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ORIGINAL RESEARCH PAIN MANAGEMENT

Oncology nurses' knowledge and attitudes towards cancer pain management: a cross-sectional analytic study at Oncology Hospital, Iraq

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ABSTRACT

Background & objective: Cancer is the leading cause of rapidly increasing morbidity and mortality rates worldwide. Cancer pain is the most common subjective symptoms that require oncology nurses to be vigilant in assessing and managing cancer-related pain. The purpose of the present study is to investigate and describe the level of nurses' knowledge and attitudes concerning cancer-related pain management in the oncology nurses.

Methodology: A cross-sectional analytic descriptive design employed with a convenience sampling of 102 nurses from the Oncology Hospital in Iraq, during the period from March to April 2025. Data were collected via an Arabic version of the widely used self-administered questionnaire of the Knowledge and Attitudes Survey Regarding Pain (KASRP).

Results: The researchers determined that participants had a low level of knowledge and attitudes regarding cancer pain management, with an overall mean score (12.86). Moreover, there was no relationship among respondents' knowledge, attitudes, and their sociodemographic variables.

Conclusion: Inadequate knowledge and attitudes toward cancer-related pain can negatively impact patients' quality of life as well as the quality of nursing care. Special attention must be given to the in-service educational program to enhance the competency level of nursing staff. Developing evidence-based guidelines is a great opportunity to reach optimal healthcare services.

Keywords: Knowledge, Attitudes, Oncology, Nursing, Cancer, Pain Management, Iraq.

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1. INTRODUCTION

Cancer is considered one of the most common causes of devastating illnesses and death around the world, posing significant challenges to healthcare institutions.[1] Cancer pain constitutes the widespread, annoying symptoms that disturb a patient's daily living routine.[2] According to the World Health Organization (WHO), during the year of 2018, cancer was the main cause of the high mortality rate, with approximately 9.6 million which accounts for one in every six deaths.[3] Evidence of disseminated data regarding cancer in Iraq is rare.[4] Cancer diagnosis is

increasing around the world. In Iraq, the annual report of 2023 estimated the number of newly diagnosed cases was more than 43000.[5] Cancer pain often results from neoplasm metastasis, therapeutic approaches, or a mixture of both, which has tremendous negative consequences on patients' overall health condition.[6]

Pain is a complex phenomenon that is subjective in nature, which has a noxious effect on a patient's physiological and psychological aspects, and proper pain evaluation is crucial for effective pain management.[7] International Association for the Study of Pain (IASP) stated that pain is the most common cause people seek health care, and many healthcare providers graduate with inadequate training in pain assessment and management.[8] Notably, this gap is greatly important to be addressed due to pain management is very often overlooked.[8] Globally, several million people complain of unalleviated acute, chronic as well as cancer-associated pain.[8] Pain intensity among patients with late-stage cancer ranges from moderate to severe levels.[2]

Nursing professionals need to be not only knowledgeable about pain, but also possess positive attitudes to intervene effectively and promptly. Nursing staff must have knowledge of pain management, which includes assessment, therapeutic and nontherapeutic modalities, factors affecting pain control, as well as pathophysiology.[9,10] Evidence articulated that nurses who are knowledgeable about cancer-related pain management can provide high-quality care and achieve best clinical outcomes. Nevertheless, the theory of Knowledge Attitude/Brief Practice (KABP) by Kelman places a great emphasis on both knowledge and attitudes that shape behavior, with knowledge is the principle and attitudes operating on behavior.[11] The concepts of theory proposed that nurses with adequate knowledge and positive attitudes toward cancer pain management could potentiate appropriate strategies in implementing patient care and thus obtain the best outcomes.

