يجب إدخالها
في المستودع

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Assessment OfNurse's Knowledge, Attitude, Practice Regarding Care of Arteriovenous AccessIn Hemodialysis Patients In River Nile State 2017.

Thesis Submitted In Partial Fulfillment For Requirement Of The Degree Of The Bachelor.

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Dedication

First of all we send our

greatest thanks to Allah ,,,

To our wonderful parents who learnt us how to be confident magnificent with values and loving for humanity and beauty.

to our teachers

to our collages

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Our great thanks to our supervisor

Ustaz Nora Osman Ahmed Osman

who gave us great help with her time and great knowledge.

Special thanks to our parents for their meticulous support.

Thanks for Dialysis Center Staff in Atbara, Eldamer, Shendi,

Berber Teaching Hospital.

Abstract

Background: Hemodialysis is a method that is used to a chive the extracorporeal removal of waste products such as creatinine and urea and free water from the blood when the kidneys are in a state of renal failure.

The aim of this study: is to assess the nurses' knowledge attitude practice Regarding care of arteriovenous access in hemodialysis patients in river Nile States. Descriptive study design was adopted to meet the aim of this study This study was conducted in hemodialysis centers in river Nile state.

The study included convenience sample of 49 nurses from hemodialysis Center. There are two tools used for collecting data in the study,

Administrating close end questionnaire(: first part nurses' age, sex, Experience. Second Part concerned with nurses' knowledge regarding care Of arteriovenous access in hemodialysis patient.) and cheek list to evaluate The nurses' practice, This study is cross sectional study in River Nile state (Atbara, Adamer, Berber, and Sheindy in hemodialysis centers) included 49 Hemodialysis nurses 79.6% of w hom were female. And 20.4% are male. Their age range Between 26-41 years, The nurses that have knowledge the Main type of central venous catheter are 98.0% and 2.0% they are not knowledgeable.

The study conclude the majority is female (79.6%) and they are have

Experience in the dialysis center. In the period about 1 – 3 years.

Most of them held university bachelor degree (69.4%).

Study recommended the kidney dialysis units should have written policy about standardized nursing care that should be delivered to everypatient.

الملخص

الغسيل الدموى هو أحد طرق الغسيل الكلوي التى تستخدم لانجاز وازالة نواتج المخلفات مثل الهند البولي والكرياتينين والمياه من الدم عند الفشل الكلوي . والهدف من هذه الدراسة: هو تقييم المعرفة والسلوك والممارسة للممرضين بخصوص الرعاية الصحية لمرضى غسيل الكلي بمراكز غسيل الكلى بولاية نهر النيل. وهي دراسة وصفية أجريت في مراكز غسيل الكلى في ولاية النيل.

وشملت الدراسة عينة ملائمة من 49 ممرض من مراكز غسيل الكلى.

هناك نوعان من الأدوات المستخدمة لجمع البيانات في الدراسة، هما الاستبيان والتقييم العملي.

تتكون ورقة الاستبيان من جزأين: الجزء الأول المعني بالبيانات الشخصية للممرضين

على النحو التالي: السن والجنس والخبرة. الجزء الثاني المعني بمعرفة الممرضين عن الرعاية التمريضية لمريض الكلى.

النتائج:هذه الدراسة هي دراسة وصفية أجريت في ولاية نهر النيل (عطبرة، الدامر، بربر، وشندي في مراكز غسيل الكلى) شملت 49 ممرض في قسم غسيل الكلى 79.6٪ منهم من الإناث.

و 20.4٪ من الذكور. تتراوح أعمارهم بين 26-41 سنة.

وكان معظمهم يحملون درجة البكالوريوس 69.4٪ و 14٪ ماجستير و 16.3٪ دبلوم التمريض ومعظم الممرضين 63.3٪ لديهم أكثر من 1-3 سنوات من الخبرة في آلة غسيل الكلى والرعاية التمريضية.

نوصى: التعليم والتدريب للممرضين الذين عملوا في مركز غسيل الكلى لزيادة معرفتهم وممارستهم. يجب أن يكون لدى وحدات غسيل الكلى سياسة مكتوبة حول الرعاية التمريضية الموحدة التي يجب تسليمها إلى كل مريض .

Chapter One

1- Introduction:

Hemodialysis is a method that is used to a chive the extracorporeal removal of waste products such as creatinine and urea and free water from the blood when the kidneys are in a state of renal failure the prevalence of both acute and chronic renal failure is high in Arab world. the Report prevalence of chronic renal failure is 225 in Egypt per million and 80 to 120 pmp in kingdom of Saudi Arabia , dialysis is a process for removing waste excess water from the blood and is used primarily to provide an artificial replacement for lost kidney function in people with renal failure. Dialysis may be used for those with an acute disturbance in kidney function or progressive but chronically worsening kidney function a state known as chronic kidney disease.

