгiлеуiңiз қажет. Эндрюдiң ауырсынуын бағалауыңызға сәйкес келетiн санды белгiлеңiз.

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В. Жоғарыда көрсетiлген бағалау морфин 2 мг көктамыр iшiне енгiзiлгеннен кейiн 2 сағат өткен соң жасалды. Енгiзгеннен кейiнгi әр жарты сағаттағы ауырсыну деңгейi 6-дан 8-ге дейiн бағаланып, науқаста клиникалық тұрғыдан маңызды тыныс алу депрессиясы, седация немесе басқа да қолайсыз жанама әсерлер байқалмады. Ол ауырсынуды жеңiлдетудiң 2/10 деңгейiн қанағаттанарлық деп таныды. Дәрiгердiң анальгезияға қатысты тағайындауы: «Морфин көктамыр

ішіне 1-3 мг, әр 1 сағат сайын, қажетіне қарай (ауырсынуды басу үшін)». Қазіргі уақытта сіз қандай әрекет жасайсыз? Тиісті жауаптың әрпін белгілеңіз:

- a. Қазіргі уақытта морфин енгізбеу.
- b. Қазіргі уақытта морфин 1 мг көктамыр ішіне енгізу.
- c. Қазіргі уақытта морфин 2 мг көктамыр ішіне енгізу.
- d. Қазіргі уақытта морфин 3 мг көктамыр ішіне енгізу.

Опрос

Раздел А: Демографический профиль

Пожалуйста, отметьте (✓) или заполните соответствующий ответ.

1. **Возраст:** _____ лет

2. **Пол:**
 - ☐ Мужской
 - ☐ Женский

3. **Семейное положение:**
 - ☐ Холост/Не замужем
 - ☐ Женат/Замужем
 - ☐ Вдовец/Вдова
 - ☐ Разведен/Разведена

4. Уровень образования:

- ☐ Диплом по сестринскому делу
- ☐ Среднее профессиональное образование по сестринскому делу
- ☐ Бакалавр сестринского дела (прикладное направление)
- ☐ Бакалавр сестринского дела (академическое направление)
- ☐ Магистр сестринского дела
- ☐ Доктор наук в области сестринского дела
- ☐ Другое (укажите): _____

5. Название больницы:

6. Отделение:

- ☐ Отделение интенсивной терапии (ОИТ)
- ☐ Хирургическое отделение

7. Общий стаж работы медсестрой /медбратом: ____ лет

8. Стаж работы в текущем отделении: ____ лет

9. Участие в профессиональных мероприятиях по управлению болью за последние 12 месяцев:

- ☐ Да
- ☐ Нет

10. Изучали ли вы управление болью во время обучения в колледже или университете по сестринскому делу:

- ☐ Да
- ☐ Нет
- ☐ Не уверен(а)

11. Предоставляет ли ваша больница возможности профессионального развития по управлению болью?

- ☐ Да
- ☐ Нет

12. Основной источник информации по управлению болью:

- ☐ Формальное образование (например, курсы в учебных заведениях по сестринскому делу)
- ☐ Программы непрерывного профессионального развития
- ☐ Внутрибольничное обучение
- ☐ Коллеги/коллеги по работе
- ☐ Онлайн-ресурсы
- ☐ Журналы и научные статьи
- ☐ Другое (укажите): _____

Раздел В: Опрос знаний и отношения к боли (KASRP)

Этот раздел оценивает ваши знания и отношение к управлению болью. Пожалуйста, отвечайте на каждый пункт в соответствии с вашими текущими знаниями или убеждениями.

Верно/Неверно – Напишите «Т», если утверждение верное, и «F», если оно неверное.

_____ 1. Жизненные показатели всегда являются надежными индикаторами интенсивности боли у пациента.

_____ 2. Поскольку нервная система у детей младше двух лет недоразвита, их чувствительность к боли снижена, а память о болевых переживаниях ограничена.

_____ 3. Пациенты, которых можно отвлечь от боли, обычно не испытывают сильной боли.

_____ 4. Пациенты могут спать, несмотря на сильную боль.

_____ 5. Аспирин и другие нестероидные противовоспалительные препараты НЕ являются эффективными обезболивающими при болезненных метастазах в кости.

