ORIGINAL ARTICLE

European Archives of Medical Research

DOI: 10.14744/eamr.2025.75010
Eur Arch Med Res 2026;42(2):174–182

Nurses' Attitudes Toward Patients with Chronic Pain

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ABSTRACT

Objective: Chronic pain represents a complex health issue with biopsychosocial dimensions that requires a multidisciplinary approach for effective management. Knowledge deficits and negative attitudes of nurses toward patients with chronic pain constitute significant barriers to quality pain care and adversely affect patient outcomes. This study aimed to determine the attitudes of nurses toward patients with chronic pain.

Materials and Methods: This descriptive study was conducted with 216 nurses working in a training and research hospital. Data were collected using a participant information form and the attitudes of healthcare providers toward patients with chronic pain scale. Data were analyzed using the Statistical Package for the Social Sciences for Windows, Version 22. Descriptive statistics, Student's t-test, one-way analysis of variance, Mann–Whitney U-test, and correlation analysis were used. All results were evaluated at a significance level of $p<0.05$.

Results: It was found that 57.4% of the nurses had not received training on chronic pain management, 55.1% considered themselves competent in managing chronic pain, and 65.3% had a family member with chronic pain. The nurses' overall mean score on the attitudes toward patients with chronic pain scale was 3.40±0.46. Among the subdimensions, the sensitivity subscale mean score was 3.99±0.71, and the misconceptions subscale mean score was 2.96±0.77.

Conclusion: It was observed that nurses' attitude scores toward patients with chronic pain were at a moderate level. It was determined that receiving education on chronic pain and the unit in which the nurses worked had a positive effect on the total attitude score.

Keywords: Attitude, Chronic pain, Nurses' attitude, Pain management

Cite this article as: Demir O, Demirturk Selcuk E. Nurses' Attitudes Toward Patients with Chronic Pain. Eur Arch Med Res 2026;42(2):174–182.

INTRODUCTION

Pain is an inevitable part of human life. It is a comprehensive health problem that not only affects individuals but also has societal dimensions. The International Association for the Study of Pain (IASP) defines pain as "an unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage".[1] Although there is no clear threshold for when acute pain becomes chronic, it is generally accepted that pain persisting for 3 months after the expected recovery period (according to the International Classification of Diseases, 11th edition criteria) is pathological.[2] The fact that chronic pain affects more than 30% of people globally reveals the magnitude of this problem.[3]

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Submitted: 05.09.2025 **Revised:** 24.09.2025 **Accepted:** 03.10.2025 **Available Online:** 03.06.2026

European Archives of Medical Research – Available online at www.eurarchmedres.org

Living with chronic pain means struggling with daily challenges around simple tasks, often being disbelieved and stigmatized. This situation reaches alarming proportions in terms of poor mental health, socioeconomic disadvantage, and societal costs. The Lancet's chronic pain series refutes the common misconception that chronic pain is an indicator of ongoing injury, instead emphasizing that it is a product of abnormal neural signaling and requires a multimodal treatment approach due to biopsychosocial dimensions.[4] The fact that pain is always subjective constitutes the fundamental paradigm of the assessment process. Although many ways are considered for the presence and evaluation of pain, the patient's pain report should be accepted as it is.[3]

The presence of pain directs individuals to seek healthcare. Proper assessment, identification of pain, and planning of appropriate interventions are fundamental requirements for effective management. Nurses, as healthcare professionals who interact most with patients, assume a critical role in pain management.[5] The knowledge level and attitudes of nurses directly affect not only pain control but also the physiological and psychological well-being of patients.[6] The translation of theoretical knowledge into clinical practice, regular pain assessments, and documentation form the foundation of quality pain care.[7] In addition, the use of quality indicators related to pain is important for evaluating the effectiveness of nursing practices.[8] However, knowledge deficits and inadequate attitudes are common among nurses and constitute a significant barrier to effective pain management.[9-11] Previous research also indicates that nurses worldwide have negative attitudes toward pain assessment and management.[12,13] Despite the ethical responsibility in pain management, studies conducted in various clinical settings show that nurses often tend to underestimate patients' pain.[14-18] Studies reveal that some erroneous attitudes toward patients with pain still persist among nurses. These attitudes include the widespread belief that patients exaggerate their pain, the idea that placebo use can be effective in assessing the reality of pain, and encouraging patients to show tolerance to pain before giving analgesics.[19-21] The basis of this situation lies in the difference between the nurse's perception and the patient's self-assessment.[22] Furthermore, this problem is not limited to nursing education alone; similar knowledge deficits are observed in medical education. Particularly, inadequacies in chronic pain management make pain management, which requires a multidisciplinary approach, even more complex.[23,24]

