

Nursing Outcomes of Patient's Comfort during Neoplastic Chemotherapy: An Integrative Review

Paranee Phongnopakoon, RN, MSN, APN^{1,2}; Puangpaka Kongvattananon, RN, PhD²; Chomchuen Somprasert, RN, PhD²



Paranee Phongnopakoon, RN,
MSN, APN, PhD Student

¹ Clinical nurse specialist, Wattanosoth Hospital, Bangkok, Thailand.

² Faculty of Nursing, Thammasat University Pathumthani Thailand.

* Address Correspondence to author:
Paranee Phongnopakoon, RN, PhD (Student)
Faculty of Nursing, Thammasat University
99 Klong1, Khlong Neung,
Khlong Luang, Pathumthani
12121, Thailand.
email: Paranee.ph@bangkokhospital.com

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Abstract

Advanced treatment for cancer improved most survival rates. However, there are many side effects of treatment that affect the patient's quality of life. Nowadays management and reduction of treatment associated with side effects are significant in maintaining patients' quality of life and optimizing nursing outcomes. Cancer patients who undergo chemotherapy will experience discomfort. This study aimed to identify nursing outcomes related to comfort among cancer patients who are undergoing chemotherapy. The method chosen was an integrative review that drew data from five main electronic databases (PUBMED, Science direct, CINAHL, MEDLINE, Complementary index and Other) and only 44 out of 148 papers identified met the inclusion criteria. The result showed that the literature studies divided the theme of comfort according to the symptoms that occurred from chemotherapy as follows: 1) Physical comfort 2) Psychospiritual comfort 3) Sociocultural comfort and 4) Environmental comfort. Conclusion: Nursing outcomes depend on a patient's need and include the management not only of the physical symptoms and treatment-related side effects, but also the changes in a patient's emotional status and daily lives. Patients were supported by other patients with similar experiences especially spiritual needs, and support from family and friends had a dramatic positive impact on patients' adherence to treatment. The study findings are that the nursing outcomes of the patients' comfort after receiving chemotherapy (according to the patient's point of view about the meaning of comfort) should be led by the patient's quality of life and satisfaction.

Keywords : Chemotherapy side effects, discomfort, comfort, nursing outcomes

Currently, cancer patients require more aggressive and systemic treatments. However, chemotherapy often causes discomfort which affects patient's well-being during and after cancer treatment.¹ The nursing mission then focuses on patient's comfort and the interventions offered to relieve discomfort. The care is delivered after an assessment of patients' needs, implementations of care, and outcomes from such interventions. These nursing interventions include physical and psycho-spiritual contexts intended to alleviate the patient's discomfort observed from signs and symptoms. There is a great opportunity to address the patient's needs and to understand him/her, which increases the likelihood that patient will be safe during treatment. This is considered a relief effort.² Comfort is theoretically defined at this point as the state of being meeting the basic human need for ease, relief, and transcendence.³

Nurse-led care and management have a significant impact on patient experience and outcomes. However, currently there are no definitive criteria in establishing what constitutes sufficient evidence of this beyond using the outcome. Previous reviews have used an overview of evidence-based intervention studies.⁴ Evidence-base-nursing outcomes in the physical dimensions of cancer patients during chemotherapy were reviewed and used to develop a set of indicators that are suitable for performance measurement and to identify the need for quality improvement.

Method

An integrative review was used to identify the format, questionnaires, inclusion and exclusion criteria, literature review, decision on the information to be obtained from the studies selected, interpretation of results, and synthesis of knowledge.⁵ This integrative review aims to answer the guiding questions that identify the nursing outcomes concerning comfort during neoplastic chemotherapy. A well-defined strategy was used to search for available literature and to analyze data in relevant research. Both quantitative and qualitative reports based on the use of different networking tools used by nursing professionals were included. The researchers in this study have searched literature published over the past 5 years (2012-2018), using a variety of databases including PUBMED, MEDLINE, Cochrane, CINALH, Science Direct, and others for methods, techniques and tools to link to nursing and health care practice areas. The search strategy was based on SPIDER (Samples, Phenomenon of Interest, Design, Evaluation, and Research type). The problems of indexing the

qualitative research in electronic databases have been extensively reported and can be aggravated by research articles that provide non-specific titles, unstructured abstracts, and poor definition of qualitative methodology. Therefore, many qualitative searchers have identified the need to expand the basic bibliographic search using alternative techniques.⁶