Competent nurses rely not only on incorporating evidence-based practices in managing cancer pain, but also on providing compassionate care. Giving the patient's right of pain assessment, sharing decisions, and building a trusting therapeutic relationship are keystone in managing cancer-related pain.[12] By way of an alternative, studies unveiled that many obstacles can hinder relieving measures of cancer pain, some pertinent to nurses, to health institutions, or to patients.[13] Regrettably, plenty of researchers, including systematic review literature, uncovered that lack of knowledge, skills and negative attitudes among healthcare professionals considered as one of the most common barriers in managing cancer pain.[13-18]

Evidence concerning nurses' knowledge and attitudes toward cancer-related pain management in Iraq is scarce. Hence, this is the first study focusing on the knowledge and attitudes of nursing staff working at Al-Najaf National Hospital for Oncology and Hematology. However, the current study is intended to describe the actual state of knowledge and attitudes regarding cancer-related pain management among nurses who work in oncology hospitals, as well as to find out the relationship between nurses' knowledge and attitudes and their demographic traits. This study could be the basis for motivating in-charge individuals to take action for improving cancer pain management strategies to achieve desired outcomes. The research questions guiding this survey are: What are the current levels of Iraqi nurses' knowledge and attitudes toward cancer pain management? Are there any relationships among nurses' knowledge and attitudes and their demographic data? The findings can provide oncology nurses a roadmap for improvement in cancer pain management practices.

Literature Review

Our search intended to collect the most relevant studies regarding cancer pain management, particularly among oncology nurses. Numerous studies are collected from electronic databases CINAHL, MEDLINE, ProQuest, and [PubMed]. We used keywords and phrases, e.g., 'oncology', 'nurse', 'nursing staff', 'cancer', 'pain', 'knowledge', and 'attitudes', to obtain the most pertinent articles. The previous researches included in the present study meet the inclusion criteria, which include: published recently in English, peer reviewed, and must focus on nurse and nursing management of cancer pain. The search revealed several studies, and after reviewing abstracts, some articles were excluded because they were irrelevant to our current study. For example, we omitted research if they were focused on pain related to peripheral neuropathy and on physicians.

Cancer is considered the most challenging disease that continues to spread and cause poor quality of life for patients and death worldwide. Cancer-related pain is one of the utmost unpleasant or uncomfortable symptoms. Nursing staff require advanced knowledge to accurately perform cancer pain assessment and management to promote patients' quality of life. Several studies affirmed that patients with malignant illness suffer from various levels of pain intensity, which in turn have negative consequences on their physical, psychological, behavioral, and spiritual well-being, ultimately resulting in poor quality of their life.[6,17,19]

A recent cross-sectional study carried out at the National Cancer Institute (NCI) in Sri Lanka by IDC et al. (2025) aimed to identify oncology nurses' knowledge and attitudes regarding cancer pain management. the investigators included (340) nurses via a storified random sampling technique. The tool was KASRP to

obtain their data. The researchers stated that most of their participants (66.5%) had a poor level of knowledge and attitudes, (31.2%) had a moderate level, and only (2.4%) had a good level. [20]

Using the same instruments, KASRP to collect data, Alsalman et al. (2023) conducted a descriptive survey in Saudi Arabia and chose a convenience sample of 183 from two large hospitals. The target of the study is to explore the nurses' level of knowledge and attitudes concerning pain management. However, the researchers found that more than half of the respondents had inadequate knowledge and attitudes concerning pain management.[21] Approximately similar findings were also found in Jordanian nurses who work at oncology settings, conducted by Darawad et al. (2019).[22]

Furthermore, another study conducted in the United Arab Emirates by Al-Atiyyat et al. (2018) intended to assess oncology nurses' knowledge and attitudes toward cancer pain management. the authors employed a cross-sectional correlational design with 115 nurses recruited through a convenience sample. The researchers utilized the same questionnaire (KASRP). An overwhelming majority of their study sample (78%) achieved less than 50% of the correct answers. The authors concluded that there was no statistically significant finding between participants' knowledge, attitudes, and their sociodemographic variables.[23]

Despite these insights, evidence from Iraq remains scarce. This study could contribute to advancing nurses' knowledge and attitudes by highlighting the significant gap in clinical practices regarding pain management among oncology patients.

2. METHODOLOGY

A descriptive cross-sectional analytic study design was employed to achieve the early stated aims. The researchers committed to and followed the step-by-step guidelines of STOBE to ensure reporting transparency and completeness.