Improving nurses' attitudes toward pain management is of critical importance for both improving individual patient outcomes and enhancing healthcare quality. IASP's declaration of 2022 as the "Global Year for Translating Pain Knowledge into Practice" emphasizes the knowledge-practice gap in this field. The fact that pain management is a nursing-sensitive indicator reveals the decisive role of nurses in this process.[25,26] Nurses in contemporary healthcare systems face an intensive clinical workload characterized by increasing patient acuity and expanding care responsibilities. The systematic analysis of this situation's impact on nursing performance and patient outcomes represents a critical imperative for healthcare delivery effectiveness. This research aims to determine nurses' attitudes toward patients with chronic pain and contribute to the literature.

MATERIALS AND METHODS

Design

The study is designed as a descriptive research.

Setting and Sample

The population of the study consisted of 490 nurses working at the Erzincan Binali Yıldırım University-affiliated Training and Research Hospital located. Power analysis was conducted using G-power 3.1 program, and the sample size was determined to be 216 nurses with a 95% confidence interval and α=0.05 significance level.

Data Collection Process

The study was conducted between January 2024 and June 2024. Data collection began by providing the participants with verbal information about the purpose of the study. Informed consent, both verbal and written, was obtained from the participants who voluntarily agreed to take part in the study. Data were collected through face-to-face interviews at the times convenient for the participants. The data collection process for each participant took approximately 10 min.

Ethical and Institutional Approvals

To conduct the study, ethical approval was obtained from the Ethics Committee of the Faculty of Health and Sports Sciences at Erzincan Binali Yıldırım University (293321-08/04) on September 06, 2023, and institutional permission was granted by the institution where the research was conducted (231578024). Before data collection, the nurses were provided with detailed information about the study, and written and verbal informed consent was obtained from them. The study adhered to the Helsinki Declaration on Human Rights throughout the research process, as individual rights must be protected.

Data Collection Instruments

The research employed two primary data collection tools administered through direct face-to-face interviews: A demographic questionnaire and the Healthcare Professionals' Attitudes toward Patients.

Table 1. Participant information form.

Variable	*n*	%
Sex		
Female	169	78.2
Male	47	21.8
Education		
High school	10	4.6
Associate degree	39	18.1
Bachelor's degree	145	67.1
Graduate degree	22	10.2
Marital status		
Married	110	50.9
Single	106	49.1
Worked department		
Inpatient services	69	31.9
Surgical services	53	24.5
Intensive care unit	52	24.1
Emergency department	42	19.4
Work experience		
<1 year	13	6.0
1–5 year	94	43.5
6–10 year	41	19.0
11 years and older	68	31.5
Chronic pain management training		
Yes	92	42.6
No	124	57.4
Perceived competence in chronic pain management		
Yes	119	55.1
No	97	44.9
Chronic pain in family members		
Yes	75	34.7
No	141	65.3
Age	Mean±SD: 30.68±6.790	(Minimum: 21, Maximum: 53)

SD: Standard deviation

Participant Information Form

This form consisted of nine items assessing participant characteristics such as age, gender, relationship status, level of education, working unit, duration of professional experience, history of education in chronic pain management, self-perceived competence in managing chronic pain, and the presence of a family history of chronic pain.

Healthcare Professionals' Attitudes toward Patients with Chronic Pain Scale (HCPAPCP)

The study utilized a psychometric instrument developed by Sucu Çakmak et al., [27] which underwent comprehensive psychometric validation procedures. This tool demonstrates established validity and reliability for measuring healthcare providers' perspectives regarding individuals experiencing persistent pain conditions.

