



Application of Faye Glenn Abdellah's theory: theory of 21 nursing problems

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Abstract

Introduction: Acute appendicitis is a common emergency in general surgery and globally appendectomy is at the top of emergency surgical procedures. Evidence suggests appendectomy is the first-line treatment for acute appendicitis. About 9% of patients develop complications after appendectomy, leading to a long hospital stay and recurrent surgery among others: Surgical site infection (SSI) is a common complication of appendectomy. Nursing theories can be beneficial in care of practice of patients with appendectomy by collaborated multidisciplinary approach incorporating scientific principles and knowledge.

Aim: This study aimed at assessing patients' problems and developing a care plan for patients who have undergone appendectomy based on Abdellah's model. Implementation of Abdellah's theory of 21 nursing problems helps in overall care of patients including physical, psychological, social, environmental, spiritual, etc. aspects.

Keywords: Faye Glenn Abdellah, Appendectomy, basic care, sustenal care, restorative care, restorative care, nursing theories

Introduction

Appendicitis is the most common preventable surgical condition has an overall lifetime risk of 7%-8%^[1]. Based on severity and symptoms, acute appendicitis is classified into uncomplicated or complicated. Uncomplicated appendicitis is defined as an inflamed appendix without signs of gangrene, perforation or intra-peritoneal purulent fluid. As a counterpart, complicated appendicitis applies to all cases with either a gangrenous inflamed appendix with or without perforation, intraabdominal abscess, peri-appendicular contained phlegmon, or purulent free fluid^[2]. An appendectomy is a surgical procedure to remove the appendix, a small organ in the lower right abdomen. It's usually performed as an emergency surgery to treat appendicitis, an inflamed appendix. Though the condition is discussed whether to operate or not on these patients, its current mainstay therapy is appendectomy and it is the most commonly performed procedure within an acute care surgery service^[3]. Because of efficient treatment course and nursing care the mortality rate after appendectomy has decreased significantly in recent years, but the morbidity rate still remains. The complication occurs in up to 17% of patients, including surgical site infection (SSI), intra-abdominal abscess (IAA), incisional hernias, ileus, bowel obstruction, bleeding, or stump appendicitis^[4].

Nursing, as a professional discipline, can draw upon various theories to enhance caregiving. Incorporating theories, scientific knowledge, and principles into care planning, organizing, guiding, and adopting systematic approaches can facilitate the achievement of desired outcomes. Nursing theories can be beneficial in care practices in appendectomy patients by facilitating multidisciplinary collaboration, applying scientific knowledge and principles, and implementing systematic approaches^[5].

Faye Abdullah's theory is simple and mainly focused on solving patients' problems and has used the theories of

Henderson, Maslow, and Erikson in its initial form. Considering the main focus of this theory; it can be applied in different parts: FGANT emphasizes on identifying patients' needs and fulfilling those needs quickly, considering the nurses, environment, health, and patient as well as focusing on nursing diagnoses by using 10 nursing skills. Therefore, the theory considers 21 needs as the basic needs, substernal needs, remedial needs & restorative needs of the patients and establishment of the patient's performance^[7]. No study has been conducted on the implementation of Faye Glenn Abdellah's Nursing Theory in the nursing care of patients with appendicitis with appendectomy. Also, there is a gap between theory and application of nursing theories in nursing practice to implement Faye Glenn Abdellah's Nursing Theory. Therefore, the present study was aimed to determine the effect of application of Faye Glenn Abdellah's Nursing Theory on the care of patient with appendectomy^[8].

Nurses play a significant role in the management of appendicitis from admission to discharge. Understanding the nurse's responsibilities at admission, pre- and post-surgery is very vital for proper nursing interventions and good outcomes. Nurses are expected to use good clinical decision and clinical reasoning skills to analyze and synthesize patient data in order to prioritize patient problems, set goals, and plan and implement patient-centered care^[9].