The study was conducted at the National Hospital for Oncology and Hematology, it is a governmental hospital that provides secondary and tertiary healthcare services, and it was chosen because it is the only hospital located in Al-Najaf City, Iraq. It contains up to 200 beds, and the total number of nurses working there is 240, which reflects the shortage in nursing staff. Data were collected by using a convenience sample method. Nurses were asked to complete the consent form if they were willing to participate in this research. Researchers provided a short and clear explanation of the study objectives. nurses were informed that their participation was voluntary and they could withdraw at any time; and their information will be anonymous and be used for research purposes only.

The minimum sample size was calculated by utilizing the population proportion formula with finite population correction. The known population size was 240, an assumed prevalence of 50% to increase variability, a margin of error of ±5.5%, and a 95% confidence level (Z = 1.96). This yielded a minimum sample size of 137, which was increased by 10% to account for non-response or drop-outs, setting a final target of 150 nurses. We could recruite 130 nurses; out of which 28 were excluded from the study. Eight turned in incomplete forms of the questionnaire, 11 withdrew for unreported reasons, three provided fixed-choice patterns, and six conveyed having less than one year of oncology experience. Hence, the final total number of respondents was 102.

The eligibility criteria included: 1) male and female nurses. 2) nurses who work in morning and evening shifts. 3) direct involvement with a patient with cancer pain. 4) participants with at least one year of oncology experience. The exclusion criteria: 1) nurses in administrative roles. 2) Nurses on leave during the data collection period. 3) those on night shift 4) novice nurses with less than one year of experience.

2.1. Instruments

We used an Arabic version self-administered questionnaire of the KASRP,[24-26] and sociodemographic variables. The construction process of the research questionnaire was established through rigorous review of prior disseminated, peer-reviewed research, including meta/systematic reviews aimed at assessing healthcare professionals' knowledge and attitudes concerning pain management. Moreover, both Arabic and English versions of the survey instrument underwent expert review by six professionals from various disciplines: two nursing specialists, two experts in linguistics, and two physicians (one in internal medicine and one in anesthesiology). The Arabic translation was subjected blindly to the back-translation method and comparison to the original in order to ensure accuracy and consistency. This process yielded that no substantial modifications were required.

Furthermore, a pilot study with eleven participants intended to evaluate the tool's feasibility, full-time, clarity, and preliminary psychometrics. The Arabic instrument revealed a higher level of acceptability, required 20 – 25 minutes, and no absence of information was recorded. A qualitative approach was employed to confirm cultural compatibility and simplicity, with no further changes indicated. Statistical analysis demonstrated strong internal consistency, with all corrected item-total correlations above 0.31 and positive inter-item relationships confirming reliability and

Table 1: Sociodemographic profile of total participants (N = 102)

Sociodemographic Variables		n (%)
Gender	Male	39 (38.2)
	Female	63 (61.8)
Age (Years) ***Mean* = 25.29** ***SD* = 3.848**	<= 25	63 (61.8)
	26 - 32	34 (33.3)
	33+	5 (4.9)
Level of Education	Diploma in Nursing	71 (69.6)
	Bachelor Degree in Nursing	29 (28.4)
	Graduate Degree in Nursing	2 (2.0)
Years of work in nursing profession	1 – 4	74 (72.5)
	5 – 8	17 (16.7)
	9 – 12	11 (10.8)
Years of work in the oncology settings	≤ 1	40 (39.2)
	2 - 3	62 (60.8)
Type of Shift	Morning shift	81 (79.4)
	Evening shift	21 (20.6)
Receive previous education on pain management	Yes	54 (52.9)
	No	48 (47.1)
Number of courses participated on pain management.	Did not participate	50 (49.0)
	1 time	26 (25.5)
	2 times	20 (19.6)
	3 times and above	6 (5.9)
Experienced pain personally with a family member	Yes	45 (44.1)
	No	57 (55.9)

validity. This process reflects that both versions of the questionnaire are robust, reliable, and suitable for utilization in subsequent studies and clinical contexts.

