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Assessment of Knowledge of Patients under Hemodialysis Regarding Home Self Care in Noury center of Atbara Hospital

A thesis Submitted in requirements to fulfill master degree in medical surgical nursing

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قال تعالى:

﴿ وَلَسَوْفَ يُعْطِيكَ رَبُّكَ فَتَرْضَى * أَلَمْ يَجِدْكَ يَتِيمًا فَآوَى * وَوَجَدَكَ ضَالًّا فَهَدَى * وَوَجَدَكَ عَائِلًا فَأَغْنَى * فَأَمَّا الْيَتِيمَ فَلَا تَقْهَرْ * وَأَمَّا السَّائِلَ فَلَا تَنْهَرْ * وَأَمَّا بِنِعْمَةِ رَبِّكَ فَحَدِّثْ ﴾

صدق الله العظيم

سورة الضحي – الآية(5-11)

Dedication

The most kind hearts I will everlasting know ,those gave me a reason to be ,to my life candles , to both those I will never be thankful enough whatever I do ,whatever I say, to:

(My Mother fayza)

(My Aunt)

My lovely brother:

(husam)

My sister:

Ragda

All my doctors whom learned me in post graduate in university nurse

My lovely friends

God keep them all

My ALSO special thanks to:

Aymen abd allseed byoume

Acknowledgement

Firstly my deeply thanks for Allah liege lord who helped me to present this study

My grateful thanks at the beginning and finally to my god

I want to express my thanks to whom contribute

With me and help me to accomplish this work.

Finally I would like to thanks my supervisor:

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For his time and great help that help me too much

ملخص الدراسة

العناية المنزلية لمرضى الفشل الكلوي الذين يجرون جلسات غسيل دموي تشكل جزء مهم في المعالجة، هذه الدراسة الوصفية أجريت لتقييم معرفة مرضي الغسيل الدموي تجاه صحتهم بأبعاد العناية المنزلية، شملت المرضي بمركز الغسيل الدموي بمستشفى عطبره في فترة ثلاثة أشهر، مائه مريض تم تقييمهم عن طريق ورقة المعاينة المصممة وتهدف الدراسة إلى تقييم معرفة مرضى الفشل الكلوي بالعناية في المنزل والتي تتمثل في (الأكل، الشرب، تناول الأدوية، الأنشطة اليومية التفاعل مع الأسرة والمجتمع والعناية بالقسطرة والفيستولا). وتوصلت الدراسة إلى عدة نتائج أهمها اكثر من ثلثي (80%) من المرضي لم يجروا غسيل دموي طارئ خلال الثلاثة أشهر الماضية. أيضاً أظهرت الدراسة بأن أكثر من النصف (58%) من المرضى معرفتهم قليلة بأهمية التغذية العلاجية، وأكثر من النصف (66%) يتناولون السوائل بحرية. وثلثي (71.1%) المرضى يحرصون على العناية بمدخل الغسيل (القسطرة والفيستيولا) وأوصت الدراسة أن هنالك حوجة لوضع برنامج تعليمي لزيادة المعرفة بأهمية العناية المنزلية لدي مرضى الغسيل الدموي، ولزيادة مقدرة المرضي لاتخاذ دور فعال بالعناية تجاه أنفسهم وتعليم ودعم المرضى بأداء مهام العناية اليومية المنزلية حسب المقدرة الفردية لكل مريض.والمحافظة على البرنامج وذلك بإعطاء المرضى نشرات تثقيفية تهتم بالعناية المنزلية تصمم بموافقة رئيس القسم والفريق العامل أثناء وبعد جلسة الغسيل.

Abstract

Home self-care is very important for hemodialysis patients because home self care form the largest part of care of hemodialysis patients; this study was conducted to assess patient's knowledge about their home- self care in Atbara hospital. The study was conducted in the period of three month. Using structured interview sheets. (100) patient were assessed; the study aimed to identify patient knowledge about home-self care regarding (nutrition, fluids, medication and access care. It concluded that majority (100%) of patients on regular hem dialysis twice week at duration of four hours. More than Two third (80%) of patients didn't need an emergency dialysis for the last three month, more than half (58%) of them have low knowledge about therapeutic nutrition. More than half of patients (66%) take fluid freely, this indicates poor self -care. Two third (%71.1) of them take good care regarding their dialysis access. The study recommend that there is a need for educating program to increase the level of self-care among dialysis patients, to enable patients as take a more active role in their care and to educate and support patients to perform a variety of tasks related to their dialysis according to individual ability. Keep this program continuous by providing frequent leaflets containing guideline for home self-care designed by head department and staff agreement given to each patient during and after each session.

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Abbreviation	Meaning
E S R D	End stage renal disease
C K D	Chronic kidney disease
GFR	Golymular filture Rate
PEW	Protein energy wasting
HDP	Hemodailysis patient
A V	Arteriovenous

1.1. Introduction:

Hemodialysis is the most commonly used method for dialysis. Hemodialysis prevents death but does not cure renal disease and does not compensate for the loss of endocrine or metabolic activities of the kidneys.

More than 90% of patient requiring long term renal replacement therapy are on chronic Hemodialysis [(1)]

Most patients receive intermittent hemodialysis that involves treatment three times a week with the average treatment of 3to 4hour in an outpatient setting.

Hemodialysis can also performed at home by the patient and caregiver. With homedialysis treatment time and frequency can be adjusted to meet optimal patient need. The objectives of Hemodialysis are to extract toxic nitrogenous substance from the blood and to remove excess water [(2)]

Patient receiving Hemodialysis as a treatment for clinic kidney diseases or until they undergo a successful kidney transplant [(3)]

Home Hemodialysis is an option for some, ic requires a highly motivated patient who is willing to take responsibility of the procedure and is able meet the body's changes . It also requires, the commitment of care giver to assist the patient [(1)]

Before home Hemodialysis is initiated, the home environment house hold and community resource, and ability and willinges of the patient and family to carry this treatment are assessed .modification may be needed to enable the Patient and assistant to perform dialysis safely and deal with the diagnosis of chronic renal failure and the need for dialysis often overwhelm the patient and family [(10)]

In addition, many patients with end stage renal disease have depressed mentation, a shortened attention span, a decreased level of concentration, and altered perceptual states. Therefore, teaching must occur in brief, 10- to15-

minute sessions, with time added for clarification, repetition, reinforcement, and questions from the patient and family [1]

The nurse needs to convey a nonjudgmental attitude to enable the patient and family to discuss options and their feelings about those options. Team conferences are helpful for sharing information and providing every team member the opportunity to discuss the needs of the patient and family.[1]

Care Check Encouragement: Patients, families, and staff need encouragement to adopt a positive attitude toward rehabilitation [4]

Education: Patients need to understand there is ease, They need to learn strategies for successful adaptation to dialysis and how to maximize functional status, among many other subjects.

Parents, staff, and employers require education about the many positive life options of dialysis patients [4]

Exercise: Exercise is critical to rehabilitation, just as with heart disease. Many levels of activity to fit the different abilities of renal patients are helpful, from vigorous work outs to stretching exercises [4]

1.2. Justification:

Teaching patient home self care helps identify the learning needs of the patient and family members because the diagnosis of chronic kidney diseases and the need for dialysis often overwhelm the patient and family.

Patients requiring long-term hemodialysis are often concerned about the unpredictability of the illness, lake of nurse teaching about home care and patient complaints in each session of dialysis as their health state deteriorate. And the assessment helps identify the learning needs of the patient and family members and I conduct this study to help increase knowledge of patients about home-self care.

1.3. Objectives

General Objective:

To assess knowledge of hemodialysis patient about home self care in atbara hospital (noury center).

Specific Objectives:

- To assess the level of knowledge regarding care of nutrition and fluid.
- To assess the level of knowledge regarding care of access care.
- To identify patient knowledge regarding medication.
- To identify common complication of dialysis.
- To teach patient and their families about home self care, and physical activity and communication.

