

Barriers to pain management of cancer patients by nurses: Aqualitive study

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Abstract

Purpose: Pain is a common and distressing symptom among cancer patients. It significantly diminishes their quality of life by impacting their emotional well-being, cognitive function, and daily interactions. Therefore, it is crucial for healthcare providers to recognize the challenges and barriers to pain management to develop effective educational programs and support services aimed at enhancing the quality of life for patients and their families. This study aimed to explore the barriers to pain management in cancer patients from the perspective of nurses in Iran.

Methods: This qualitative study involved 27 nurses working in the oncology department. The data were gathered through semi-structured interviews and analyzed using Lundman and Granheim's qualitative content analysis method.

Results: Nurses' perspectives of barriers to pain management fell into four main categories: the marginalization of complementary medicine, medical malpractice, inadequate organizational infrastructure, and personal barriers.

Conclusion: The study's findings demonstrated that the barriers to pain management in cancer patients were multifaceted. To alleviate patients' pain and enhance their quality of life, efforts should be directed toward identifying and addressing issues across various dimensions. Moreover, it is essential to prioritize the training of patients and healthcare providers in pain management, and to address shortcomings within the healthcare system.

Keywords: Challenges, cancer, pain management, qualitative study, Nurses

Introduction

Pain is a prevalent symptom in individuals with cancer, particularly in those in the metastatic stage, and profoundly affects all aspects of life (1). Pain associated with cancer reduces quality of life, negatively impacting emotional well-being, cognitive function, daily functioning, and communication within family and broader social circles (2). Pain is one of the most distressing and frequent symptoms for both cancer patients and their families, with approximately 70% of patients experiencing severe pain, depending on the cancer type and stage (3). While cancer may be perceived as a terminal illness, individuals with cancer should not be deprived of their right to a healthy, pain-free life, and every possible measure should be taken to alleviate their suffering (4). In essence, effective pain management can offer substantial comfort and improved functionality for individuals with cancer (5).

Pain management encompasses the reduction or control of pain through processes such as pain assessment, treatment, health education, and psychological support (6). As the disease progresses and treatments lose effectiveness, pain management becomes the primary objective, particularly in the terminal stages of the illness (7). Effective pain management can alleviate pain in approximately 90% of individuals with cancer (6). Despite the existence of potent medications and clinical guidelines for pain management, cancer patients frequently express dissatisfaction with the inadequacy of pain control, a situation that persists despite numerous advancements in the field (8). A study conducted in Europe revealed that the pain of cancer patients was poorly managed in 16 to 91% of cases (9).

Quantitative studies have identified various barriers to pain management for cancer patients, including insufficient knowledge (10), attitudes and beliefs (11), organizational challenges such as staffing shortages and heavy nursing workloads (12), cultural disparities in pain perception (13), and the absence of a comprehensive clinical model for pain management (14). Other qualitative studies have also highlighted barriers to pain management in cancer patients, such as time constraints and knowledge gaps in medicine and palliative care and inadequate nursing care approaches for patients with advanced cancer who experience pain (15, 16).

In Iran, cancer is a prevalent disease, and it is projected that by 2030, 13.4% of deaths in the country will be attributed to cancer. Annually, Iran has reported 80,000 new cancer cases and 30,000 cancer-related deaths, underscoring the increasing societal demand for specialized care for cancer patients (17). Cancer patients endure a range of emotional, psychological, and physical symptoms, including pain, leading to detrimental changes in their quality of life (14). Notably, studies on nurses' pain management in Iran are rare, and pain management in healthcare facilities is predominantly based on medical models, despite the necessity for specific nursing models to ensure effective pain management.

Due to the qualitative nature of pain, quantitative studies may not fully capture the various dimensions of pain management. Therefore, it is essential to employ qualitative research to gain more comprehensive understanding of pain management based on nurses' experiences. Qualitative research can offer rich and detailed insights, making it the most suitable method for exploring the interactive processes between individuals and society, understanding the underlying causes of behaviors, and developing practical theories. Given nurses' limited knowledge about the process of pain management and the influence of racial, cultural, and ethnic factors, it is impractical to adopt strategies from other countries. Hence, the most appropriate approach for this study is to examine the natural context, structure, and factors influencing the development of pain management (18).