About the theorist

Faye Glenn Abdellah Born in 1919 New York & died in 2017. Dr. Abdellah, pioneer nursing researcher, helped transform nursing theory, nursing care and nursing education. Dr. Abdellah embarked on her distinguished career in health care. She was the first nurse officer to receive the rank of a two-star rear admiral.^[11] She was the first nurse woman in the 200-year history of the United

States Public Health Service (USPHS) to hold the position of Deputy Surgeon General from 1981– 1989. She has more than 150 publications, including her seminal works, *Better Nursing Care Through Nursing Research* and *Patient-Centered Approaches to Nursing*, changed the focus of nursing theory from a disease-centered to a patient-centered approach and moved nursing practice beyond the patient to include care of families and the elderly^[10].

"Nursing is based on an art and science that mould the attitudes, intellectual competencies, and technical skills of the individual nurse into the desire and ability to help people, sick or well, cope with their health needs." – Abdellah^[11].

Abdellah's 21 Nursing Problems Abdellah defined humans as beings with physiological, emotional, and social needs. The theory discusses health needs and a problem-solving approach. Within this framework, which emphasizes meeting individual needs, unmet needs are identified as nursing problems, and a holistic approach is employed for their resolution^[12].

Theoretical Sources

Abdellah's theory is a patient centered approach which identifies eleven nursing skills which are essential for the effective nursing care. The nursing skills required are, Assessment of health status, techniques of communication skills, Application of learned knowledge, Educating patients and families, Planning and organization of work, able to use of available resource materials and use of personnel resources, Problem-solving skills, able to delegate the work to others, Therapeutic use of the self, and various nursing procedure^[13].

Abdellah categorized the 21 nursing problems into four levels for the identification of problems and their root causes, data collection, and targeted planning. It brings a systematic approach to care by addressing the patient comprehensively^[14].

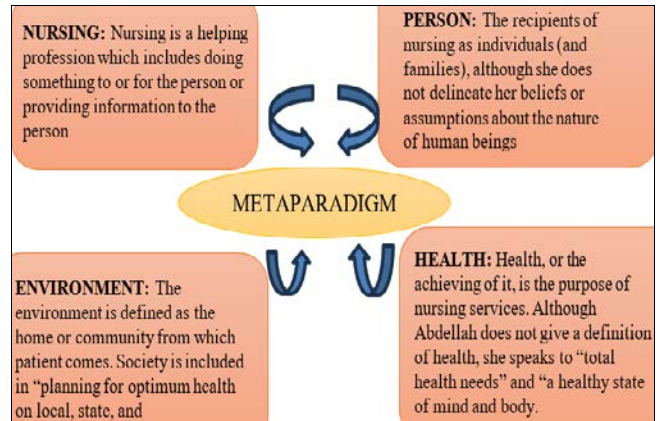
Basic care needs -This is the level 1 care composed of maintaining good hygiene and physical comfort, promoting Activity, Exercise, Rest and sleep and promoting safety and infection prevention^[15].

Sustenal care needs-Level 2 care includes facilitating oxygen maintenance, facilitating nutrition maintenance, maintain fluid and electrolyte balance, recognizing physiological responses, maintaining regulatory functions, maintaining sensory functions^[15].

Remedial care needs -Level 3 care includes managing emotional expressions, managing emotional and organic interrelations, facilitating communication, supporting spiritual goals, maintaining therapeutic environment & supporting self-awareness.

Restorative care needs -This is the level 4 care deals with supporting coping strategies and utilizing community resources.

Metaparadigm: The metaparadigm concept in nursing is a construct that provides a framework to describe the discipline's fundamental elements. Faye Glenn Abdellah's Theory makes pivotal use of the nursing metaparadigm's four parts: person, environment, Health, and Nursing.



Application of faye glenn abdellah's theory on patient with appendectomy.