2. Literature review:

End Stage kidney Disease is a long-term chronic illness that is often treated with either dialysis or kidney transplantation. Patients with ESRD are faced with complicated and demanding treatment regimen that includes dietary and fluid restriction and medication schedule. Irrespective of whether the treatment is predominantly dialysis center based, or home based, patient need to have sufficient knowledge, skill and ability to carry out their treatment regimen without direct supervision of health personnel. Therefore it is important to know the patient self care management level [5]

2.1. Dialysis:

Dialysis is started when the patient develops symptoms of fluid overload, high potassium levels, acidosis, pericarditis, vomiting, lethargy, fatigue, or symptoms of uremia that are life threatening [3]

Dialysis solution are available commercially in 1 or 2liter plastic bags with glucose concentration of 1.5%,2.55% and 4.25%.the electrolyte composition is similar to that of plasma. First dialysis should be short time that is 2-3 hours to allow gentle clearance of nitrogenous waste. The average range is 4-6 hours [16]

Hemodialyses involves movement and diffusion of particles from an area of high concentration to an area of low concentration through a semipermeable membrane. The substances move from blood through the semipermeable membrane into the dialysate. Fluid and electrolyte imbalances can be corrected with dialysis. Dialysis can also be used to treat drug overdoses [1]

2.2. Dialysis adequacy:

signs (symptoms) of not getting enough dialysis are:

- Weakness and tiredness
- Poor appetite

- Feeling sick .
- Trouble getting a good sleep
- Itchy skin
- Metallic taste mouth
- Difficulty in concentrating[7]
- Reduced interest in sex
- Difficulty breathing, especially when exercising or spelling down flat.
- Swelling in your hands and feet
- Poor blood pressure control

Inadequate dialysis can be extremely serious. It is important to pay attention to these symptoms and to act on them quickly [7]

2.3 .Hemodialysis:

Hemodialysis is the most common method of dialysis. Hemodialysis is used for patients who are acutely ill and require short-term dialysis (days to weeks) and for patients with end stage renal disease who require long-term or permanent therapy [1]

Hemodialysis is the most commonly used method of dialysis: more than 300,000 Americans currently receive hemodialysis [4] It is process of cleansing the blood of accumulated waste products, takes 3 to 4 hours and is done three or four times a week[1]

Hemodialysis provides a rapid and efficient way to remove waste products from the blood. It is also an excellent means to correct excessive fluid-overloaded states such as occur in heart failure.

2.4. Procedure:

Hemodialysis is a treatment for kidney failure that uses a machine to send the patient's blood through a filter, called a dialyzer, outside the body.. The blood goes through a needle, and then travels through a tube that takes it to the

dialyzer. Inside the dialyzer, the blood flows through thin fibers that filter out wastes and extra fluid. The machine returns the filtered blood to the body through a different tube [8]

Just like making tea

Making tea offers an everyday example of diffusion. Putting a tea bag into hot water causes the bag to act like a semi-permeable membrane. The tea leaves are too big to get out of the bag but the flavour and colour of the tea is able to pass through the membrane into the water, while water is also able to pass through the membrane into the tea bag.

During hemodialysis, large molecules such as blood cells and protein are kept inside the membrane but smaller molecules such as urea and creatinine [7]

2.5. Complications of Hemodialysis:

The complications include hypotension, hypervolemia, chest pain, back pain, diaphoresis, tachycardia, dizziness, painful muscle cramps, dysthymias, air embolism, loss of blood, hepatitis, sepsis. Regulation of diet pattern is also important aspects in case of patients undergoing hemodialysis [6]

- **Complications during and after of hem dialysis:**
- **Disequilibrium syndrome:**

Uremia must be corrected slowly to prevent disequilibrium syndrome, characterized by signs and symptoms of cerebral edema(eg, headache, nausea, restlessness, mild mental impairment, vomiting, confusion, agitation, seizures).

- **Hypovolemia:**

The rapid removal of fluid during dialysis and Hypotension. The use of antihypertensive drugs in patients who undergo Hypertension caused by fluid overload and muscle cramp [4]

Artheriosclerotic cardiovascular disease, heart failure, disturbance of lipid metabolism (hypertriglyceridemia), coronary heart disease, stroke intercurrent

infection anemia and fatigue Gastric ulcers and other problem bone problems (renal osteodystrophy, aseptic necrosis of hip) from disturbed calcium metabolism hypertension psychosocial problems: depression, suicide, sexual dysfunction supportive agencies [2]

2.1.5. Home hemodialysis:

Most patients who undergo hemodialysis do so in an outpatient setting , but home hemodialysis is an option for some, it requires a highly motivated patient who is willing to take responsibility for the procedure and is able to adjust each treatment to meet the body's changing needs [4]

It also requires the commitment and cooperation of a care giver to assist the patient, however, many patient are not comfortable this way and do not wish to subject family member to that their home is being turned into the clinic. The health care team never forces a patient to use home hemodialysis because these treatments require significant changes in the home and family; home hemodialysis must be the patient, and family decision [4]

Patient who undergo hemodialysis and the caregiver` assisting that pt must be trained to prepare, operate the equipment, administer medications into the machine lines ,and handle emergency problems .because home hemodialysis place primary responsibility for the treatment on the pt and the family member ,they must understand and be capable of performing all aseptic procedures [1]

Before home hemodialysis initiated, the home environment, household and community rescores and ability and willingness of the patient and family to Carry out this treatment are assessed. The home is surveyed to see if electrical outlets, plumbing facilities, and storage space are adequate. Modification may be needed to enable the pt and assistant to perform dialysis safely and to deal with emergency [1]

Once home hemodialysis is initiated, the home care nurse must visit periodically to evaluate compliance with the recommended techniques, to assess the pt for complication, to reinforce previous teaching, and to provides reassurance [1]

2.6. A vascular access:

A vascular access is a hemodialysis patient's lifeline. A vascular access makes life-saving hemodialysis treatments possible [8]

Some types of access will be necessary for the patient to receive the dialysis treatments. There are 3 types of accesses.

1. Fistula - One of veins is reconnected to an artery, allowing greater blood flow through the vein. Because it is patient vein it often last longer and may have fewer problems than the other two types [9]

2. Graft – An artificial tube is inserted just under the skin and is connected at one end to an artery and the other end to a vein. Sometimes this access requires more maintenance and does include an increased risk of clotting.

3. Catheter – Sometimes used for temporary access, this is a long, two sided tube inserted through the skin and into a vein [9]

Access to the patient's vascular system must be established to allow blood to be removed, cleansed, and returned to the patient's vascular system at rates between 200 and 800mL/minute. Several types of access are available [1]

An arteriovenous graft (AV graft) uses a tube of synthetic material to attach to an artery and a vein. Needles are inserted into the graft to access the patient's blood [4]

Patients should set up a vascular access well before starting hemodialysis, as AV fistulas and AV grafts both need time to mature before they are ready for use [8]

Traditional graft material is not self-sealing and requires time for tissue growth to serve as a plug for the hole that the needle makes before it can be used. This may take 1 to 2 weeks [10]

2.7. Problems vascular access can cause:

All three types of vascular access—AV fistula, AV graft, and venous catheter—can cause problems that require further treatment or surgery. The most common problems include access infection and low blood flow due to blood clotting in the access [8]

Infection/Vascular Access Infection is a common cause of hospitalization and morbidity in patients on hemodialysis. Since 1994, the rate of infection-related hospitalizations has increased by 45.8%. Vascular access is a key contributing factor. Patients enrolled in the HEMO study (a randomized, pro, spective study of 1846 patients on hemodialysis) experienced infection related hospitalizations at a 35% annual rate; access-related infection represented 23% of these cases. Occurrence of access-related infection was higher in patients using catheters compared with fistulas or grafts, as was the likelihood of infection-related death[11]

2.7.1. Patient care for and protect a fistula and graft access:

2.7.2. 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 session , even if the patient is inserting the needles. Keeping the access clean at all times. Using the access site only for dialysis [8]

Listen for a bruit at the site by placing the diaphragm of a stethoscope gently on the site. A bruit is a swishing sound made as the blood passes through the access site.

Gently palpate the site for a thrill, which is a buzzing or pulsing feeling that indicates good blood flow through the access site [12] .Being careful not to bump or cut the access.

Watching for and reporting signs of infection, including redness, tenderness, or pus. Not letting anyone put a blood pressure cuff on the access arm [8]

Do not take blood pressure, use a tourniquet draw blood, or start any intravenous lines in the affected arm. Injections should be avoided if possible.

Many hospitals have the patient wear a red arm bracelet to signify that the arm should be protected. A sign above the bed may also be used teach the patient not to lift heavy objects or carry a purse on the access arm [8]

Not lifting heavy objects or putting pressure on the access.arm [12]. Teach the patient to avoid wearing constrictive clothing or jewelry over the site.

Teach the patient to avoid prolonged bending or sleeping on the arm with an access. Notify the physician if signs of bleeding [12]

2.8. Catheter Care:

- Patients are not allowed to swim, take showers, or soak in baths. Care must be taken to keep site from getting wet. Keep the catheter site dry and ends secured.
- Site must be checked for infection (redness, swelling, pain, fever or drainage from site) [9]
- Be careful not to pull or tug on the catheter.
- Scissors or sharp objects should never be used near the catheter.
- Catheters can work better depending on your position. Pay attention to what works best for you [9]
- Do not remove the dressing from the catheter site.

