Healthy Tadulako Journal (Jurnal Kesehatan Tadulako)
Vol. 12 No. 1, January 2026
P-ISSN : 2407-8441/e-ISSN : 2502-0749

Original Research Paper

Nursing Care In Breast Cancer Patients With The Virginia Henderson Model Theory Approach

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Access this article online
Quick Response Code :

DOI : 10.22487/htj.v11i4.1792

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Page : 47-55

Article History:
Received: 2025-05-20
Revised: 2025-10-15
Accepted: 2026-01-31

Published by:
Tadulako University,
Managed by Faculty of Medicine.

Website :
https://jurnal.fk.untad.ac.id/index.php/htj/index

Abstract

Background: Nursing theory underpins professional nursing practice by providing systematic frameworks for care delivery. Among conceptual models, Virginia Henderson's nursing theory emphasizes 14 basic human needs that guide comprehensive, patient-centered nursing care. This model is particularly relevant for patients with breast cancer, who experience complex physical and psychosocial problems. **Objective**: This case study aimed to implement nursing care for a breast cancer patient using the Virginia Henderson nursing model as a theoretical approach. **Methods**: A descriptive case study design was applied. The subject consisted of one patient diagnosed with breast cancer. Data were collected through the nursing process, including comprehensive assessment, nursing diagnosis formulation, planning of interventions, implementation of nursing actions, and systematic evaluation. **Results**: The evaluation showed that nursing diagnoses of acute pain and risk of infection were partially resolved and required ongoing interventions, whereas the diagnosis of impaired physical mobility was successfully resolved following nursing care based on Henderson's model. The structured focus on basic needs facilitated individualized interventions and continuity of care. **Conclusion**: The application of the Virginia Henderson nursing model reduced pain, infection risk, and mobility limitations, supporting its use as an evidence-based framework for nursing care in breast cancer patients in clinical practice.

Keywords: Nursing Care; Breast Cancer; Virginia Handerson Nursing Theory Model.

Introduction

Nursing theory is very important for nursing science because it reflects the professionalism of a discipline. Nursing theory is a design created to monitor the development of science and explain phenomena that occur in nursing to a more specific level. Nursing theory is used to support nursing practice, assisting in making decisions about what is known and what is needed [1].

Nursing as a professional service, in its application must be based on a good nursing scientific basis. Thus, nurses must be able to think logically and critically in analyzing and identifying the phenomenon of human response. Many forms of knowledge and critical thinking skills must be carried out in every client situation, among others by using nursing models in the nursing process and each model can be used in nursing practice as needed. Of the several concept models, one of them is the theoretical concept model stated by Virginia Henderson [2].

Virginia Henderson's theory explains that the task of nurses is to try to restore individual independence in meeting 14 components of basic needs 3. This nursing model focuses on physiological balance by helping patients in a state of health and illness so as to improve the quality of life of patients who aim to restore

independence, ability and knowledge of the conditions experienced[4]. Virginia also views that the purpose of providing nursing care by emphasizing four aspects, one of which is biological, is to maintain health, and prevent, recover from illness by controlling biological conditions to be healthy and placing humans in the best condition naturally in order to cure or improve one's health [5].

Nursing care with a handerson vriginia theory approach can be applied to breast cancer patients. Breast cancer is the leading cause of morbidity and mortality globally, and patients experience anxiety, stress, and decreased quality of life 6. According to IARC in 2022, there will be 20 million new cancer cases and 9.7 million deaths worldwide, with lung and breast cancer being the most common. Inequalities in cancer burden and mortality occur between countries with high and low development indices (HDI)[7]. WHO in 2020, stated that the incidence of cancer in Indonesia had reached 946,088 cases, the number of cancer deaths reached 234,511, breast cancer ranked first with an incidence of 65,858 (30.8%) of the total 946,088 cancer cases [8]. Breast cancer is the second most common type of cancer in women after oral or cervical cancer [9]. Breast cancer (carcinoma mammae) is a condition where cells have lost their normal control and mechanisms, resulting in abnormal, rapid and uncontrolled growth that occurs in breast tissue [10]. Patients diagnosed with breast cancer have traumatic experiences due to disruptions in self-image, sexual relationships, and cause psychological reactions such as denial, anger, or fear of the disease and treatment process [11]. Breast cancer patients require holistic nursing care to meet basic needs, namely biological, psychological, social needs. Nurses play an important and responsible role in managing nursing care in breast cancer patients. Nurses who provide nursing care can use the virginia handerson theory nursing theory approach in helping to overcome the symptoms felt by patients with breast cancer [12].

