International Journal of Nursing and Health Research
www.nursingjournal.in
Online ISSN: 2664-6420
Received: 05-08-2026, Accepted: 04-09-2026, Published: 19-09-2026
Volume 8, Issue 3, 2026, Page No. 105-109

Application of Orem's Self Care Deficit Theory in patients with Type II Respiratory Failure

Dr. Radha K[1], A Merlin Cheema[2], Sangeeta Biswas[3]
[1] Professor cum Principal, Department of Nursing, College of Nursing, Sanjay Gandhi Postgraduate Institute of Medical Sciences (SGPGIMS), Uttar Pradesh, India
[2] Faculty of Teaching, Department of Nursing, College of Nursing, Sanjay Gandhi Postgraduate Institute of Medical Sciences (SGPGIMS), Uttar Pradesh, India
[3] Department of Nursing, College of Nursing, Sanjay Gandhi Postgraduate Institute of Medical Sciences (SGPGIMS), Uttar Pradesh, India
DOI: https://doi.org/10.66856/ijnhr.2026.8.3.8072

Abstract
Background: Type 2 respiratory failure is characterized by the inability of the respiratory system to adequately eliminate carbon dioxide, resulting in hypercapnia. This condition commonly occurs due to respiratory pump failure or increased carbon dioxide production and may lead to significant physical limitations and dependency. Dorothea Orem's Self-Care Deficit Nursing Theory provides a structured framework that promotes patient, family, and caregiver participation in care, thereby improving health outcomes and care experiences.
Objective: This article aims to evaluate the effectiveness of applying Orem's Self-Care Deficit Nursing Theory in the management of a patient diagnosed with type 2 respiratory failure.
Case Presentation: This study uses Orem's self-care deficit theory to treat self-care deficiencies related to mobility, nutrition, elimination in 58 years old female patient with type 2 respiratory failure. The initial step was to find out the patient's needs and self-care deficiencies and to find out the intervention method and final step was to implement the plan and to evaluate the outcome.
Conclusion: This case study was done to find out the effectiveness of application of Orem's self-care deficit theory in a patient with type 2 respiratory failure.

Keywords: Respiratory failure, hypercapnia, self-care, respiratory pump

Introduction

The respiratory system provides oxygen to and removes carbon dioxide from the body; however, the inability to perform either or both of these task's results in respiratory failure. Type 1 respiratory failure occurs when the respiratory system cannot adequately provide oxygen to the body, leading to hypoxemia, and can be caused by alveolar hypoventilation, low atmospheric pressure/fraction of inspired oxygen, diffusion defect, ventilation/perfusion mismatch, and right-to-left shunt. Type 2 respiratory failure occurs when the respiratory system cannot adequately remove carbon dioxide from the body, leading to hypercapnia, and can be caused by respiratory pump failure and increased carbon dioxide production. This activity reviews the evaluation and management of respiratory failure and highlights the role of the healthcare team in evaluating and treating patients with this condition [1].

Type 2 respiratory failure is characterized by elevated arterial carbon dioxide levels caused by inadequate ventilation and is commonly associated with conditions such as chronic obstructive pulmonary disease (COPD). Patients with this condition often experience difficulty performing self-care activities because of respiratory distress, fatigue, and reduced physical capacity. Applying Orem's theory in this context allows nurses to assess the degree of self-care deficit and provide suitable nursing systems—wholly compensatory, partly compensatory, or supportive-educative—according to the patient's individual needs [2].

Dorothea Orem's Self-Care Deficit Nursing Theory (SCDNT) provides an effective framework for understanding and addressing the self-care requirements of patients with chronic illnesses, including type 2 respiratory failure. The theory emphasizes active patient participation in maintaining life, health, and well-being. By identifying self-care deficits, nurses can design individualized interventions that promote autonomy, strengthen self-management, and improve overall health outcomes. [3]

Several studies have highlighted the effectiveness of integrating Orem's SCDNT into nursing care for patients with respiratory and other chronic conditions [4].