* If bleeding occurs at the site, apply firm pressure over the site until it stops.
* If bleeding does not stop after 20 minutes, call your doctor.
* Do not disturb clamps located on your catheter. They must remain clamped at all times [9]
* If a cap comes off and the clamp is open, clamp the catheter immediately to avoid bleeding or air embolism. Lie down on your left side with your head below your heart [9]

2.9. Lifestyle Management for Chronic Hemodialysis:

Dietary management involves restriction or adjustment of protein, sodium, potassium, or fluid intake. Ongoing health care monitoring includes careful adjustment of medications that are normally excreted by the kidney or are dialyzable. Surveillance for complications [2]

Arteriosclerotic cardiovascular disease, heart failure, disturbance of lipid metabolism (hypertriglyceridemia), coronary heart disease, stroke intercurrent infection anemia, fatigue Gastric ulcers, bone problems (renal osteodystrophy, aseptic necrosis of hip) from disturbed calcium metabolism hypertension psychosocial problems: depression, suicide, sexual dysfunction supportive agencies [2]

- Common Medications for dialysis patients
- Anti-itching medications.
- Blood thinners Common medications: (Heparin and Coumadin) [9]
- Blood pressure medications Common medications: (Tenormin, Capoten, Cozaar, Lotensin, and clonidine).
- Calcium supplements Common medications.
- Erythropoietin Common.
- Iron supplements Common medications.
- Multivitamins Common medications.
- with folic acid (Dialyvite, Nephro-Vite) [9]
- Phosphate Binders Common medications.
- Sedatives Common medications .
- Stool softeners and laxatives Common medications.

* Vitamin D supplements Common medications [9]

2.10. Antihypertensive and Cardiovascular Agents:

Hypertension is managed by intravascular volume control and a variety of antihypertensive agents. Heart failure and pulmonary edema may also require treatment with fluid restriction, low-sodium diets, diuretic agents, inotropic agents such as digoxin (Lanoxin) or dobutamine (Dobutrex), and dialysis. The metabolic acidosis of chronic renal failure usually produces no symptoms and requires no treatment; however, sodium bicarbonate supplements or dialysis may be needed to correct the acidosis if it causes symptoms [2]

2.11. Nutritional Therapy:

Good nutrition is important to reduce the workload on the kidneys and provide patient with improved overall health. This includes maintaining a healthy weight, limiting total fat (especially saturated fat), eating an appropriate amount of protein, limiting salt (sodium), potassium and phosphorus. Limiting your fluids is needed if urine output is small and you are swelling (edema). If you are diabetic, it is important that you follow the meal plan outlined by your diabetes educator [13]

Diet plays a very important role in the treatment of kidney disease.

The kidney does the following for your body:

Removes the waste products that are made when protein is broken down in the body. This includes urea and creatinine.

Regulates the amount of sodium and other minerals. Maintains the proper balance of fluid. If you have CKD, your kidney may have problems doing these functions. By watching your diet, you can help reduce the strain on the kidney[13]

Protein-energy malnutrition, characterized by reduced body stores of protein or inadequate intake relative to nutrient demand, affects 18% to 75% of patients on dialysis. In sufficient nutrient intake, nutrient losses during dialysis, co-morbid illness-induced hypercatabolism (such as cardiovascular disease, infection), and/or dialysis treatments are among the implicated underlying factors. Several of these factors are also linked to inflammation, including infection. Therefore, inflammation exacerbates severity of protein-energy malnutrition [(11)]

Reducing protein in the CKD Diet: Protein is needed to repair tissues. The protein must be broken down in order to be used. During protein breakdown, waste (such as urea) is made. When kidney function decreases, the kidney has trouble removing the urea. The urea then builds up in the bloodstream, which may cause nausea, vomiting, tiredness or itching [(13)]

predictor of mortality in patients with CKD and improving On the other hand, in patients undergoing nutritional status by dietary and non-dietary interventions maintenance dialysis, the so-called uremic malnutrition could be an important step toward improving the (also referred to as protein-energy wasting [PEW] is by outcomes in CKD. far the strongest risk factor for adverse outcomes [(14)]

To help keep urea from building up in your body, you need to limit the amount of protein in your body. This should begin around a GFR of 30 mL or sooner in certain people. Protein is a nutrient found in fish, poultry, beef, lamb, pork, eggs, cheese and milk.

People with heavier weights do not adjust to allow for higher protein intake [(13)]

Protein diet changes: Meat and meat substitutes (7g protein per ounce).

Limit to servings per day. Beef, lamb, pork, veal, poultry and fish 1 ounce Salmon or tuna (fresh or water packed, no added salt) … ¼ cup Cheese (less

than 80 mg sodium per oz.) ¼ cup shredded Unsalted peanut butter 2 TBS Egg 1 Dried peas or beans (cooked) ½ cup [13]

Avoid: Salt-cured meats, bacon, ham, sausage, dried beef, corned beef, sardines; salted, canned or processed meats, fish or fowl. Processed cold cuts, hot dogs, sausages: all other cheese or cheese food, salted nuts and dried beans seasoned with ham or bacon.

2.12. Guidelines:

Do not eat all of your meat allowance in one meal.

Meat should be weighed after cooking and skin, excess fat and bone have been removed.

When a food scale is not available, use the following estimates: 2 oz. = ½ chicken breast, 1 chicken thigh, 2 small chicken legs, 2 chicken wings, ½ cup canned fish [13]

Milk and milk products 4 gram protein per serving:

Limit to servings per day. All milk, half and half, cream ½ cup Yogurt, pudding, ice cream ½ cup [13]

Vegetables 2 grams of protein per serving: Cooked vegetables (fresh or frozen) ½ cup Raw vegetables 1 cup Vegetable juice (no added salt) 1 cup Avoid sauerkraut, pickles, pickled vegetables or relish [13]

Fruits ½ gram of protein per serving:

Limit to servings per day. Juice, raw or canned ½ cup Fat and sugar have no protein [13]

Calories: If you are less than 60 years of age then 35 calories per kg are recommended to stay the same weight. If you are over 60 years of age, then 30 calories per kg are recommended to maintain the same weight. Alcohol is not recommended since it is an empty calorie. The recommended vitamin is over the counter. It should be labeled B complex with C [13]

The weight chart for amount of protein also lists calorie needs. To evaluate caloric intake, there are many small calorie counter books available. Or read food labels [13]

Potassium: Unless you are told to increase the potassium in your diet due to medications, you should watch and reduce your potassium intake. A low potassium diet helps prevent high levels of potassium (>5). When blood potassium levels become too high, muscle weakness, irregular heartbeat and death can occur. Limiting potassium in your diet will help keep blood potassium levels normal.

Potassium is found in most foods. Fruits, vegetables, nuts, meat and milk are especially high in potassium. You will need to avoid or limit your intake of these foods [13]

How to follow a low potassium diet:

- Avoid salt substitute (most have a high potassium content). Use only herbs and spices or seasoning mixes without potassium.
- Limit fruits and vegetables to 4 servings (1/2 cup) per day.
- Limit milk to cups per day. This includes ice cream, yogurt and all kinds of milk [13]

Dietary protein intake can modulate renal function depending on several factors such as inadequate. Before starting dialysis patient be on a low-protein intake of dietary protein and energy, anorexia diet to limit the amount of waste products in blood. International Society of Renal Metabolism and Nutrition When dialysis started, diet will include more protein and taste alterations [14]

Approximately 18-75 % of receiving to: building muscle, repairing tissue and fighting infections. Of wasting. PWE is correlated with increased in the general population, over nutrition is a morbidity, mortality and impaired quality of life in HDP. Major problem. Over nutrition is considered a According to

United States Renal Data System, 27% of serious risk factor for developing metabolic malnourished patients had risk of cardiovascular death syndrome, cardiovascular disease and CKD, with a . PEW, consequently, seemed to be a strong subsequent increase in the risk of mortality [14]

- Reduce portion sizes .
- Eat more fruits, vegetables, beans, nuts, olive oil, whole grains and low-fat dairy products .
- Eat more fish 2-3 servings a week.
- Eat LESS red meat, saturated fat, cholesterol, sugar, refined carbohydrates and sugared beverages .
- Use smaller dishes at home (to make your portions look bigger.
- Avoid buffets and don't take seconds .
- Freeze leftovers in portion sized amounts .
- Never eat out of the bag or carton; buy the smallest bag to avoid temptation .
- Drink water or club soda .
- Beware of "mini" snacks. Most of us end up eating more than we realize[13]

2.13. Tips to help control how much fluid you drink and your thirst

How to limit the fluid you drink:

- Plan ahead to spread out the fluid you drink over the day (i.e. skip tea at lunch to save fluid for punch at a party).
- If possible, swallow your pills with soft food, like applesauce. Save your fluid for something you enjoy. Check with your doctor or pharmacist about which pills can be taken with meals [15]
- Use a small cup and glass. Learn to sip fluids slowly.

