Evaluation Of An Individual Diagnosed With Acute Renal Failure According To Marjory Gordon's Functional Health Patterns Model: A Case Report

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ABSTRACT

Introduction: Acute renal failure is a progressive kidney disease observed in regulating the fluid-electrolyte balance of the kidney and metabolic-endocrine functions as a result of the decreased glomerular filtration value. As a result of the deterioration in patients› fluid-electrolyte balance, symptoms and findings such as sleep disturbance, coma, stupor, malnutrition pulmonary edema, cardiovascular disorders, skin changes, and decreased skin turgor can be commonly observed (Altınparmak et al., 2012; Uysal&Karataş, 2017). It is highly important for the success of the treatment that the nurse, who plays an important role in implementing the treatment and maintaining the care, deals with the patient holistically and meets the needs of the patient physically, psychologically, socially, and mentally in light of a model. In this case report, a patient diagnosed with ‹Acute Renal Failure› was examined on the basis of Marjory Gordon›s ‹Functional Health Patterns,› and it was aimed to make a nursing care plan by making use of the nursing diagnoses in the North American Nursing Diagnosis Association (NANDA) classification system.

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Case: The patient is 79 years old, female, married, and has three children. The patient, who is a primary school graduate and a housewife, lives in a metropolis with her children. The patient, who was diagnosed with hepatitis C-associated liver cirrhosis in 1994, underwent liver transplantation from a cadaver in a university hospital in 1998. The patient presented to a university hospital with more than 10 defecations per day, nausea, and pain in the right posterior quadrant.

Conclusion: Patient care is extremely important in the nursing profession. Planning the patient›s care according to M. Gordon›s Functional Health Patterns Model and conducting data analysis in line with the model›s sub-dimensions were observed to solve the patient›s problems in a short time, and nursing care was provided to the patient in a systematic manner.

Keywords: *Nurse, Acute Renal Failure, Functional Health Pattern, Care Pla*

Akut Böbrek Yetmezliği Tanılı Bireyin Marjory Gordon'un Fonksiyonel Sağlık Örüntüleri Modeli'ne Göre Değerlendirilmesi: Olgu Sunumu

ÖZET

Giriş: Akut böbrek yetmezliği; glomerüler filtrasyon değerinin azalması sonucunda böbreğin sıvı-elektrolit dengesini ayarlamada ve metabolik-endokrin fonksiyonlarında meydana gelen ilerleyici bir böbrek hastalığıdır. Hastaların sıvı-elektrolit dengesinde meydana gelen bozulma sonucunda uyku bozukluğu, koma, stupor, beslenme bozukluğu, pulmoner ödem, kardiyovasküler rahatsızlıklar, cilt değişiklikleri, cilt turgorunda azalma gibi belirti ve bulgular yaygın olarak görülebilmektedir. Tedavinin uygulanması ve bakımın sürdürülmesinde önemli rol üstlenen hemşirenin, hastayı bir bütün olarak ele alması, bir model ışığında fiziksel, ruhsal, sosyal ve zihinsel yönden hasta gereksinimlerini karşılaması tedavi başarısı açısından oldukça önemlidir. Bu olgu sunumunda 'Akut Böbrek Yetmezliği' tanısı almış olan bir hasta, Marjory Gordon'un 'Fonksiyonel Sağlık Örüntüleri' temel alınarak incelenmiş olup, Kuzey Amerika Hemşireler Birliği (NANDA) sınıflama sistemindeki hemşirelik tanıları kullanılarak hemşirelik bakım planı yapılması amaçlandı.

Yöntem ve Bulgular: Olgu 79 yaşında, kadın, evli ve üç çocuk annesidir. İlkokul mezunu ve ev hanımı olan hasta çocukları ile birlikte büyükşehirde yaşamaktadır. 1994 senesinde Hepatit C'ye bağlı Karaciğer Sirozu tanısı alan hasta 1998 senesinde bir üniversite hastanesinde kadavradan karaciğer nakil operasyonu geçirmiştir. Olgu günde 10'dan fazla defekasyon çıkışı olması, bulantı hissiyatı ve sağ arka kadranda ağrı olması ile bir üniversite hastanesine başvurmuştur.