A study by Malarvizhi Jayakumar et al. found that self-care interventions based on Orem's theory significantly improved the quality of life of patients with bronchial asthma. Therefore, it was recommended that nurses caring for asthma patients in outpatient settings should incorporate this theory into practice [5].

A case report by Arzu Uslu et al. organized patient data using Orem's Self-Care Deficit Theory. The patient's needs were identified, nursing diagnoses were made, and care plans were developed according to the nursing process. The findings revealed that the patient was unable to participate effectively in treatment management or accept his condition because of an inability to perform self-care, emphasizing the importance of self-management. The report also highlighted the nurse's roles as educator, researcher, advocate, caregiver, and counselor in strengthening patient self-management [6].

Experimental studies applying Orem's theory have also shown positive outcomes in reducing fatigue among patients with multiple sclerosis and improving the quality of life of patients suffering from migraines. These studies confirmed the valuable role of SCDNT-based advanced nursing practice in primary healthcare settings [7].

A study by Qiuhua Deng et al. demonstrated that nursing care based on Orem's self-care model effectively improved self-care efficacy, quality of life, emotional well-being (including reduced anxiety and depression), and pain levels among patients with ALC receiving chemotherapy [8].

Yuexiu Si et al. examined the combined effects of Orem's self-care theory and PDCA nursing on patients with acute stroke. The study found that integrating PDCA nursing with Orem's theory significantly improved cognitive function, neurological recovery, and activities of daily living. It also contributed to better quality of care and more comprehensive nursing services [9].

A study by Ghorbanali Jennat Fereidooni et al. showed that applying Orem's theory enhanced self-care, self-efficacy, and health deviation self-care requisites in patients with type 2 diabetes. The findings emphasized the importance of focusing on self-efficacy and specific self-care areas such as physical activity and foot care in diabetes management [10].

About the Theorist

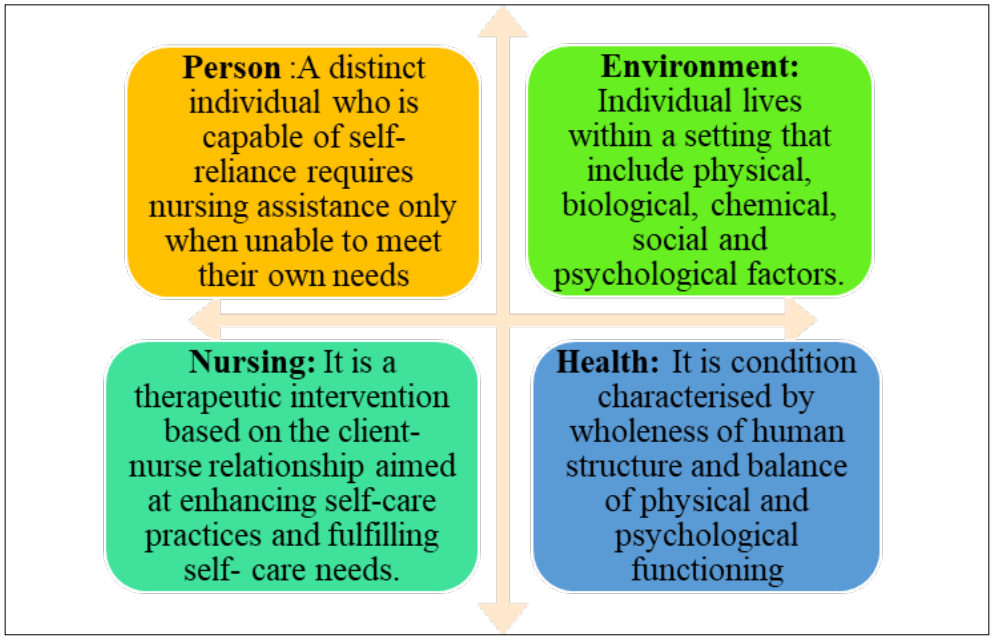
Dorothea Orem, one of the foremost prominent nursing theorists, who was born on 15 July, 1914 in Baltimore, Maryland. Her father was a construction worker and her mother was a homemaker. She was having two eldest sisters. She received her diploma at providence hospital, Washington, DC in 1934. She received her BSN education degree in 1939 and MSN degree in 1945 from catholic university of American, Washington, DC. Dorothea Orem published her theory in 1959 and revised several times in the year 1971,1983, 1987, and 2001 [11].