Case Scenario

Mrs. X, a 56-year-old housewife, was diagnosed with appendicitis and underwent an appendectomy performed by Dr.X. on 24th November 2024. At the time of admission, her chief complaints were pain in the lower right abdomen, constipation, loss of appetite, weakness, nausea, severe diarrhea, fever, chills, and headache. Her past medical history reveals that she has been living with diabetes mellitus for the past 14 years and manages her condition with prescribed doses of Metformin. She has no significant past surgical history. The onset of her present illness dates back to October 2024, when she gradually developed a loss of appetite, which she initially attributed to age-related factors and did not seek medication. However, her condition worsened after a month with the onset of pain in the lower right abdomen and increasing weakness. After consulting a local clinic without relief, she was referred to SGPGIMS, Lucknow, where a thorough diagnostic evaluation confirmed appendicitis, leading to her admission for surgical treatment.

Observation & Data

On systemic examination, mild abdominal distension was noted, with tenderness in the right lower quadrant, a positive McBurney's point, guarding, and rebound tenderness, and it was diagnosed as appendicitis. No hepatosplenomegaly was detected. Percussion revealed mild localized tympany, and auscultation indicated normal bowel sounds without abnormal bruits.

Vital signs showed a temperature of 100°F, pulse rate of 98 beats per minute, blood pressure of 108/64 mmHg, respiratory rate of 20 breaths per minute, and oxygen saturation of 98%. Radiological findings from ultrasonography revealed an appendix measuring 9 mm in diameter with a hyperechoic ring and posterior acoustic shadowing. Laboratory tests showed elevated WBC (15,000/ml), neutrophils (9,000/ml), CRP (8 mg/dl), and low hemoglobin (9 gm/dl), supporting the diagnosis of acute appendicitis. Patient is advised to undergo surgery named Appendectomy. Following the surgery, presently she is experiencing pain at the surgical site, weakness, nausea and vomiting, and difficulty walking due to catheterization. Patient was in the need of basic level needs such as hygiene and physical comfort evidenced by poor hygiene physical discomfort due to pain and she was also risk for infection. As she was in severe pain her sleeping pattern also disturbed. Sustenal need like oxygen, nutrition, Fluid and electrolytes also compromised in the patient's health status

evidenced by tachypnea and cough Before surgery patient was so apprehended about surgery and his role function.