The following keywords and descriptors were used to search for the most possible articles regarding these research questions: Chemotherapy; antineoplastic drugs; chemotherapeutic anticancer drug; chemotherapeutic anticancer; antitumor drugs; cancer chemotherapy agents; chemotherapeutic anticancer agents; antitumor agents and comfort or discomfort or impaired comfort and nursing outcomes.

The data used in this study were derived from full texts of primary studies addressing physical nursing outcomes after managing patients discomfort during neoplastic chemotherapy in English. Data from letters, editorials, case studies, and pilot studies were not included.

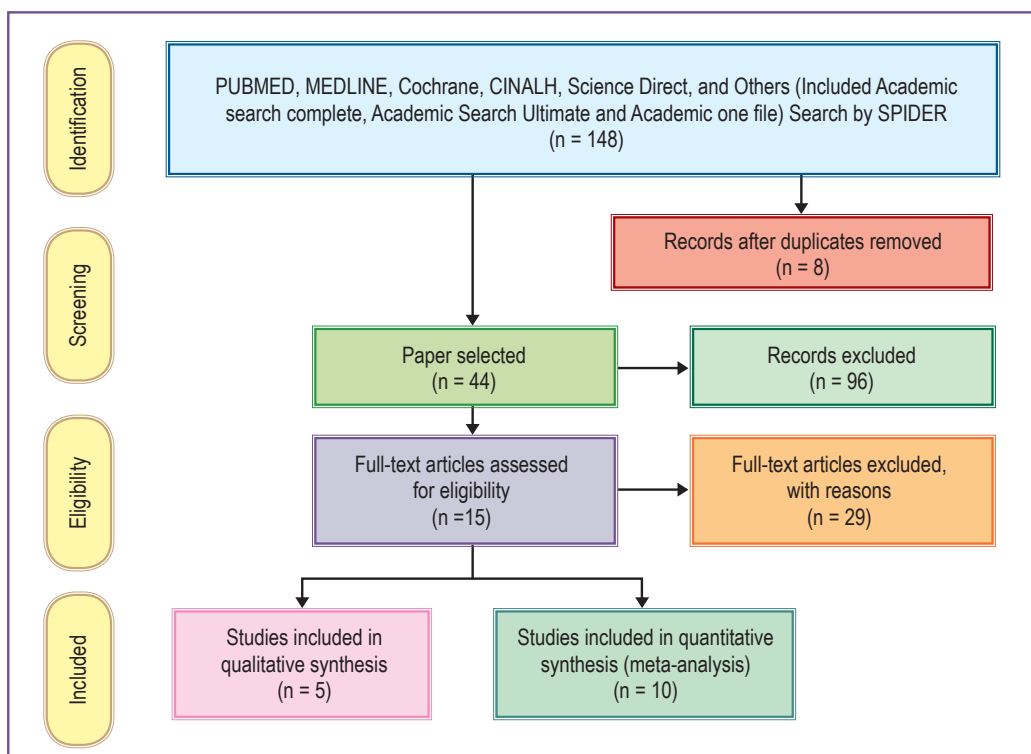


Figure 1: Flowchart of the current integrative review.