Dorothea Orem acknowledges the work of the previous philosopher like Aristotle, Aquinas, Harre (1970), Wallace (1983), parson's structure of social action and von Bertalanffy system theory, which inspired and directed her work along with her personal life experiences, practice, during work and her educational career. Melies sees her as a needs theorist and drew her theory on Maslow's hierarchy of needs [12].

Theoretical Sources/ Orem's General Nursing Theory: General theory is divided into 3 parts. It includes theory of Self Care, Theory of Self Care Deficit, Theory of Nursing System.

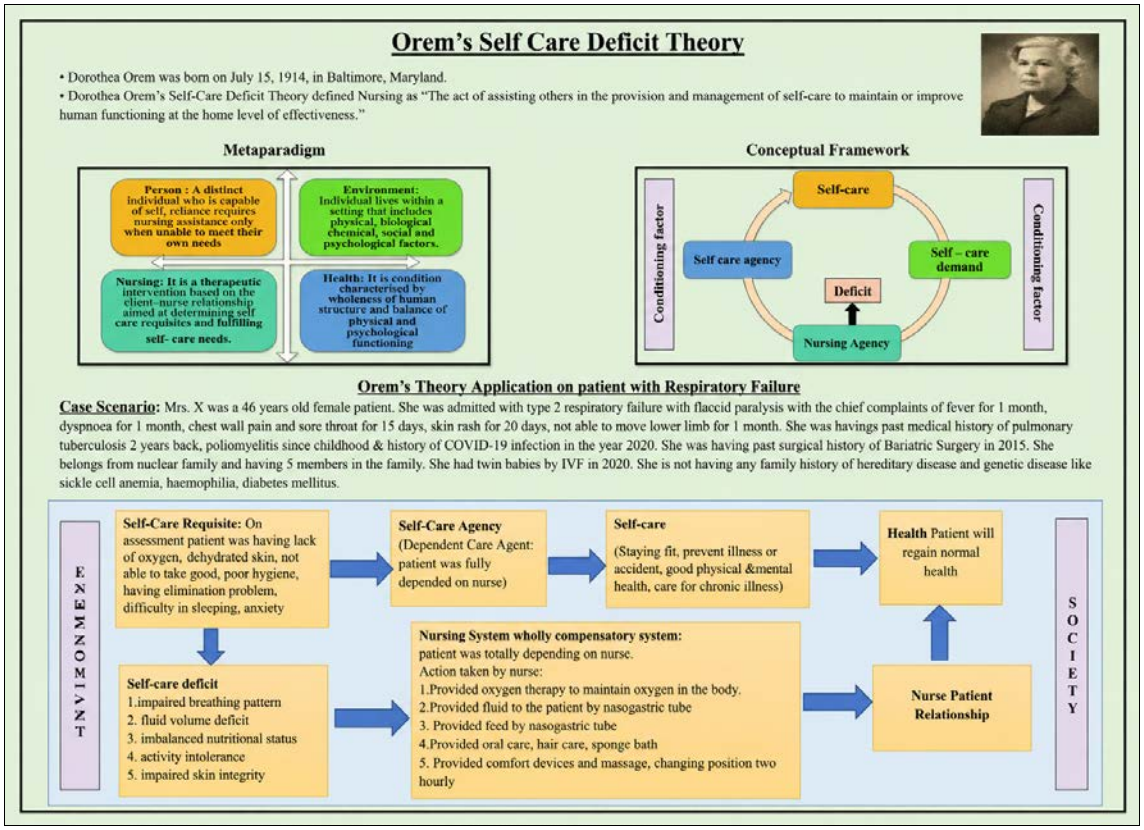
- Theory of Self Care based on 4 concepts: self-care, self-care agency, self-care requisite, therapeutic self-care demand.
- Theory of Self Care Deficit it helps to explains how people can be helped through nursing. She provided 5 Methods of Helping people by nursing and it includes: 1. acting for and doing for others 2. Guiding others.3. Supporting another.4. Providing an environment for personal development 5. Teaching another.
- Theory of Nursing System provides three basic variations in nursing system to provide nursing care and it includes: 1. wholly compensatory 2. Partly compensatory. 3. Supportive education.

