Understanding The Impact Of Nursing Interventions On Pain Management In Cancer Patients

Alya Abdullaziz Alanazi[1], Najd Nasser Alenazi[2], Fatimah Naif Alwabrah[3], Naimah Barjas Banyah[4], Shuaa Abdulaziz Alenazi[5], Wadha Mushrref Alanazi[6], Rajwa Fahat Alonazi[7], Muna Fanash Alenazi[8], Bashayr Naif Alanazi[9], Huda Musaib Al-Ruwaili[10] Maryam Musharraf Alanazi[11]

1. Nurse - Riyadh Specialized Dental Center
2. Nurse - Primary Health Care Aldana
3. Nurse - Primary Health Care Aldana
4. Nursing technician - Primary health care alnadhem north
5. Primary Health Care alnadhem north
6. Nurse - Riyadh Specialized Dental Center
7. Nurse - Riyadh Specialized Dental Center
8. Nurse - Primary Health Care alnadwa
9. Nurse - Primary Health Care alnadhem north
10. Nurse - Primary Health Care alnadhem north
11. Nurse, Al Rawda1 Health Center

Abstract

Pain is a common and distressing symptom experienced by cancer patients, affecting their quality of life and overall well-being. Nurses play a crucial role in assessing and managing pain in these patients through various interventions, including pharmacological and non-pharmacological approaches. This study will review existing literature to examine the effectiveness of nursing interventions in alleviating pain in cancer patients. The review will focus on the role of nurses in pain assessment, education, and support, as well as the use of techniques such as massage therapy, relaxation exercises, and cognitive-behavioral interventions. The study will also explore the impact of nurse-led pain management programs on patient outcomes, including pain intensity, functional status, and satisfaction with care. The findings of this study will contribute to the growing body of evidence on the importance of nursing intervention in pain management for cancer patients. By identifying effective strategies for managing pain in this

population, nurses can improve the quality of care and enhance the overall well-being of cancer patients.

Keywords: Cancer, Pain Management, Nurses, Systematic Review.

Introduction

More than half of patients with advanced, metastatic, or terminal cancer report experiencing pain. Furthermore, cancer pain is a complex symptom that can be caused by a variety of factors, including tumor or treatment-related and non-cancer-related pain, as well as nociceptive and neuropathic pain, and can vary in nature and duration. Management of cancer pain is a personalized process **(Sheinfeld et al., 2012).**

For patients experiencing pain at any stage of their illness, the American Society of Clinical Oncology (ASCO) and the National Comprehensive Cancer Network (NCCN) advocate a combination of pharmacological and non-pharmacological pain management techniques based on the patient's preferences. The NCCN guidelines recommend physical interventions like massage, acupressure, heating and cooling, and conditioning exercises, as well as cognitive-behavioral interventions like mindfulness, breathing exercises, and relaxation, as well as psychosocial support and spiritual care, when it comes to non-pharmacological therapy **(Swarm et al., 2019).**

Due to the usage of aromatase inhibitors, the ASCO guidelines prescribe mild acupuncture for joint pain and reflexology, massage, acupressure, yoga, and muscle relaxation therapy for general and musculoskeletal pain. For cancer patients getting palliative care, only mild massage is advised. Nonetheless, there is currently a lack of evidence about appropriate nursing care for patients who are terminally ill **(Swarm et al., 2019).**

Compared to other members of the healthcare team, nurses spend the most time with patients. They have a vital, proactive, and significant role in reducing suffering and managing pain for cancer patients. In order to manage cancer pain, a nurse must be aware of the patient's sociocultural background, the patient's psychological condition, the nature of the cancer, how it is treated,

and the harmful consequences of untreated cancer pain. She must be aware that there are two forms of pain: neuropathic and nociceptive, and that 80% of cancer patients who experience pain may have two or more distinct symptoms at once. Believing in the patient, assessing pain, determining the cause of the issue, organizing the care, giving medicine, reviewing its efficacy, and more are all part of a nurse's job in managing cancer pain **(Said, 2011).**

Furthermore, oncology nurses provide gentle nursing care, preventing suffering, educating, advocating, communicating, consoling, supporting, and counseling the patient are all included in this category of nursing interventions. In order to tailor care, the nurse must employ both pharmaceutical and non-pharmacological interventions. She also has to be knowledgeable about all the medications used to treat cancer pain, including how they work to reduce pain and any potential negative effects. In order to treat pain, she must adhere to the WHO recommendations and select the appropriate medication, dose, timing, intervals, and patient. She needs to assess the efficacy of the medication, administer PRN doses for pain that resurfaces, and suggest certain adjustments **(Said, 2011).**