Complex process of pain management for cancer patients is influenced by various human and environmental factors, interactions between the patient, family, and healthcare team and social interactions. This aligns with the theory of symbolic interactionism (19). Therefore, a qualitative research method was employed to elucidate the obstacles to pain management for Iranian cancer patients from the perspective of nurses, aiming to provide a comprehensive understanding of this critical issue.

Review of Literature

We performed a comprehensive analysis of current studies related to pain management, with a special focus on cancer. The findings showed that there is a significant gap in this field. Existing theories are considered insufficient to address the individual context of cancer pain and do not

provide specific strategies to enhance cancer pain management. Regarding the treatment management of cancer patients, it cannot accept these challenges that during the management process, pain is identified and according to those models or theories that are made to create this support. Doctors and nurses should consider these therapeutic and related models in the social and cultural context, so pain management should be recognized in Iranian culture in order to create a suitable context with Iranian culture.

Research methods

The current qualitative study, conducted in 2023, aimed to explore the barriers to pain management in Iranian cancer patients from the perspective of nurses. This qualitative approach was chosen to delve into the nurses' experiences and address the main questions, allowing for a comprehensive exploration of the phenomenon of interest.

Participants

The participants for this study were chosen through purposive sampling from nurses employed in the oncology departments of hospitals affiliated with the Yazd University of Medical Sciences. A total of 27 nurses took part in the study after meeting the specified inclusion criteria; they were required to have a minimum of 6 months of experience caring for cancer patients and to hold at least a bachelor's degree in nursing. The samples were purposefully selected to ensure maximum variation, thus enabling a more comprehensive description of the barriers to pain management. Sampling continued until data saturation was achieved. Data saturation occurs when further data collection on the studied phenomenon no longer yields new information.

Data collection

The data for the study were gathered through open and semi-structured interviews, which typically lasted between 40 and 60 minutes. Initially, the authors posed some introductory questions to familiarize themselves with the participants and establish a comfortable environment. Subsequently, they focused on the research's objectives. Some of the questions developed for interviews included: "Would you please describe your experience in managing pain in cancer patients?" or "How do you approach a cancer patient experiencing pain, and what factors prevent you from effectively and promptly addressing patients' pain?" . Based on the

responses, additional in-depth and exploratory questions were asked, such as “Could you explain more?”

Data analysis

The data analysis in this study was conducted using the method proposed by Graneheim and Lundman, which aims to achieve a comprehensive and thorough understanding of the phenomenon through qualitative content analysis (20). In the first step, the text of the interview was implemented word by word and they were used as the main data of the research. In the second step, the text was divided into meaning units that were summarized and shortened. In the third step, the design of abstracting the units Semantic and selection of codes was done. According to the experiences of the participants, the obvious and hidden concepts were determined in the form of sentences or paragraphs of their words and the denoting codes, then coding and refinement were done. In the fourth step, based on the constant comparison of similarities, differences and fit The codes that indicated a single topic were placed in one class and categorized under classes and classes. Ambiguous points that need attention, in addition to being revised by the participants, were also examined in subsequent interviews; In such a way that the ambiguities were resolved and the position of the codes in each class was fully defined. In the fifth step, at the interpretive level, the summary classes and the central concept of each class were defined and the main and abstract concepts were extracted. The concepts were based on the description of the internal themes with attention All data were reviewed (21). Table 1 shows an example of the analysis process used in this study. Throughout the data collection and analysis, the researcher recorded any reflections or remarks related to the data for future reference.

The study's trustworthiness was assessed using the criteria outlined by Guba and Lincoln (21). The accuracy and reliability of the data were ensured through code review of participants, supervisors' reviews, and prolonged engagement with the data. The researcher was deeply involved with the subject, data, and nurses for more than a year. Before the interviews, the researcher visited each participant to establish trust and set the stage for the in-depth interviews. A portion of the text, along with the initial coding, was shared with the participant, who then compared the degree of consistency between the ideas extracted by the researcher and their

original comments. Peer checking was conducted by presenting the developed concepts and categories.