The scale's psychometric properties were confirmed through multiple analytical approaches. Reliability assessment incorporated internal consistency measures and test-retest stability evaluations. Construct validity was established using both exploratory and confirmatory factor analytical procedures. The final instrument comprises 18 items measured on a five-point Likert response format.

Factor analysis identified two distinct dimensions within the scale structure:

Sensitivity Orientation Dimension

This subscale encompasses items reflecting compassionate, understanding, and empathetic perspectives toward chronic pain sufferers. It includes items 1, 3, 4, 6, 7, 9, 11, 12, 14, 16, and 18, demonstrating strong internal consistency (Cronbach's α=0.88) among healthcare workers.

Misconception Orientation Dimension

This subscale captures negative, judgmental, stigmatizing, and erroneous beliefs regarding chronic pain patients. It incorporates items 2, 5, 8, 10, 13, 15, and 17, with acceptable reliability (Cronbach's α=0.75) in the healthcare professional sample.

Scoring Protocol

Each dimension receives independent scoring without established threshold values. The sensitivity dimension employs standard scoring methodology, given its positive item content: 1 (Strongly disagree) through 5 (Strongly agree). Scores are aggregated and divided by eleven items, yielding a range from 1 to 5. Higher values reflect greater empathetic orientation.

The misconception dimension utilizes reverse scoring due to negative item formulation: 5 (Strongly disagree) through 1 (Strongly agree). Scores are totaled and divided by seven items, producing a 1–5 range. Elevated scores indicate fewer misconceptions.

Consequently, higher composite scores across both dimensions signify more favorable attitudes toward chronic pain patients, while lower scores suggest less positive

Table 2. HCPAPCP total and subscale mean scores.

Scale/Subscale	*n*	Minimum	Maximum	Mean±SD
Sensitivity orientation	216	1.64	5	3.99±0.71
Misconception orientation	216	1	5	2.96±0.77
HCPAPCP scale	216	1.44	4.78	3.40±0.46

SD: Standard deviation; HCPAPCP: Healthcare professionals' attitudes toward patients with chronic pain.

Table 3. HCPAPCP scale and subscale score correlations.

	1	2	3
HCPAPCP scale	-		
R			
p			
Sensitivity orientation	0.781**	-	
R	0.000		
p			
Misconception orientation	0.425**	–0.233**	-
R			
p	0.000	0.001	

**$p<0.01$. HCPAPCP: Healthcare professionals' attitudes toward patients with chronic pain

professional perspectives. The current study achieved reliability coefficients of α=0.907 for sensitivity and α=0.760 for misconception factors.[27]

Statistical Analysis

Statistical analysis was conducted using the Statistical Package for the Social Sciences version 22.0 for Windows. Distribution normality was assessed through Kolmogorov–Smirnov testing. Descriptive statistics included frequencies, percentages, means, and standard deviations.

Inferential analyses employed Student's *t*-tests and One-way analysis of variance (ANOVA) for normally distributed categorical comparisons, while Mann–Whitney U tests addressed non-parametric data. Pearson correlation analysis examined bivariate relationships. *Post hoc* comparisons following significant ANOVA results utilized Games-Howell procedures when homogeneity of variance assumptions were violated. Statistical significance was established at $p<0.05$ with 95% confidence intervals for all analyses.

RESULTS

Table 1 shows that nurses averaged 30.68±6.790 years of age, with 78.2% female, 67.1% bachelor's educated, and 50.9% married. The findings show 31.9% worked in internal medicine, 43.5% had 1–5 years of experience, 57.4% lacked chronic pain training, 55.1% considered themselves competent in chronic pain management, and 65.3% had chronic pain in their families.

Table 2 shows that the sensitivity orientation dimension of the HCPAPCP achieved a mean of 3.99±0.71, while the misconception orientation dimension scored 2.96±0.77, and the overall mean score of the attitudes toward patients with chronic pain scale as 3.40±0.46.