Dialysis is an imperfect treatment to replace kidney function because it does not corrected the compromised endocrine function of the kidney, dialysis treatment replace some of this function through diffusion (waste removal) and ultrafiltration (fluid removal). [1] .

Hemodialysis is one of three renal replacement therapies (the other two being renal transplant and peritoneal dialysis). An alternative method for extracorporeal separation of blood component such as plasma or cells is apheresis , Hemodialysis works by diffusion of small-molecular- weight solutes across semipermeable membrane. Fluid removal occurs via ultrafiltration. Vascular access for blood outflow and return is necessary. Temporary access is usually via an internal jugular or femoral venous catheter. [2]

Care of arteriovenous access a patient can care for and protect a vascular access by ensuring that the health care provider checks the access for signs of infection or problems with blood flow before each hemodialysis treatment, even if the patient is inserting the needles , keeping the access clean at all times , using the

access site only for dialysis , being careful not to bump or cut the access , checking the thrill in the access every day, the thrill is the rhythmic vibration a person can feel over the vascular access , watching for and reporting sings of infection, including (redness, tenderness or pus.), not letting anyone put a blood pressure cuff on the access arm , not wearing julary or tight clothes over the access site , not sleeping with the access arm under the head or body , not lifting heavy objects or putting pressure on access arm , arteriovenous festula is a connection made by vascular serguon of an artery to a vein. arteries carry blood from the heart to the body, while veins carry the blood from the body back to the heart , vascular surgeon specialize in blood vessel surgery. the surgeon usually places an arteriovenous fistula in forearm or upper arm. in arteriovenous fistula can causes extra pressure and extra blood to flow into the vein, making it grow large and strong. the larger vein provides easy, reliable access to blood vessels. without this kind of access, regular hemodialysis. [3]

1-2 Justifications

Stander of infection control in dialysis center is very important to prevent Infection and death and to enhance environment .

So we want to study this research to identify missed knowledge and Malpractice and attitude in care of patients in the arteriovenous access.

Increase incidence of hemodialysis patient from statistical data in Berber,

Atbara, Eldamer, Sheindy teaching hospitals.

No previous publication study to determine magnitude of arteriovenous access among hemodialysis patients according to our knowledge.

1-3- Objectives

1-3-1. General objective:

Assess knowledge, attitude, practice regarding nursing care of intravenous access in hemodialysis patients.

1-3-2. Specific objectives:

-To assess nurses' knowledge regarding care of arteriovenous access.

- To assess nurses' attitude regarding care arteriovenous access.

- To evaluate nurses practice regarding care of arteriovenous access.

- To inform nurses about stander care of arteriovenous access.

Chapter Two

2- Literature Review

2-1 Anatomy and Physiology of The kidneys:

The kidney lies on the posterior abdominal wall one On each side of the vertebral column, behind the peritoneum and blow the diaphragm, They extend from the level of the 12th thoracic Vertebra to the 3rd lumber vertebra, receiving some protection from the lower rib cage and the renal Capsule which surround each kidney. [4]

Usually the right kidney is slightly lower than the left probably because of considerable space occupied by The liver. [5]

Kidney are bean shaped organs, about 11 centimeter long, 6 centimeter wide, 3cm thick and weight 150 gram , they are embedded in, and held in position by, amass of fat, a sheath of fibro lastic renal fascia Encloses the kidney and the renal fat. [4]

The kidney consists of two distinct regions the renal parenchyma and the renal pelvis.

2-1-1 The Major Internal Structure of the Kidney:

Renal hilus , the renal hilus is an indentation near to the center of concave of the kidney, Renal Capsule , is smooth transparent fibrous membrane that Surround and protects the kidney, Renal Cortex , is the outer part of the kidney and has smooth Texture and is helocation of the bowman's capsule and the glomeruli.

Renal Medulla, the inner part of the kidney this consisting of paleconical-shaped striations the renal pyramids, Renal Pyramids, there are approximately 5-18 striated triangular Structure, Renal Pelvis, is the funnel-shaped cavity that receives the urine Drained from the kidney.[4]

Renal Artery , the renal artery delivers oxygenated blood to the kidney.

Renal Vein , the renal vein receives deoxygenated blood from the peritubular vein within the kidney, Kidney Nephrons , is functional units of the kidney. It is kidney Nephron that actually perform the kidney. There are A million nephrons within each kidney, Urethra , is structure through which urine is conveyed from kidney to urinary bladder. [4]

Blood supply to the kidney is critical from the perspective of producing hydrostatic pressure Adequate for maintaining homeostasis and for the purpose of supplying oxygen and nutrients crucial to Organ survival. The renal arteries branch directly from the aorta and deliver approximately 20% of The Cardiac output to the kidney.[8]

2-2 Function of The Kidney:

- Maintain fluid and electrolyte balance through Excretion and reabsorption.
- Assist in the blood pressure regulation through the Renin angiotensin system.
- Maintain chemical balance.
- Maintain mineral balance.
- Produce erythropoietin in response to lower oxygen States.
- Convert vitamin D to its active enzyme from and Thus influence calcium metabolism.
- Excrete waste products of protein metabolism.
- Contribute to acid base balance. [8]

2-3 Renal Failure :

Its inability of kidneys to remove bodies metabolic Waste or perform their regulatory function.