Metaparadigm



Application of Self-Care Theory in Patient with Respiratory Failure

Case Scenario: Mrs. X was a 46 years old female patient. She was admitted with type 2 respiratory failure with flaccid paralysis with the chief complaints of fever for 1 month, dyspnoea for 1 month, chest wall pain and sore throat for 15 days, skin rash for 20 days, not able to move lower limb for 1 month. She was having past medical history of pulmonary tuberculosis 2 years back, poliomyelitis since childhood & history of COVID-19 infection in the year 2020. She was having past surgical history of Bariatric Surgery in 2015. She belongs from nuclear family and having 5 members in the family. She had twin babies by IVF in 2020. She is not having any family history of hereditary disease and genetic disease like sickle cell anemia, haemophilia, diabetes mellitus.



Assessment & Diagnostic Findings

On general assessment patient was semi- conscious, on ventilator support by tracheostomy. She was lying in supine position with ventilator, monitoring lines, IV fluids, Catheter and Ryle's tube in place. No facial expression due to sedation. She was unable to speak due to intubation. She was communicated with the help of gestures and blink response if she was conscious. She was having 2 [0] pressure sore over sacral region. Vital signs of the patient where temperature was slightly elevated i.e.102 [0]F, Pulse: 100 bt/min, respiration: 16 br/ min and it was controlled by ventilator, SpO_2: 98 % maintained by oxygen therapy with FiO_2: 40%. Systemic examination of respiratory system on inspection chest movement was minimal and chest expansion was synchronised with ventilator cycle, no accessory muscle use as patient was mechanically supported. On palpation tactile vocal fremitus was absent due to airflow by machine. On percussion dullness was present at lung base due to consolidation. Breath sounds were diminished at base; crackle sound was present due to retained secretion and pneumonia. In central nervous system examination both absent muscle tone and power, deep tendon reflexes and plantar reflex was absent in lower limbs due to flaccid paralysis and Glassgow Coma Score was 9/15.

Investigations performed included Complete Blood Count (CBC), Arterial Blood Gas (ABG) analysis, bronchoscopy, and lung ultrasonography (USG).

The Complete Blood Count revealed a haemoglobin level of 11.0 g/dL and haematocrit of 34%, indicating mild anaemia, which may worsen hypoxia. The total leukocyte count was markedly elevated at 16,500/mm [3], with differential counts showing neutrophils 82%, lymphocytes 12%, monocytes 4%, eosinophils 1%, and basophils 1%, suggestive of an acute bacterial infection. The total red blood cell count was slightly decreased at 3.8 million/mm [3]. Platelet count was mildly elevated at 4.2 lakh/mm [3] (420,000/mm [3]), reflecting an ongoing inflammatory response.

Arterial Blood Gas analysis showed a blood pH of 7.3, pCO_2 of 49.4 mmHg, pO_2 of 49.1 mmHg, and HCO_3 of 24.2 mmol/L, indicating respiratory acidosis with hypoxemia.

Bronchoscopy revealed clots, crusts, and mucus plugging in the bronchioles. Lung ultrasonography findings were suggestive of pulmonary involvement.