Table1: An example of qualitative content analysis

Category	Subcategories	Codes	Meaning units
Medical malpractice	Inattention given to pain management process	Failing to examine a patient with abdominal pain can exacerbate the patient's condition.	Sometimes, in certain cancer patients, abdominal pain may result from liver damage. In such cases, nurses may administer analgesics without promptly examining the patient's abdomen or identifying the cause of the pain, potentially worsening the condition of the patient's liver.
	Disadvantages of doctor visits	The patient's pain continues due to the delay in visiting	Sometimes, interns or residents have left the hospital, particularly during the night shift, leading to prolonged delays in revisiting the patient, thereby causing the patient to endure ongoing pain.
		Limiting the prescription of analgesics below the patient's actual requirement prevents effective pain management for the patient.	Doctors typically prescribe analgesics using standard formulas and guidelines from medical literature. However, patients with similar conditions may have varying physiological needs, leading to a requirement for different doses of analgesics. Insufficient dosages of painkillers can pose a barrier to effective pain management for these patients.

Results

This study included 27 nurses, with a mean age of 40 years, who worked in oncology departments. The participants had between 8 months and 25 years of overall work experience, and between 6 months and 18 years of experience specifically in the oncology department. All participants held bachelor's degrees in nursing. The data analysis revealed four main categories of pain management barriers from the perspective of nurses: the marginalization of complementary medicine, medical malpractice, inadequate organizational infrastructure, and personal barriers. Each category includes subcategories, which are summarized in Table 2.

Table 2: Barriers to pain management in cancer patients from the perspective of nurses

Main them	Main category	Sub category
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Barriers to pain management in cancer patients	Marginalization of complementary medicine	Disbelief in complementary medicine for pain relief lack of knowledge and skills in complementary medicine
	medical malpractice	Inattention given to pain management process problems related to medical visits.
	Inadequate organizational infrastructure	Lack of personnel Inappropriate environment
	Personal barriers	Treatment resistance fear of drug side effects patients' lack of knowledge

Marginalization of complementary medicine

One important factor contributing to the underutilization of this pain management methods was the isolation of complementary medicine among healthcare providers. This study revealed that healthcare professionals' disbelief in the palliative effects of complementary medicine, as well as the lack of knowledge and skills among healthcare providers regarding nonpharmacological pain management methods, contributed in to the marginalization of complementary medicine in relieving patients' pain.

Healthcare professionals' disbelief in the palliative effects of complementary medicine: The use of complementary medicine for pain relief requires the cooperation and acceptance of this practice by doctors. The data analysis revealed that Doctors often do not believe in the use of complementary medicine methods to relieve pain in cancer patients, and they say that the pain intensity of these patients is such that it is not possible to relieve the pain except using strong painkillers or finally sedation methods. This attitude serves as an obstacle to the use and prescription of this practice by specialists.

“Complementary medicine methods are not used at all in the hospital because most doctors have not yet recognized complementary medicine.” (P6)

A lack of knowledge and skills in complementary medicine: Using complementary medicine methods to achieve useful results in pain management requires having sufficient knowledge about these methods and their possible effects, as well as having the necessary skills to use these methods. In this study, most of the participants noted found that health care workers lack interest, knowledge, and understanding of pain relief as well as the skills to use non-pharmacological methods.

"I have never seen non-pharmacological methods used to relieve patients' pain. The personnel are not skilled in non-pharmacological methods and immediately resort to prescribing painkillers." (P10)

Medical malpractice

Pain management necessitates teamwork, with both doctors and nurses playing crucial roles in diagnosing and assessing patients' pain, as well as determining and implementing appropriate treatment measures. Doctors, as prescribers of painkillers, and nurses, as those responsible for assessing patients' pain and deciding on the use of painkillers and nonpharmacological methods, are integral to this collaborative effort. According to the participants, inattention given to the pain management process and instances of medical malpractice among care providers were significant barriers effective pain management.