2-3-1 Type of renal failure:

2-3-1-1 Acute renal failure :

Present as a rapid decline in renal function , this decline may occur within a few hours, or over a period of several weeks relatively A Symptomatic Acute renal failure is most often detected by the laboratory studies.

Acute renal failure is evidence by elevated blood levels blood urea nitrogen and creatinine and Oliguria. [10]

- Pathophysiology , ischemic acute tubular necrosis infers o damage he Renal parenchyma, multiple sources of tubular injury resulting in acute Tubular necrosis include major and prolonged Surgery, burn, overwhelming and sepsis myoglobin Release and nephrotoxic drugs , through often a associated with hypovolemic acute Tubular necrosis has occurred in the states of normovolemia (state of normal blood volume), it is not to be confused with perfusion deficit related Acute tubular necrosis. Recovery potential is directly Correlated to the extend to intra renal damage.

-Etiology , drug toxicity , renal artery stenosis or thrombosis , hemolytic uremic syndrome , multiple myeloma , radiation nephritis , signs and Symptoms, lethargy, nausea, vomiting and diarrhea , skin and mucous membrane are dry , drowsiness, headache, muscles twitching and seizure , hyperkalemia , progressive acidosis , Anemia. [10]

-Diagnostic study , history is essential for determining the etiology , serum creatinine and blood urea nitrogen levels , serum electrolytes especially

potassium are altered , urine osmolality, sodium content , urine analysis , ultrasound , computer tomography scan , magnetic resonant image. [4]

2- 4 Medical management:

The kidney has remarkable ability to recover from Insult, there for, the objectives of treatment of acute Renal failure are to restore normal clinical balance and prevent the complication until repairer of renal Tissue and restoration of renal function can take place any possible cause of damage is identified, Treated and eliminated. Pre renal azotemia is Treated by optimizing renal perfusion, whereas post Renal Failure is treated by reliving the obstruction.

Treatment of intrarenal azotemia is supportive, with Removal of causative agents, aggressive Management of pre renal and post renal failure and Avoidance of associated risk factor, shock and Infection if present are treated promptly , over all, medication includes maintaining fluid Balance, avoiding fluid excesses, or possibly performing dialysis. [7]

The maintenance of fluid balance is based on daily B Body weight, several measurement of central venous pressure, and clinical status of the patient. The parenteral and oral intake and the output of urine Gastric drainage, stools wound drainage and perspiration are calculated and are used as the basis for fluid replacement the insensible fluid lost Through the skin and lungs and produced through .The normal metabolic processes is also considered in Fluid management.[7]

Fluid excesses can be detecting by the clinical finding of Dyspnea, tachycardia and distended neck veins the lung are auscultated for moist crackles. Because pulmonary edema maybe caused by excessive Administration of parental fluid, extreme caution Must be used to prevent fluid overload.

The development of generalized edema is assessed by examining the prescral and pretibial area several Times daily , mannitol, furosemide or ethacrynie acid maybe prescribed to initiate diuresis and prevent or Minimize subsequent renal failure. [7]

Adequate blood flow to the kidney in patient with pre renal causes of acute renal failure maybe Restored by intravenous fluid or blood product Transfusion. I facute renal failure is caused by the Hypovolemia Secondary to hypoprotienemia, and Infusion of Albumin maybe prescribed dialysis Maybe initiated to prevent serious complications of Acute renal Failure, such as hyperkalemia, sever Metabolic acidosis, precardaitis, and pulmonary Edema. Dialysis corrects many biochemical Abnormality allows liberalization, protenial dialysis or any the new continuous renal replacement Therapies may be performed. [7]

Teaching patient self-care , preparing a patient for hemodialysis , is challenging often the patient dose not fully Comprehend the impact of dialysis and learning Needs me go unrecognized good communication Between dialysis staff and home care nurse is essential , assessment helps identify the learning need of patient and family member .in many cases, the patient is discharge home before learning needs and Readiness to learn can be thoroughly evaluate there for hospital based nurse dialysis staff and home care Nurses must work together to provide appropriate Teaching that needs and the patient and family Changing needs and readiness to learn , the dialysis of chronic renal failure and the need for Dialysis often of the patient and family .in the Addition may patient with.