The application of nursing care with the Virginia Henderson model theory approach in breast cancer patients in hospitals has not been carried out due to the lack of reference sources to be used as evidence base practice by nurses, considering that the Virginia Henderson model theory can help reduce symptoms experienced by breast cancer patients. The purpose of this case study is to carry out nursing care for breast cancer patients with the Virginia Henderson nursing model theory approach.

Materials and Methods

Study Design

This study used a descriptive case study design with the aim of implementing and evaluating nursing care for breast cancer patients using the Virginia Henderson nursing theory model approach. This design was chosen because it is very suitable for analyzing the application of a theoretical framework (the Virginia Henderson model) in depth and comprehensively to one specific case in the context of clinical nursing practice. Through this approach, researchers can explore the nursing process holistically, starting from assessment, diagnosis, planning, implementation, and evaluation to understand the model's effectiveness in addressing nursing problems experienced by breast cancer patients.

Sample

The population in this study was all breast cancer patients undergoing treatment at the hospital. The study sample was selected using a purposive sampling method, a technique for determining samples intentionally with certain considerations. The inclusion criteria for participants were patients who had been diagnosed with breast cancer and underwent

DOI: 10.22487/htj.v12i1.1792

surgical procedures and follow-up care. No exclusion criteria were specifically stated in this study. The sample size was determined based on the characteristics of the case study design, which focuses on an in-depth analysis of a single subject representing the case studied, resulting in one participant (a 60-year-old female patient with the initials Mrs. M).

Data Collection Technique

Data were collected through the systematic application of the nursing process, including assessment, nursing diagnosis determination, intervention planning, implementation, and evaluation. The primary instrument for data collection was the researcher, supported by a structured framework based on Virginia Henderson's 14 basic human needs. Data collection was conducted in the surgical inpatient ward on the fifth floor of Hospital B during January 2020. Data collection techniques included in-depth interviews to obtain patients' subjective complaints such as pain intensity, appetite, and sleep quality; direct observation of vital signs, postoperative wound condition, facial expressions, and physical mobility; comprehensive physical examination through inspection, palpation, auscultation, and percussion as required; and document review of blood laboratory results and medical records to obtain objective clinical data. The entire assessment process was directed toward formulating nursing diagnoses in accordance with the Indonesian Nursing Diagnosis Standards (SDKI).

Data Analysis Technique

The collected data were analyzed using descriptive analysis methods. The analysis process was carried out by comparing initial data during the assessment with evaluation data after the implementation of nursing actions. The analysis focused on achieving predetermined outcome criteria for each nursing diagnosis (e.g., decreased pain scale, increased mobility, and absence of signs of infection). No specific statistical software was used because this study was descriptive and qualitative in nature, focusing on a single case. Statistical significance levels (such as $p < 0.05$) were not relevant to this study design. The qualitative analysis process included triangulation of data from interviews, observations, and medical records to validate the findings.

Ethical Consideration

This research has taken ethical considerations into account in its implementation. As a case study involving human subjects, ethical principles of health research, such as obtaining informed consent from participants, maintaining the confidentiality of patient data (using the initials Mrs. M), and ensuring no harm is caused by the research procedures, have been adhered to. This research is considered part of improving the quality of clinical services (case study).