Nurses' inattention given to the process of pain management: Pain management is crucial for reducing patients' pain and suffering and enhancing their quality of life. However, evidence suggests that nurses may fail to report pain to doctors due to inadequate communication or inappropriate behavior from doctors. Difficulties in completing pain assessment sheets also hinder their use, leading to shortcomings in pain management. The experiences of the participants revealed that some nurses were indifferent to the pain management process, occasionally administering analgesics without a doctor's order. These actions can potentially cause serious injuries for the patient or delay the pain management process.

“Sometimes, nurses administer analgesics to alleviate a patient’s pain without proper examination or order, simply to provide relief. Unfortunately, this practice has, at times, worsened the patient’s condition and introduced new problems.” (P4)

Disadvantages of doctor visits: Effective pain management requires doctors to accurately and promptly assess patients in pain and prescribe analgesics based on a correct diagnosis of the patients’ pain needs, including the type and dosage of analgesics. The experiences of the nurses in this study revealed that some doctors were indifferent to monitoring patients’ pain or causing them to suffer from delayed visits. These instances of medical malpractice, prevent the effective pain management. Other barriers to pain management in this study included inadequate examination and evaluation by doctors and inattention given to prescribing the appropriate dose of analgesics due to physiological differences.

“Specialists or residents’ visits are very brief. The dosage of analgesics does not seem to be based on accurate and thorough examination or individual differences.” (P 5)

Inappropriate organizational infrastructures

Organizational infrastructures significantly influence the pain management of patients. Factors such as an adequate number of nursing staff in wards, sufficient analgesics, and a suitable physical environment for patients to rest after receiving painkillers play crucial roles in the pain relief process. If patients are unable to rest after receiving painkillers, the effectiveness of the painkillers will be compromised. Additionally, insufficient nursing staff in the ward may lead to the neglect or delay of care for patients in pain due to nurses’ other pressing responsibilities. In this study, nurses highlighted inappropriate organizational infrastructure in the pain management of cancer patients, lack of personnel, and improper environments as significant subcategories.

Lack of personnel: The lack of personnel in the department leads to an unscientific division of labor and inappropriate work schedules, posing challenges to pain management. A mismatch between the number of personnel, the number of patients, and the workload results in nurses not struggling to effectively manage pain. Nurses’ experiences underscored the importance of having sufficient nursing and medical staff in the ward for effective pain management. A high workload and limited time were reported as obstacles to properly controlling patients’ pain. Many nurses

expressed a desire to alleviate patients' pain but cited insufficient time and high workloads as significant obstacles in this regard.

"Sometimes, we are unable to administer analgesics to patients on time due to shortages. For instance, when a patient complains of pain, we are often unable to attend to them promptly due to the need to prioritize other patients, resulting in the patient suffering more." (P 14)

Improper environment: Effective pain management does not solely rely on the administration of analgesics. Providing patients with the opportunity to rest properly after receiving painkillers is a crucial factor in pain relief and the effectiveness of medication. Therefore, if the physical structure of the ward prevents patients from resting after receiving analgesics, it can be a significant obstacle to pain relief. In this study, nurses mentioned that crowded wards and difficulty falling asleep after receiving analgesics were obstacles to proper pain management.

"In this ward, you can see that the patient has received analgesic, but the ward is so busy that they cannot sleep. In my opinion, analgesics should be the last resort. First, we need to strengthen the patient mentally, create a calm environment, and then administer analgesics. However, it is the other way around." (P 16)

Personal barriers

Patients' individual characteristics such as The experience of using painkillers and its side effects, previous pain experiences, the level of patient information and physiological differences, can significantly impact pain management. According to nurses' experiences, treatment resistance, fear of drug side effects, and patients' lack of knowledge and literacy were barriers to effective pain management.

Treatment resistance: Patients with similar types of cancer may experience varying levels of pain, each responding differently to analgesics and exhibiting distinct sensitivities to the adverse effects of these drugs. The prolonged use of opioids can result in the development of tolerance, necessitating an increase in dosage over time to maintain the same level of pain relief. The participants of this study emphasized that pain experiences differed among individuals, and healthcare professionals should take into account individuals' tolerance thresholds and their

body's response to analgesics, which can be influenced by physiological differences or prior drug use.