Nevertheless, the KASRP comprises 39 selected-response items divided into two parts: 22 true-false, and 13 multiple-choice questions, and two unfolding cases with each containing two questions. The topical content of KASRP includes assessing patients' pain, applying pharmacological and non-pharmacological interventions, and nurses' attitudes toward pain management.[27]

2.2. Statistical analysis

Statistical tests were applied to interpret and organize the data by using the Statistical Package for the Social Sciences (SPSS) version 19, and Microsoft Excel (2021). Descriptive data analysis included frequencies and percentages, whereas inferential data analysis used Kruskal-Wallis in terms of exploring the statistical differences and relationship between the overall scores of the oncology nurses' knowledge and attitudes regarding cancer pain management and their sociodemographic profile. This statistical test has been chosen due to it being a non-parametric method that does not require the assumption of normally distributed data, is appropriate for ordinal data, and a small sample size. A significance level of P = 0.05 was used. A score of one was assigned for the correct response and a score of zero was assigned for the wrong answer for each question. The classification of the scoring system was as follows: response scores ranging from 0 – 19; (< 50%) indicates poor; 20–29 (50–74%) denotes moderate, and 30–39 (≥ 75%) represents good.

3. RESULTS

Table 1 demonstrates that most of the participants were female (61.8%). In addition, a large proportion of participants were young adults with a mean age of 25 years. Regarding educational level, the most were holding a diploma in nursing (69.6%), and most of them had 1-4 years of experience in the nursing field (72.5%). A moderate majority of nurses (60.8%) had two to three years of working experience at an oncology hospital. The vast majority of nurses were working during the morning shift (79.4%). More than half of nurses (52.9%) stated that they received education regarding pain management. Half of the nurses (49.0%) did not attend a pain management course. In regard to the participants' experience of pain with their family members, more than half (55.9%) stated no.

Table 2 shows that only item number 19 revealed a statistically significant, while the remaining items indicates nurses' knowledge and attitudes were ranging from predominantly poor to moderate.

Table 3 indicates participants had poor level of knowledge and attitudes concerning cancer-related pain management with mean of scores of 12.86.

Table 4 depicts that there was no statistical significance relationship among overall scores of the oncology nurses' responses on KASRP and their sociodemographic variables.

4. DISCUSSION

Competent nurses play an essential role in alleviating patients' pain, particularly those with cancer. Nurses

Table 2: Oncology nurses' responses on KASRP (N =102)

True/ False Items	Correct	Incorrect	MS.	Assess.
1. Observable changes in vital signs…	25 (24.5)	77 (75.5)	9.56	Poor
2. Because of an underdeveloped neurological system, children under 2 years of age …	37 (36.3)	65 (63.7)	14.15	Poor
3. If the patient can be distracted from his pain this usually means …	26 (25.5)	76 (74.5)	9.94	Poor
4. Patients may sleep in spite of severe pain	48 (47.1)	54 (52.9)	18.35	Poor
5. Comparable stimuli in different people produce the same intensity of pain.	60 (58.8)	42 (41.2)	22.94	Moderate
6. Aspirin and other non-steroidal anti-inflammatory agents are not effective analgesics…	33 (32.4)	69 (67.6)	12.62	Poor
7. Non-drug interventions are very effective for mild-moderate pain control but rarely helpful …	21 (20.6)	81 (79.4)	8.03	Poor
8. Respiratory depression rarely occurs in patients who have been receiving opioids over a period of months.	59 (57.8)	43 (42.2)	22.56	Moderate
9. Aspirin 650 mg PO is approximately equal in analgesic effect to meperidine (Demerol) 50 mg PO.	47 (46.1)	55 (53.9)	17.97	Poor
10. The World Health Organization (WHO) pain ladder suggests using single analgesic agents …	28 (27.5)	74 (72.5)	10.71	Poor
11. The usual duration of action of meperidine (Demerol) IM is 4-5 h.	38 (37.3)	64 (62.7)	14.53	Poor
12. Research shows that promethazine (Phenergan) is a reliable potentiator of opioid analgesics	43 (42.2)	59 (57.8)	16.44	Poor
13. Patients with a history of substance abuse should not be given opioids for pain …	25 (24.5)	77 (75.5)	9.56	Poor
14. Beyond a certain dosage of morphine increases in dosage will not increase pain relief.	35 (34.3)	67 (65.7)	13.38	Poor
15. Elderly patients cannot tolerate opioids for pain relief.	34 (33.3)	68 (66.7)	13.00	Poor
16. The patient with pain should be encouraged to endure as much pain as possible…	33 (32.4)	69 (67.6)	12.62	Poor
17. Children less than 11 years cannot report pain with reliability and therefore, the nurse should rely on …	26 (25.5)	76 (74.5)	9.94	Poor
18. Based on one's religious beliefs a patient may think that pain and suffering is necessary.	60 (58.8)	42 (41.2)	22.94	Moderate
19. After the initial recommended dose of opioid analgesic, subsequent doses are adjusted …	86 (84.3)	16 (15.7)	32.88	**Good**
20. The patient should be advised to use non-drug techniques alone rather than concurrently …	32 (31.4)	70 (68.6)	12.24	Poor
21. Giving patients sterile water by injection (placebo) is often a useful test to determine if the pain is real.	36 (35.3)	66 (64.7)	13.76	Poor
22. In order to be effective, heat and cold should only be applied to the painful area.	37 (36.3)	65 (63.7)	14.15	Poor