Results

Mrs. M (60 years old) came to the emergency room with complaints of pain in the left breast and a lump, the patient was admitted to the 5th floor surgery room to prepare for surgery. Results of client vital signs blood pressure: 130/90 mmHg, pulse: 90x/min, respiration: 20x/min, temperature: 36,8°C. The patient felt a lump in her armpit area and the patient performed surgery in 2016 at the hospital. In 2019 the patient felt a lump around her left breast area, then the patient was treated at Hospital A and did chemotherapy 18 times, the patient was referred for surgery to Hospital B on January 21, 2020 and will be operated on January 22, 2020. On January 23, 2020, a blood laboratory examination was carried out with abnormal results in the hemoglobin section of 8.5 g / dl (low), hematocrit 24% (low),

DOI: 10.22487/htj.v12i1.1792

erythrocytes 2.9 million / ul (low), eusinophils 0% (low), segment 82% (high), lymphocytes 6% (low) and RDW 14.60% (high), a blood laboratory examination was also carried out again on January 26, 2020 where the results were abnormal in hemoglobin 9.6 g/dl (low), hematocrit 20% (low), erythrocytes 2.3 million / ul (low), leukocytes 22160 / ul (high), eusinophils 5% (high), netrophils 74% (high), lymphocytes 15% (low), and RDW 14.90% (high). The medications obtained by the client during treatment were anbacim 1 g (2x1) via IV, keterolac 30 mg (3x1) via IV and Ceftriaxone 1 g (1x2) via IV.

Table 1. Assesment Results

Virginia Henderson's Basic Needs	**Nursing Assesment Results**
Biological Compent	
Brethe Normally	The patient says he can breathe normally and is not short of breath. **Inspection:** Normal chest shape, symmetrical chest expansion, normal rhythm, respiration 19x/min. **Palpation:** No tenderness complained of by the patient **Percussion:** Not done because the left chest is post op and the right chest is a little sore which the patient expressed. **Auscultation:** Gives a picture of vesicular breathing sounds in the right lung and no abnormal breathing sounds are found
Food and Drink Need	The patient said there was a slight decrease in appetite but for the sake of his health the patient continued to eat all the portions of food provided by the hospital and the patient routinely consumed beet juice, Height 160 cm, weight 68 Kg, BMI 26.56 Kg / m2, no history of food allergies, auscultatory examination showed normal bowel noise 5x/minute. Palpation showed no abdominal tenderness, while the percussion results were tympani in all abdominal quadrants.
Eliminations Needs	The patient said there were no complaints of BAK / BAB, the patient had a dower catheter installed since January 24, 2020 to prepare for surgery, there were no complaints of pain in the urinary tract, skin turgor < 3 seconds
The Need to Move and Maintain Posture	The patient said that he could not move his body and felt sore in the operation wound, the patient looked weak, passive movement, in changing positions required assistance, blood pressure 130/80 mmHg, pulse: 95x/min, respiration: 20x/min, muscle strength 3, 3, 3, 3 patient bedres in supine position.
Sleep and Rest Need	After undergoing surgery, the patient can sleep but not well, waking up easily. because of the pain in the post op wound. The patient said that he woke up easily during the day and night due to the pain felt, the patient showed an expression of pain felt in the wound area problem: post op wound, qualitas: like stabbing, region: right chest, pain scale 5 (0-10), time: erratic and erratic, duration of approximately 3 minutes.
The Need to Dress	The patient was dressed in a hospital gown that had buttons to make it easier to change clothes and wound care and long pants.
Environmental Modification	The patient's body temperature was 37.3°C. The patient used a blanket to cover his body, drinking water and tableware and bell were arranged to be easily accessible to the patient.
Protection and personal hygiene needs	There was a wound with a length of approximately 20cm, reddish wound base, no sign of infection, external fixation with gauze and bandage. Before the illness, the patient bathed 2x/day. During hospitalization, the patient only wiped with a