Sonuç: Hemşirelik mesleğinde hasta bakımı oldukça önemlidir. M. Gordon'un Fonksiyonel Örüntüleri Modeli'ne göre hastanın bakımının planlanması ve modelin alt boyunlarına göre veri analizi yapılmasının hastanın sorunlarını kısa sürede çözüme kavuşturduğu ve hastaya verilen hemşirelik bakımının sistematik bir şekilde olduğu gözlemlenmiştir.

Anahtar Kelimeler: *Hemşire, Akut Böbrek Yetmezliği, Fonksiyonel Sağlık Örüntüsü, Bakım Plan*

INTRODUCTION

Acute renal failure is a progressive kidney disease observed in regulating the fluid-electrolyte balance of the kidney and metabolic-endocrine functions as a result of the decreased glomerular filtration value (Durna, 2013; Strömberg, 2002; Uysal & Karataş, 2017). As a result of the deterioration in patients' fluid-electrolyte balance, symptoms and findings such as sleep disturbance, coma, stupor, malnutrition pulmonary edema, cardiovascular disorders, skin changes, and decreased skin turgor can be commonly observed (Altınparmak et al., 2012; Uysal&Karataş, 2017). It is highly important for the success of the treatment that the nurse, who plays an important role in implementing the treatment and maintaining the care, deals with the patient holistically and meets the needs of the patient physically, psychologically, socially, and mentally in light of a model (Soydan et al., 2020). The Functional Health Patterns developed by M. Gordon in 1987 consist of 11 headings: Health perception-health management pattern, nutritional-metabolic pattern, elimination pattern, activity-exercise pattern, sleep-rest pattern, cognitive-perceptual pattern, self-perception-self-concept pattern, role-relationship pattern, sexuality-reproductive pattern, coping-stress tolerance pattern, and value-belief pattern (Velioğlu, 2012).

Aim

In this case report, a patient diagnosed with 'Acute Renal Failure' was examined on the basis of Marjory Gordon's 'Functional Health Patterns,' and it was aimed to make a nursing care plan by making use of the nursing diagnoses in the North American Nursing Diagnosis Association (NANDA) classification system.

CASE REPORT

Consent of the patient, the relevant physician, and the institution was obtained to use the data scientifically.

Sociodemographic and Health Characteristics

The patient is 79 years old, female, married, and has three children. The patient, who is a primary school graduate and a housewife, lives in a metropolis with her children. She has never smoked or drunk alcohol in her whole life. The patient, who was diagnosed with hepatitis C-associated liver cirrhosis in 1994, underwent liver transplantation from a cadaver in a university hospital in 1998. The patient has no known drug or food allergy. The patient continuously uses 2 gastroprotective and 1 oral antidiabetic medication. The patient presented to a university hospital with more than 10 defecations per day, nausea, and pain in the right posterior quadrant. As a result of radiological imaging, abnormal laboratory findings and low oxygen

saturation, the patient was hospitalized.

Evaluation Of The Case According To The Functional Health Patterns

1. Health Perception-Health Management Pattern: Although the patient states that she does not have sufficient information about her disease, she does not cause any difficulty in compliance with treatment.

Nursing Diagnosis 1: *Lack of Information About the Disease*

Aim: To ensure that the patient is informed about her disease

Interventions:

*The patient's disease and all the interventions were explained to the patient in an understandable and simple manner. The patient was informed before each intervention.

*The patient was informed about her treatment.

*The patient was encouraged to ask questions. During the patient's hospitalization in the ward, it was observed that she asked questions to other team members about her disease and treatment.

2. Nutritional-Metabolic Pattern: It was observed that the patient named the case refused to eat due to nausea.

Nursing Diagnosis 2: *Nausea due to Electrolyte Imbalance*

Aim: To eliminate the patient's complaint of nausea and ensure that she is fed sufficiently

Intervention:

*The patient was recommended to be fed in small portions and at frequent intervals.

