

## A study to assess the level of knowledge regarding A.V. fistula care & exercises among patients with hemodialysis in Narayana medical college hospital, Nellore

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### Abstract

**Background:** An arteriovenous (AV) fistula is a type of access used for hemodialysis. It can be used whether dialysis is performed at a dialysis center. An AV fistula is a connection between an artery and a vein creating a ready source with a rapid flow of blood. The fistula is located under the skin and is used during dialysis to access the bloodstream.

**Objective:** To assess the knowledge regarding A.V. fistula care & exercise.

**Materials and methods:** Descriptive research design and simple random sampling technique was followed which included 30 samples were used. Data was collected through structured knowledge questionnaire on A.V. fistula care & exercise. Data analysis was done with descriptive and inferential statistics.

**Results:** Among hemodialysis patients, 15 (50%) had adequate knowledge level and 15(50%) had inadequate knowledge on A.V. fistula care and Exercise.

**Conclusion:** The study concluded that 15(50%) had adequate knowledge on A.V. fistula care & exercise.

**Keywords:** A.V. Fistula, Exercise, Hemodialysis

### 1. Introduction

An arteriovenous (AV) fistula is a type of access used for hemodialysis. It can be used whether dialysis is performed at a dialysis center. An AV fistula is a connection between an artery and a vein creating a ready source with a rapid flow of blood. The fistula is located under the skin and is used during dialysis to access the bloodstream<sup>[1]</sup>.

Fistulas are the preferred type of access because it utilizes the patient's own vessels and does not require permanent placement of foreign materials such as those needed to create an AV graft or catheter. The AV fistula, formed by the patient's own vessels, is less infection-prone than a catheter, is less likely than a graft to have problems with clotting and provides good blood flow that can last for decades.

Once your AV fistula is strong enough to be used for hemodialysis, it is crucial that keep it clean. Although a fistula is less prone to infection than other dialysis types, proper hygiene is still important. Look for redness or swelling around the fistula area. If you experience any pain in the fistula area, tell our doctor immediately. If you get a fever, this can be a sign of infection. Wash and pat dry your fistula arm thoroughly right before each treatment<sup>[2]</sup>.

Blood needs to flow smoothly through our AV fistula. To reduce the risk of blood clots, be careful not to put extra pressure on the area. This may require some changes in our daily habits: do not wear tight-fitting shirts, do not wear jewelry (such as bracelets) that may restrict blood flow on our access arm, when carrying things (groceries, bags, luggage), make sure the straps or handles don't tighten around our fistula, when having your blood pressure taken or blood drawn, use your non-fistula arm, when sitting or sleeping, make certain that your head, pillow or cushion doesn't rest on

our fistula, check the blood flow through our AV fistula daily. This is done by touch and sound. When place your fingers over our fistula, you should be able to feel the motion of the blood flowing through it. This sensation is the "thrill." To listen for our blood flow, use a stethoscope and place the bell flat on our fistula. The sound you hear is called the "bruit" (pronounced broo-ee). Any change in the pitch may indicate a clot (thrombolysis) or a narrowing (stenosis) of the fistula. This sound may change from a whooshing noise to a whistle-like sound<sup>[3,4]</sup>.

An AV fistula must mature for several weeks or months before it can be used for hemodialysis, so after it is surgically created, need to make strengthening it. The more access arm exercises strengthen it, the sooner will be able to use our fistula. Recommend certain arm and finger exercises that will strengthen the fistula. The exercises recommends will depend on where our fistula is located. Fistulas are usually located in the forearm or upper arm. Before start any exercise, it's important to consult our doctor.

More than half of all dialysis patients are now using AV fistulas because it's healthier, easier to maintain and produce better results than other access methods. Taking care of our fistula through strengthening exercises, cleanliness and checking daily for proper blood flow can make our dialysis treatments more manageable and effective<sup>[6]</sup>.

Oder TF *et al.* (2015) was conducted a coherent study on hand squeezing exercises for end-stage renal disease patients with newly placed arteriovenous fistulae (AVF) to increase the rate of fistula maturation. To determine whether hand squeezing has an acute effect on fistula diameter, we examined 23 patients with newly created AVF (1 week to 10 months before study, mean 2.8 months). Using duplex ultrasound, we

measured the diameter of the fistula three times before and three times after 5 min of squeezing a rubber ball. Fistula diameter increased in 20 of 23 patients; the mean change in fistula diameter was 9.3% ( $p < .0001$ ). These data suggest that fistulae do dilate acutely after hand squeezing exercise and that this exercise should continue to be recommended.

