

Original Article

Designing a Nursing Care Plan Based on Faye Glenn Abdellah Model in Patients with Diabetes Type 2: A Case Study

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Abstract

Background: 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.

Aim: This study aimed at assessing patients' problems and developing a care plan for patients with diabetes based on Abdullah's model.

Methodology: The present study is a case study that investigated the nursing process in the patients with diabetes based on Faye Abdullah's model.

Result: Implementing the nursing process in form of this theory, the intended purposes were achieved. Nursing functioning in form of Faye Abdullah's theory contributed to improvement of nursing care. This theory appeared to make a proper framework to diagnose the nursing problems.

Key words: clinical skill_ theory-clinical gap _ Faye Abdellah Theory _ nursing theory-guided practice _ nursing theory

Introduction

Diabetes is a chronic progressive disease that causes physical, social and psychological challenges, which in turn increases the risk of mental problems (Uchendu and Blake, 2017). The number of diabetes patients has increased four times in the last three decades, and diabetes mellitus is the ninth leading cause of death (Zheng et al., 2018). According to the International Diabetes Organization, the number of people with diabetes has risen from 151 million in 2000 to 415 million in 2015 and is estimated to be 642 million by 2040 (Namayandeh et al., 2019). The statistics in Iran show that 4.5 million adults suffered from diabetes in 2011 and it is estimated

to be 9.2 million by 2030 (Esteghamati et al., 2017).

Nursing, like other sciences, is at the beginning and nurses, like other professions, need theories (Ghanbari, 2004). Increased influence of nursing as a field of study has caused interest in explaining nursing science based on new theories. One of the persistent problems in nursing is a weakness in clinical observations and accurate data collection. Use of nursing theories and models is limited since these models are abstract (Rolfe, 1993). Remarkable advances in the nursing profession led to growing evidence- and theory-based functioning and knowledge and commitment for care, based on these principles,

provide the patients with better and more comprehensive care. Theory contributes to categorize nursing functioning in the clinic, description, explanation, and predicting the patients' responses to clinical care and decision-making (Alligood, 2017, Alligood, 2018). Using the nursing theories results in achieving therapeutic goals and continue treatment and improving the quality of life in patients with diabetes (Araújo et al., 2018).

The nurses in the internal and surgical wards usually care from various kinds of people and are obliged to provide comprehensive care to them (Ahmad et al., 2015). Nursing functioning as a theory contributes to improve the quality of nursing care (Younas and Quennell, 2019).

Management of a chronic disease including diabetes needs consistent follow-up and care as well as a skilled and specialist team (Molayaghobi et al., 2019). Therefore, this study aimed at using a theory for further care examinations.

Definition of theory

Abdellah's theory was derived from Henderson's theory; it is, in fact, the extension of Henderson's 14 basic human needs. However, Abdellah used a problem-solving approach to solve the nursing problems. In developing her theory, she used Maslow's hierarchical needs theory and Erikson's development theory. Her "21 nursing problems theory" was formulated as a scientific theory and differentiated between the nursing model and medical model in nursing education. Abdellah identified 21 problems to maintain or attain physical, psychological, and social balance of patients. Moreover, the needs of patients are further divided into four categories: physiologic, safety, love and belonging (emotional), self-actualization needs, derived from Maslow's pyramid hierarchy of needs.

This theory is a patient-centered theory in which nurses have a key role in identifying and solving problems. As mentioned, the nurse, in this theory, is expected to help patients to meet their needs through problem-solving method. It is determined after examining the patients' conditions and the nature and severity of the problem (Hojjati, 2015). Abdullah believes that this theory has various applications in education and can be used, in addition to clinical settings, in the society and is focused mainly on solving patients' problems. She considers philosophy, purpose, functioning and art as four basic

elements of nursing and argues that clinical nursing is the art of helping, which identifies and meets patients' needs through various ways. She used Orlando's theory as well (McEwen and Wills, 2011).