_____ 6. У пациентов, которые в течение нескольких месяцев получают стабильные (одну и ту же дозу в течении долгого времени) дозы опиоидов, редко наблюдается угнетение дыхания.

_____ 7. Комбинирование обезболивающих, действующих различными механизмами (например, комбинация НПВП с опиоидом), может привести к лучшему контролю боли с меньшими побочными эффектами, чем использование одного препарата.

_____ 8. Обычно продолжительность обезболивания при 1–2 мг морфина внутривенно составляет 4–5 часов.

_____ 9. Опиоиды не следует использовать у пациентов с историей злоупотребления психоактивными веществами.

_____ 10. Пожилые пациенты не могут переносить опиоиды для облегчения боли.

_____ 11. Пациентов следует поощрять терпеть как можно больше боли, прежде чем использовать опиоид.

_____ 12. Дети младше 11 лет не могут надежно сообщать о боли, поэтому клиницисты должны полностью полагаться на оценку интенсивности боли родителями.

_____ 13. Духовные убеждения пациентов могут привести их к мысли, что боль и страдание необходимы.

_____ 14. После введения начальной дозы опиоидного анальгетика последующие дозы следует корректировать в соответствии с индивидуальной реакцией пациента.

_____ 15. Введение пациенту стерильной воды (плацебо) является полезным тестом для определения, действительно ли боль существует.

_____ 16. Если источник боли пациента неизвестен, опиоиды не следует использовать в период оценки боли, так как это может скрыть возможность правильно диагностировать причину боли.

_____ 17. Противосудорожные препараты, такие как габапентин (Neurontin), обеспечивают оптимальное обезболивание после одной дозы.

_____ 18. Бензодиазепины не являются эффективными анальгетиками и редко рекомендуются как часть анальгетической терапии.

_____ 19. Наркотическая/опиоидная зависимость определяется как хроническое нейробиологическое заболевание, характеризующееся поведением, включающим одно или несколько из следующих: потеря контроля над использованием препарата, компульсивное употребление, продолжение использования несмотря на вред и сильное желание препарата.

_____ 20. Термин «эквиванальгезия» означает приблизительно одинаковый обезболивающий эффект и используется для обозначения доз различных обезболивающих, обеспечивающих примерно одинаковое облегчение боли.

_____ 21. Рекомендуется оценка седации при управлении болью с помощью опиоидов, так как чрезмерная седация предшествует опиоид-индуцированной дыхательной депрессии.

Выберите правильный вариант ответа, обведя букву правильного ответа кружком.

22. Рекомендуемый путь введения опиоидных анальгетиков для пациентов с длительной болью, связанной с онкологией:

- a. внутривенный
- b. внутримышечный
- c. подкожный
- d. пероральный
- e. ректальный

23. Рекомендуемый путь введения опиоидных анальгетиков для пациентов с кратковременной, острой болью внезапного начала, например, при травме или после операции:

- a. внутривенный
- b. внутримышечный
- c. подкожный
- d. пероральный
- e. ректальный

24. Какой из следующих анальгетиков считается препаратом выбора для лечения длительной умеренной и сильной боли у пациентов с онкологией?

- a. кодеин
- b. морфин
- c. меперидин
- d. трамадол

25. Доза морфина 30 мг при приеме внутрь примерно эквивалентна:

- a. 5 мг морфина внутривенно
- b. 10 мг морфина внутривенно
- c. 30 мг морфина внутривенно
- d. 60 мг морфина внутривенно

26. Анальгетики при послеоперационной боли на начальном этапе следует назначать:

- a. регулярно, по назначению
- b. только по просьбе пациента
- c. только тогда, когда медсестра определяет, что у пациента умеренный или более выраженный дискомфорт

27. Пациент с постоянной онкологической болью получает опиоидные анальгетики ежедневно в течение 2 месяцев. Вчера пациент получал морфин внутривенно в дозе 200 мг/час. Сегодня он получает 250 мг/час внутривенно. Вероятность развития клинически значимого угнетения дыхания при отсутствии новых сопутствующих заболеваний составляет:

- a. менее 1%
- b. 1–10%
- c. 11–20%
- d. 21–40 %
- e. более 41%

28. Наиболее вероятная причина, по которой пациент с болью может запрашивать увеличение доз анальгетиков:

- a. у пациента усилилась боль
- b. у пациента усилились тревога или депрессия

с. пациенту требуется больше внимания со стороны персонала

d. запросы пациента связаны с зависимостью

29. Что из перечисленного ниже является полезным для лечения онкологической боли?

a. Тримеперидин (Promedol)

b. Морфин (Morphine)

с. Габапентин (Neurontin)

d. Все вышеперечисленное

30. Наиболее точным показателем интенсивности боли пациента является:

a. лечащий врач

b. медсестра/медбрат пациента

с. сам пациент

d. фармацевт

e. супруг/супруга или семья пациента

31. Какой из следующих вариантов описывает наилучший подход к культурным особенностям при уходе за пациентами с болью:

a. В США культурные влияния больше не имеют значения из-за разнообразия населения.

b. Культурные влияния можно определить по этнической принадлежности человека (например, пациенты с азиатской принадлежностью стойкие, итальянцы выразительные и т. д.).

с. Необходимо индивидуально оценивать пациента, чтобы определить культурные влияния.

d. Культурные влияния можно определить по социально-экономическому статусу человека (например, рабочие чаще сообщают о боли, чем офисные сотрудники).

32. Время достижения максимального эффекта морфина при внутривенном введении составляет:

- a. 15 мин.
- b. 45 мин.
- c. 1 час
- d. 2 часа

33. Время достижения максимального эффекта морфина при приеме внутрь составляет:

- a. 5 минут
- b. 30 минут
- c. 1–2 часа
- d. 3 часа

34. После резкого прекращения приема опиоидов физическая зависимость проявляется следующим образом:

- a. потливость, зевота, диарея и возбуждение
- b. утрата контроля над употреблением препарата, компульсивное употребление и выраженная тяга
- c. необходимость в более высоких дозах для достижения того же эффекта
- d. а и b

35. Какое утверждение верно относительно угнетения дыхания, вызванного опиоидами:

- a. чаще встречается через несколько ночей после операции из-за накопления опиоидов.
- b. обструктивное апноэ сна является важным фактором риска.
- c. чаще встречается у пациентов, которые уже принимают высокие дозы опиоидов до операции.

d. легко оценивается с помощью периодического пульсоксиметра.

Клинические случаи

Представлены два клинических случая пациентов. Для каждого пациента вам необходимо принять решения, касающиеся боли и медикаментозного лечения.

Инструкции: выберите один вариант ответа на каждый вопрос.

36. Пациент А: Эндрю 25 лет, первый день после операции на органах брюшной полости. Когда вы входите в палату, он улыбается вам и продолжает разговаривать и шутить со своим посетителем. Ваша оценка показывает следующие показатели: АД = 120/80 мм рт. ст.; ЧСС = 80 уд/мин; ЧДД = 18 в минуту; по шкале от 0 до 10 (0 — отсутствие боли/дискомфорта, 10 — сильнейшая боль/дискомфорт) пациент оценивает свою боль в 8 баллах.

А. В медицинской карте пациента отметьте уровень боли по шкале ниже. Обведите цифру, соответствующую вашей оценке боли Эндрю.

										1
										0

В. Ваша оценка, приведенная выше, сделана через два часа после того, как ему внутривенно ввели 2 мг морфина. Получасовая частота болевых ощущений после инъекции варьировалась от 6 до 8, и у него не было клинически значимого угнетения дыхания, седативного эффекта или других нежелательных побочных эффектов. Он определил 2/10 как приемлемый уровень обезболивания. В назначении врача для обезболивания указано «морфин внутривенно 1-3 мг каждый час для обезболивания». Обведите букву действия, которое вы предпримете в данный момент:

а. Не вводить морфин в данный момент

- b. Ввести морфин 1 мг внутривенно сейчас
- c. Ввести морфин 2 мг внутривенно сейчас
- d. Ввести морфин 3 мг внутривенно сейчас

37. Пациент Б: Роберту 25 лет и это его первый день после абдоминальной операции. Когда вы входите в его комнату, он тихо лежит в постели и морщится, поворачиваясь в постели. Ваша оценка показывает следующую информацию: АД = 120/80; ЧСС = 80; ЧДД = 18; по шкале от 0 до 10 (0 = отсутствие боли / дискомфорта, 10 = сильнейшая боль / дискомфорт) он оценивает свою боль как 8.