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Virginia Henderson's Basic Needs	Nursing Assesment Results
	washcloth with soap and warm water every morning and evening. Before being hospitalized, the patient brushed his teeth 2x/day. During hospitalization, the patient brushed his teeth 2 x/day.
Security and comfort needs	The patient complained of pain in the left chest post op wound area of approximately 20cm. Complaints of pain appear mainly when the patient moves the left side, with pain characteristics such as stabbing. The pain decreases when the patient adjusts or changes the position of not resting on the left body, but sometimes the pain suddenly appears even though the patient does not move his body.
Spiritual Component	
The need to worship according to beliefs	The patient's protestant religion is seen every morning the patient worships with the Bible and sings spiritual songs every day.
Sociological Compenent	
The Need to Work	The patient previously worked as a private employee, the patient said he wanted to get well soon and return to work as usual and did not want to burden his family with worry.
Recreational needs	The patient said that he regularly does recreation with his family to go to the mountains or the beach or a family picnic place with his family every Sunday if not all the opportunities are available but the patient said that it is often done every week very rarely the family does not have time because it is his family principle, namely family number 1.
Psychological Component	
The need to communicate	The patient can communicate actively, can repeat short and long term information. Orientation to people, time and place is good. The patient communicates in Bahasa Indonesia. The patient can convey their complaints, and also ask how the continuation of the treatment program will be carried out and how long the healing process will take. The patient is used to open communication with other family members.
Need for health services	The patient said that he and his family were ignorant about health but they would go directly to the nearest health service if any of their family members complained of pain or felt bad about their bodies.

Based on the case study, the interventions provided must be in accordance with the priority nursing diagnoses that arise in management in accordance with the Indonesian nursing diagnosis standards (SDKI, SLKI, SIKI).

Table 2. Nursing Diagnoses and Interventions

No	Diagnoses	Objectives and Outcome Criteria	Interventions
1	**Acute pain** associated with the agent (Surgical procedure). (D.0077)	After taking nursingaction 1x1 hour, it is expected that the pain level (L.08066) will decrease with Outcome Criteria: 1. Complaints of pain decrease 2. Wincing decreases 3. Restlessness decreases.	Pain management (I.08238) **Observation:** 1. Identify location, characteristics, frequency duration, pain quality, pain intensity, **Therapeutic:** 2. Provide non-pharmacological techniques to reduce pain. 3. Control the environment that aggravates pain. 4. Explain pain relief strategies.

DOI: 10.22487/htj.v12i1.1792

No	Diagnoses	Objectives and Outcome Criteria	Interventions
			5. Teach non-pharmacological techniques (slow deep breathing) to reduce pain **Collaborate with analgesics if necessary.**
2	**Physical Mobility Disorder** associated with the pain (D.0054)	After taking nursing action for 1x24 hours, it is expected that physical mobility will increase (L.12111) with Outcome Criteria: 1. Behavioraccording to recommendations 2. Behavior in accordance with knowledge 3. Motivation increases	Mobilization support (I.05173) **Observation:** 1. Monitor general condition during mobilization. **Therapeutic:** 2. Facilitate movement, if necessary 3. Involve family to assist the patient. 4. Perform active and passive ROM exercises **Education:** Explain the purpose and procedure of mobilization
3	**Risk of Infection** associated with the effects of invasive procedures (D.0142)	After carrying out nursing care for 1x24 hours the patient avoids infection with the outcome criteria: 1. The patient is free from signs and symptoms of infection 2. The leukocyte count is within normal limits 3. Showing healthy living behavior 4. Showing the ability to prevent	1. Monitor signs and symptoms of cytemic and local infection 2. Inspect skin and mucosa for redness 3. Wash hands before and after every nursing action 4. Advise patient to limit visitors 5. Maintain asepsis techniques in at-risk patients 6. Perform wound care 7. Provide antibiotic therapy

Implementation carried out on the diagnosis of acute pain is carried out, namely monitoring the patient's ttv, conducting a comprehensive pain assessment, observing the presence of non-verbal clues regarding discomfort, modifying environmental factors that can affect pain, providing information related to pain felt by the patient, teaching non-pharmacological pain techniques (deep slow breathing), evaluating the effectiveness of non-pharmacological pain techniques that have been given, supporting patient rest / sleep, giving keterolac 30 mg analgesic drugs (3x1) via iv.