who work at oncology settings need not only be knowledgeable, but also possess positive attitude in providing compassionate nursing care. This study intended to assess nursing staff knowledge and attitudes concerning cancer-related pain management. Nurses must work eagerly to be a life-long learner in order to bridge the gap between theoretical knowledge and practical experiences. This study provides essential insights about the level of oncology nurses' knowledge and attitudes regarding pain management at Al-Najaf, Iraq.

Findings from this study indicate that the participants had poor knowledge and attitudes toward providing desirable cancer pain management. Unfortunately, the

Table 2-A: Oncology nurses' responses on KASRP (N =102)

Multiple-choice Question Items	Responses	n (%)	MS.	Assess.
1. The recommended route of administration of opioid analgesics to patients with prolonged cancer pain…	31 (30.4)	71 (69.6)	11.85	Poor
2. The recommended route of administration of opioid analgesics to patients with brief, severe pain …	45 (44.1)	57 (55.9)	17.21	Poor
3. Which of the following analgesic medications is considered the drug of choice …	50 (49.0)	52 (51.0)	19.12	Moderate
4. Which of the following IV doses of morphine administered over a 4 h period would be equivalent …	35 (34.3)	67 (65.7)	13.38	Poor
5. Analgesics for post-operative pain should initially be given:	11 (10.8)	91 (89.2)	4.21	Poor
6. A patient with chronic cancer pain has been receiving daily opioid analgesics for 2 months …	5 (4.9)	97 (95.1)	1.91	Poor
7. Analgesia for chronic cancer pain should be given:	36 (35.3)	66 (64.7)	13.76	Poor
8. The most likely explanation for why a patient with pain would request increased doses of pain medication:	50 (49.0)	52 (51.0)	19.12	Moderate
9. Which of the following drugs are useful for treatment of cancer pain?	23 (22.5)	79 (77.5)	8.79	Poor
10. The most accurate judge of the intensity of the patient's pain is	44 (43.1)	58 (56.9)	16.82	Poor
11. Which of the following describes the best approach for cultural considerations in caring for patients in pain:	2 (2.0)	100 (98.0)	0.76	Poor
12. What do you think is the percentage of patient who over report the amount of pain they have?	11 (10.8)	91 (89.2)	4.21	Poor
13. Narcotic/opioid addiction is defined as psychological dependence accompanied by overwhelming …	18 (17.6)	84 (82.4)	6.88	Poor
Case studies				
1. (a) Patient A: Andrew is 25 years old and this is his first day following abdominal surgery …	31 (30.4)	71 (69.6)	11.85	Poor
2. (b) Your assessment, above, is made 2 h after he received morphine 2mg IV. Half hourly pain ratings …	5 (4.9)	97 (95.1)	1.91	Poor
3. (a) Patient B: Robert is 25 years old and this is his first day following abdominal surgery …	11 (10.8)	91 (89.2)	4.21	Poor
4. (b) Your assessment, above, is made 2 h after he received morphine 2 mg IV. Half hourly pain ratings…	35 (34.3)	67 (65.7)	13.38	Poor
MS. = Mean of Scores. MS. Poor = 0-19; MS. Moderate = 20-29; MS. = Good = 30-39.				