2-4-1 Chronic renal failure :

End stage renal disease Have depressed mentation shortened attention spam A decreased level of concentration and altered perception there for teaching must occur in brief 10 To15 minute session with time added for clarification

Repetition reinforcement and question from the patient and family, the nurses needs to convey anon Judgment attitude to enable the patient and family To discuss option and their feeling about those Option , is a loss of renal function occurring over the months to years because of destruction of nephrons , end stage renal failure is loss of renal function Requiring any from chronic renal replacement Therapy, I-e long term dialysis or transplantation. [9]

-Indication:

The exact number of people with chronic renal Failure is difficult to estimate, as many are Undetected. Commence renal replacement therapy is 100 per million populations per year in the United Kingdom. [9]

-Etiology:

The main causes in England and wales (2002) are listed certain systemic diseases commonly causes Renal disease such as amyloid, myeloma, systemic lupus erythematous and gout. In significant proration of patient, no underline cause is found. These patient are often labelled as end stage renal Failure secondary to the hypertension, but his may be, are result of renal failure rather than cases. [9]

-Path physiology:

Progressive destruction of nephrons leads to gradual Reduction in the renal function of the kidney, Electrolyte and water hemostatic disturbance may Cause fluid overload, hypertension, hyperkalemia and metabolic acidosis as well as rises in serum urea and creatinine initially there may be phase of large Volumes of dilate urine production due to reduction In the tubular re absorption. As gelumeroler Filtration rate falls further urine volumes fall to less Than normal Investigation: functional blood cell , urine and electrolyte , bicarbonate , x-ray , hyperlipidemia, urine analysis , blood urea nitrogen. .[9]

2-5 Dialysis:

Is technique in which substance move from the Blood through a semi permeable membranes and into a dialysis solution(dialysate), dialysis is used to correct fluid and electrolyte Imbalance and to remove waste products in renal Failure. It can also be used to treat drug overdoses, the methods of dialysis are peritoneal dialysis and Hemodialysis , in peritoneal dialysis the peritoneal membrane acts as the semi permeable membranes , in hemodialysis an artificial membrance (usually Made of cellulose. Based or synthetic materials)' is Used as the semi permeable membrane and is in Contact with patient blood ,dialysis is begun when the patients' uremia can no longer be adequately managed conservatively, generally, dialysis is in initiated when the glomerular Filtration rate (creatinine clearance) is less than 10 malliter per minute ,criterion can vary widely in different clinical Situation and the physician determines when to start Dialysis on an individual basis certain uremic Complication including encephalopathy. Uncontrollable hyperkalemia peri carditis and Accelerated hypertension, indicate a need for Immediate dialysis. [4]

2-5-1 Hemodialysis:

Hemodialysis is the most common used method of Dialysis more than 300,000 Americans currently Receive hemodialysis (porker bliwise and rye 2000) It is used for patient who are acutely ill and require Short term dialysis (days to week) and for patient with end stage renal disease who require long term or permanent therapy. A dialyzer (once referred to as an artificial kidney) serves as synthetic Semi permeable membranes. Replacing the renal Glomeruli and tubules as the filter for the impaired kidney , for the patients with chronic renal failure, Hemodialysis prevents death, although it does not Cure renal disease and dose not compensate for loss of endocrine or metabolic activities of the kidneys. Patient receiving hemodialysis most undergo Treatment for the rest of their lives

or until they Undergoing a successful kidney transplantation ,treatments usually occur three times a week for at least 3-4 hours per treatment (some patients undergoing short daily hemodialysis), Patient receive chronic or maintaince dialysis when They require dialysis therapy survival and control of Uremic symptom , the trend in managing end stage renal disease is to Initiate treatment before the signs and symptom Associate with uremia become severe. [6]

2-5-2 Principle of hemodialysis:

The objective of hemodialysis are to extract toxic Nitrogenous substance for the blood and remove Excess water in hemodialysis, the blood, laden with Toxins and nitrogenous waste is diverted from the patient to machine a dialyzer, in which the blood is Cleansed and then returned to the patient, Diffusion, osmosis and ultra-filtration are the principle on which hemodialysis is based the toxins and waste in the blood are removed by diffusion that Is they move from an area of higher concentration in The blood to an area of lower concentration in Dialysate. Excess water is removed from the blood by osmosis in which water moves from an area of Higher solute concentration (the dialysate both) , ultra filtration defined as waster moving under Higher pressure to an area of lower pressure. This process is much more efficient at water removal than Osmosis ultra-filtration accomplished by applying Negative pressure or suctioning force to dialysis Membrane. [6]

2-5-3 Equipment of hemodialysis:

2-5-3-1 Dialyzer:

Most dialyzer or artificial kidneys are either flat plat Dialyzers or hollow fiber artificial kidney that Contain thousands of tiny cellophane tubules that Act as semi permeable membrane , the blood flows through the tubules while a Solution

(the dialysate circulate around the tubules.) The exchange of wastes from blood to the dialysate Occurs through the semi permeable membranes of Tubules. [6]