Table 3 shows the correlation findings, indicating a robust positive association between chronic pain patient attitudes and sensitivity orientation ($r=0.781$, $p<0.01$), alongside a moderate positive correlation with misconception orientation ($r=0.425$, $p<0.01$). Table 3 further shows a statistically significant weak inverse relationship between sensitivity and misconception orientations ($r=-0.233$, $p<0.01$).

Table 4 shows notable variations in the sensitivity orientation subscale scores, a component of HCPAPCP, gender, working unit, and chronic pain management training status. Post-hoc analysis results displayed in Table 4 revealed statistically significant differences between internal medicine staff and those employed in surgical units and intensive care departments ($p<0.05$), whereas no meaningful distinctions emerged among the remaining age categories.

Table 4 presents several significant findings regarding the HCPAPCP subscales. The misconception subscale showed notable variations based on professional experience duration and chronic pain training history. Similarly, overall HCPAPCP scores differed significantly according to workplace unit and chronic pain training background ($p<0.05$). Conversely, no statistically significant differences were observed between HCPAPCP and its components in relation to self-assessed chronic pain management competency or family history of chronic pain conditions ($p>0.05$).

DISCUSSION

The evaluation of attitudes toward pain is an important step in terms of improving nurses' clinical practices and enhancing

Table 4. Comparison of participants' HCPAPCP scale scores

	Sensitivity orientation		Misconception orientation		HCPAPCP scale	
	$\bar{X}$±SD	Test *p*	$\bar{X}$±SD	Test and *p*	$\bar{X}$±SD	Test and p
Sex						
Female	4.09±0.57	Z:1.992	2.46±0.73	t=0.100	3.45±0.35	Z:-1.782
Male	3.67±1.00	*p*:0.046	2.45±0.92	*p*=0.921	3.19±0.72	*p*:0.075
Education						
High school	4.41±0.36	F:2.412	2.34±0.90	F:0.376	3.61±0.40	F:1.45
Associate degree	3.79±0.78	*p*:0.068	0.54±0.66	*p*:0.770	3.31±0.55	*p*:0.228
Bachelor's degree	4.03±0.66		2.46±0.80		3.42±0.40	
Graduate degree	3.94±0.91		0.77±0.05		3.32±0.64	
Marital status						
Married	3.97±0.70	Z:0.697	2.49±0.77	*t* 0.564	3.40±0.47	Z:-0.389
Single	4.02±0.72	*p*:0.486	2.43±0.77	*p*:0.573	3.40±0.46	*p*:0.690
Worked department						
Inpatient services[a]	4.23±0.47	F:4.692	2.48±0.67	F:1.547	3.55±0.32	KW:10.249
Surgical services[b]	3.96±0.65	*p*:0.003	2.55±0.79	*p*:0.203	3.41±0.41	*p*:0.017
Intensive care unit[c]	3.77±0.86	a>b	2.52±0.78		3.28±0.53	
Emergency department[d]	3.93±0.81	a>c	2.24±0.86		3.27±0.56	
Work experience						
<1 year	3.97±0.72	F:0.474	2.16±0.79	F:2.678	3.27±0.46	KW:2.822
1–5 year	4.06±0.65	*p*:0.701	2.43±0.82	*p*:0.048	3.42±0.42	*p*:0.420
6–10 year	3.91±0.95		2.31±0.73		3.28±0.66	
11 years and older	3.97±0.62		2.65±0.68		3.46±0.36	
Chronic pain management training						
Yes	4.22±0.59	Z:4.259	2.58±0.79	*t*:2.624	3.47±0.36	*t*:2.208
No	3.83±0.74	*p*:0.000	2.30±0.72	*p*:0.009	3.34±0.52	*p*:0.028
Perceived competence in chronic pain management						
Yes	4.08±0.64	Z:1.633	2.43±0.80	*t*:0.624	3.44±0.40	Z:–0.872
No	3.89±0.77	*p*:0.102	2.50±0.73	*p*:0.534	3.34±0.53	*p*:0.383
Chronic pain in family members						
Yes	3.98±0.54	Z:0.855	2.54±0.70	*t*:1.141	3.42±0.33	*t*:0.667
No	4.00±0.79	*p*:0.392	2.42±0.80	*p*:0.255	3.38±0.52	*p*:0.506