Abdellah's school of thought was based on needs. Her theory falls into three main categories: health, nursing problems and problem solving. She viewed nursing as an art and science, which helps individuals, cope with their health needs through different aspects. She defined health as the dynamic pattern of functioning whereby there is a continued interaction with internal and external forces. Problem may be overt or covert addressed by the patient or his/her family and can be solved by the nurse. Overt nursing problems are conditions by which the patient or his/her family is faced, of which physical problems are more evident and nurses can solve them via professional functioning. Covert nursing problems include mostly social and psychological problems and the conditions that can be identified by the nurse through patient assessment, communication skills, and interaction with the patient. Problem solving process involves identifying the problem, collecting data and formulating hypotheses, testing hypotheses through the collection of data and revising hypotheses when necessary (Bhaskara Raj, 2011, Hojjati, 2015).

Abdellah's 21 Nursing Problems are the following:

1. To maintain good hygiene and physical comfort
2. To promote optimal activity: exercise, rest, sleep
3. To promote safety through prevention of accident, injury, or other trauma and through prevention of the spread of infection
4. To maintain good body mechanics and prevent and correct deformity
5. To facilitate the maintenance of a supply of oxygen to all body cells
6. To facilitate the maintenance of nutrition for all body cells
7. To facilitate the maintenance of elimination
8. To facilitate the maintenance of fluid and electrolyte balance
9. To recognize the physiologic responses of the body to disease conditions—pathologic, physiologic, and compensatory
10. To facilitate the maintenance of regulatory mechanisms and functions

11. To facilitate the maintenance of sensory function
12. To identify and accept positive and negative expressions, feelings, and reactions
13. To identify and accept interrelatedness of emotions and organic illness
14. To facilitate the maintenance of effective verbal and nonverbal communication
15. To promote the development of productive interpersonal relationships
16. To facilitate progress toward achievement and personal spiritual goals
17. To create or maintain a therapeutic environment
18. To facilitate awareness of self as an individual with varying physical, emotional, and developmental needs
19. To accept the optimum possible goals in the light of limitations, physical and emotional
20. To use community resources as an aid in resolving problems that arise from illness
21. To understand the role of social problems as influencing factors in the cause of illness

A Case Study

A 34-year-old female patient with the height of 169 cm and weight of 75 kg and BMI: 26.3 kg/m² referred to Poursina Hospital in the city of Rasht. She was married and had no children. She had no previous hospitalization and surgery. She was no longer employed since the company she was working in had been closed and spent her free

time at gym and reading books. She slept at nights for 8 hours and rarely sleeps in the day. Her defecation pattern was changed (1 time a day) and suffered from constipation.

She referred to the Hospital because of pain around her navel and side. She said that the pain was too intense and was even more severe when she lied down and nothing could relieve it. She also said that her pain was 6, based on the VAS. She had nausea and severe diarrhea, fever, chills, and headache. She first referred to Baharlu Hospital in Tehran and was diagnosed with appendicitis, but since she lived in Rasht, she was transferred to Poursina Hospital in Rasht under her consent. Further examinations showed two cysts in her right ovary, which were removed by appendectomy. She was not allowed discharge due to constipation and high WBC. She had a history of type 2 diabetes, anemia, measles for twice (in childhood and adolescence) and allergy in childhood. She had no history of diseases in the family other than her mother had diabetes.

The patient was asked the 21 Abdellah's problems through prominent nursing models such as those of Henderson, Maslow, and Erikson, as well as examining the texts of the designed questions. The physical examinations of the related systems were conducted (Bickley and Szilagyi, 2017) and finally, appropriate diagnosis and measures were written when necessary (Diagnoses, 2017).

Subject	Question	Examination	Patient's response
1. Maintaining comfort and proper hygiene	✓ Are you satisfied with the hygiene of your room in the hospital? ✓ Is the bathroom in the ward clean? ✓ Is your bed comfortable? ✓ How is the ventilation system of your room? ✓ Is your privacy protected in this room? ✓ Have you been able to take a bath since you have been admitted?	--	Though it's a public hospital with a lot of patients, I can say that I'm satisfied with the hygiene./ The bathroom is clean./ My bed is comfortable./ the ventilation of the room is good./ My privacy is protected./ I can go to bathroom.
2. Improving desired activities, exercise, rest, and sleep	✓ How do you evaluate the environmental condition of the ward in terms of noise?	--	I'm generally not interested in exercising but after the surgery of appendicitis, I walked