The researchers of this study read all selected research papers until reaching the relevant information. Topics retrieved in research papers include the following development stages: Problem identification; Research topics; Rationale for the review; Identification of studies; Introduction; Scientific literature with prior establishment of inclusion and exclusion criteria to point and organize primary research on the problem/topic; objectives; methodological characteristics; and categorization, organization, and data collection. The researchers used a standard form to extract information that is important

in analyzing the retrieved studies; assessing the collected data; presenting and comparing the results/interpretation; reviewing and synthesizing knowledge; and conclusion.^{5,7}

The level of evidence in this study was classified by Melnyk and Fineout-Overholt (2010) as follows:

- Level 1: Strong Evidence (Systematic review or Meta-Analysis)
- Level 2: Strong Evidence (Well-designed randomized controlled clinical trials)

- Level 3: Moderate Evidence (Non-randomized controlled clinical trials)
- Level 4: Moderate Evidence (Case control or Cohort studies)
- Level 5: Weak Evidence (Systematic reviews, Descriptive and Qualitative studies)
- Level 6: Weak Evidence (Descriptive or Qualitative studies)
- Level 7: Weak evidence (Opinion of authorities and/or Reports of expert committees)

The researchers categorized each selected research study and found that only 15 out of 44 studies could be used in this study. A total review of 15 studies that related to nursing outcomes to alleviate physical discomfort for cancer patients receiving chemotherapy is shown in Table 1.

Table 1: Pharmacological properties of NOACs

Author (s)	Published year	Rivaroxaban	Alterations in Gastrointestinal Function	Alterations in Skin	Alterations in Musculoskeletal, Integumentary and Neurologic functions	Psychosocial Disturbances and Alterations	Alterations in Hematologic and Immune Function
Gilmour F, et al. ⁸	2018	Breast cancer	✓				
Kruse M, et al. ⁹	2018	All cancer		✓		✓	
Ferreira EB, et al. ¹⁰	2017	All cancer	✓	✓		✓	
Albusoul RM, et al. ¹¹	2017	Breast cancer	✓	✓		✓	
Hsu HT, et al. ¹²	2017	Breast cancer	✓			✓	
Jacobs JM, et al. ¹³	2017	Oral chemo-drug	✓			✓	
Zalina Abu, et al. ¹⁴	2017	Colorectal cancer	✓			✓	
Robison JG, et al. ¹⁵	2016	All cancer	✓		✓	✓	✓
Backman M, et al. ¹⁶	2016	Breast cancer	✓	✓	✓	✓	
Coelho A, et al. ¹⁷	2016	Palliative patient	✓	✓	✓	✓	
Park R, et al. ¹⁸	2015	CINP symptom	✓				
Devi ES, et al. ¹⁹	2015	Cisplatin drug	✓				
Mollaoğlu M, et al. ²⁰	2014	All cancer	✓	✓	✓	✓	
Karagozoglu S, et al. ²¹	2013	All cancer				✓	
Griffiths P, et al. ⁴	2012	All cancer	✓	✓		✓	

Table 2: Systemic alterations, Nursing outcomes and Themes of nursing outcomes

Systemic Alterations	Nursing outcomes	Theme of Nursing outcomes by comfort context
1. Gastrointestinal Function - Nausea, Vomiting - Poor appetite - Decreased food intake - Diarrhea or abdominal discomfort - Oral mucositis - Problems with bowel functions	- Nutritional state and the activities of daily life - Nutritional deficit and morbidity and mortality rates - Malnutrition (PG-SGA) - Weight gain - Infection rates - Hospitalization time and response to the proposed therapy - Time to visit emergency care - Signs and symptoms related to dose changes	Physical comfort - Decrease in the occurrence - Intensity of symptom - Functional status - Symptomatic control Psycho Spiritual comfort - Pain control - Psycho Spiritual context reflecting patient's inner consciousness and self-esteem - Patient satisfaction - Compassionate care - Reinforced body image - Patient could understand and accepted changes resulting from treatment - Meaning of life - Self-care and self-management - Emotional functioning - Cognitively alert
2. Alterations in Skin - Alopecia - Appearance	- Skin temperatures - Percentage of hair preservation	
3. Alterations in Musculoskeletal, Integumentary and Neurologic functions - Peripheral Neuropathy - Weakness, - Fatigue	- Level of peripheral neuropathy, Calcium and Magnesium levels in the plasma,	
4. Psychosocial Disturbances and Alterations -Pain -Shortness of breath -Sleep disturbance -Concentration -Anxiety -Depression	- Treatment adherence - Patient - Clinician relationship - Patient - Clinician communication - Patient satisfaction with information received	Sociocultural comfort - Communication and knowledge about hope - Interpersonal, transpersonal and intrapersonal relationships - Quality of patient experience - Social functioning - Environmental comfort - Safe medication administration - Differentiated environment
5. Alterations in Hematologic and Immune Function - Infection	- Infection rate	