“Each patient's pain is unique to their condition, requiring different dosages, types, and frequencies of analgesics, a fact that is often overlooked.” (P20)

Fear of drug side effects: The use of opioids has been restricted due to various unfounded concerns, such as the fear of opioid dependence and potential side effects such as drowsiness, constipation, urinary retention, dry mouth, and more serious issues such as orthostatic hypotension, hepatotoxicity, and cardiotoxicity associated with long-term use of analgesics.

“One of the challenges in pain management is the side effects associated with certain drugs; for instance, pethidine can lead to seizures in patients after a few days, making it unsuitable for long-term use. Methadone, which can cause apnea, is sometimes used as an alternative, further adding to patients' apprehensions.” (P3)

Patients' lack of knowledge: The majority of participants perceived health literacy as a crucial and determining factor in pain management. Low health literacy poses a significant barrier to effective communication between patients and healthcare providers, as well as to the comprehension of treatment instructions and the rationale behind prescriptions. Nurses' experiences highlighted that managing pain effectively in patients with limited knowledge was notably more challenging than in patients with good knowledge, representing a major obstacle to optimal pain management.

“Some patients have limited knowledge and struggle with communication and education, which poses a significant barrier to pain management.” (P2)

Discussion

The primary objective of this study was to identify the barriers to pain management in cancer patients from the perspective of nurses in Iran. The study revealed several barriers to pain management, including the marginalization of complementary medicine, medical malpractice, inadequate organizational infrastructure, and personal barriers. According to the nurses, the failure of pain management in cancer patients can be attributed to various factors, such as

healthcare workers' lack of knowledge about complementary medicine methods, inattention given to the pain management process, medical malpractice, treatment resistance, nurses' fear of drug side effects, and patients' lack of knowledge. Numerous studies have also highlighted barriers to pain management, including lack of knowledge, poor communication, fear of complications, work pressure, and time constraints (22).

The present study has concluded that there is an insufficient personnel for non-pharmacological pain interventions in cancer patients. This is attributed to the lack of knowledge of nurses and doctors about such interventions, the non-acceptance of these methods in medical science, and the common pharmaceutical culture in Iran, where doctors and nurses primarily rely on pain relief drugs for patients. In line with this study, various studies reported access to opioids as the main pain relief agent (23) and the inefficiency of patients' companions and the rejection of non-pharmacological measures due to the belief that these methods are inappropriate, as barriers to painmanagement (24). Other studies have also identified the poor knowledge of nonpharmacological methods for pain management and the lack of trust in their use (25, 26), the unfavorable attitude of student nurses and nurses towards these methods (27-29), doctors' lack of training in complementary medicine, and the lack of significant scientific evidence for the effectiveness of these methods as barriers to their use for pain relief(30). Contrary to the results of the present study, some researchers have demonstrated that healthcare workers exhibit a high level of awareness of non-pharmacological pain management methods and complementary medicine (31, 32). Additionally, positive experiences with the effects of complementary medicine have led to its preference over chemical medicine (33). Despite the importance of complementary medicine in relieving patients' pain and the establishment of palliative care hospitals worldwide, there is still a lack of interest in using complementary medicine methods among healthcare workers in traditional and religious Iranian society. This is attributed to the structure of healthcare centers, the hierarchy of power within these centers, and the limited role of nurses in patient-related decisions. This kind of research can identify obstacles or factors inhibiting the use of these methods and contribute to their resolution.

Based on the obtained results, the shortcomings of the healthcare team, such as inattention to the pain management process and problems during medical visits, can pose important barriers to

proper pain management. For instance, a study reported that neglecting pain management, doctors' refraining from prescribing painkillers and narcotics, and advising patients to tolerate pain without receiving painkillers were obstacles to pain management in people with cancer (25). Another study revealed that some doctors were reluctant to prescribe painkillers and ignored patients' reports of pain (16). In a study by Dalal et al., nurses reported instances of doctors refusing to prescribe pain medication. Poor pain assessment and doctors' refusal to prescribe narcotic painkillers have been identified as major challenges in cancer pain management. Furthermore, some healthcare providers believe that cancer inherently entails pain, leading to a diminished sensitivity toward patients' pain relief (34). Additionally, poor knowledge, insufficient experience and common misconceptions among doctors and nurses regarding cancer pain represent significant challenges in pain management (35).