	<ul style="list-style-type: none"> √ How many hours did you sleep in the night? √ How many hours a day do you exercise? √ How many hours a day do you take a rest? √ What factors do affect your sleep and rest? 		for 20 minutes in the ward every day with the help of my older sister./ There is a lot of noise in this ward and I couldn't sleep well last night. Patients make noise in the night for various reasons.
3. Keeping safety by preventing spread of infection, events, injury, and other systems	<ul style="list-style-type: none"> √ How is the patient's five senses? √ How do you feel about your disease? √ What do you do to prevent contagious diseases? √ Do you remember anything about your vaccination? √ Do the bedside tables match with the bed and do you have to fix the tables? 	Examining the nervous system, five senses, peripheral vessels, and CBC test	I think that appendectomy is a simple problem, and I'm glad that appendicitis caused diagnosis of my ovarian cysts and both were operated./ I always try to maintain personal hygiene as much as possible./ The guards of both sides of the bed do not work well and cannot be fixed.
4. Maintaining the body mechanism and deformity correction	<ul style="list-style-type: none"> √ Do you have a deformity disorder in your body? Have you ever decided to treat it? √ Do you know anything about the side effects of deformity? √ What do you do to prevent chronic diseases? 	Examination of musculoskeletal system	There is no deformity in my body except the a burn scar on back of my foot and I have not decided to treat it because of high cost; besides, that's not visible./ One of the biggest concerns I always have is that my feet become black because of diabetes; so, I always try to have a good diet.
5. Supplying oxygen for all cells of the body	<ul style="list-style-type: none"> √ Do you have shortness of breath? 	Examinations of the cardiovascular, respiratory and circulatory systems, skin and nail	I have had no problem in breathing so far.
6. Supplying food for all cells of the body	<ul style="list-style-type: none"> √ Examining the patient if her body receives the right nutrients throughout the day for her disease? √ Examining the patient if she has had any malnutrition history? √ How many meals do you take in the day? √ What kind of foods 	Examination of digestive system	I always try not to take foods that increase my blood sugar and I'm not interested in sweet foods at all./ since my mother has diabetes, we're learned not to take sweet foods a lot./ I try to take the three main meals a day and avoid overeating.

	do you take in the day?		
7. Proper functioning of excretory system	√ How often do you have excretion?	Examination of digestive system	I have had severe constipation after surgery for three days, and so, I have not been discharged.
8. Keeping the liquid and electrolyte in balance	√ How is your feces density? √ Have you ever had symptoms of abnormal feces, such as blood, foam, or fat? √ How much liquid do you take a day? √ How many glasses of water and liquid do you take a day? √ How much watery foods like soup do you take? √ How often do you have urine excretion a day? √ Do you feel heavy in the day?	Examination of kidney system and urine test	I try to drink 6 to 7 glasses of water a day but I don't like watery foods like soup./ I have had urinary catheter since I have been admitted to the hospital and I don't feel burning in my genital organ. But I have no problem in urine excretion. I feel my legs are swollen.
9. Recognizing physiologic responses in different physical and physiological conditions	√ Are you influenced by the coldness and heat of the environment? √ Have you ever had quarrel with others for simple causes like starvation?	Examination of endocrine system and metabolism	No, I'm not influenced by such conditions.
10. Maintaining mechanisms and regulatory activities	√ Do you have a history of diabetes or thyroid diseases? When did you recognize? √ How do you deal with stressed situations?	Examination of endocrine system and metabolism	I realized I had diabetes but I don't have any thyroid problem./ The slightest stress makes me cry.
11. Preserving sensory function	--	This part is explained in other parts in details.	--
12. Identifying and accepting the feelings, reactions, and negative moods	√ What is your feeling and reaction to one who criticizes you? √ Have you ever hate someone? If yes, how do you control yourself?	--	I hate criticism but I can tolerate other's criticisms, and I dislike this behavior. /I soon get grudges and try to give tit for tat.
13. The relationship between emotions and disease	√ How do you like others to talk about your disease?	--	I don't like to be regarded as a sick person; my disease is