* Measure out part of your fluid each day and store it in a cup in the freezer. Most people find ice more pleasing than the same amount of water, since it stays in the mouth longer [15]
* Be sure you know how much fluid is in one ice cube. Try melting one cube and measure how much fluid it contains.
* Freeze some of your fruit juice or soda pop in an ice cube tray. Use the cubes as part of your daily fluid amount.
* Drink your liquid very hot or cold. This may help with thirst.
* Post some paper on the fridge or have paper where you sit. Measure what you drink and mark down the amount on the paper [15]

How to feel less thirsty:

* Brush teeth more often or rinse your mouth with water, but do not swallow it. (Be sure not to over-brush!)
* Keep your mouth cool and fresh by rinsing with cold mouthwash. Avoid mouthwash with alcohol that can dry out your mouth.
* Lemon wedges, hard sour candies, chewing gum, breath mints or breath spray may help to keep your mouth from drying out [15]
* Add lemon or lime to your water or ice. The sour taste will help you feel less thirsty.
* Eat fruits and vegetables ice cold. Frozen grapes or strawberries are very nice.
* Try licking a lemon or a lime.
* Use a humidifier to moisten the air. This will help your mouth feel less dry[15]
* Meeting Psychosocial
* Dialysis alters the lifestyle of the patient and family. The amount of time required for dialysis and physician visits and being chronically ill can create

conflict, frustration, guilt, and depression. It may be difficult for the patient, spouse, and family to express anger and negative feelings [16]

Promoting Home and Community-Based care teaching Patients Self-Care preparing a patient for hemodialysis is challenging. Often the patient does not fully comprehend the impact of dialysis, and learning needs may go unrecognized. Good communication between dialysis staff and home care nurses is essential [16]

Assessment helps identify the learning needs of the patient and family members. In many cases, the patient is discharged home before learning needs and readiness to learn can be thoroughly evaluated; therefore, hospital-based nurses, dialysis staff, and home care nurses must work together to provide appropriate teaching that meets the patient's and family's changing needs and readiness to learn [16]

The diagnosis of chronic renal failure and the need for dialysis often overwhelm the patient and family. In addition, many patients with end stage renal disease have depressed mentation, a shortened attention span, a decreased level of concentration, and altered perception. Therefore, teaching must occur in brief, 10- to 15-minute sessions, with time added for clarification, repetition, reinforcement, and questions from the patient and family [16]

The nurse needs to convey a nonjudgmental attitude to enable the patient and family to discuss options and their feelings about those options. Team conferences are helpful for sharing information and providing every team member the opportunity to discuss the needs of the patient and family [16]

2.14. Teaching patient self-care:

Preparing a patient for hemodialysis is challenging. Often the patient does not fully comprehend the impact of dialysis, and learning needs may go unrecognized. Good communication between dialysis staff and home care nurses is essential; Assessment helps identify the learning needs of the patient and family members [3]

In many cases, the patient is discharged home before learning needs and readiness to learn can be thoroughly evaluated; therefore, hospital-based nurses, dialysis staff, and home care nurses must work together to provide appropriate teaching that meets the patient's and family's changing needs and readiness to learn [3]

In addition, many patients with end stage renal disease have depressed mentation, a shortened attention span, a decreased level of concentration, and altered perception. Therefore, teaching must occur in brief, 10- to 15-minute sessions, with time added for clarification, repetition, reinforcement, and questions from the patient and family [4]

The nurse needs to convey a nonjudgmental attitude to enable the patient and family to discuss options and their feelings about those options. Team conferences are helpful for sharing information and providing every team member the opportunity to discuss the needs of the patient and family [4]

2.14.1. Continuing Care:

The health care team's goal in treating patients with chronic renal failure is to maximize their vocational potential, functional status, and quality of life. To facilitate renal rehabilitation, appropriate follow-up and monitoring by members of the health care team (physicians, dialysis nurses, social worker, psychologist, home care nurses, and others as appropriate) are essential to identify and resolve problems early on [3]

Many patients with chronic renal failure can resume relatively normal lives, doing the things that are important to them: traveling, exercising, working, or actively participating in family activities. If appropriate interventions are available early in the course of dialysis, the potential for better health improves, and the patient can remain active in family and community life [3]

The Five Es: Bridges to Renal Rehabilitation.

Encouragement: Patients, families, and staff need encouragement to adopt a positive attitude toward rehabilitation [4]

Education: Patients need to understand their disease. They need to learn strategies for successful adaptation to dialysis and how to maximize functional status, among many other subjects. Parents, staff, and employers require education about the many positive life options of dialysis patients [4]

Exercise: Exercise is critical to rehabilitation, just as with heart disease. Many levels of activity to fit the different abilities of renal patients are helpful, from vigorous workouts to stretching exercises [4]

Employment: The primary goal is to allow dialysis patients to keep their current jobs whenever possible. If not possible, vocational rehabilitation counseling should be used.

Evaluation: Systematic evaluation of rehabilitation outcomes is necessary to identify and measure which interventions have made an impact [4]

2.15. Social and Emotional Adjustments of the Kidney Patient & the Role of the renal social worker

It is very common to experience a flood of emotions when dealing with an incurable disease such as kidney failure. Everyone experiences different emotions at different times and adjust at varying rates. It is important to remember that you have a support system at your dialysis unit available to you. Expect to feel emotions such as denial, guilt, fear, anxiety and acceptance at

different times. All of these feelings are very normal, as is the need to have someone who assists you in coping [9]

Remember that a chronic illness also affects family members and those that love you. They can be your biggest supporter and provide you the encouragement you need for all that you will be balancing with your emotions, treatment schedule, diet and medications [9]

We understand that there are many questions running through your mind about how this process works and how it may affect your life. Changes in your lifestyle will be required of you as a kidney patient – this varies somewhat by the treatment option you select [9]

- Lifestyle Changes.
- Loss of Control.

One of the biggest obstacles you will have to face is loss of some control in your daily life decisions. Your kidney disease and required treatments have clear restrictions on schedule, time and, of course, diet [9]

2.15.1. Daily Schedule

As a kidney patient and their family sits down to review the treatment options you will likely need to adjust some of your daily work and family activities to adjust to your treatment schedule. Some treatment options require major to minor alterations in work schedules or family activities. Working with your family and dialysis unit staff to preserve your independence for those activities that are the most important, requires open communication, patience and flexibility [9]

2.15.2. Work

You don't have to stop working – this depends on you and your individual goals/opportunities. You will need to talk with your employer about changes needed because of your health status, energy level and treatment schedule. The

Americans with Disabilities Act requires employers to make all reasonable accommodations for your job [17]* If you decided it is time for a career change or to return to school instead, your social worker can refer you to various agencies such as a vocational rehabilitation to assist you. This agency assists patients to return to school or change employment [9]

2.15.3. Activity and Limitations

2.15.3.1. Exercise Benefits for Dialysis Patients

- Increased strength and energy
- Improved muscle strength and stronger bones
- Better BP control
- -Better sleep
- -Better control of body weight
- -Lowered level of blood fats (cholesterol & triglycerides) [17]

Guidelines for exercise

Advise patients to:

a. Check with their health care professional,
b. Follow the treatment plan,
c. Take any appropriate medications, and
d. Follow their diet.

Emphasize that individual health, fitness level, interest, and available time will vary [17]

2.15.3.2. Type of exercise

Recommend continuous exercises that will move large muscle groups, such as walking, swimming, bicycling, skiing, and aerobic dancing.

Recommend low level strength exercises, such as low weights and high repetitions. Emphasize that there is to be no heavy lifting, and that a slow, relaxed pace of exercise can still yield positive benefits [17]

Time to Exercise

- Recommend a minimum of 3 days per week of exercise.
- Advise patients to work toward exercising 30 minutes/session.
- Emphasize that a patient's endurance will be better on nondialysis days[17]

2.15.3.3 To increase physical activity Long term goal

- At least 30 min of moderate intensity physical most days of the week.

Getting started: Walking is the most effective form of physical activity (for most people). Start slowly by walking 30 minutes for 3 days a week and build up to 45 minutes of more intense walking at least 5 days a week. If you tire easily, try starting with 30 minute sessions a day [13]

Physical activities that you enjoy will help you stick with your plan and develop life-long healthy habits. Group activities can be fun for the whole family and a great way for isolated older adults to meet with others. Work more physical activities into your everyday activities if you are able [13]

3. Research Methodology

The design used for this was descriptive, cross-sectional study, aiming to assess knowledge of patient with end stage renal disease on hemodialysis regarding home self-care.

3.1. Study design

This was descriptive study conducted at hemodialysis (Noury center) in Atbara city in(Atbara hospital) to assess the knowledge of patients with end stage renal disease on hemodialysis regarding home-self care.

3.2. Study area:

This study was conducted in Atbara Hospital(Atbara) in River Nile state, Sudan ,which located in north of Khartoum about 310km,at the junction of the river Nile and Atbara river. It is an important railway junction and railroad manufacturing center. It 's population about 111,399,most of them are related to rail line.

Atbara city now is one of the most important cities with multiple health care facilities. It has five main hospitals, Atbara teaching hospital, Military hospital, and police man hospital, health insurance hospital, and Alsllam hospital, It has also number of private medical centers for delivery of health care

3.3.Setting:

This study was conducted at hemodialysis center. Its only one center concerns with hemodialysis in Atbara noury center. This center was established since 2004, it provides hemodialysis for all patients ,The averaged number of patients receive hemodialysis per day is about 165 patient. There is sixteen registered nurses deliver hemodialysis for patient at this center, two consultants.