A nurse's job is to anticipate the patient's pain needs, support the patient in obtaining what feels right for him in his cultural setting, and take into account the patient's beliefs. By encouraging comfort, supporting the painful area, managing the patient gently, and using nursing therapies, the nurse can physically ease pain. To treat various forms of pain, the nurse may suggest physiotherapy, TENS/Acupuncture, occupational therapy, spiritual support, social work, psychology, and psychiatrist. In addition to discomfort, she needs to treat additional ailments. and make certain the patient gets enough rest. She needs to be kind, kind, and understanding toward him. Since every patient is distinct, the procedure of managing cancer pain varies from patient to patient **(Hughes et al., 2017).**

The job of a nurse is demanding; in addition to clinical proficiency, she must also show that she is culturally competent. She must optimize the benefits of medication, nursing care, and other non-pharmacological treatments for the patient by using her creative assessment skills, clinical judgment, psychological support,

advocacy, and effective communication abilities. The nurse must ascertain the overall impact of all pain relief techniques used when assessing the patient's overall treatment. It is the difference between a patient who suffers to the very end of his or her life and one who passes away comfortably, painlessly, and with dignity that nurses make **(Benner et al., 2008).**

The purpose of this scoping review was to explore and understand the impact of nursing interventions in managing pain in cancer patients at all phases of the disease and its effect on patient outcomes.

The review

1. Aim and Research Question

This study aimed to explore, and describe reviews of the impact of nursing interventions on pain management in cancer patients. The research questions that led the review were as follows: what are the nurse interventions to manage the pain in cancer patients? What is the impact of nurse-led pain management programs on patient outcomes?.

2. Design

The authors of this review conducted a systematic review to compile and contrast the results of earlier peer-reviewed reviews,. A total of 8 reviews met the eligibility criteria and were reviewed. The results of the systematic review of current literature on nurse interventions to manage pain in cancer patients were reported using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines 33.

3. Methodology

A systematic search of literature was conducted to review and explore the impact of nurse interventions to manage pain in cancer patients. Studies were identified by searching PubMed, EMBASE, Cochrane Central Register of Controlled Trials in the Cochrane Library, and CINAHL databases from 2010 to 2021. Search terms included "nurse", "pain", "cancer", "patient", "intervention", and "support". Reference lists of relevant articles were also manually reviewed to identify additional studies.

4. Study selection

Inclusion criteria were original research studies exploring the nurse interventions on managing pain in cancer patients. Studies were included published in English language, date of publication, patients at any age and all phases of the disease. Excluded were studies that reported at least 20% non-cancer participants, secondary analyses, conference abstracts, grey literature, and those in languages other than English. Study selection process done by Investigators who independently evaluated the titles and abstracts of all studies and then screened the complete studies against the eligibility criteria. Discrepancies in study selection were resolved through discussion.

5. Data Extraction and Quality Assessment

Data extraction was performed to gather information on study methodology, interventions, outcomes, and results. Quality assessment of included studies was conducted using standardized tools appropriate for respective study designs. A narrative synthesis of findings from the included studies was performed.

Results

The studies that are discussed were published in 2021 and 2010. 10,348 studies in all were located. Following the exclusion of 3450 duplicate studies, 6800 studies remained. Eight articles were included in the review out of the 98 full-text studies that were evaluated for study eligibility and relevance; 53 of those studies were found to meet the eligibility requirements. Studies that didn't fit the study's non-target emphasis, non-target population, or non-target outcome were eliminated. Table 1 shows the inclusion- and exclusion criteria that was used for the screening and eligibility phases.

Table 1. Screening – Eligibility Criteria: Title and Abstract Level

Eligibility Criteria	Inclusion Criteria	Exclusion Criteria
Date of publication	2010 - 2021	<2010

Eligibility Criteria	Inclusion Criteria	Exclusion Criteria
Publication type	Only peer-reviewed literature	Grey literature
Language	Studies published in English	Studies not published in English
Study type	Studies that report on original results (qualitative, quantitative, or mixed methods)	Non-research papers (eg, tutorials, expert comments, or critical essays), systematic reviews and meta-analyses
Target population	Cancer patients at all phases of disease and age	Does not focus on cancer patients
Intervention	pharmacological and non-pharmacological approaches	Papers that have a different focus
Outcome measures	pain intensity, functional status, and satisfaction with care.	Does not focus on patient outcomes

The results showed that a variety of methodologies were used, and the population sizes varied from n = 50 to n = 674. The most widely used pain assessment instruments were the Brief Pain Inventory (BPI) (5 studies), which was followed by a numerical rating scale (NRS) (2 studies) and a visual analog scale (VAS) (1 study). These scales quantify pain using numbers.