Assessment on the basis of Self-care requisites of Dorothea Orem's Self-Care Deficit Nursing Theory (SCDNT)

Self-care requisites	Findings
1. Universal Self-care requisites	
Air	Patient is having breathing difficulty
Water	Fluid intake was adequate and skin turgidity was normal
Food	Inadequate food intake
Elimination	Patient was on catheter and having constipation
Activity & Rest	Impaired activity, difficulty in sleeping
Isolation & Socialization	Difficulty in speaking
Prevention of hazard	Risk of fall present, risk of pressure injury
Promotion of normalcy	
2. Developmental Self-care requisites	

Maintaining an environment that supports development	Unable to change position and not able to activity of daily living
Preventing and managing condition that may hinder normal developmental process	Poliomyelitis and obesity were hindering normal development process
3. Health deviation	
Following medical regimen	
Understanding possible complication	Patient and family members were having deficit knowledge
Revising self- image according to health changes	need to adapt with limited mobility
Modification of lifestyle to suit the new health condition	Need to learn how to live with paralysis and respiratory failure

Nursing Process as per of Self-care requisites of Dorothea Orem's Self-Care Deficit Nursing Theory (SCDNT)

Universal self-care requisites	Design of nursing system	Nursing diagnosis	Goal	Nursing agency/ action	Evaluation
Sufficient intake of Air	Wholly compensatory system	Impaired gas exchange Impaired breathing pattern Ineffective airway clearance	Patient will able to maintain oxygen and normal respiratory rate	**Doing for others:** ▪ Thorough respiratory system examination ▪ Provided oxygen therapy with the help of ventilator ▪ Provided nebulization ▪ Provided chest physiotherapy ▪ Performed suction	Expected outcome partially met as evidenced by patient was able to maintain oxygen saturation i.e. 98% and respiratory rate was 16 br/min
Maintenance sufficient intake of Food	Wholly compensatory system	Imbalanced nutritional status Difficulty in swallowing related to tracheostomy tube	Patient will able to maintain nutritional status	**Doing for others:** ▪ Performed oral care ▪ Provided food (liquid) with NG tube with consultation of dietician **Teaching others:** provided health education to family members regarding nutrition and how to provide liquid diet by NG tube.	Expected outcome partially met as evidenced by patient was able to maintain nutritional status.
Care associated with elimination	Wholly compensatory system	Impaired bowel and bladder elimination	Patient will maintain normal bladder and bowel movement	**Doing for others:** ▪ Maintain bowel and bladder functioning by monitoring urine output and bowel movement record ▪ Catheter care provided	

Discussion

Nursing theory helps nurses understand clients and their demands by differentiating nursing as a distinct discipline from medicine and related sciences. Dorothea Orem's theory of self-care helps nurses determine which aspects of patient care should be prioritized in specific situations, and the importance of clients keeping independence with their own self-care activities.

Sehrish Naz (2017). Using Dorothea Orem's ideas in nursing practice. A case study investigated a 62-year-old male patient with a right ischemic cerebrovascular accident (CVA) who was receiving full replacement therapy. By applying self-care deficiencies (SCDNT), significant improvements were achieved, and the desired goals of care were achieved [11].

Ali, (2018). Applicability of Orem's Theory of Self-Care deficiencies to psychotic patients. A case presentation of a psychiatric patient diagnosed with schizoid personality disorder was presented. A structured interview was conducted to determine patients' self-care needs. A needs-based intervention with a supportive and educational system was designed to allow patients to slowly and gradually improve their self-care deficits on their own [12].

Quinde et al., (2021). The self-care paradigm of Dorothea Orem can prevent COVID-19 This cohort's self-care was semi-experimented. The Latin American Behavioural Assessment Questionnaire was used. This research was divided into three phases. An educational session on self-care intervention in the event of a health emergency, following pre-test and post-test assessments. Post-test results show a positive impact on self-care education [13].

T. Rakhshani et al. (2022). In 2018, a study was conducted at Shafa Hospital in Ahvaz, Iran, to investigate the impact of Orem's self-care model-based instruction on cancer patients. The study involved 100 patients, split into two experimental and control groups. The intervention included group, face-to-face, and individual training over five weekly sessions. Data was collected using the Orem questionnaire and Self-care capability assessment. The results showed that Orem's self-care approach significantly increased the ability of cancer patients to take care of themselves. The intervention significantly raised self-care scores, suggesting it should be incorporated into regular chemotherapy department programs. The study also found that the age gap was not particularly noticeable before the intervention [14].