$\bar{X}$: Mean, SD: Standard deviation, *t*: Independent *t*-test, Z: Man–Whitney U test, F: One-way ANOVA, KW: Kruskal–Wallis, HCPAPCP: Healthcare professionals' attitudes toward patients with chronic pain

care quality.[6] Nurses are in the position of first-line advisors and supporters for patients suffering from chronic pain. Although nurses hold a pivotal position in the management of chronic pain, current evidence indicates that pain continues to be undertreated and remains a persistent global health concern.[9,28,29] Therefore, there is a need to examine attitudes toward patients with chronic pain and to understand the determinants of attitudes in further studies.[30] In the literature, there are studies on general pain and acute pain attitudes, but studies on chronic pain appear to be limited. This study aims to explore nurses' attitudes toward patients experiencing chronic pain and to provide a contribution to the existing body of literature on the subject.

In this research, the mean total score on the Nurses' attitudes toward patients with Chronic Pain Scale was 3.40±0.46, indicating a moderate level of attitude. This result, while being relatively more positive than the negative attitude findings in Al Omari et al. [31] and the poor attitude reports of Jamal et al. [32], reveals that nurses' attitudes toward pain management are weak, similar to other studies in the literature.[21,33-37] The findings of our study show that nurses' attitudes toward chronic pain management are neither completely negative nor adequate, indicating that nurses' need for education and support in this area continues.

In this research, it was determined that sociodemographic variables such as nurses' age, gender, marital status, and educational status were not effective on attitudes toward chronic pain. This finding shows great consistency with studies in the literature, and it is stated in studies that demographic variables are not effective on nurses' knowledge and attitudes regarding pain management.[9,32,38] However, a significant difference was found between the nurses' sensitivity orientation factor of the attitude scale and gender, and it was determined that male nurses' sensitivity orientation scores were lower than female nurses. This finding is consistent with the systematic review by Ortiz et al. [39] stated that female nurses display more empathetic and patient-centered attitudes, while male nurses show a more distant tendency. This result suggests that misconceptions such as not trusting the patient's pain report and stigmatizing the patient are less common among female healthcare workers and that their attitudes toward patients with chronic pain are strongly positive. In addition, contrary to the finding that general demographic variables are not effective, it shows that the gender factor can create differentiation in specific subdimensions.

In this research, nurses who had received training in chronic pain management were found to have higher scores in overall attitudes toward patients with chronic pain, as well as in the misconception orientation and sensitivity orientation subscales. However, self-perceived competence in chronic pain management did not significantly influence their attitudes, and nearly half of the participants (44.9%) did not consider themselves competent in this area. The literature suggests that healthcare professionals who receive training and feel competent in chronic pain management tend to exhibit more sensitive attitudes toward patients suffering from chronic pain. [27,28,40] When these findings are considered collectively, it appears that receiving education plays a determining role in shaping attitudes toward chronic pain, whereas individual perceptions of self-efficacy may not consistently align with those attitudes.

In this research, it was determined that nurses with 11 years or more of professional experience scored higher on the misconception orientation factor. This finding shows that as nurses gain experience, they trust patients' pain reports more and move away from stigmatizing or false beliefs. As working years increase, it can be thought that nurses develop more conscious and sensitive attitudes toward chronic pain. However, there are also opposite results in the literature. For example, AbuBaker et al. [28] stated that nurses with more than 10 years of experience had weaker pain perception compared to those with 5–10 years of experience. These contradictory findings show that the effect of professional experience on attitude and perception may vary depending not only on duration but also on factors such as training received, clinical environment, and individual approaches.