Dialyzer have undergone many technological Changes the different between flat plate dialyzer and Hollow fibers dialyzers lies in performance and Biocompatibility , biocompatibility refer to the ability of dialyzer to Accomplish its objective without causing Hypersensitive allergic or adverse reaction , some dialyzer removes meddle weight molecules at a Faster rate and ultra-filtrate of height rate, which is Through to reduce neuropathy of the lower Extremities. A complication of long term Hemodialysis in the general the more efficient the Dialyzer the higher cost, another technological advance is high flux dialysis Which uses highly permeable membranes that Increase the clearance of low and wide molecular Weight molecules these special membranes are used with higher than traditional rates of flow for the Blood entering and exiting the dialyzer (500 to 800 malliter per minute) high flux dialysis require the use of precise volumetric ultrafiltration control system and Not every dialysis unit can perform this type of Dialysis. high flux dialysis increases the efficiency of Treatments while shortening their duration and Reducing the need for heparin. [6]

2-5-3-2 Procedure of hemodialysis:

The patient's is prepared and cannulated , heparin is administrated , heparinized blood flow through the semi permeable Dialyzer in on direction and dialysis solution Surrounds the membrane and flows in the opposite Direction , dialysis solution consists of highly purified water to Which sodium potassium calcium magnesium Chloride and dextrose have been added , through the process of diffusion solute in the form of electrolytes metabolic waste products and acid Base components can be removed or added to the Blood , excess water is removed from the blood , the blood is returned to the body through the patient access. [12]

2- 6 Requirement for hemodialysis:

Access the patient circulation., dialysis machine and dialyzer with semi permeable Membran , appropriate dialysate path , time approximately 3-4hours three time weekly , place dialysis center or home. [12]

2-7 Definitions of vascular access:

Arteriovenous fistula creation of a vascular communication by suturing a Vein directly to an artery , usually radial artery and cephalic vein are Anastomosed in non-dominant arm vessels in the Upper arm may also be used,

After the procedure the superficial venous system of The arm dilates, By means of two large bore needles in inserted into The dilated venous system blood may be obtained and passed through the dialyzer the arterial flow and the distal end for the reinfusion of dialysated Blood , healing of arteriovenous fistula requires several Weeks a central vein catheter is used in the interim.[12]

Arteriovenous graft , Arteriovenous connection consisting of a tube graft Made from autologous saphenous vein or from polytetrafluoroethylene.

Central venous catheter , Direct cannulation of vein (subclavian- internal jugular –or femoral) may be used as temporary or permanent dialysis access.

Complication of vascular access , Infection. , catheter clotting , central venous thrombosis or stricture , stenosis or thrombosis , ischemia of the hand , aneurism or pseudo aneurysm , patient's skin flora and health care worker , Endocarditis.[12]

Monitoring during hemodialysis:

Involves constant monitoring of hemodynamic Status, electrolyte and acid base balance as well as Maintenance of sterility and closed system.

Usually performed by aseptically trained nurse who Is familiar with the protocol and equipment being Used. [12]

- Lifestyle management for hemodialysis:

Dietary management involves restriction or Adjustment of protein, sodium, potassium or fluid Intake , ongoing health care monitoring includes careful Adjustment of medication that are normally excreted by the kidney or are dialyzer. [12]

Surveillance for complication , arteriosclerotic cardiovascular disease heart failure Disturbance of lipid metabolic , intercurrent infection , anemia and fatigue , gastric ulcer and other problem , bone problem , hypertensive , psychosocial problem; depression suicidal sexual dysfunction , supportive agencies. [12]

-Method of vascular access for hemodialysis:

External cannulation or shunt , internal arteriovenous fistula , looped graft in the forearm , once the blood centers the extracorporeal circuit it, is propelled through the dialyzer by a blood pump at A flow rate of 200 to 500 malliter per minute while the Dialysate (wormed to body temperature) circulates in the opposite direction rote of 300 to 900 malliter per minute blood is returned from the dialyzer to the patient via The venous line through the second needle , in addition to dialyzer, there is a dialysate delivery and monitoring system , this system pumps the dialysate through the dialyzer Countercurrent to the blood flow , adjustment can be made for ultra-filtration by Creating a positive pressure on the blood side, a Negative pressure , on the dialysate side, or combination of both. The Dialysis system has alarm system to warn of blood leaking into dialysate or air leaking into blood, Alterations in dialysate temperature, concentration or pressure, and pressure extremes in blood pressure readings , dialysis is treatment by flushing the dialyzer with Saline solution to return all blood through the

Access , the needles are then removed from the patient and Firm pressure , is applied to the venipuncture sides until the Bleeding stops , care for the catheter site , to assess catheter care from technique and correct Misperception or deviation from recommended Technique , recommended daily or there four time , weekly routine catheter site care is typically performed during showering or both water.