A. В истории болезни пациента вы должны отметить его боль по приведенной ниже шкале. Обведите цифру, которая соответствует вашей оценке боли Роберта:

Отсутствие боли / дискомфорта						Самая сильная боль / дискомфорт				
										1
										0

B. Ваша оценка, приведенная выше, сделана через два часа после того, как ему внутривенно ввели 2 мг морфина. Получасовая частота болевых ощущений после инъекции варьировалась от 6 до 8, и у него не было клинически значимого угнетения дыхания, седативного эффекта или других нежелательных побочных эффектов. Он определил 2/10 как приемлемый уровень обезболивания. В назначении врача для обезболивания указано «морфин внутривенно 1-3 мг каждый час для обезболивания». Обведите букву действия, которое вы предпримете в данный момент:

- a. На данный момент морфин не вводится.
- b. Немедленно ввести морфин 1 мг внутривенно.
- c. Немедленно ввести морфин 2 мг внутривенно.

d. Немедленно ввести морфин в 3 мг внутривенно.

APPENDIX E



January 2020

The “Knowledge and Attitudes Survey Regarding Pain” tool can be used to assess nurses and other professionals in your setting and as a pre and post test evaluation measure for educational programs. The tool was developed in 1987 and has been used extensively from 1987 - present. The tool has been revised over the years to reflect changes in pain management practice.

Regarding issues of reliability and validity: This tool has been developed over several years. Content validity has been established by review of pain experts. The content of the tool is derived from current standards of pain management such as the American Pain Society, the World Health Organization, and the National Comprehensive Cancer Network Pain Guidelines. Construct validity has been established by comparing scores of nurses at various levels of expertise such as students, new graduates, oncology nurses, graduate students, and senior pain experts. The tool was identified as discriminating between levels of expertise. Test-retest reliability was established ($r > .80$) by repeat testing in a continuing education class of staff nurses ($N=60$). Internal consistency reliability was established ($\alpha > .70$) with items reflecting both knowledge and attitude domains.

Regarding analysis of data: We have found that it is most helpful to avoid distinguishing items as measuring either knowledge or attitudes. Many items such as one measuring the incidence of addiction really measures both knowledge of addiction and attitude about addiction. Therefore, we have found the most benefit to be gained from analyzing the data in terms of the percentage of complete scores as well as in analyzing individual items. For example, we have found it very helpful to isolate those items with the least number of correct responses and those items with the best scores to guide your educational needs.

Enclosed for your use is a copy of our instrument and an answer key. You may use and duplicate the tool for any purpose you desire in whole or in part. References to some of our studies which have included this tool or similar versions are included below. We have received hundreds of requests for the tool and additional use of the tool can be found in other published literature. We also acknowledge the assistance of several of our pain colleagues including Judy Paice, Chris Pasero, and Nessa Coyle in the revisions over the years. If using or publishing the tool results please cite the reference as **“Knowledge and Attitudes Survey Regarding Pain” developed by Betty Ferrell, RN, PhD, FAAN, (www.cityofhope.org/NRE/resources), revised 2014.**

We hope that our tool will be a useful aid in your efforts to improve pain management in your setting.

Sincerely,



Betty Ferrell, Ph.D., C.H.P.N., F.A.A.N., F.P.C.N.
Director and Professor, Division of Nursing Research and Education,
Department of Population Sciences
City of Hope

APPENDIX F

AI Declaration Form

Have you used any AI tool for this coursework (including the approved usage)?

Please select one option:

✓ ☐ Yes (please provide details below)

☐ No

We acknowledge **the use of ChatGPT (<https://chat.openai.com/>) exclusively as an auxiliary tool at the stage of editing and preparing the text of the course work.**

We entered the following prompts on April 10-13 2026:

- Correction of grammar and spelling of individual text fragments
- Improving the stylistic uniformity of scientific language
- Increase the readability of individual sentences
- Elimination of repetitions and simplification of complex formulations;
- Checking the logical coherence between paragraphs.

The output from these prompts was used to improve the readability, grammar, and academic style of the manuscript.

**Name: "Knowledge and Attitudes to Pain Management in Intensive Care and Surgery
Nurses: A Cross-Section Study"**

Student Number: Makpal Imanberdi

Course: NUR 407 Capstone: Clinical and EBP Quality Improvement Research

Program: Bachelor in Nursing

Signature:

Date: 20.04.2026