3.4. Study population:

This study involves hemodialysis patients who are visiting center to receive their hemodialysis session.

Sampling:

3.5. Sample techniques:

The sample size was choosed by using the formula:

N= z2 (pg) / α2

Margin of error =5%

Confidence level =95%

Response distribution =50

Population=165

Sampling method:

3.7. Tools of Data Collection:

The data was collected by questionnaire designed by researcher based on reviewing of literature, it consists of three sections; the first section was designed to collect data about personal characteristics of patients. The second was designed to collect data about knowledge of patients regard hemodialysis and the third one collect data about patient's attitude toward home self-care.

3.8.Scoring system :

Scoring system was established by researcher which the data was distributed three categories to measure the level of patient knowledge about home self care , if patient respond to(5 ,4)choice consider good knowledge , (3,2) choice consider fair ,(1 ,0) choice consider poor.

3.9. Statistical Design:

The collected data, organized, categorized, tabulated in tables manually using frequencies and percentage.

3.10. Ethical considerations:

The study was approved by ethical committee of research in the faculty of nursing sciences.

Before conducting the study, verbal permission was taken from hemodialysis center administration and from staff delivering hemodialysis for patients. The purpose of study was explained to each one of patient and am assured them that the data collected from the questionnaire will remain confidential and it's not allowed for any person to identify it.

4. Results

Table (1) shows the distribution of studied group according to their ages

Age	Frequency	Percentage
15-25	**6**	6%
25-35	**12**	12%
35-45	**24**	34%
More than 45	**58**	48%
Total	**100**	100%

This table illustrate that (58%) had more than 45 of age.

Table (2) shows the distribution of studied group according to their gender

Gender	Frequency	Percentage
Male	**64**	64%
Female	**36**	36%
Total	**100**	100%

This table illustrate that (64%) gender is male.

Table (3) shows the distribution of studied group according to their residence

Residence	Frequency	Percentage
Atbara	88	88%
Out of Atbara	12	12%
Total	100	100%

This table illustrate that (88%)residence in Atbara.

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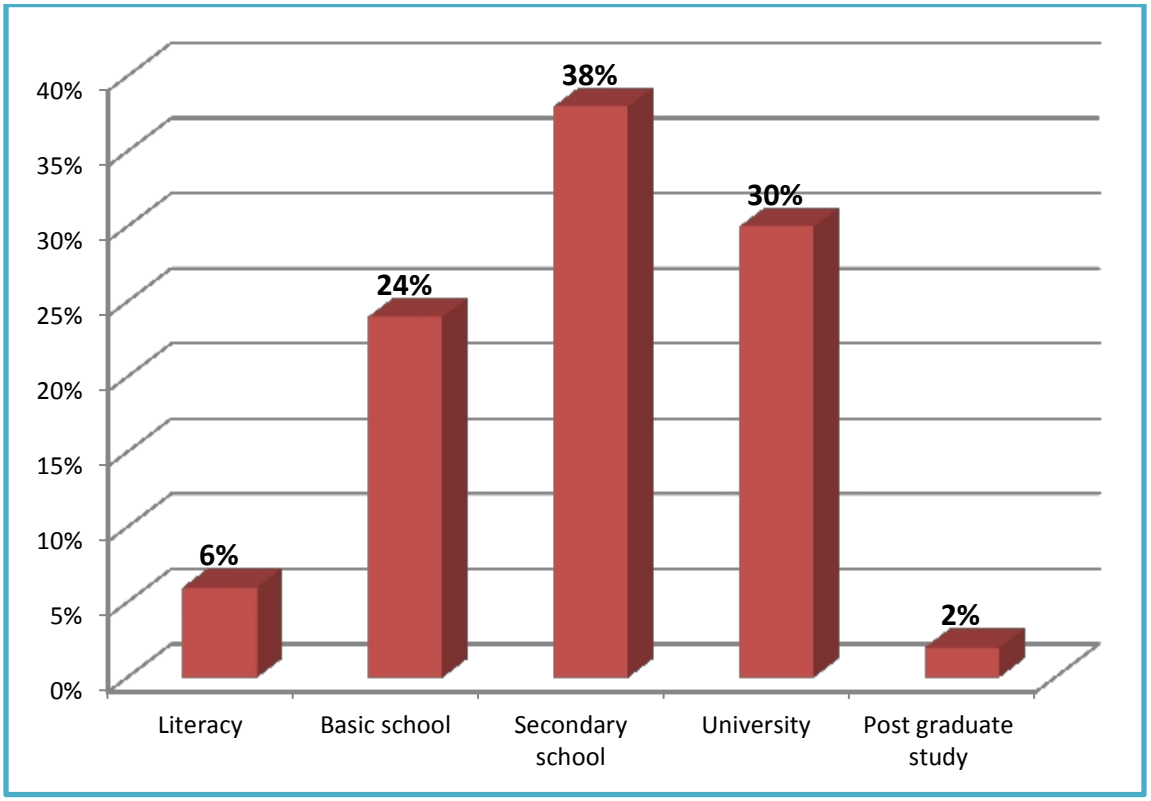

Figure (4) show the distribution of studied group according to their level of education

Table (5) show the distribution of studied group according to their Occupation

Occupation	Frequency	Percentage
Employed	42	42%
Un employed	58	58%
Total	100	100%

This table illustrate that (58%) are unemployed.

Table (6) show the distribution of studied group according to their knowledge about indication of hemodialysis

What is the indication of hemodialysis for you	Frequency	Percentage
Acute renal failure	16	16%
Chronic renal failure	70	70%
Other	14	14%
Total	100	100%

This table illustrate that in (70%) the indication of dialysis is chronic renal failure.

Table (7) distribution of study group according to their meaning of heamodialysis

Item	Frequency	Percentage
Un known	8	8%
Wash out waste product using machine	22	22%
Is used to remove fluid and uremic was Products from the body when the kidne cannot do so	68	68%
Therapy replaces normal kidneys function	2	2%
Total	100	100%

This table illustrate that (68%) know about hemodialysis ,(8%) didn't know about hemodialysis.

Table (8) show the distribution of studied group according to their number of year in dialysis

Number of years	Frequency	Percentage
Less than three yeas	18	18%
(3-5)years	22	22%
(5-10)years	40	40%
(10-15)years	12	12%
Over 15 years	8	8%
Total	100	100%

This table illustrate the (40%)had (5-10) years on dialysis.

Table (9) distribution of study group according to their number of dialysis session

Item	Frequency	Percentage
Once /w	4	4%
Twice /w	90	90%
Three /w	6	6%
Total	100	100%

This table illustrate that (90%) had two dialysis session per week.

Table (10) distribution of study group according to their duration of dialysis session

Item	Frequency	Percentage
2-4 hour	100	100%
More than four hour	0	0%
Total	100	100%

This table illustrate that (100%) had (2 – 4hours) duration of dialysis session.

Table (11) distribution study group according to their knowledge about indication of emergency dialysis

Item	Frequency	Percentage
Hyperkalemia	8	8%
High urea	12	12%
Lower lumb edema	22	22%
Dyspnea	40	40%
Increase of createnine	16	16%
All of this symptoms	2	2%
Total	100	100%

This table illustrate the (40%) have dyspnea.

Table (12) distribution of study group according to their need for emergency dialysis in the last three mouth

Item	Frequency	Percentage
Never	80	80%
Sometimes	12	12%
Rarely	8	8%
Total	100	100%

This table illustrate the (80%) never need emergency dialysis .

Table (13) show the distribution of studied group according to their mode of follow up

What is you mode of follow up	Frequency	Percentage
Regular with hemodialysis sessions	85	85%
Regular in out -patient clinic	11	11%
No regular follow up, just wi complain	4	4%
Total	100	100%

This table illustrate the in (85%) the follow up is regular with hemodialysis sessions.