Application of Theory on A Patient with Appendectomy

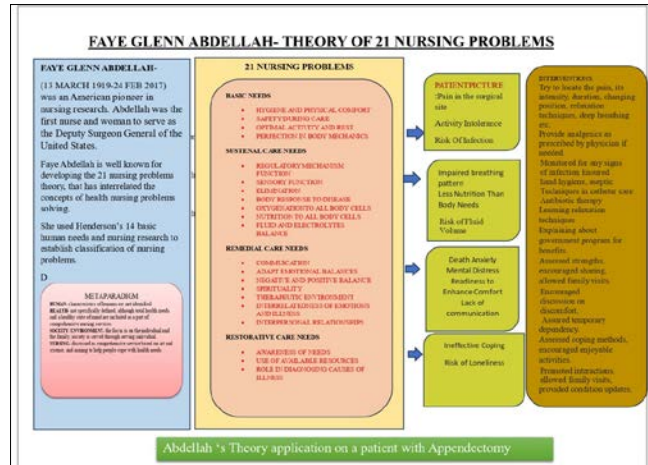
Level	Aspect of Care	Nursing Diagnosis	Objective	Interventions	Evaluation
Level 1: Basic Care Needs	Maintaining Good Hygiene and Physical Comfort	Pain & Discomfort	Reduce pain and promote comfort.	Assessment of pain Comfort position Diversional therapy Early ambulation Analgesics given	Pain reduced from 8 to 4
	Promoting Activity, Exercise, Rest, and Sleep	Activity Intolerance	Enhance activity tolerance and ensure adequate rest.	Encouraged movement, monitored vital signs, created a calm environment for sleep such as less noise, dark room etc	Reported inadequate sleep but tolerated minimal activity.
	Promoting Safety and Infection Prevention	Risk of Infection	Prevent infection occurrence.	Monitored for any signs of infection Ensured hand hygiene, aseptic Techniques in catheter care Antibiotic therapy	No signs of infection at catheter site.
Level 2: Sustenal Care Needs	Facilitating Oxygen Maintenance	Impaired breathing pattern	Maintain normal respiratory rate	Monitored vital signs, Administered 4 L/min oxygen via nasal prongs. Provided semi fowlers position.	Oxygen levels gradually maintained.
	Facilitating Nutrition Maintenance	Less Nutrition Than Body Needs	Meet metabolic needs.	Assessed intake, explained balanced diet, provided frequent feeding.	Met needs through parenteral nutrition.
	Maintaining Fluid and Electrolyte Balance	Risk of Fluid VolumeImbalance	Maintain balance of fluids and electrolytes.	Monitored intake/output, assessed electrolytes, managed dehydration risks.	Replaced deficient electrolytes based on tests.
	Recognizing Physiological Responses	Impaired Body Consciousness	Support coping with self-perception changes.	Encouraged self- expression, addressed concerns about appearance and mobility.	Expressed fear about surgical site impact on mobility.
Level 3: Remedial Care Needs	Managing Emotional Expressions	Death Anxiety	Alleviate death-related anxiety.	Facilitated expression of fears, supported spiritual practices,	Anxiety persisted; sedation initiated.
Level	Aspect of Care	Nursing Diagnosis	Objective	Interventions	Evaluation
				maintained communication.	
	Managing Emotional and Organic Interrelations	Mental Distress	Manage stress and support condition acceptance.	Assessed strengths, encouraged sharing, allowed family visits.	Difficulty in relaxing; frustration with movement limitations.
	Facilitating Communication	Impairment in Verbal Communication	Support communication despite dyspnea.	Conducted respiratory physiotherapy, assisted in verbal communication.	Managed respiratory difficulties; communication improved.
	Supporting Spiritual Goals	Moral Distress	Improve morale.	Physician explained condition, encouraged coping and discussion.	Expressed gratitude towards GOD.
	Supporting Self-awareness	Readiness to Enhance Comfort	Reduce discomfort related to catheters.	Encouraged discussion on discomfort, assured temporary dependency.	Complied with the process.
Level 4: Restorative Care Needs	Supporting Coping Strategies	Ineffective Coping	Encourage healthy coping mechanisms.	Assessed coping methods, encouraged enjoyable activities.	Felt emotionally stronger after family visit.
	Utilizing Community Resources	Risk of Loneliness	Prevent feelings of isolation.	Promoted interactions, allowed family visits, provided condition updates.	Expressed happiness after family visit.

Prognosis

Following the implementation of Abdellah’s theory, the patient demonstrated significant improvements across multiple dimensions of health and well-being. Her pain level, initially rated at a score of 8, decreased to a more manageable score of 4, indicating enhanced comfort and effective pain management strategies. Vital signs stabilized

and consistently reflected normal values, signifying overall physiological improvement. The patient also reported a noticeable reduction in anxiety and fear, which contributed to a more positive emotional state. Her sleep pattern improved markedly, allowing for more restful and restorative sleep, which further aided her recovery process. As a result, she was able to resume her normal daily

activities, reflecting enhanced physical functioning and independence. Additionally, her nutritional intake improved, leading to better nutritional status, while adequate hydration was maintained, supporting optimal cellular function. Improvements were also noted in her respiratory status, with clear breathing patterns and adequate oxygenation, suggesting that the holistic, patient-centered care guided by Abdellah's 21 Nursing Problems theory effectively addressed her comprehensive needs and contributed significantly to her recovery.



Discussion

Abdellah's approach to nursing is considered a human needs theory because it is patient-centered practice. The individual is seen as a whole in which nursing care is directed to a more individualized approach. It was intended to guide care of those hospitalized; however, it is relevant to nursing care as a whole. Her theory was created to be a framework for nursing education. She and her colleagues came up with twenty-one problems that nurses should focus on in order to take a patient-centered approach (McEwen & Wills, 2014) [16].