In this research, it was determined that the working unit was effective on the sensitivity orientation factor and the total score of attitudes toward chronic pain, with nurses working in internal medicine departments having higher scores. This result may be due to more frequent and longer contact with chronic patients in internal medicine departments. The less development of sensitivity toward chronic pain due to care for acute post-operative pain in surgical departments, and the intensive workload, time pressure, and acute intervention-focused approaches in intensive care and emergency departments may be effective on attitudes toward chronic pain. This situation reveals the necessity of unit-specific training. A study indicated that emergency department nurses' attitudes toward pain management were inadequate and that the highest perceived barriers to pain management were overcrowding in the emergency department and workload.[41] Another study states that surgical nurses need special competency development strategies regarding pain management and require different pain management approaches from other units.[42] A study on intensive care nurses indicated that inadequate pain management knowledge due to various barriers and difficulties was insufficient, and unacceptable attitudes emerged.[43] It is stated that negative attitudes toward chronic pain prevent the implementation of pain management guidelines.[44]

In our study, it was determined that the presence of chronic pain in nurses' family members did not affect their attitudes toward patients with chronic pain and subdimension scores. This finding contradicts some studies in the literature. For example, in the study conducted by Martorella et al., [45] it was stated that an individual's or their close environment's chronic pain experience was associated with more positive beliefs and attitudes toward people with chronic pain. This situation suggests that personal experiences may strengthen healthcare professionals' patient-centered approaches by increasing their level of empathy.

Limitations

The findings are limited in their generalizability because the study was conducted only with nurses working at a specific hospital. The fact that information was assessed through a questionnaire poses a limitation in that it is impossible to verify whether participants obtained information from external sources before responding.

CONCLUSION

This research revealed that nurses' attitudes toward patients with chronic pain are at a moderate level, with training and working unit significantly affecting attitude scores. Pain management is directly dependent on nurses' approach in care processes, making their leadership role crucial for improving care quality. Therefore, revising nursing curricula with emphasis on pain education, implementing continuous professional development programs, and integrating evidence-based protocols into clinical practice are recommended as effective strategies to enhance nurses' knowledge and attitudes in pain management. Future studies should explore attitude changes over time, examine differences across healthcare settings, and investigate how attitudes influence actual pain management practices.

DECLARATIONS

Ethics Committee Approval: The study was approved by Erzincan Binali Yıldırım University Ethics Committee (No: 293321-08/04, Date: 06/09/2023).

Informed Consent: Informed consent, both verbal and written, was obtained from the participants who voluntarily agreed to take part in the study.

Conflict of Interest: The authors declare that there is no conflict of interest.

Funding: The authors received no financial support for the research and/or authorship of this article.

Use of AI for Writing Assistance: Artificial intelligence (AI)-powered technologies (such as large language models [LLMs], chatbots, or image-generation tools) were not used in the preparation, writing, analysis, or editing of this study. All content in this study was originally prepared by the authors.

Authorship Contributions: Concept – OD, EDS; Design – OD; Supervision – OD, EDS; Fundings – OD, EDS; Materials – OD, EDS; Data collection &/or processing – OD, EDS; Analysis and/or interpretation – OD, EDS; Literature search – OD, EDS; Writing – OD, EDS; Critical review – OD, EDS.

Peer-review: Externally peer-reviewed.