Based on the features of the educational programs, four categories of studies were identified, the majority of which had to do with education. Research centered on information and knowledge sharing, managing one's own health, employing coaching techniques, and placing a strong emphasis on psychological and educational support. Three research included coaching techniques along with educational and psychological care interventions, and five studies concentrated on knowledge and information provision and self-care management. Every study had a therapy phase, and the majority of the trials had patients with different kinds of cancer.

According to patients outcomes, four studies showed decrease in pain intensity and increase care satisfaction and two studies showed decreased pain and improved functional status while, two studies showed increased care satisfaction and functional status

with decreased pain intensity Table 2 shows intervention that was used, as well as the outcomes of the intervention described in the various studies included

Table 2. Intervention Applied and Outcomes Achieved (N = 8)

Author	Intervention applied	Outcomes achieved
Galiano-Castilloet al., 2016	Exercise, pain killer medications, support, self-care management	decreased pain intensity, increased care satisfaction
Dikmen et al., 2019	Relaxation technique, self-care management, support, pain killer medications	decreased pain intensity, increased care satisfaction
Buyukbayram et al., 2021	Cognitive-behavioral intervention, pain killer medications, self-care management	Improved functional status, decreased pain intensity, increased care satisfaction
Kwekkeboom et al., 2010	Cognitive-behavioral intervention, pain killer medications, exercise, support	Improved functional status, decreased pain intensity, increased care satisfaction
Kwekkeboom et al., 2012	Cognitive-behavioral intervention, pain killer medication, exercise	Improved functional status, decreased pain intensity
Charalambous et al., 2016	Muscle relaxation, pain killer medications, self-care management	Improved functional status, decreased pain intensity
Chen et al., 2021	pain killer medications, self-care management	decreased pain intensity, increased care satisfaction

Author	Intervention applied	Outcomes achieved
Cutshall et al., 2017	pain killer medications, massage	decreased pain intensity, increased care satisfaction

Discussion

This work offers a thorough mapping of nursing research on pharmaceutical and non-pharmacological treatments for pain associated with cancer. Numerous nursing interventions were discovered to manage cancer patients' pain, and we analyzed nursing interventions for patients from the start of therapy until the end of life.

Nursing care for cancer pain was shown to include patient education. The goal of pain management education was to enlighten and educate patients through the use of films, slideshows, pamphlets, and internet applications. It has been reported that a patient's ability to effectively self-manage cancer pain can be negatively affected by inadequate knowledge and negative attitudes. Therefore, it is expected that these interventions will be useful to ensure that patients have the correct knowledge and demonstrate appropriate self-care skills. education of patients with cancer pain not only improved their knowledge about cancer pain but also alleviated pain in 31% of the studies as mentioned by Jacobsen et al., 2009.

One tool that has been found to help promote physical activity is exercise. Exercise therapy is beneficial in lowering pain, albeit with a small effect size, according to meta-analyses on the subject. It has been recommended that exercise be customized for each patient because, depending on their circumstances, generalized exercise may not be helpful or may even make their pain worse. Likewise, research on the effectiveness of muscle relaxation therapy is lacking, therefore more research is needed before recommending it as nursing support.

Furthermore, it has been proposed that a basic component of nursing is to prepare the patient's living and recovery

environment, including modifications to comfort care and home care programs. These are significant forms of assistance in the treatment of cancer pain.

Regarding patient outcomes after effective nursing interventions to manage pain, the present review concluded that all studies showed improved patients outcomes. This result agreed with Mohamed et al., 2020 who concluded that participants experienced significant improvements in pain degrees at one-month assessment, and these improvements were continued at three-months assessment.

Limitations

This scoping review has some limitations. First, because the search was limited to studies published in English, this review may have excluded relevant studies published in other languages. Second, it is possible that the identified search terms did not identify all possible papers as only few databases were searched. Third, The present review focused only on papers published from the year 2010 onwards.

Conclusion

We mapped all of the non-pharmacological and pharmaceutical nursing interventions for cancer pain in this study, and we found many different kinds of nursing interventions from eight studies, along with their effects on patient outcomes. Education-related nursing interventions were the most often used ones for cancer pain. Additional forms of intervention included modifying the patient's care environment, enhancing patient comfort (which is thought to raise the pain threshold), and addressing the patient's perception of pain. In the future, more investigation and thought into potential help for people who are terminally sick will be required.

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