overall statistical results revealed that out of 39 of the scrutinized items, the mean score for right answered questions was 12.86. Comparable findings have been noted in prior research evidence in various countries around the world, though with slight variation in levels of knowledge and attitudes of cancer pain management.[14,18,21,28-31]

Table 3: Overall Assessment of the oncology nurses' responses on KASRP

Levels	N (%)	MS.	Asses.
Poor	99 (97.1)	12.86	Poor
Moderate	3 (2.9)		
Good	0 (0.0)		
Total	102 (100.0)		

Pain assessment is considered a backbone infrastructure for nurses to proceed with pain management. Results of our study demonstrated a low level of information on how nurses can assess pain for patients with cancer. Thus, inability to gather data is a main constrain to continue providing high-quality care. This result is consistent with outcomes in previous studies which reported the same findings.[23,28] Pharmacological and non-pharmacological approaches are fundamental to nursing practices. The vast majority of our study sample obtained low grading scores about cancer-related pain-

Table 4: Relationship between the Overall Scores of the Oncology Nurses' Responses on KASRP and Their Sociodemographic Variables

Socio-demographical Data		Mean Rank	*Kruskal Wallis	P-Value
Gender	Male	53.45	0.28	0.60
	Female	50.29		
Age (Years)	≤ 25	49.48	1.33	0.51
	26 - 32	56.10		
	33+	45.60		
Level of Education	Diploma in Nursing	52.80	0.56	0.75
	Bachelor of Nursing	48.07		
	Master of Nursing	55.00		
Years of Work (Years)	≤ 4	51.56	0.55	0.76
	5 - 8	54.65		
	9+	46.23		
Years of work in the oncology ward (Binned)	≤ 1	52.26	0.04	0.83
	2 - 3	51.01		
Type of Shift	Morning Shift	52.24	0.25	0.62
	Evening Shift	48.64		
Receive previous education on pain management	Yes	47.94	1.69	0.19
	No	55.51		
Number of courses that have taken on pain management.	Do not participate	54.29	5.10	0.16
	1 time	41.73		
	2 times	52.45		
	3 times and above	67.42		
Experience pain personally with a family member	Yes	54.18	0.67	0.41
	No	49.39		

** Significant at P < 0.05; *Normal Distribution Has been Not Achieved.*

relieving medications intervention, administration, and management as depicted in Table 2.

The Knowledge Attitudes Survey Regarding Pain (KASRP) questionnaire is composed of selected response items (true/false and multiple-choice questions). Our results regarding true/false questions (Table 2) showed that the great majority of participants (n = 86; 84.3%) selected the right answer for item number 19 only, which specified their comprehension to subsequent opioid dose adjustment according to the patient's response to the initial doses. This finding is compatible with earlier investigations carried out in Sri Lanka and Nipal.[20,32] Contradicted results have been found in a study conducted in the United Arab Emirates.[23]

On the other hand, the present results showed the lowest rate of correct answer (n = 21; 20.6%) found in item number (7) with the mean score (8.03), which stated non-pharmacological approach is helpful for pain intensity. This outcome is congruent with a study conducted in Italy, which found the same question achieved the lowest percentage.[27] Item number (10), most of the oncology nurses (n = 74; 72.5%) responses on the recommended use of pain ladder medication according to the World Health Organization (WHO) answered it incorrectly. The same findings frequently appeared in prior literature.[33,34] In addition, a low proportion of respondents (25.5%) correctly answered item (17), which articulated that children less than 11 years old cannot report pain. The same results were found in a recent study in Saudi Arabia and Greece, with the lowest correct answer of the same item.[33,34] These were merely an illustrative example of our findings with the relatively same results found in previous international literature.