Ensuring checks, the access for signs of infection include (redness, tenderness, or pus) or problems with blood flow before each hemodialysis treatment, even if the patients inserting the needle , monitor of vital signs and record of weight pre and post dialysis , not taking blood pressure on the access arm , checking the thrill in the access every dialysis , use of aseptic technique and appropriate cannulation methods. And early evaluations of immature fistula are all factors that may prevent morbidity and may prolong the survival of permanent dialysis access , good needle technique to prevent of arterioventous aneuresmal formation , added prescriped medication to dialysate such as heparin , observe complication by monitor vital signs during dialsysis every half hour , screening test are done for human immune deficiency virus , hepatitis B virus, hepatitis C virus assess dialysis disequilibrium syndrome with headache, nausea extreme fatigue, loss of appetite, stuffines in joint , assess bleeding of access site , patient education to promote patient self-care

2-8 Complication of hemodialysis:

Hypotension during dialysis , anaphylactic reaction to the drug , hard water syndromes , hemolytic reaction , air embolism , disequilibrium syndrome.

Dialysis dementia , osteomalacia and microcytic anemia , hepatitis B, C. , anorexia , complication of heparinization. [11]

Many prevouse study was conducted in this topic , Study about evaluation of nursing awareness and practice of hemodialysis access care.in Khartoum state

Sudan. written by suhair abdalsatir faculty of nursing sciences national Ribat University, Khartoum Sudan –in 2013-in Arab journal of nephrology and transplantation.

The studies include 50 randomly selected hemodialysis nurses. Nurse's knowledge was evaluated. Using participation filled. questionnaire –and practice was evaluated by direct monitoring. Variable were summarized as frequency and related to nurse educational level.

Hemodialysis nurses' adherence to recommended infection control measures in studied hemodialysis centers organize adequate training in hemodialysis access care for their nursing staff.

Also Previous study of guidelines for venous access in patient with chronic kidney disease apposition statement from the American society of diagnosis and interventional nephrology clinical practice committee and the association for vascular access written by jeffrey haggard, the Theodore saad, thonschon, Thomas.

A well-functioning long term vascular acçess is the critical factor affecting the morbidity and mortality of hemodialysis patient .an autogenously fistula is the over whelming preferred hemodialysis access as it provide the best patient outcome as measured by mortality hospitalization rates infection and requirement for repeated access as intervention importantly there is attendant significant cost saving to the health care system and concerted effort nationwide is underway to increase to use of Arteriovenous fistula. The ability to establish an autogenously arteriovenous fistula is critically depending on having patient peripheral vein, of sufficient size and elasticity to allow for dilation and maturation after surgical construction. furthermore the function of Arteriovenous fistula as well as prosthetic graft is the critical dependent on health venous circuit to the heart many patient at the time of initial nephrology referral already have

significant diseases in their veins from vascular access disease. aging and prior venous injury from nephrology and intravenous line.

Also Previous study about assessment of nurses knowledge and practice related to nursing care of children undergoing hemodialysis at Assiut city in2010 written by1- Amira Hassan abdalfatah. 2-ahmed roshdy. 3-fathia Mohammed.

This study based on the result of the present study, it can be concluded that. The most of assuit university hospital nurses had higher score of knowledge related to renal failure and hemodialysis than the ministry of health hospital. Nurses practice regarding hemodialysis children in nephrology unit Assiut University children hospital is higher than that of nurses working at the ministry of health hospital.

The recommendation of this study, based on the result of the present study, the following can be recommended:-

-Continous nursing educational and in service training programs on dialysis unit should be well organized within Assiut university children hospital and equipped with the necessary educational facilities and material necessary to upgrade the knowledge and skill of practicing nurses, which will be reflected on better outcome and service for the patient About nursing.

- The multidisciplinary approach must be used in caring for children requiring long term dialysis. Available resource should include the chilled family, the nurse and other dialysis staff renal dietitian, the nephrologists, the social worker and psychologist.

- Periodic monitoring of nurses knowledge and practice to evaluate the level of nurses.

- The kidney dialysis unit should have written policy about the standeralized nursing care that should be delivered to every patient in the unit.

Also Previous study about guidelines for venous access in patient with chronic kidney disease in 2009 written by jeffrey haggard, Theodore saad ,tboschon

,Thomas M.nesely and timRoyer. Apposition statement from the American society.

Also Previous study about nursing recommendation for the management of vascular access in adult hemodialysis patient in 2015 by count journal actin

This study recommendation determination of cannulation sites, needle placement imperative to maintaining a healthy will functioning vascular access and ensuring dialysis adequacy. therefore prior to cannulation it is important to visualize where the need tip will end up and to determine appropriateness of the selected sites to prevent inadvertent placement of a needle tip in an area too close to the other needle or in a narrow or tortuous portion of the Arteriovenous access.

The use of the portable ultrasound for access assessment and ultrasound guided cannulation can optimize cannulation and ensure correct needle placement, Cannulation should be avoided and the vascular nurse clinical renal educator nephrology or nephrologist consulted when:-

-Signs and symptoms of infection are present

-Absence or poor quality bruit and, or thrills noted.