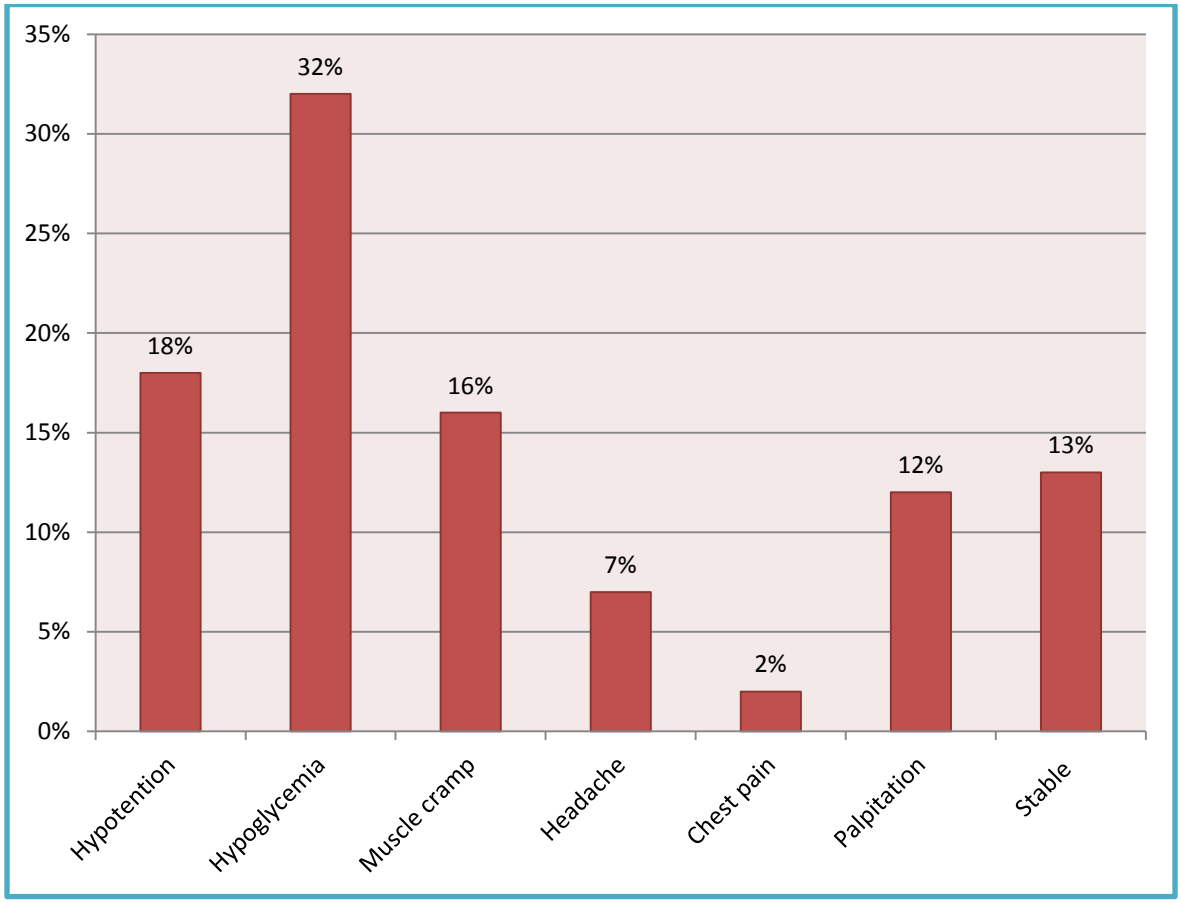

Figure (14)distribution study group according to their common complication always happen during dialysis it shout that hypoglycemia was have most common complication

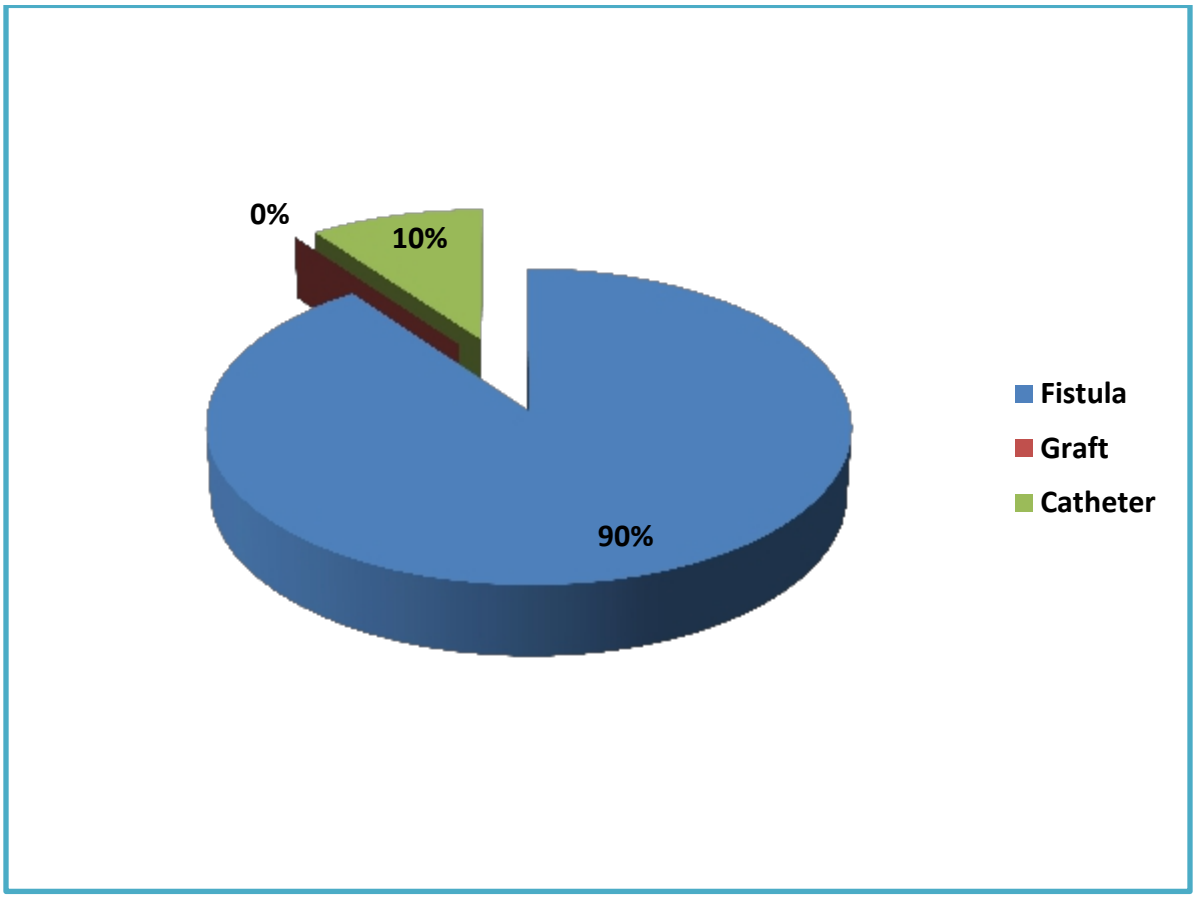

Figure (15) show the distribution of studied group according to their vascular access device used

Table (16) show the distribution of studied group according to knowledge to definition of fistula

What is the fistula?	Frequency	Percentage
An access connect vein to artery	88	97.7%
An access connect vein to vein	0	0%
An access connect artery to artery	0	0%
I don't know	2	2.2%
Total	100	100%

This table illustrate the (88%) the definition of fistula

Table (17) show the distribution of studied group according to source of health education

From whom you receive health Education	Frequency	Percentage
Doctor	15	15%
Nurses	80	80%

Mass media	0	0%
Other patient	3	3%
I have never receive health education abo fistula	2	2%
Total	100	100%

This table illustrate the in (80%)the source of health education is nurses.

Table (18) show the distribution of studied group according to seeking of medical care regarding his/her fistula?

When you seek medical care regarding you fistula?	Frequency	Percentage
When there is redness	12	13.3%
When there is bleeding	15	16.6%
When there is swelling	50	55.5%
All of this symptoms	13	14.4%
Total	100	100%

This table illustrate the (55,5%)are seeking of medical care when there is swelling at fistula site.

Table (19) show the distribution of studied group according to complications of fistula

What is the complications of you fistula	Frequency	Percentage
Infection	50	55.5%
Thrombosis	8	8.8%
Ischemia	4	4.4%
Sudden stop	22	24.4%
All of this complications	6	6.6%
Total	90	100%

That infection was have most common complication

Table (20) distribution study group according to knowledge of their fistula care

Item	Frequency	Percentage
Good	64	71.1%
Fair	20	22.2%
Poor	6	6,6:%
Total	90	100%

This table illustrate the (71.1%) have good fistula care

Table (21) distribution study group according to knowledge of their catheter care