Contrary to the present study, a previous study indicated that most Chinese doctors placed nearly equal emphasis on treating cancer pain as they do on treating the cancer itself (36). Therefore, improving the knowledge and beliefs of healthcare workers, starting from their university education and continuing through in-service training, can be effective in pain management of patients (35). Our results revealed that organizational limitations and background factors such as lack of personal and inappropriate environment can inhibit the use of non-pharmacological pain relief methods in cancer patients. While some researchers support these results, they suggest that the timely presence of nurses at the patient's bedside to manage the patient's pain can compensate for the lack of manpower, address time constraints, and reduce the workload of nurses (37). Other studies have reported encountering inappropriate organizational structures such as mismatched employee workloads and inappropriate workplace, lack of time and heavy workload, insufficient staff, and lack of equipment, all of which act as barriers to pain management in cancer patients (24, 38).

In our study, we found that personal barriers such as treatment resistance, fear of drug side effects, lack of knowledge of patients were reported as other barriers to effective pain management. These results are consistent with findings from other studies, which also highlighted fear of side effects such as cardiac arrest and drug addiction due to a lack of understanding about the severity of drug side effects (39, 40). Patients also were concerned about side effects such as constipation, nausea, vomiting, and fatigue, which prevented them from

using painkillers (40, 41). Another study reported that patients' negative attitude towards the effectiveness of painkillers, concerns about addiction to narcotic painkillers, and fear of their side effects were barriers to using pain management drugs (25, 42). Workshops have been shown to be effective in increasing nurses' awareness and promoting proper pain management (39).

Limitations and strengths

Given that the results obtained in this study were similar to the results of some studies in other countries, these findings can be considered transferable. However, adapting solutions to the religious and cultural context of Iran and its hospital procedures are essential. The strengths of our study include conducting in-depth interviews, having one person conduct the interviews, and involving all members of the research team in the data analysis process. In addition, this study did not face any specific limitations.

Conclusion

These findings offer valuable insights into the barriers impacting pain management for cancer patients. The success or failure of pain management significantly depends on these influential factors in patient care in practice. The present study revealed numerous challenges in pain management for cancer patients, such as the marginalization of complementary medicine, medical malpractice, inadequate organizational infrastructure, and personal barriers. Therefore, nursing policymakers can utilize these results to address obstacles such as the shortage of human resources. They can hold educational workshops and sessions related to complementary medicine and new pain management methods, thereby addressing the lack of knowledge and awareness among healthcare workers regarding complementary medicine. The institutionalization of humanistic care perspectives and the core values of the nursing profession can be instrumental in enhancing the overall quality of nursing care, including pain management.

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Author contributions

The study's concept and design were created by Parvin mangolain, Jamileh farokhzadian, and Fatemeh khabazzadeh. The survey was performed by Fatemeh khabazzadeh, data analysis and manuscript writing were handled by Fatemeh khabazzadeh, Parvin mangolain and Jamileh farokhzadian. Jamileh farokhzadian and Fazllolah ahmadi oversaw the research and provided critical feedback on the manuscript. The final manuscript was read and reviewed by all of the authors.

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Availability of data and materials

The data are available upon request to the corresponding author after signing appropriate documents in line with ethical application and the decision of the Ethics Committee.

Declarations

Ethics approval and consent to participate

This manuscript, derived from a Ph.D. dissertation in nursing, approved by the Research Ethics Committee of Kerman University of Medical Sciences with the research code of 401000751 and the ethics code of IR.KMU.REC.1401.521. At the request of the ethics committee, the present study was conducted under the Declaration of Helsinki and the Committee on Publication Ethics (COPE). To observe ethical considerations, the participants were provided with comprehensive information about the study goals and process. All participants provided written informed consent in all stages of the study. The participants were voluntarily enrolled, and they could withdraw from the study at any time. No names were written down or mentioned during the interviews. The interview recordings were deleted after transcription. The interviewees and the respondents' confidentiality were maintained throughout the research process from data collection to publication.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

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