-A pulse is palpated instead of thrill. Suggestive of diminished blood flow or stenosis

-Extreme edema or other abnormal findings are observed which in clinical judgment would render the cannulation inappropriate.

Chapter Three

3 – Methodology

-Study design :-

Descriptive- cross sectional design .

-Study Area:

This study in the River Nile states hospitals the River Nile states is one of the eighteen state of Sudan. Its area of 122,123 kilometer and estimated population of 1,027,534. It has six locality Aldamer, Atbara, Shendy, Berber. Shendy in northern Sudan Situated on the east bank of the Nile River 150 kilometer northeast of Khartoum. Atbara in the Rivers Nile State in northern Sudan.

Atbara teaching hospital located in the north police station west railways station consist of the following section:

Medical and surgical section intensive care unit , Cardiac care unit nursery obstetrics and gynecology, Electro cardio gram, Dialysis unite, Ear, Nose and throat Ophthalmic.

Berber teaching hospital located in the east of the big market near the Alahlia secondary school, consist of the following section:

intensive care unit dialysis center, medical and surgical section, obstetrics & gynecology.

Eldamer teaching hospital located in the center of Eldamer city south of ministry of agricultural and north Elmalemeen college, west ministry of educational, consist of the following section:

Medical surgical, obstetrics & gynecology, nursery, dialysis center, intensive care unit Cardiac care unit, Electro cardio gram, Ear, nose, and thorat Ophthalmic.

-Study Population :

Nursing in dialysis center in River Nile state .

-Sample size :

Total coverage [49] nurse in dialysis center.

-Inclusion criteria :

Any nurse in dialysis center .

-Exclusion :

Any nurse in vacation .

-Tools of Data Collection:

Two tools are used for collecting data, close end -Administered questionnaire and observation checklist .

-Data analysis:

data entry by statistical package for social sciences version 21, and analyze by mean and presented into table and pie chart .

- Ethical consideration :-

By taking permission from Elshiekh Abd Allah Albadri University to Atbara dialysis center, Shendi dialysis center, Eldamer dialysis center ,Barber diaylsis center .

-taking permission from nurses .

Chapter Four

Table (1):

The table determine distribution of the study according to age group

Age	Frequency	Percent
26 – 30	33	67.3%
31 – 35	9	18.4%
36 – 41	7	14.3%
Total	49	100.0%

Table (2):

The table determine distribution of the study according to gender group.

Gender		Frequency	Percent
	Male	10	20.4%
	Female	39	79.6%
	Total	49	100.0%

Table (3):

The table determine distribution of the study according to educational level.

Educational Level	Frequency	Percent
nursing diploma	8	16.3%
Bsn	34	69.4%
msn	7	14.3%
Total	49	100.0%

Table (4):

The table determine distribution of study according to experience in hemodialysis centers.

Experience in Dialysis	Frequency	Percent
1 - 3 years	31	63.3%
4 - 6 years	8	16.3%
more than 6 years	10	20.4%
Total	49	100.0%

Table (5):

The table determine distribution of the study according to type of central venous catheter.

do you know the main catheter of hemodialysis

type of central venous	Frequency	Percent	Cumulative Percent
Yes	48	98.0%	98.0
i do not know	1	2.0%	100.0
Total	49	100.0%	

Table (6):

The table determine distribution of study according to length temporal catheter.

the of non-tunneled cvc or (temporal) catheter usually from 10 - 15 cm

Length	Frequency	Percent
Yes	41	83.7%
No	8	16.3%
Total	49	100.0%

Table (7):

The table determine distribution f study according to the best site of central vascular catheter.

the femoral site is the best site for a central vascular cathetr if the subclavian site can not be used.

best site	Frequency	Percent
Yes	30	61.2%
No	18	36.7%
i do not know	1	2.0%
Total	49	100.0%

Table (8):

The table determine distribution of study according to central venous catheter infection.

the two common sources of cvc infection are from patient skin flora and health care worker

sources of cvc infection	Frequency	Percent
Yes	44	89.8%
No	4	8.2%
i do not know	1	2.0%
Total	49	100.0%

Table (9):

The table determine distribution of study according to signs of infection.

the catheter should be inspected for sign of infection and dressing perform at each dialysis treatment

sign of infection	Frequency	Percent
Yes	47	95.9%
No	2	4.1%
Total	49	100.0%

Table (10):

The table determine distribution of study according to diagnosis of catheter.

the clinical diagnosis of catheter related blood stream infections detect by clinical signs of inflammation at the site of catheter insertion

Diagnosis	Frequency	Percent
Yes	42	85.7%
No	7	14.3%
Total	49	100.0%

Table (11):

The table determine distribution of study according to pus and redness.