Item	Frequency	Percentage
Good	8	80%
Fair	0	0%
Poor	2	20%
Total	10	100%

This table illustrate the (80%) have good catheter care

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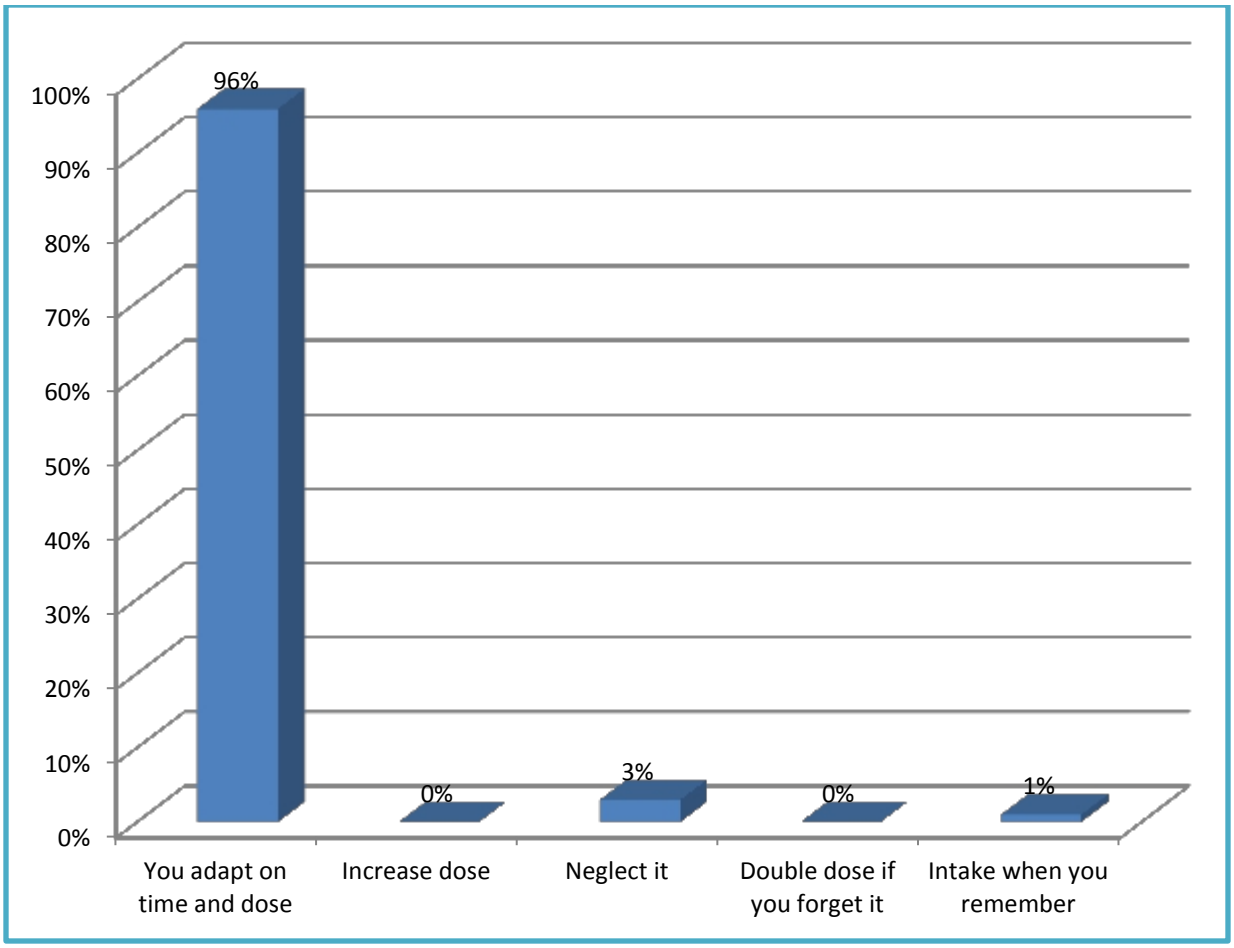

Figure (22) distribution study group according to knowledge their drug use

Table (23) distribution of study group according to eating protein (chicken , fish , red meat , eggs)

Item	Frequency	Percentage
Everyday	15	15%
Sometimes	75	75%
Rarely	10	10%
Total	100	100%

This table illustrate that (75%) infrequently eat protein.

Table (24) distribution of study group according to drinking milk

Item	Frequency	Percentage
Everyday	82	82%
Sometimes	10	10%
Rarely	8	8%
Total	100	100%

This table illustrate that (82%) drinking milk every day.

Table (25) distribution study group according to their eating fruit and vegetable

Item	Frequent	Percentage
Every day	73	73%
Some time	17	17%
Rarely	10	10%
Total	100	100%

This table illustrate the (73%) eat fruit and vegetable every day.

Table (26) distribution study group according to their knowledge of signs of fluid over load

Item	Frequency	Percentage
Good	70	70%
Fair	4	4%
Poor	26	26%
Total	100	100%

This table illustrate the (70%) have good knowledge about signs of fluid over load.

Table (27) distribution study group according to knowledge of their daily fluid intake:

Item	Frequency	Percentage
According to order	18	18%
Intake fluid freely	66	66%
According to their weight	10	10%
According to out put	6	6%
Total	100	100%

This table illustrate the (66%) take fluid freely,(18%) take fluid according to doctor ordered.

Table (28) distribution study group according to their daily activity

Item	Frequency	Percentage
Depending on your self	72	72%
Needed assistance	15	15%
Complete depending on other	10	10%
Special depending	3	3%
Total	100	100%

This table illustrate the (72%) depending on them - selves on their daily activity.

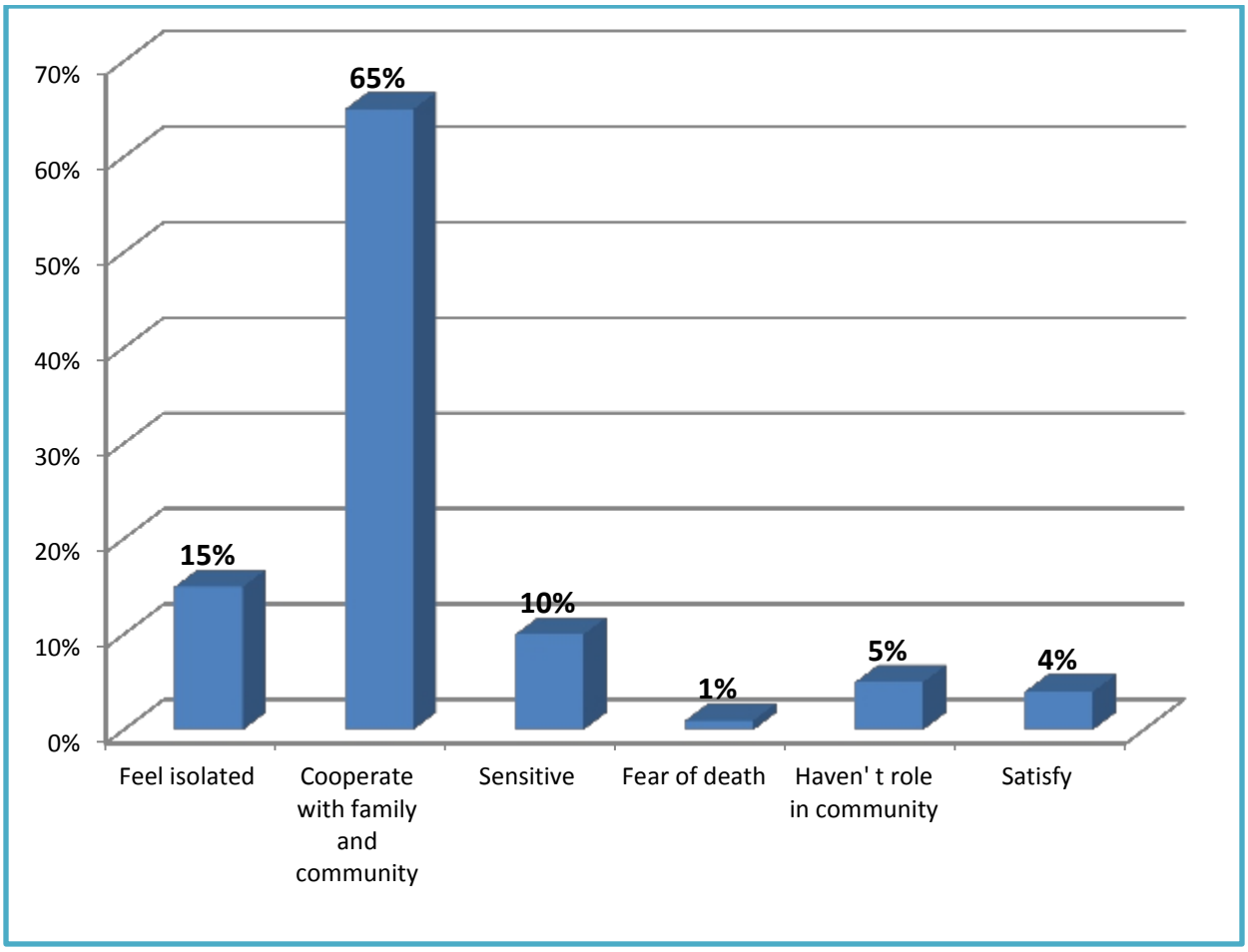

Figure (29) distribution study group according to their self steam

5. Discussion

This is a descriptive study, was conducted to assess knowledge of patients on (Noury center) of hemodialysis regarding home self-care in Atbara Hospital,(100) patients were included in this study, in the period of (28/October to 15 December). A questionnaire consisting of three part was used, it involved (100) patient , The study showed that more than half of patients (58%) were more than 45 years old that agreement with previous study(51-60)years[5] , also more than half of patients (64%) were male,

The study reflects that majority of patient (88%) living in Atbara town, and less than half of patients (38%) were secondary school and less than half of patients (42%) were employed.