## 2. Objectives of the Study

- To assess the knowledge of staff nurses regarding A.V. fistula care & exercise.
- To Find out the association between the knowledge with their selected socio demographic variables

## 3. Materials and Methods

- Research Approach:** Quantitative Approach.
- Research Design:** Descriptive Research Design Was Adopted.
- Setting:** The Setting Selected Was Narayana Medical College Hospital, Nellore.
- Population:** All Hemodialysis Patients.
- Sample:** The Samples Selected Are Hemodialysis Patient With A.V. Fistula In Narayana Medical College Hospital.
- Sample Size:** The Sample Size Is 30 Hemodialysis Patient In Narayana Medical College Hospital, Nellore.
- Sample Technique:** Simple Random Sampling Technique.

## 4. Criteria for Sample Selection

### 4.1 Inclusion criteria

- Hemodialysis with AV. fistula.
- Willing to participate in the study.
- Available at the time of data collection.

### 4.2 Exclusion criteria

Staff nurses who not willing and available during data collection.

## 5. Description of Tool

### Part A: Socio demographic Variables

Age, gender, education. Occupation, religion, marital status, family type, residence, BMI, dietary pattern, habits of smoking, habit of alcohol consumption, co-morbid disease, medication.

### Part B: structured questionnaire to assess the knowledge regarding A.V. fistula care & exercise

It consists of 27 items of question.

## 6. Data analysis

Data was analyzed by using descriptive and inferential statistics.

**Section-I:** Frequency and percentage distribution of socio demographic variables of patient with hemo dialysis.

**Section-II:** structured questionnaire to assess the knowledge regarding A.V. fistula care & exercise.

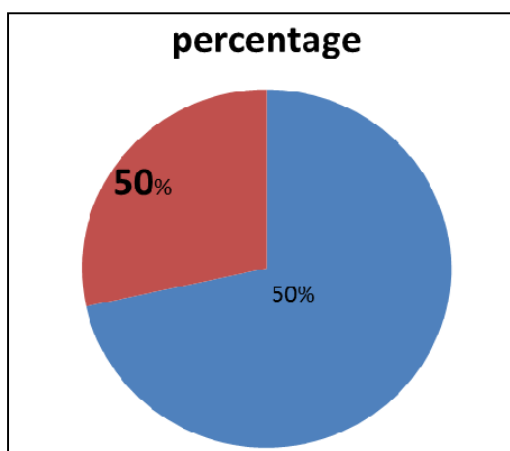
## 7. Results

The results shows that frequency and percentage distribution with regard to age are between 30-40years and With regard to age, 23(77%) 51-60yrs and gender 17(57%) were male, regards to education 13 (43%) were illiterate, regards to occupation, 15 (50%) were private employee, regards to religion, 17 (57%) were Hindu and marital status 21(70) were

married, regards to family type 17 (57%) were belongs to joint family, regards to residence 20 (67%) were rural, regards to BMI, 18(60) had over weight, regards to dietary pattern, 15(50%) had non vegetarian. regards to habits of smoking, 20 (67%) were having the habit of smoking, regards to habit of alcohol consumption, 18 (60%) were alcoholic. regards to co-morbid disease, 17 (57%) had co morbid disease, regards to medication, 17 (57%) were taking medicine.

## Knowledge regarding A.V. fistula care & exercise

Knowledge	Score	
	f	%
Inadequate	15	50
Adequate	15	50
Total	30	100



**Fig 1:** shows percentage distribution regarding knowledge on A.V. fistula care & exercise

There is no significant association between the socio demographic variables of Age, gender, education. Occupation, religion, marital status, family type, residence, dietary pattern, BMI habits of smoking, habit of alcohol consumption, co-morbid disease, medication.

## 8. Discussion

The discussion of the present study was based on the findings obtained from the descriptive and inferential statistical analysis of collected data.

## 9. Major Findings of the Study

- With regard to age, 23 (77%) 51-60yrs.
- With regard to gender 17(57%) were male.
- With regards to education 13 (43%) were illiterate
- With regards to occupation, 15 (50%) were private employee.
- With regards to religion, 17 (57%) were Hindu.
- With regards to marital status 21(70) were married.
- With regards to family type 17 (57%) were belongs to joint family.
- With regards to, residence 20 (67%) were rural.
- With regards to BMI, 18(60) had over weight.
- With regards to dietary pattern, 15(50%) had non vegetarian.
- With regards to habits of smoking, 20 (67%) were having the habit of smoking.

- With regards to habit of alcohol consumption, 18 (60%) were alcoholic.
- With regards to co-morbid disease, 17 (57%) had co morbid disease.
- With regards to medication, 17 (57%) were taking medicines.

There is no significant association between the socio demographic variables of Age, gender, education, occupation, religion, marital status, family type, residence, dietary pattern, BMI habits of smoking, habit of alcohol consumption, co-morbid disease, medication,

### **8. Conclusion**

The study concluded that 15 (50%) had adequate knowledge on A.V. fistula care & exercise among hemodialysis patient.

### **9. Acknowledgement**

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