	√ How do you feel about your disease?		not serious and can happen to anyone.
14. Maintaining effective verbal and nonverbal communication	--	--	The patient had good communication and cooperated with the interviewer.
15. Improving and developing interpersonal communications	√ How do you communicate with others?	--	I have a good relationship with others but nurses in this ward are bad-tempered and have no good behavior with the patients and their families, and do not even care about the patients' pains.
16. Progress toward achievements and spiritual goals	√ What religion do you believe? √ Are you a religious person? √ What's GOD's role in your life?	--	I'm Muslim and GOD has a great role in my life and try to have strong spiritual beliefs.
17. Making and maintaining the treatment environment	√ What factors do affect your treatment environment? √ Do you think your current environment does need any change? Why?	--	The most important principle in the treatment environment is personnel's good temper./ The noise of the environment is better to be reduced so that they can rest better.
18. Awareness of oneself as a person with developmental, physical, and emotional needs	√ What are a person's needs?	--	Human has various needs such as food, water, air, and clothing. There are also higher needs such as peace and security
19. Accepting desirable goals despite of limitations and emotional and physical problems	√ Have you accepted your disease? √ What problems do you think are caused by your disease? √ How did you deal with your disease?	--	Yes, I have accepted my disease. I know it because my mother has diabetes, too. I could accept appendicitis but I'm worried about the problem of the ovarian cysts. I'm worried I may have problems in getting pregnant in the future.
20. Using social resources as a means of solving problems caused by the disease	√ Who do support you and help you with your disease? (family/ friends/ social support systems)	--	My only supporters are my family. I don't have even insurance and I have to pay all costs.
21. Understanding social problems caused by the disease	√ What problems are caused for you in the society by your	--	My main problem is the cost of treatment, making me work harder.

	disease? √ Does the society play any role in your disease?		
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Examinations of the relevant systems	
Nervous System	Examining the 12 pairs of the cranial nerves, the olfactory nerve was examined, which was normal since the patient could recognize the smell of alcohol. The second pair was examined by reflex to light and pupils contracted. The eye movement confirms the health of the nerves 3, 4, and 6; the patient could follow the examiner's finger in the H pattern. The nerve of the pair 5, was examined in all three forehead, maxilla, and jaw; the patient had deep and surface sense of touch. The jaw movement was normal and no crepitus was found. The corneal reflex was also examined; it was normal. The sense of taste was normal and the patient could differentiate between the flavors of sweet, sour, salty, and bitter. Examining the facial movements, the patient could do all facial movements including raising eyebrows, blinking, whistling, and etc., and there was no asymmetry or lip asymmetry, or symptoms of Horner's syndrome including absence of perspiration, ptosis, indicating normal nerve of pair 7. The patient's sense of hearing and balance were normal. There was gag reflex that indicates normal nerve of pair 10. The patient could swallow her saliva, indicating normal nerve of pair 9. There could be found no abnormality in sternocleidomastoid muscle resistance and trapezius muscle. The patient could resist against the examiner's hand pressure, indicating normal nerve of pair 11. She could turn her tongue in all directions, indicating normal nerve of pair 12. The patient did not mention any history of change in her moods, attention, symptoms of dizziness, fainting, convulsions, tremors, or any involuntary movements.
Five senses	<p>√ Vision: the size of pupils was normal. They had symmetrical contraction in the reflex to the light. Examining the eye muscle movement by the H pattern, the patient could follow the examiner's finger. The patient's visual acuity was examined by placing a text in 30 cm of her eyes and she could read it without using glasses. The conjunctiva was not pale, sclera, or icteric. The matching test showed identical matching in both eyes. Examination of the field of view was performed using tracking fingers; the result was normal according to the examiner's field of view.</p> <p>√ Olfactory: the patient was asked to close her eyes and one side of her nose was blocked by hand. An alcohol pad was moved upward the patient's nose and she could detect it. The same action was done for the opposite side and the same result was obtained.</p> <p>√ hearing-balance: the external ear was examined and there could be found no abnormality such as scaling, abnormal moles, scars and excessive secretion. There was no pain and sensitivity in the tinnitus. Examining the ear by an otoscope, silver eardrum was observed. Weber and Rinne test was performed in order to examine bone and air conduction, and the patient felt the air conduction longer than the bone conduction. The whisper test was performed and the patient could detect and repeat the words.</p> <p>√ Balance tests indicated no problem.</p> <p>√ Taste: the patient was asked whether she was able to differentiate the tastes in her last meal. She answered yes. The patient told she had no problem in her sense of taste and is able to differentiate the tastes of sweet, salty, bitter, and sour.</p> <p>√ Touch: the tests of "distinctive senses", "stereognosis", "graphesthesia" and senses of softness, hardness, and roughness were conducted and the patient could recognize objects in all tests.</p>
Peripheral vessels	Radial, brachial, femoral, popliteal, dorsalis pedis, and posterior tibial pulses could be palpated. The patient mentioned no history of deep vein thrombosis or swelling the leg muscles, discoloration of the fingers and toes when cold or swelling, or turning red or