Allam N. (2016) [18] Faye Abdellah Model to Banishing Social Stigma of Head Lice Among School Students. In this paper, an experimental comparative study was carried out aiming to monitor the effect of Faye Abdellah Theory Model on banishing social stigma of head lice among school students and monitor its effect on their health status and self-esteem. For the study purpose a sample of convenience of 1600 school students and their mothers was recruited from 16 schools from both countries participated in the study. Four tools used, pre/post interviewing questionnaire, observation checklists, Faye Abdellah model format, self-esteem scale sheet and students/mother's guidance booklet. The results showed that the total numbers of students at 8 schools in Egypt were 800/16700, with prevalence ratio 20.8% and 800/14300 from Kingdom of Saudia Arabia with the prevalence ratio 17.8%. The study documented that there are highly significant effects of the model on students' health status and banishing the social stigma and there is a highly positive association between self-esteem and assurance to the health behavior. It concluded that highly self-esteem had excellent health status and completely confident in coping with self-care management. and it is

recommended that knowledge is power and teaching mothers and students about head lice myths and facts is key to demystifying the stigma [17].

Mitchell A.,et.al.,(2018)^[19] Nurses Implementing a Newly Designed Fall Risk Tool for Inpatients on Medical/Surgical Units: A Quality Improvement Project The prevalence of inpatient falls on medical/surgical floors is of great concern among many hospitals.The purpose of this quality improvement project was to create a new fall risk tool to specifically help nurses on medical/surgical floors to assess their patients, identify each patients risk score per shift, and implement proper fall precautions based on the determined scores. Faye Glenn Abdellah's theory served as the theoretical framework for this study [18].

Nursing theories facilitate comprehensive patient evaluation across all care processes. In intricate and prolonged treatments like ECMO therapy, patients necessitate assessment from various angles, necessitating a holistic care approach. With Faye Glenn Abdellah's creation of 21 nursing care models tailored to ECMO patients, it is believed they serve as a cornerstone for delivering quality care. This case report is crafted in accordance with these models. The models provide a structured approach to patient care, particularly in addressing psychological and emotional needs and fostering patient expression. Thus, it is recommended as a guiding framework for nurses administering ECMO care in clinical settings [19].

Cancer disrupts the quality of life of patients, and increases the burden of the patients' families. This randomized control trial, study aimed to determine the effectiveness of Glenn Abdellah's nursing theory on quality of life of patients with cancer. The study was conducted on 60 cancer patients selected by purposive sampling method in Shahid Modarres Hospital, Saveh city in 2020. The samples were divided into intervention and control groups using random allocation. The intervention related to ten steps in Faye Glenn Abdellah's Nursing Theory was implemented for intervention group, but there was no intervention in the control group. Information was collected before, after the intervention, and one month after the intervention through World Health Organization Quality-of-Life Scale (WHOQOL-BREF). Data were analyzed by SPSS 22 software, using descriptive statistics methods and inferential analysis tests. In the intervention group, the mean score of patients' qualities of life increased significantly after intervention and one month after intervention (p<0.001). After intervention and the follow-up period, the quality of life in the intervention group was better than that of the control group (p<0.001). The study concluded that use of nursing care theories, such as Faye Glenn Abdellah's nursing theory, can improve the quality of life in cancer patients [20].

Recommendation

Educational institutions should incorporate Abdellah's theory into nursing curricula to provide students with a strong foundation in patient-centered care. Case studies and simulation-based learning can help students understand the application of the 21 nursing problems in diverse clinical settings. By integrating her framework with contemporary evidence-based practices, nurses can refine interventions that align with current healthcare demands.

Conflict of Interest

There are no conflicts of interest.

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Conclusion

The application of Faye Glenn Abdellah's Theory of 21 Nursing Problems provides a comprehensive and patient-centered framework that enhances the quality of nursing care. By focusing on identifying and addressing both overt and covert patient needs, this theory promotes a holistic approach that integrates physical, emotional, social, and spiritual aspects of health. In clinical practice, Abdellah's problem-solving method encourages critical thinking, individualized care planning, and improved nurse-patient communication. Ultimately, the theory not only supports nurses in delivering effective and compassionate care but also contributes to better patient outcomes and the advancement of nursing as a science and a profession.

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