Concerning the responses to Multiple-Choice Questions (MCQs) the current findings in Table 2 indicate that nurses provided a minimum correct answer rate. Nursing is a lifelong learning profession, and nurses must advance their knowledge accordingly in terms of ensuring medication safety and providing high-quality care. Globally, researchers have reported that inadequate nurses' knowledge and attitudes have been suggested to be major barriers in implementing cancer pain treatment.[28] In the context of clinical practice, oncology nurses need to master fundamental knowledge and skills of medication administration in order to protect cancer patients from potential harm. Our documented results revealed that oncology nurses had poor knowledge and negative attitudes toward not only

assessing patients' pain, but also toward therapeutic strategies, which include medication route, dosage adjustment, adverse effects, and religious beliefs or cultural values of pain-relieving medications. These aspects of question items (23 – 35) display the highest percentage of incorrect answers. For instance, most nurses' responses to pain analgesics questions regarding recommended routes, pain severity, and cultural considerations were incorrect. These findings are in line with prior descriptive studies carried out in Oman, China, Ethiopia, and Greece that identified relatively similar results.[9,13,17,34]

Lack of in-service education and training programs leads to poor pain control and deteriorates cancer patients' quality of life. Our interpreting data demonstrated that a high percentage of incorrect responses were obtained from items about case studies, particularly question (36b) "the morphine IV dosage question" received the lowest proper response as exhibited in Table 2. Regrettably, for this question, almost all participants (n = 97; 95.1%) chose the wrong answer. Our findings align with a study conducted in Vietnam and Greece.[29,34] A recent meta-analysis study conducted by McCabe et al. (2023) found that a low level of nurses' knowledge induces negative attitudes and ultimately leads to unsatisfactory outcomes of cancer-related pain management.[35] The authors mentioned that it could be due to the lack of an in-service educational program.[35]

In this study, the statistical results in Table 3 show that the overall assessment of oncology nurses' knowledge and attitudes related to cancer pain was poor, with a mean score of 12.86. inappropriate pain management strategies can negatively affect patients' quality of life. The analytical results of this study raise alarming and stakeholders must take action to place pain management as a high priority in clinical settings.[36] In addition, Table 4 indicated that there was no statistically significant relationship among nurses' knowledge and attitudes and their sociodemographic variables, in line with findings in previous evidence.[23] This finding was unexpected due to higher educational qualifications could reflect higher level scores in KASRP; however, it suggests more efforts should be directed to in-service educational/ training programs of pain management.[36]

5. LIMITATIONS

Some limitations have been found and as follows: first, the present study was conducted in a single clinical setting. Second, the small number of participants via the convenience sample method limits the generalizability of the findings to other populations. Some nurses were excluded (those on night shift) to avoid variability in responses and control the confounding variable because circadian rhythm disruption. Lastly, bias could occur when nurses' answers did not reflect the factual knowledge they had regarding cancer-related pain management due to excessive work burden and nursing staff shortage at the study setting.

6. CONCLUSION

The present data showed that oncology nurses' responses were predominantly poor, with occasional indications falling within the moderate range. Knowledge and attitudes of cancer-related pain management are important in promoting patient outcomes. Extensive literature asserts that insufficient pain management knowledge and attitudes among oncology nurses are associated with low levels of patient satisfaction and quality of life. Researchers stated that pain is often overlooked in nursing educational courses. More efforts are needed to raise policymakers' awareness toward incorporating evidence-based cancer-related pain management guidelines to overcome such barriers in clinical practices. The current findings highlight the urgent requirement for an effective program regarding cancer pain management. Most importantly, bridging the gap between knowledge and practice is the key to enhancing the quality of care and improving outcomes for patients with malignant illness.

7. Data availability

The numerical data generated during this research are available from the authors.

8. Conflict of interest

All authors declare that there was no conflict of interest.

9. Ethical considerations

Ethical approval was obtained from the Institutional Review Board (IRB) at the Faculty of Nursing/ University of Kufa, and AL-Najaf Health Directorate in order to ensure there is no harm and protect human rights. The IRB reference number is 1855 dated 24/ 11/ 2024.

10. Authors' contribution

JJK: literature search, statistical analysis and manuscript editing

RJT: literature search and manuscript editing

AAS: statistical analysis

AMAF: literature search

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