	pain when be touched. The patient had no symptoms of intermittent claudication, leg cramps, or varicose veins. Allen's test was performed and the patient's palm blood flow was normal.
Musculoskeletal	In the musculoskeletal system, no abnormal findings including muscle atrophy was found; however, there was a symmetrical mild edema in the ankle. There could be observed no skeletal deformity. There was no abnormal mass on touch.
Cardiovascular	The sounds were heard in the pulmonary, aortic, tricuspid, mitral, and orbital foci; S1 and S2 sounds could be heard and no murmur was heard. The patient expressed no complaints of palpitations, shortness of breath while sleeping, nocturnal seizures, pain or problem in her chest. Her abdominal aorta and PMI were observed. The JV was normal and below 3 cm (above 3 cm is considered to be abnormal). The carotid pulse was palpated. The heart rate was normal and matted. The patient's ECG was observed, which was NSR.
Breathing	The respiratory system was observed and heard. Normal sounds of the lung, including bronchial, Broncho vascular, and vesicular sounds were heard. The lung was clear and the patient had no problem with breathing. The resonance sound was heard. There could be observed no deformity or special change in her chest.
Skin	The skin color was normal and there could be observed no rash, mass, ulcer, itching, dryness, and change in size and color of moles. The nails color was normal and there was no cyanosis.
Hematopoiesis	The patient's tests were checked and there was no evidence of anemia and hemoglobin rate was in normal range.
Digestion	The patient had no swallowing problem. Her appetite is good and she eats three meals. However, she had constipation after the surgery. The bowel sound had been reduced. The patient had pain in the operated area. Abdominal observation showed no abnormality and there was no bleeding or hematoma in the operated area. The percussion of intestine was resonant and the percussion of stomach was tympan. There could be palpated no mass or swelling, but the abdomen was hard in the palpation.
Glands and metabolism	The patient mentioned no thyroid problem, intolerance to heat or cold, excessive sweating, and no abnormal finding was found after the tests except BS=297.

Lab tests	Normal range	Reading Patient
WBC	4500-10000 mill/mm ³	16800 mill/mm ³
RBC	M:1.6-7.4 mm ³ F:2.4-4.5 mm ³	5/45mm ³
MCH	27-31pg	20.1pg
MCHC	32-36%	31.2%
BS	<140 mg/dl	297 mg/dl
ALT	M<41 U/L F<31 U/L	37U/L
AST	M<37 U/L F<31 U/L	32U/L
BUN	M:8-20 mg/dl F:7-18 mg/dl	19mg/dl
CR	M:0/7-1.4 mg/dl F:0/6-1.3 mg/dl	1mg/dl

List of diagnoses in terms of priority

Diagnosis 1: pain in the operated area (physical domain) associated with: tissue injury and muscle reflex spasm caused by the surgery.

Goal: the patient shows the signs of pain relief such as: expressing no pain/ disappearing the compression state of the face and body / participating in personal activities/ keeping the patient's vital signs within normal range (T=36°C RR=18/min PR=78/min BP=120/80mmhg).

Measures: examining the patient's usual responses to pain/ examining nonverbal symptoms of pain/ asking the patient about the quality, location, and distribution of pain/ examining the exacerbating or improving factors/ doing activities to relieve pain, such as back massage and changing the position, and training relaxation techniques including deep breathing, distraction, positive visualization, and music therapy(Diagnoses, 2017).

Diagnosis 2: constipation (physical domain) associated with: reduced gastrointestinal motility due to reduced activity/ decreased liquid intake/ reduced intake of high fiber foods/ suppressing the excretion reflex due to unwillingness to excrete in bed.

Goal: returning to her natural excretion pattern (once a day).

Measures: routine exercise training (Kegel) to strengthen abdominal muscles/ increasing activity level based on tolerance/ encouraging the patient to excrete when needed/ helping the patient to go to bathroom/ keeping privacy at excretion/ drinking enough liquid / including high fiber foods in her diet(Diagnoses, 2017).

Diagnosis 3: anxiety (psychological domain) associated with: lack of enough information about diagnostic and treatment methods/ impact of disease on her lifestyle and the patient's role/ severe pain/ costs of treatment.