Implementation carried out at the diagnosis of physical mobility obstacles, namely planning appropriate exercises, identifying obstacles in the exercise program, explaining to patients and families the benefits and goals of doing joint exercises, helping patients get optimal body position for active and passive joint movements, supporting rom exercises according to a regular and planned schedule, doing active or passive rom exercises, accompanying and helping patients mobilize, evaluating patient muscle strength [13].

Implementation carried out in the diagnosis of infection risk is to monitor signs and symptoms of infection, monitor susceptibility to infection, maintain asepsis techniques, provide post-mastectomy wound care, check the skin for redness, extreme warmth/drainage, check each surgical incision/wound condition, teach patients and families the signs and symptoms of infection, monitor the patient's blood laboratory results, provide antibiotics

DOI: 10.22487/htj.v12i1.1792

ceftriaxone 1 gr (2x1), cefotaxime 1 g (2x1) and anbacim 1 mg (2x1).

The final evaluation of the diagnosis of acute pain is for subjective data the client said the pain was no longer felt, only felt the area around the operation was sore. Objective data with compos mentis awareness, general condition looks good, the client still feels pain but it is reduced, and looks more comfortable, pain scale 2 (0-10), blood pressure TTV results: 120/80 mmHg, pulse: 87x / minute, respiration: 19x / minute, temperature: 36.5 ° C. In the objective analysis, some were resolved. Intervention planning is continued. The final evaluation of the diagnosis of physical mobility disorders is the patient's subjective data says he can move, but still needs help. Objective data compos mentis awareness, general condition looks good, the patient can do his activities slowly, the patient can walk even though he is still held by someone, muscle strength 5. The final evaluation of the nursing diagnosis of infection risk is the patient's subjective data says he is comfortable to move, the wound feels comfortable. Objective data compos mentis consciousness, general condition looks good, there is a little dirt on the gauze, the gauze is a little wet, the wound is still a little wet, there is some redness above the breast. In the analysis the objectives have not been achieved. Intervention planning is continued.

Discussion

From a historical perspective, Virginia Henderson's nursing concepts advanced the development of nursing science, and have also become a very important part of nursing education. Her contributions to the nursing literature extended from the 1930s to the 1990s. Her work has had an international impact on nursing research by strengthening the focus on nursing practice and confirming the value of proven interventions to help individuals regain their health and meet their needs [14].

Internationally, researchers continue to guide their work with Virginia Henderson's model as a framework. For example, Scott, Matthews, and Kirwan (2014) found that internationally, Henderson's model was the most frequently used in evaluating nursing needs and practices [15].

In their reported case studies, Younas and Sommer (2015) found Henderson's model "close to realism and applicable to the Pakistani context" due to its relevance in developing nursing plans, and Lazenby (2013) argued for the importance of patient experiences using Henderson's model in a variety of contexts [16]. In the process of reviewing this theory, it is very helpful to explore the patient's condition in depth by paying attention to 14 basic needs that must be considered, by applying this theory in the nursing process, nurses can explore patient information comprehensively. This nursing theory model from Virginia Henderson is very minimal in its presentation, but has a complex scope. Virginia Anderson's theory model includes 14 questions covering the entire nursing practice, and her vision of the role of nurses in complex patient care, in Virginia Henderson's theory there is no review of health history, namely: current health history, past health history, patient complaints. Henderson's model and theory only base all nurses' duties and only focus on one party, namely on physical healing or recovery [17].

Lack of deep integration of spiritual aspects so that its implementation is less detailed, besides this theory only focuses on individuals and does not emphasize the context of the environment, community, or wider health system. This theory was developed at a time when nursing practice at that time focused more on basic care. So this theory may need adjustments to be used in the modern era [18].

DOI: 10.22487/htj.v12i1.1792

Conclusion

In this case study, the Virginia Henderson nursing model has been applied to help reduce various complaints in breast cancer patients such as pain, risk of infection and impaired physical mobility, so that nurses in hospitals and health centers can use this case study as an approach to the Virginia Henderson nursing model theory as evidence-based practice nursing in helping to reduce breast cancer symptoms.

Acknowledgment

The researcher would like to thank the academic supervisor who helped guide the process of this case study.

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