Pus ,redness or swelling of the vascular access site is events present in the local access infection

Pus ,redness		Frequency	Percent
	Yes	46	93.9%
	No	3	6.1%
	Total	49	100.0%

Table (12):

The table determine distribution of study according to bases.

do not remove cvcs on the bases of fever alone

Bases		Frequency	Percent
	Yes	41	83.7%
	No	8	16.3%
	Total	49	100.0%

Table (13):

The table determine distribution of study according to complicated infection.

the catheter is removed if any complicated infection appear (e.g thrombosis-endocarditis)

complicated infection	Frequency	Percent
yes	42	85.7%
no	7	14.3%
Total	49	100.0%

Table (14):

The table determine distribution of study according to dressing of site of catheter.

the dressing of site of catheter are performed by registered nurse

Dressing	Frequency	Percent
Yes	44	89.8%
No	5	10.2%
Total	49	100.0%

Table (15):

The table determine distribution of study according to dressing in dialysis room.

dressing performed in the dialysis room

dressing in dialysis room	Frequency	Percent
Yes	43	87.8%
No	6	12.2%
Total	49	100.0%

Table (16):

The table determine distribution of study according to dressing post dialysis.

dressing the site of catheter only post dialysis

post dialysis	Frequency	Percent
yes	11	22.4%
no	38	77.6%
Total	49	100.0%

Table (17):

The table determine distribution of study according to maturation of fistula.

knowledge about the maturation of fistula is about 6-12 week

maturation of fistula		Frequency	Percent
	Yes	44	89.8%
	No	5	10.2%
	Total	49	100.0%

Table (18):

The table determine distribution of study according to assessment of thrill.

do you assessment of thrill

Thrill		Frequency	Percent
	Yes	48	98.0%
	No	1	2.0%
	Total	49	100.0%

Table (19):

The table determine distribution of study according to document the procedure.

do you document the procedure

Document		Frequency	Percent
	Yes	41	83.7%
	No	8	16.3%
	Total	49	100.0%

Table (20): The table determine distribution of study according to care of vascular access.

do you give the patients enough knowledge about the vascular access care

Knowledge		Frequency	Percent
	Yes	47	95.9%
	No	2	4.1%
	Total	49	100.0%

Table (21):

The table determine distribution of study according to hand hygiene performed.

hand hygiene performed

hand hygiene	Frequency	Percent
Done	17	60.7%
not done	11	39.3%
Total	28	100.0%

Table (22):.

The table determine distribution of study according to gown worn.

worn properly if required

gown worn	Frequency	Percent
Done	23	82.1%
not done	5	17.9%
Total	28	100.0%

Table (23):

The table determine distribution of study according to mask worn.

mask worn properly if required

mask worn	Frequency	Percent
Done	15	53.6%
not done	13	46.4%
Total	28	100.0%

Table (24):

The table determine distribution of study according to clean gloves worn.

new clean gloves worm

clean gloves	Frequency	Percent
Done	27	96.4%
note done	1	3.6%
Total	28	100.0%

Table (25):

The table determine distribution of study according to applied of antiseptic.

skin antiseptic applied appropriately

antiseptic applied	Frequency	Percent
Done	20	71.4%
not done	8	28.6%
Total	28	100.0%

Table (26):

The table determine distribution of study according to use of chlorhexidine.

use of chlorhexidine skin preparation

Chlorhexidine	Frequency	Percent
Done	5	17.9%
not done	23	82.1%
Total	28	100.0%

Table (27):

The table determine distribution of study according to exit site.

non contact with exit site(after antiseptic)

exit site		Frequency	Percent
	Done	22	78.6%
	not done	6	21.4%
	Total	28	100.0%

Table (28):

The table determine distribution of study according to antimicrobial.

antimicrobial ointment applied

Antimicrobial		Frequency	Percent
	Done	7	25.0%
	not done	21	75.0%
	Total	28	100.0%

Table (29):

The table determine distribution of study according to dressing applied.

dressing applied aseptilly

dreesin applied	Frequency	Percent
Done	22	78.6%
not done	6	21.4%
Total	28	100.0%

Table (30):

The table determine distribution of study according to clamp the catheter.

clamp the catheter and remove caps

clamp the catheter	Frequency	Percent
Done	27	96.4%
not done	1	3.6%
Total	28	100.0%

Table (31):

The table determine distribution of study according to scrub.

scrub catheter with antiseptic

Scrub	Frequency	Percent
Done	24	85.7%
not done	4	14.3%
Total	28	100.0%

Table (32):

The table determine distribution of study according to connect catheter.

connect catheter to blood lines aseptically

connect catheter	Frequency	Percent
Done	26	92.9%
not done	2	7.1%
Total	28	100.0%

Table (35):

The table determine distribution of study according to dialysis session.

perform dressing befor dialysis session

dialysis session		Frequency	Percent
	Done	24	85.7%
	not done	4	14.3%
	Total	28	100.0%