*After meals, the patient was placed in the semi-Fowler position.

*The patient's room was aired before and after meals.

*Fluid and food restriction was applied to the patient.

*The patient was not laid flat for two hours after the meal.

*It was seen that the patient's nausea decreased.

Nursing Diagnosis 3: *Risk of Nutrition Less than the Body Requirement due to Nausea*

Aim: To ensure that the patient is fed sufficiently

Intervention:

*Daily weight follow-up of the patient was performed. When she was first admitted to the ward, the patient was 59 kg and 1.60 cm tall (BMI: 23.04 kg/m2). During her stay in the ward, her weight varied between 55-60 kg.

*Fluid replacement was performed on the patient who refused to eat due to nausea at the physician's request.

Nursing Diagnosis 4: *Risk of Fluid-Electrolyte Imbalance due to Acute Kidney Failure*

Aim: To eliminate fluid-electrolyte imbalance, if it cannot be eliminated, to ensure that the risk remains at a minimal level

Interventions:

*Venous blood gas follow-up was performed at the request of the physician. The patient's fluid-electrolyte values were monitored.

*The patient was followed up for intake-discharge.

*The patient was followed up for defecation.

*Edema was monitored on a daily basis. At the first admission of the patient to the ward, the edema was +2, and it was found to be +1 during the stay in the ward.

*The patient was monitored for vomiting and defecation.

3. Elimination Pattern: The defecation habit of the patient before hospitalization was 10/day. Bowel sounds were 10/min.

Nursing Diagnosis 5: *Disease-Related Diarrhea*

Aim: To ensure that the patient's elimination continues at a normal level

Interventions:

*The daily defecation process of the patient was monitored.

*The daily weight follow-up of the patient was performed.

*Adequate fluid and electrolyte replacement was administered to the patient.

*The bowel sounds of the patient were listened to and recorded at regular intervals.

*Skin turgor was observed at regular intervals due to dehydration.

*Attention was paid to the used drugs with the side effect of diarrhea.

4. Activity-Exercise Pattern: The patient stated that she had not exercised regularly in her life before hospitalization. Due to the advanced age, she feels weak and receives support from her children to perform the activities of daily living.

Nursing Diagnosis 6: *Fall Risk due to the High Body Mass Index of the Individual*

Aim: To minimize the risk of falling by protecting the patient from trauma

Interventions:

*The 'Itaki Fall Risk Scale' was applied to determine the individual's fall risk. The patient's scale score was found to be between 7-11 during the time she was hospitalized in the clinic. (The total score of the Itaki Fall Risk Scale is 51. A score of less than 5 is considered low risk, and a score of five and above is considered high risk.)

*The 'Four-Leaf Clover' symbol, which meant that the patient was at risk of falling, was attached.

*The patient's room was adequately illuminated. A minimal quantity of items was left with the patient to ensure a safe environment.

*The patient's bed and bed rails were lifted.

*Healthcare team and the patient's relatives were warned about the risk of falling.

*No fall was observed during the follow-up period of the patient in the clinic.

5. Sleep-Rest Pattern: The patient expressed that she slept 8 hours/day in her life before hospitalization and had naps of 30-45 minutes during the day. She stated that her sleep deteriorated and she slept 6 hours/day since she started to stay in the hospital. It was observed that the patient slept during the day and could not sleep at night.

Nursing Diagnosis 7: *Sleep Disturbance due to the Disease and Hospital Stay*

Aim: To ensure that the patient expresses she sleeps adequately

Interventions:

*The patient's sleep hours were regulated. Her daytime sleep was limited, and she was supported in sleeping at night.

*A calm, quiet, and dimly lit environment was provided for the patient to sleep.

*The medical treatment to be administered was arranged in accordance with her sleep hours.

6. Cognitive-Perceptual Pattern: The patient had location, time, and person orientation, and her Glasgow Coma Scale score was 15 (12-15 points indicate mild neurological damage).