Conclusion

Dorothea Orem's Self-Care Deficit Nursing Theory provides a comprehensive and practical framework for delivering patient-centered nursing care, particularly for individuals with chronic and complex health conditions such as type 2 respiratory failure. The theory emphasizes the patient's active participation in maintaining health and meeting self-care needs, while guiding nurses to identify deficits and provide appropriate levels of assistance through

wholly compensatory, partly compensatory, or supportive-educative systems. Evidence from various studies demonstrates that the application of Orem's theory improves self-care ability, self-efficacy, quality of life, treatment adherence, and psychological well-being among patients with respiratory disorders, stroke, diabetes, cancer, psychiatric illness, and other chronic conditions.

Therefore, integrating Orem's Self-Care Deficit Nursing Theory into nursing practice can strengthen holistic care, empower patients, and improve overall health outcomes. It remains a valuable model for modern nursing practice, education, and research**.**

References

1. Malarvizhi JK, Pappiya EM, Al Baalharith IM, Algrd HS, Ramaiah R. Application of Orem's self-care deficit nursing theory on self-efficacy and quality of life among patients with bronchial asthma: randomized controlled study. Int J Nurs Care,2022:10(2):31-37. doi:10.37506/ijonc.v10i2.18742.
2. Uslu A, Canbolat Ö. Nursing care of the chronic obstructive pulmonary disease patient according to Orem's theory of self-care deficiency: a case report. J Educ Res Nurs,2022:19(2):269. doi:10.5152/jern.2022.73659.
3. Yip JYC. Theory-based advanced nursing practice: a practice update on the application of Orem's self-care deficit nursing theory. SAGE Open Nurs,2021:7:23779608211011993. doi:10.1177/23779608211011993.
4. Deng Q, et al. Effects of nursing based on Orem's self-care model on self-care efficacy, quality of life and adverse emotions in patients with advanced lung cancer. Am J Transl Res,2021:13(4):2983-2989. PMID:34017465.
5. Mirabile VS, Shebl E, Sankari A, et al. Respiratory failure in adults. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing, 2025. Updated 2023 Jun 11. Available from: https://www.ncbi.nlm.nih.gov/books/NBK526127/
6. Fereidooni GJ, et al. Interplay of self-care, self-efficacy, and health deviation self-care requisites: a study on type 2 diabetes patients through the lens of Orem's self-care theory. BMC Prim Care,2024:25(1):48. doi:10.1186/s12875-024-02276-w.
7. Si Y, Yuan H, Ji P, Chen X. The combinative effects of Orem self-care theory and PDCA nursing on cognitive function, neurological function and daily living ability in acute stroke. Am J Transl Res,2021:13(9):10493-10500. PMID:34650719.
8. Ghani N, Suliman M, Fatima. Application of Orem's nursing theory to a stroke patient: a case study. J Saidu Med Coll Swat,2019:9(2):273-277. doi:10.52206/jsmc.2019.9.2.%25p.
9. Debika S, Liangkiuwiliu R, Haokip L. Applicability of Orem's self-care theory to practice: a narrative review,2023:8:409-412.
10. Quinde et al. Prevention of COVID-19 through self-care. J Innov Sci Res Technol,2021:6(3):809-814.
11. Ali. Application of self-care deficit on a psychiatric patient. Ann Nurs Pract,2018:5(1):1093.
12. Ghani N, Suliman M, Fatima. Application of Orem's nursing theory to a stroke patient: a case study. J Saidu Med Coll Swat,2019:9(2):273-277. doi:10.52206/jsmc.2019.9.2.%25p.
13. Naz S. Using Dorothea Orem's ideas in nursing practice: a case study, 2017.
14. Rakhshani T, et al. Effect of Orem's self-care model-based education on self-care ability among cancer patients undergoing chemotherapy, 2022.