Integrative issue and discussion

Nursing outcomes of patient comfort during neoplastic chemotherapy in this integrative review are based on Kolcaba's Comfort Theory. She discusses in her book that comfort is a complex concept that involves multiple dimensions of human experience and is subject to considerable variation across people and time. She defined 3 types of comfort: ease, relief, and transcendence which can happen in all human life dimensions and several contexts: physical, psychological, spiritual, social, cultural, and environmental.³¹

Physical comfort

The researchers in terms of comfort mention the decrease in the occurrence, intensity of symptoms, changes in functional status and symptomatic control. Other researchers have been studying the side effects of neoplastic chemotherapy that generally depend on the patients' demographics, conditions, mental status, age groups, educational status, and gender. Concurrently, several aspects including time since being diagnosed, treatment options, disease severity, and patient's role to participate in treatment decisions affect the need for cancer-related information to involve patients in self-management when experiencing side effects.²² Side effects can occur with any type of chemotherapy drugs. However, not everyone experiences the same side effects or in the same way. Moreover, patients with side effects may occur at any time or immediately or days or weeks after chemotherapy.

Psycho spiritual comfort

Researchers mention pain control, psycho spiritual reflecting, patient's inner consciousness and self-esteem, patient satisfaction, compassionate care, reinforced body image. They describe patients that can understand and accept changes resulting from treatment, meaning of life, self-care and self-management, emotional functioning and being cognitively alert but sometimes we cannot separate from

physical and psychological. It will be related and supported by previous studies found the following symptom clusters in cancer patients receiving chemotherapy: nausea, vomiting, weakness, fatigue, alopecia, loss of appetite, pain, constipation, oral mucositis, numbness or tingling, and changes in bowel patterns are physical side effects commonly mentioned in many studies. Some studies include skin and nails problems, infectious signs, shortness of breath, and peripheral neuropathy. Most side effects disappear or can be treated whereas late side effects can develop months or years after chemotherapy. In addition, some side effects may last a long time or become permanent. Psychological distress, fatigue-pain; abdominal discomfort; flu-like symptoms; fluid accumulation; and peripheral neuropathy; and a high level of anxiety or depression that influenced all aspects of the patients' quality of life.²³

Sociocultural and Environmental comfort

Reviewed studies found that communication and knowledge about hope, interpersonal, transpersonal and intrapersonal relationships, quality of patient experience and social functioning and the theme of environmental comfort found that mention on safe medication administration and differentiated environment. The most reliable results in this study are from physical and psychological aspects, especially as they oppose the symptom management programs. Socio-cultural and environmental issues are less used to measure and determine the outcome of the study. However, the discomfort associated with socio-demographic factors is mainly related to physical activities from nursing interventions offered.²⁴ One aspect that is clearly evident in the previous studies is that the nursing outcomes were developed from the nurse's perspective; not from the patient's perception. This may be considered negligence. The relationship between patient expectations and chemotherapy-related side effects indicates that expectations can be a useful intervention to reduce the burden of the adverse effects.²⁵ Patient needs arising from patient interviews are very important in the design of efficiency and safety in treatment.²⁶