REFERENCES

1. Raja SN, Carr DB, Cohen M, Finnerup NB, Flor H, Gibson S, et al. The revised International Association for the Study of Pain definition of pain: concepts, challenges, and compromises. Pain 2020;161:1976–82.
2. Treede RD, Rief W, Barke A, Aziz Q, Bennett MI, Benoliel R, et al. Chronic pain as a symptom or a disease: the IASP Classification of Chronic Pain for the International Classification of Diseases (ICD-11). Pain 2019;160:19–27.
3. Cohen SP, Vase L, Hooten WM. Chronic pain: an update on burden, best practices, and new advances. Lancet 2021;397:2082–97.
4. The Lancet. Rethinking chronic pain. Lancet 2021;397:2023.
5. Kress HG, Aldington D, Alon E, Coaccioli S, Collett B, Coluzzi F, et al. A holistic approach to chronic pain management that involves all stakeholders: change is needed. Curr Med Res Opin 2015;31:1743–54.
6. International Association for the Study of Pain (IASP). IASP curriculum outline on pain for nursing. 2021. Available from: https://www.iasp-pain.org/education/curricula/iasp-curriculum-outline-on-pain-for-nursing/?ItemNumber=2052. Accepted Aug 26, 2025.
7. Melia R, Morrell-Scott N, Maine N. A review of compliance with pain assessments within a UK ICU. Br J Nurs 2019;28:382–6.
8. Glarcher M, Kundt FS, Meissner W, Osterbrink J. Quality indicators (QI) of acute pain after surgery in european countries. Pain Manag Nurs 2021;22:730–9.
9. Al-Atiyyat N, Salim NA, Tuffaha MG, Abu Nigim HA, Saleh MM, Alkhodary ME, et al. A survey of the knowledge and attitudes of oncology nurses toward pain in United Arab Emirates oncology settings. Pain Manag Nurs 2019;20:276–83.
10. Khalil H, Mashaqbeh M. Areas of knowledge deficit and misconceptions regarding pain among jordanian nurses. Pain Manag Nurs 2019;20:649–55.
11. Damico V, Murano L, Macchi G, Forastieri Molinari A, Dal Molin A. Knowledge and attitude of pain management among Italian nurses in intensive care unit: a multicentric descriptive study. Ann Ig 2021;33:220–30.
12. Moceri JT, Drevdahl DJ. Nurses' knowledge and attitudes toward pain in the emergency department. J Emerg Nurs 2014;40:6–12.
13. Vaismoradi M, Skär L, Söderberg S, Bondas TE. Normalizing suffering: A meta-synthesis of experiences of and perspectives on pain and pain management in nursing homes. Int J Qual Stud Health Well-being 2016;11:31203.
14. Brennan F, Carr D, Cousins M. Access to pain management-still very much a human right. Pain Med 2016;17:1785–9.
15. Pierik JGJ, IJzerman MJ, Gaakeer MI, Vollenbroek-Hutten MMR, Doggen CJM. Painful discrimination in the

emergency department: risk factors for underassessment of patients' pain by nurses. J Emerg Nurs 2017;43:228–38