Goal: expressing reduction of fear and anxiety by the patient/ disappearing the compression state of face and body and feeling calm/ natural color of skin/ normal vital signs.

Measures: learning relaxation techniques such as deep breathing, distraction, and positive visualization/ educating the patient's close people how to support her/ encouraging the patient to accept the fears and anxiety and provide

appropriate feedback/ assuring the patient that nurses are always available/ communicating in a secure manner and respecting the principle of confidentiality(Diagnoses, 2017).

Diagnosis 4: problem in physical activities (physical domain) associated with: pain, weakness and fatigue/ sleep disorder and problems in resting/ unwilling to do activities due to fear of falling/ having surgical wound.

Goal: having maximum physical activities, considering the limitations of treatment and surgery methods.

Measures: studying restrictive factors of physical activities/ adjusting rest-activity period/ encouraging the patient to participate in doing activities and self-care as much as she can tolerate/ asking the patient companions to help her walk/ doing isometric activities(Diagnoses, 2017).

Diagnosis 5: sleep pattern disorder (psychological-physical domain) associated with: fear and anxiety/ environmental noise/ unfamiliar environment/ pain/ reduced physical activities.

Goal: sleeping enough/ feeling lively after waking up/ not yawning frequently.

Measures: examining symptoms and signs of sleep disorder/ observing behavioral changes such as irritability and lethargy/ meeting the basic needs such as hunger, thirst, and excretion before going to bed/ reducing fear and anxiety/ minimizing noise and extra activities(Diagnoses, 2017).

Diagnosis 6: probability of infection (physical domain) associated with: reduced intake of liquid / diabetes/ surgery/ using urinary catheter.

Goal: disappearing the symptoms of infection.

Measures: examining the signs and symptoms of infection, such as increased temperature, chills, increased respiratory rate, increased white blood cell count, urine turbidity and odor, and informing the physician if the symptoms of infection are observed(Diagnoses, 2017).

Diagnosis 7: probability of injury and trauma (physical domain) associated with: weakness and fatigue/ sensory-motor disorder/ sedative effects.

Goal: preventing injuries caused by falling down the bed.

Measures: examining the patient in terms of probable risk of injury/ availability of alarms/

taking the extra things out of the room/ avoiding activities that require muscle strength(Diagnoses, 2017).

Diagnosis 8: disorder in skin and tissue (physical domain) associated with: surgical incision/ delay in wound healing due to decreased blood flow to the wound/ improper nutrients and vitamin deficiency/ irritation of skin due to the use of skin glue/ long pressure on the tissue due to reduced activity/ reduced liquid volume/ inadequate tissue oxygenation.

Goal: maintaining the health of skin, healing the wound through a normal process such that no red spots or inflammation can be seen on the surface of skin/ absence of any skin damage/ gradual reduction of red spots and inflammation of the wound/ forming granulation tissue on the surface of the wound/ smooth edges of the wound.

Measures: reporting signs and symptoms of disorder in wound healing process, such as redness and inflammation around the wound, pallor and necrosis of the wound and separation of the wound edges/ reporting the signs and symptoms of skin irritation/ cleaning the skin around the wound and changing the dressing on the wound(Diagnoses, 2017).

Results: this care plan was conducted within two working days since the patient was discharged after two days of hospitalization. Conducting the nursing care, the patient's anxiety and fear were reduced and she reported that her sleep pattern had improved and she could return to her normal excretion pattern. After training, the patient was asked to briefly describe the trainings; the information feedback evidently showed the patient's increased awareness. The patient was more careful about taking daily liquids and foods and her blood glucose level returned to normal level in the second day.

Conclusion: Nursing functioning as a theory contributes to improving the quality of nursing care. This theory can provide an appropriate framework to recognize nursing problems. Discharge of the patient after two days was one of the limitations in this study. It is suggested to conduct this study in a longer period and on more people. Abdellah's theory is derived from Henderson's theory; it is, in fact, considered to be the extension of Henderson's 14 principles. It has no specific tools and identifies only 21 key areas of work. In the present study, questions were designed in each of 21 domains of Abdellah's

theory, in accordance with prominent nursing models such as those of Henderson, Maslow, and Erikson, and the physical examinations of the relevant systems were done.

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