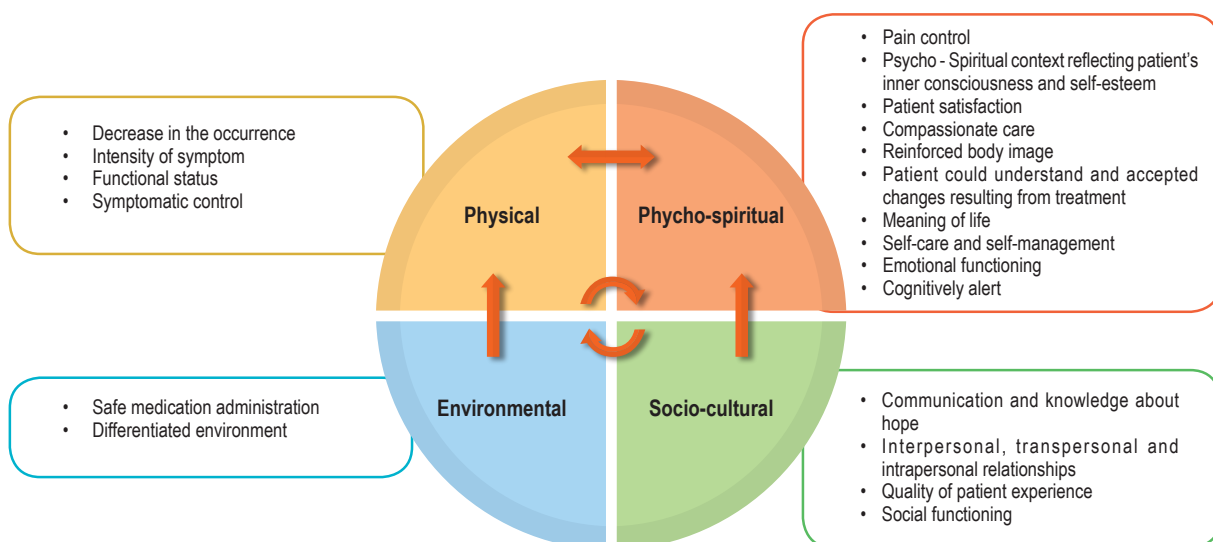


Figure 2: Common concepts in nursing outcomes of patient's comfort during neoplastic chemotherapy.

Conclusion and suggestion

The definition of comfort outcomes from the integrative studies was that symptoms are relieved or discomfort is relieved in terms of physical and psychological symptoms. Comfort outcomes need to be supported by a good sociocultural and environmental status which allows the patients to engage in effective self-management and also to adapt well to treatment.

Alleviation of symptoms by self-management support relies on active exploration of the patient's feelings and symptom-management patterns. Professional care should be tailored to the patient's perspective and environmental determinants. The key factors that influence their self-management with chemotherapy-related symptoms involves the process of experiencing and learning how the side effects are holding over time and how to deal with them. Patients will experience symptoms personally. Their symptom-management patterns are shaped by personal factors including physical and psychosocial aspects; coping with cancer and cancer treatment; perceived level of control; and environmental factors, such as professionals' attitude and resources of information.²⁷

The development of services and interventions that meet the complex needs of the patients potentially prevent late referral to psychological services.²⁸ Recommendations from

Kolcaba's Middle-Range Theory of Comfort states that nurses use comfort content to identify health care needs and design interventions for the person in care; and nurses must identify intervention variables that affect the success of the intervention. The effectiveness of the intervention(s) is/are determined by comparing patients' comfort before and after implementation of intervention.²⁹ The nursing outcomes of cancer patients receiving chemotherapy are connected to collaboration among multidisciplinary team and settings. Early detection is important to continue to examine strategies that help improve symptom management during chemotherapy.³⁰

The gap identified in this study is that the nursing outcomes of the patients' comfort after receiving chemotherapy did not address the patient's needs or perception; but rather were based on the stakeholders' perspectives. Furthermore, the patient's view about the meaning of comfort is quite vague. If the purpose is to measure the effectiveness of interventions to relieve discomfort, researchers should conduct a qualitative study to explore the patient's feelings first before developing a standardized intervention program that covers all facets of comfort for desirable nursing outcomes. This could create an innovative approach to enhance the patient's quality of life and satisfaction.

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