7. Self-Perception-Self-Concept Pattern: The patient was observed to respond positively to all procedures related to her disease during her stay in the ward. The

patient's self-esteem was high.

8. Role-Relationship Pattern: The patient stays with her children, who live in the same city, at certain times. The patient's daughter said that the patient had positive relationships not only with the daughter but also with her environment. Moreover, it was observed that the patient adapted to her treatment during her hospitalization in the ward.

9. Sexuality-Reproductive Pattern: The patient reported that she had no sexual life since her husband died.

10. Coping-Stress Tolerance: It was observed that the patient had disease-related anxiety and often asked questions to healthcare professionals who took care of her about her condition.

Nursing Diagnosis 8: *Anxiety due to Disease and Hospitalization*

Aim: To determine the cause of the patient's anxiety and help relieve her anxiety

Interventions:

*The patient was informed about her disease.

*All interventions were explained to the patient and her companion.

*The patient stated that she was not sure whether her complaints would continue in her life after discharge.

11. Value-Belief Pattern: The patient said that the disease came from God and her condition would end someday. The patient was seen to frequently pray and read religious books.

DISCUSSION

In this case report, a patient diagnosed with 'Acute Renal Failure' was examined on the basis of Marjory Gordon's 'Functional Health Patterns' and nursing care was given using the nursing diagnoses in the North American Nursing Diagnosis Association (NANDA) classification system. When healthcare professionals meet the patients with acute renal failure, they should evaluate the patient in terms of nutrition within 48 hours (Abu-El-Haija and Nathan, 2018; McClave et al., 2016; Singer et al., 2019). In this case report, the individual was refusing to nutrition due to nausea, and there was a risk of undernutrition. After the interventions planned for the diagnosis of nursing, the patient's room was ventilated frequently, anti-nausea medical treatment and daily weight monitoring were implemented, the patient's energy needs were calculated and a suitable diet list was prepared with

dietitians. It was determined that the patient's nausea decreased and her weight was within normal ranges.

Adaptation to treatment and lack of knowledge are common problems in patients with acute renal failure because of stress and anxiety (Plantinga et al., 2010). In this case, the patient was experiencing anxiety due to her illness and the hospital stay and had difficulty in adapting to her treatment because of lack of information about the disease. In order to reduce the patient's anxiety level, information was given about all the applications, and the patient was supported to ask questions and to think about the procedures. After the applied nursing interventions, the problem was eliminated. Similar studies on kidney failure have also found that patients often lack information about their disease (Genç Köse, 2018), and due to the breakdown in kidney functions, the body's fluid-electrolyte imbalance occured (Şanlıtürk et al.,2018). Nursing care was planned for the risk of fluid-electrolyte imbalance, and patient-specific approaches were mplemented. The edema was reduced from +2 to +1 after the fluid restriction of the patient, who was followed up routinely. It has been reported that decline in sleep pattern and nutritional functions may occur in patients with renal failure, weakness, fatigue, decrease in blood oxygen level and increase in anxiety level and carbon dioxide level in the blood (Eskimez et al., 2021). In this case report, nursing interventions were applied to disrupt the sleep pattern of the patient due to the illness and length of stay in the hospital. Appropriate sleep hours were planned for the patient, the patient's room was changed, and the medical treatments applied were planned outside of the sleeping hours. It was verbally stated by the patient that the patient slept well during the hospital stay.

CONCLUSION

Patient care is extremely important in the nursing profession. Planning the patient's care according to M. Gordon's Functional Health Patterns Model and conducting data analysis in line with the model's sub-dimensions were observed to solve the patient's problems in a short time, and nursing care was provided to the patient in a systematic manner.

Author Contributions

Concept&Design- İ.Y., K.İ., Supervision- İ.Y., K.İ., Resources- İ.Y., K.İ., Materials- İ.Y., K.İ., Writing - İ.Y., K.İ., Critical Review- İ.Y., K.İ.

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