The study explain that two third of patients (70%) do hemodialysis for chronic renal disease, more than half of patients (68 %)have good knowledge about definition of hemodialysis that agreement with literature review of definition of hemodialysis[1]. And less than half of patient(40%)the number of years between (5-10) in dialysis that related to adequate dialysis and agreement with studies (Majority of the subjects(50%). were receiving hemodialysis for more than 2 years) [5] The study showed that majority of patients (90%) having two session/ week agreement with the literature and studies[5], (100%) of them having two to four hours duration of dialysis session that agree with my literature of duration of session [1]. Less than half of patient(40%)know the indication of emergency dialysis is dyspnea that good knowledge about disease ,the more than two third (80%) of patient haven't need emergency dialysis during the last three month majority of patient (85%) follow regularly with hemodialysis sessions, about less than one third (32%) of patient with common

complication during dialysis is hypoglycemia that one of common complication [4] ,[2]

Majority of patient (90%) have fistula, and majority (97.7%) of patient have good knowledge about the fistula according to literature of definition of fistula [16]

The study show that more than two third of patients (80%) receive health education from nurses that agree with previous study (Most (82%) of subjects received health information from health professionally)[5]and more than half of patient (55.5%) seek medical care regarding fistula when there is swelling agreement with care of fistula[8].

More than half of patients (55.5%) know infection as complication of fistula agreement with literature [2] and other study (Infection/Vascular Access Infection is a common cause of hospitalization) [11]

The study explains that two third of patients (71.1%) have good knowledge about care of fistula, this agreement with my literature [8].Also the study reflected that more than two third of patients (80%) of patients have good knowledge about catheter care [9] also agreement with previous study (Majority of the patients 96% had good practice in the area 'care of fistula) ' [5]

The study revealed that majority of patients (96%) they adapt to dose and time regarding their drug use [3]

Also showed two third of patients (75%) sometime eating protein (egg, chicken, red meat ,fish) agreement with the literature [7] also [13] and other study[11]

More than two third of patient (82%)drink milk every day, two third (73%) of patients every day they take vegetables and fruits that goes with literature

[13] ,but every day eating fruits increase the potassium ,so, they need more knowledge.

The study reflected that about two third (70%) of patients have good knowledge about signs of fluid overload that good patient education ,also more than half of patients (66%) they take their daily fluid freely so this disagreement with previous study[5]and indicate poor self care and the need for more teaching.

The study revealed that about two third of patient (72%) they did their daily activity depending on themselves that related to good renal rehabitation[13]. Also showed that more than half of patients (65%) they cooperate with family and community about their self steam related to good communication [3].

5.1. Conclusion

Based on the finding of the present study, it was concluded that majority of patients on regular hemodialysis twice a week at duration of four hours. More than half of patients have good dietary management. More than half of patient take their daily fluid freely, this indicate poor self -care. Also majority of them were adapting to dose and time regarding their medication use . And more than half of them taking good care regarding their dialysis access. Daily activity depending on them self that related to good renal rehabitation. Also more than half of patients they cooperate with family and community related to good communication

5.2. Recommendations

Based on the study findings and conclusion, the following recommendations are required to be implemented:

1- There is a need for educating program to:

- To increase the level of self-care amongs dialysis patients
- to improve all aspects of quality of life and encourage patients to take a more active role in their care
- Be available in all units and provided to newly admitted patients
- Design exercise program for both hemodialyis therapy to improve physical quality of life
- A family member and careers to attend the educational program sessions to help dialysis patients to cope.
- To educate and support patients to perform a range of tasks related to their dialysis according to individual ability.

2- Keep this program continuous by providing frequent leaflets containing guideline for home self-care designed by head department and staff agreement given to each patient during and after each session.

3- To conduct further studies about home self care of patients undergoing hemodialysis.

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18-(Carolinas Medical Center Kidney Dialysis Unit 1000 Blyth Blvd 10th floor Charlotte, North Carolina 28173 704-355-2098) chapter4*

Shendi University

Faculty of post Graduate studies and Scientific Reseach

6. 1. Questionnaire about knowledge of patient Under Hemodialysis regarding home self-care on (noury center) In Atbara Hospital

No ( ).

(1)Age:

A- 15-25year ( )

B- 25-35 year ( )

C- 35-45year ( )

D- more than 45year ( )

(2) Gender:-

(a) Male ( )

(b) female ( )

(3) Occupation:

(A) employed ( )

B- un employed ( )

(4) Residence:

(a) Atbara ( )

(c) out of Atbara ( )

(5) Level of education:

(a) Literacy ( )

(B) basic school ( )

C- secondary school ( )

D- university ( )

(E) post graduate studies ( )

(6) What is the indication of hemodialysis for you?

(A) Acute renal failures ( )

B- chronic renal failures ( )

D- Other ( )…… .

(7)- do you know what hemodialysis mean?

A- I don't know ( )

B- Wash out waste product using machine ( )

C-is used to remove fluid and uremic waste products from the body when the kidneys cannot do so ( )

D-therapy replaces normal kidney function ( )

(8)How many years in dialysis?

A-less than three years ( )

B-(3 – 5) years ( )

C-(5 – 10)years ( )

D-(10-15)years ( )

E-over 15years ( )

Part tow: commitment of patient with dialysis regimen

(9)- Number of dialysis session:

A- Once\w ( )

B-twice\w ( )

C-three time\w ( )

(10)- Duration on dialysis session:

a) B-2-4hrs ( )

C-more than four ( )

(11)- what are the indications of emergency dialysis?

A-Hyperkalemia ( )

B-high urea ( )

C- lower lump edema ( )

D- dyspnea ( )

E-Increase of createnine ( )

f-All of this symptom ( )

(12)- Did you need emergency dialysis in the last three month?

A- Rarely ( )

B- never ( )

C- sometime ( )

(13)- What is your mode of follow up:

A- Regular with hemodialysis sessions ( )

B- Regular in outpatient clinic ( )

C- No regular follow up, just with complain ( )

(14) -What is your common complication always happen during dialysis?

A -Hypotension ( )

B- Hypoglycemia ( )

C-Muscle cramp ( )

D- headache ( )

E-chest pain. ( )

F-palpitation ( )

G-Stable ( )

(15)- What is your vascular access?

A- Fistula ( )

B- graft ( )

C- catheter ( )

(16)- What is the fistula?

A- An access connect vein to artery ( )

B- An access connect vein to vein ( )

C- An access connects Artery to artery ( )

D- I don't know ( )

(17) -From whom you receive health education about fistula care?

A- Doctors ( )

B- nurses ( )

C- mass media ( )

D- other patient ( )

E- I have never received health education about fistula care ( )

(18) -When you seek medical care regarding your fistula?

A- When there is redness ( )

B- When there is bleeding ( )

C- When there is swelling ( )

D- all of this symptoms ( )

(19)- What is the complication of fistula?

A- Infection ( )

B- thrombosis ( )

C- ischemia ( )

D- sudden stop ( )

E- all of this complications ( )

(20)- regarding fistula care:

A-avoid pressure ( )
B-avoid taking blood pressure ( )
C-avoid taking sample ( )
D- avoid giving medication ( )
E- avoid heavy lifting ( )

(21) – regarding catheter care:

A-avoid sleeping on catheter site ( )

B- assess catheter site for bleeding ( )

C- avoid displacement ( )

D -doesn't touch it by your hand ( )

E- assess it for signs of infection ( )

Part three: about home self care:

(22)-about drug used :(eprex, caco3, one alfacalcidl, iron dextran, antihypertensive ?)

A- You adapt on time and dose ( )

B- increase dose ( )

C-neglect it ( )

D-doubled dose if you forget it ( )

E- take it when you remember ( )

(23)- How often do you eating protein (Chicken , eggs , fish , red meat)?

A-every day ( )

B-sometime ( )

C-rarely ( )

(24)- How often you drinking milk?

A- every day ( )

B-sometimes ( )

C- rarely ( )

(25)- how often you eating fruits, vegetables?

A- Every day ( )

B-sometimes ( )

C-not at all ( )

(26)- Do you know signs of fluid overload?

A- Edema ( )

B- buffy face ( )

C-shortness of breath ( )

D-uncomfortable on lying flat ( )

E-weight gain ( )

(27)-The daily fluid intake is based on:

A-according to order ( )

B- I take fluid freely ( )

C- I take according to my weight ( )

D-I take according to output ( )

(28)- about your daily activity:

A-depend on yourself ( )

B- need assistance ( )

C- completely depend on other ( )

D-special depending ( )

(29)- about self steam:

A-feel isolated ( )

B - cooperate with family and community ( )

C- sensitive ( )

D-fear of death ( )

E- haven't role in community ( )

F- satisfy (