Nurses Performance in Dialysis Unit

Thesis

Submitted for partial fulfillment of the requirements for
the Master degree in Nursing Science
Medical Surgical Nursing (Critical Care Nursing)

By
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BSc., Faculty of Nursing, Al-Fayoum University
Clinical Instructor in Al-Fayoum Technical Institute

Faculty of Nursing
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Candidate

Wafaa Hamdy Mohamed

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List of Abbreviations

Abbrev.	Full-term
AKI	Acute kidney intoxication
AV	Arteriovenous
BUN	Blood urea Nitrogen
CKD	Chronic kidney disease
CAVHD	Continuous arteriovenous hemodialysis
DVA	Dialysis vascular access
GFR	Glomerular filtration rate
HD	Hemodialysis
IV	Intravenous
RF	Renal failure
UFR	Ultra filtration rate –urea formaldehyde Resin

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ABSTRACT

The nurses have a vital and essential role in providing care and preventing complication for the patient on hemodialysis unit which include, general assessment of the patient which can be obtained from taking medical history, physical examination. **Aim** Assessing staff nurses' knowledge regarding patients undergoing hemodialysis. Assessing nursing' practice regarding hemodialysis. **Design** A descriptive design was utilized for the conduction of this study **Setting**: The present study was conducted at hemodialysis unit at EL Fayoum General Hospitals **Study subjects:** A convenience sample, including 30 nurses after obtaining their consent to participate in the study. **Data collection tools:** Questionnaire sheet (covered data related to nurses' knowledge who work with hemodialysis patients, An observational checklist covered data related to nurse's practices who work hemodialysis patients **Results:** About thirds (36.3%) of them their total knowledge regarding to hemodialysis assessment were unsatisfactory. About slight less than third (30%) of them their total practice regarding to hemodialysis assessment were not done. There was statistical significant difference between nurses' knowledge and their age with mean10.048 and p value 0.018 There was statistical significant difference between nurses' knowledge and level of education with mean 7.081and P-value=0.025. **Conclusion**: The study concluded that all nurses at hemodialysis unit. The study showed statistically significant correlation between nurses' knowledge and nurses' practice regarding hemodialysis assessment and their demographic characteristics as regards: education and experience. **Recommendation:** Develop an orientation program for newly appointed staff nurses in hemodialysis, Develop health teaching programs by all dialysis units, nephrology staff for hemodialysis patient, through a simple booklet (related to disease, treatment, diet practice related to hemodialysis) with update knowledge and instruction about chronic renal failure. The study should be replicated on large sample and in different hospitals setting in order to generalize the results.

Key word: Nurses Performance in Dialysis Unit, hemodialysis, knowledge

Introduction

The kidneys have an important role in maintaining health. When healthy, the kidneys maintain the body's internal equilibrium of water and minerals (sodium, potassium, chloride, calcium, phosphorus, magnesium, sulfate). The acidic metabolism end-products that the body cannot get rid of via respiration are also excreted through the kidneys. The kidneys also function as a part of the endocrine system, producing erythropoietin, calcitriol and renin. Erythropoietin is involved in the production of red blood cells and calcitriol plays a role in bone formation ***(Atlas of disease of kidney, 2011).***

Hemodialysis treatment of renal failure (RF) is a method of mechanically cleansing blood outside of the body, in order to remove various substance that would normally be cleared by the kidney. It is considered the goal standard for treatment of acute and chronic renal failure ***(Burns & Chulay, 2010).***

Hemodialysis fistulas are surgically created communications between the native artery and vein in an extremity. Direct communications are called native

arteriovenous fistulas. Polytetrafluoroethylene and other materials) are used or have been used as a communication medium between the artery and the vein and are termed prosthetic hemodialysis access arteriovenous grafts. The access that is created is routinely used for hemodialysis 2-5 times per week ***(Elsayed, 2007 & Gomes, Schimdt R, Wish J, 2013).***

Currently the majority of patients receiving hemodialysis for chronic renal failure are treated as outpatients in hemodialysis units of large hospitals. In most of these units it is the nurses that handle the entire dialysis procedure with little if any direct supervision from physicians. The nurses are also the ones on the health team that have the most contact with the patients. Thus the nurse must have a thorough knowledge of the pathophysiology of renal failure, the mechanics and technical aspects of the dialyzer, the expected outcomes and complications of hemodialysis and, particularly, the needs of the hemodialysis patients ***(Brunner & Suddarths, 2011).***

The nurses have a vital and essential role in providing care and preventing complication for the patient on hemodialysis unit which include, general assessment of the patient which can be obtained from taking medical history, physical examination and also interventions which should

include, maintaining fluid and electrolyte balance, facilitating nutrition, preventing infection and injury, promoting comfort, rest and sleep, coping with changes that happened to the patient life and feeling regarding self body image changes. The nurses provide care for patient in several stages, before hemodialysis session, during hemodialysis session after finishing hemodialysis session ***(Phipps, Monahan, sand, Mare and Neighbors, 2003).***

Significant of the study

The prevalence of chronic kidney disease (Stages one through four) among adults in the United States 13% during the period from 1999 through 2004. In 2006, the cost to the federal government for the treatment cost for chronic kidney disease was ~~S~~49 billion. In the United State approximately 30%of incident chronic kidney disease (CKD) cases are attributed to hypertension ***(Coresh & Selvin, 2007)*** in Egypt, according to ***(Zaghloul & Ghada (2011),*** chronic kidney disease (CKD) is increase recognized as a public health problem, and is linked to the risk of development of cardiovascular disease (CVD), the prevalence of chronic kidney disease was 31% in hypertensive patients.

The central administration for national information center for health and population in Egypt, 2004 reported that chronic renal failure of hospitalized patient is approximately 1,36 of all hospitalization Egyptian. In El Feyuom hospital approxamitaly280 patient undergoing hemodialysis in years 2014 in hospital.

Aim of the Study

This study aims to assess the nurses' performance regarding patient undergoing hemodialysis. Through the following:

1- Assess nurses' knowledge regarding patient undergoing hemodialysis.

2- Assess nurses' practice regarding patient undergoing hemodialysis.

Research questions

1- What are nurses' levels of knowledge regarding patients' undergoing hemodialysis?

2- What are nurses' practice regarding patient undergoing hemodialysis?

Overview of Anatomy and Physiology of urinary system

Anatomy of the kidney:-

Urinary system is a group of organs in the body concerned with filtering out excess fluid and other substance form bloodstream. The substance are filtered out form the body in the form of urine. Urine is a liquid produced by the kidney, collected in the bladder and excreted through the urethra. Urine is used t extract excess mineral or vitamins as well as blood corpuscles form the body **(Ignatavicius, 2010).**

The kidneys are located high in the abdominal cavity, one on each side of the spine, and lie in aretroperitoneal position at a slightly oblique angle. The asymmetry within the abdominal cavity, caused by the position of the liver, typically results in the right kidney being slightly lower and smaller than the left, and being placed slightly more to the middle than the left kidney ***(Glodny, 2009).***