16. Carvalho AS, Martins Pereira S, Jácomo A, Magalhães S, Araújo J, Hernández-Marrero P, et al. Ethical decision making in pain management: a conceptual framework. J Pain Res 2018;11:967–76.
17. Jukić M, Puljak L. Legal and ethical aspects of pain management. Acta Med Acad 2018;47:18–26.
18. Seers T, Derry S, Seers K, Moore RA. Professionals underestimate patients' pain: a comprehensive review. Pain 2018;159:811–8.
19. Angeletti C, Guetti C, Paesani M, Colavincenzo S, Ciccozzi A, Angeletti PM. An analysis of Italian nurses' approach to patients' pain: a nationwide online survey. Pain Res Manag 2018;2018:5165262.
20. Latina R, Forte P, Mastroianni C, Paterniani A, Mauro L, Fabriani L, et al. Pain education in schools of nursing: a survey of the Italian academic situation. Prof Inferm 2018;70:115–22.
21. Samarkandi OA. Knowledge and attitudes of nurses toward pain management. Saudi J Anaesth 2018;12:220–6.
22. Giusti GD, Reitano B, Gili A. Pain assessment in the Emergency Department. Correlation between pain rated by the patient and by the nurse. An observational study. Acta Biomed 2018;89:64–70.
23. Karra R, Holten-Rossing S, Mohammed D, Parmeggiani L, Heine M, Namnún OC. Unmet needs in the management of functional impairment in patients with chronic pain: a multinational survey. Pain Manag 2021;11:303–14.
24. McKinnon C, White J, Morgan P, Harvey A, Clancy C, Fahey M, et al. Clinician perspectives of chronic pain management in children and adolescents with cerebral palsy and dyskinesia. Phys Occup Ther Pediatr 2021;41:244–58.
25. International Association for the Study of Pain (IASP). Global year for translating pain knowledge to practice. 2022. Available from: https://www.iasp-pain.org/advocacy/global-year/translating-pain-knowledge-to-practice/. Accessed Aug 26, 2025.
26. Oner B, Zengul FD, Oner N, Ivankova NV, Karadag A, Patrician PA. Nursing-sensitive indicators for nursing care: a systematic review (1997-2017). Nurs Open 2021;8:1005–22.
27. Sucu Çakmak NC, Çalışkan N, Kan A. Health care professionals' attitudes toward patients with chronic pain: scale development study. Pain Manag Nurs 2023;24:188–95.
28. AbuBaker NA, Salim NA, Joshua R, Jose A. Registered nurses' perception about pain management of hospitalized patients in one of the governmental hospitals in Dubai, UAE: A cross-sectional study. Dubai Med J 2019;2:1–5.
29. Beck SL, Dunton N, Berry PH, Brant JM, Guo JW, Potter C, et al. Dissemination and implementation of patient-centered indicators of pain care quality and outcomes. Med Care 2019;57:159–66.
30. De Ruddere L, Craig KD. Understanding stigma and chronic pain: a-state-of-the-art review. Pain 2016;157:1607–10.
31. Al Omari D, Alhabahbeh A, Subih M, Aljabery A. Pain management in the older adult: The relationship between nurses' knowledge, attitudes and nurses' practice in Ireland and Jordan. Appl Nurs Res 2021;57:151388.
32. Jamal K, Alameri RA, Alqahtani FM, AlGarni RS, Alamri NA, Elshnawie HA, et al. Knowledge and attitudes of critical care nurses regarding pain management in Saudi Arabia. Med Arch 2023;77:49–55.
33. Shuaib N. Nurses knowledge regarding pain management among patients in critical care units. JCAO 2018;2:106.
34. Mondol S, Muhammad F, Chowdhury A. Nurses'knowledge and practices related to pain assessment in critically ill patients in a selected private hospital in Bangladesh. Int J Community Med Public Health 2018;5:4219–24.
35. Teixeira J, Durão M. Pain assessment in critically ill patients: an integrative literature review. J Nurs Ref 2016:135–41.
36. Fallatah SMA. Pain knowledge and attitude survey among health-care professionals at a university hospital in Saudi Arabia. Saudi J Med Med Sci 2017;5:155–9.
37. Alsaqri SH. Nursing student's knowledge and attitudes toward pain management at Hail University, Saudi Arabia. Int J Adv Appl Sci 2018;5:75–81.
38. Latina R, Mauro L, Mitello L, D'Angelo D, Caputo L, De Marinis MG, et al. Attitude and knowledge of pain management among italian nurses in hospital settings. Pain Manag Nurs 2015;16:959–67.
39. Ortiz MI, Cuevas-Suárez CE, Cariño-Cortés R, Navarrete-Hernández JJ, González-Montiel CA. Nurses knowledge and attitude regarding pain: A systematic review and meta-analysis. Nurse Educ Pract 2022;63:103390.
40. Darawad M, Alnajar MK, Abdalrahim MS, El-Aqoul AM. Cancer pain management at oncology units: comparing knowledge, attitudes and perceived barriers between physicians and nurses. J Cancer Educ 2019;34:366–74.
41. Kahsay DT, Pitkäjärvi M. Emergency nurses´ knowledge, attitude and perceived barriers regarding pain Management in Resource-Limited Settings: cross-sectional study. BMC Nurs 2019;18:56.
42. Atthayasai J, Chatchumni M, Eriksson H, Mazaheri M. Surgical nurses' perceptions of strategies to enhance pain

management proficiency: a qualitative study. Nurs Rep 2023;13:923–33.

43. Almutairi AM, Pandaan IN, Alsufyani AM, Almutiri DR, Alhindi AA, Alhusseinan KS. Managing patients' pain in the intensive care units: Nurses' awareness of pain management. Saudi Med J 2022;43:514–21.
44. Dueñas M, Salazar A, Sánchez M, De Sola H, Ojeda B, Failde I. Relationship between using clinical practice guidelines for pain treatment and physicians' training and attitudes toward patients and the effects on patient care. Pain Pract 2018;18:38–47.
45. Martorella G, Kostic M, Lacasse A, Schluck G, Abbott L. Knowledge, beliefs, and attitudes of emergency nurses toward people with chronic pain. SAGE Open Nurs 2019;5:2377960819871805.