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Research Article

**A QUANTITATIVE RESEARCH TO ASSESS THE  
KNOWLEDGE, ATTITUDE AND PRACTICE ABOUT THE  
SELF-CARE OF ARTERIOVENOUS FISTULA (AVF)**<sup>1</sup>Dr. Misha Javaid, <sup>2</sup>Dr. Khadija Nusrat, <sup>3</sup>Dr. Burhan Waseem<sup>1</sup>BHU Bonkan Sialkot<sup>2</sup>DHQ Teaching Hospital Sargodha<sup>3</sup>Punjab Medical College, Faisalabad**Abstract**

**Objective:** With the reception of day by day self-help plan we can avoid maximum entanglements related to the utilization of arteriovenous fistula (AVF) for hemodialysis access. Along these lines, the objective of the current research was to evaluate knowledge, attitude and practice (KAP) regarding self-help of AVF facility centre in patients of Final Stage Kidney Disease on preservation haemodialysis.

**Methods:** We use the quantitative method in a comparative cross-sectional study. We selected Allied Hospital, Faisalabad for the research and completed the research from February to August 2017. Patients having End Stage Renal Disease (ESRD) on restoration (with AVF facility centre) with a minimum of one month (30 Days) participated in the study. In routine haemodialysis patients fill the questionnaire (21 Questions). There are three categories of End Stage Renal Disease (ESRD) patients in terms of knowledge i.e., Good > 70%, Average 50% – 70% and Poor < 50%.

**Results:** Of One hundred thirty-eight (138) patients, 99% had a good attitude regarding AVF facility centre and 94 % had decent information regarding AVF self-help. Still some execution e.g., pre and post hemodialysis decontamination, pre-haemodialysis AVF facility cleaning and every day AVF facility check-up was not in connection with the dimension of information presenting an inconsistency among knowledge and practice in a few parts of the of the AVF maintenance. When we relate knowledge scores among various age clusters, more significant extent of patients in a peer group of (45 – 65) (p-value < 0.017) had great knowledge than peer groups (25 – 45) years and (65 – 85) years.

**Conclusion:** In spite of decent understanding and sufficient attitude, patients perform few implementations which are not according to the knowledge procurement. Hence, consistent cue and occasional assessment of practical parts of AVF care are suggested for every ESRD patient coming for haemodialysis.

**Keywords:** Haemodialysis, End Stage Renal Disease (ESRD), Arteriovenous Fistula (AVF) and Self-Help.

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**INTRODUCTION:**

In Pakistan because of absence of national registry load of Chronic Kidney Disease (CKD) as frequency or pervasiveness is obscure [1]. Just scattered information from local kidney centers is available. But, predominance of Chronic Kidney Disease (CKD) as opposed to End Stage Renal Disease (ESRD) is about 25 percent among healthy and asymptomatic grown-up population in an examination from Karachi [2]. There is expectation that in Pakistan, on yearly basis occurrence of ESRD tend to be higher than developed nations [1, 3]. The most common and helpful treatment of ESRD patients is Haemodialysis [4]. This kind of treatment alters the life of the patient by affecting their daily routine and they require help in treatment [5]. Main thing behind effective Haemodialysis is right vascular access. Arteriovenous fistula (AVF) is highly suggested for Chronic Kidney Disease (CKD) patients [6]. When we compare Double Lumen Catheter with Arteriovenous Fistula (AVF), AVF offers suitable movement for dialysis and possess less problems. Arteriovenous fistula (AVF) is lifelong and needless mediation [4]. Still we can relate many difficulties with it e.g., thrombosis, cardiac over-load, hand edema, infection, and aneurysms [7]. People may avoid these problems by implementing Arteriovenous Fistula (AVF) self-help program everyday [8]. Doctors should provide education regarding managing the AVF and self-help [9]. In the initial stage of AVF durability is the priority. Then we asked the patients that care is required when AVF is mature to use for haemodialysis e.g., cleaning of AVF access site before dialysis, after dialysis acceptable contraction used for hemostasis, neglect in observing blood pressure (BP) and bypass sampling of blood from particular hand etc. [10]. For the practice of decent arteriovenous fistula (AVF) self-help, enough information regarding possible problems and preventive strategies is vital for patients of ESRD [11]. A person gets hospitalize if don't follow these preventive procedures [12]. Identification of information, attitude and practice regarding self-help access site is necessary because patient's dialysis (ESRD Patients) on they are on the risk [13]. AVF self-help access site is not much researched topic in Pakistan, we take this topic to ascertain the required level of knowledge, attitude and practice (KAP) on our population. We performed this research in Hospital (Tertiary Consideration hospital). It assists approximately 200 patients of ESRD who are on haemodialysis. To help improve the time of Arteriovenous Fistula (AVF) access site we also discover the restrictions in education of Arteriovenous Fistula (AVF) access site for the ESRD patients. It will enhance the life quality of

these patients. This research will create the grounds in understanding of AVF self-help and for the formulation of positive approach on behalf of patients.

**METHODS:**

We selected Allied Hospital, Faisalabad for the research and completed the research from February to August 2017. We use Quantitative method for evaluation of knowledge, attitude and practice (KAP) regarding Arteriovenous Fistula (AVF) self-help. The sample size was n=100 was assessed with a confidence level (95.0%), absolute precision (3.0%), and patients with insufficient information (97.7%). Adult above the age of eighteen years on maintenance haemodialysis with permanent AVF access (at least last 30 days) was the desired population of the study. On the collection of data, we didn't include patients like dozy, mentally retarded, incapable of self-help understanding. We take Prior approval from the ethical committee and consent form with a questionnaire (21 Question) from all participants. We used the National Kidney Foundation Kidney Disease Outcome Quality Initiative (NKF KDOQI) developed the questionnaire. It was a widely used questionnaire. In pilot study, two local advisors validate our questionnaire's validity. As there as are no studies on such areas researcher defined knowledge as Poor (< 5), Average (5 – 7), and Good (> 7). Adequate Attitude is “decent intention of fistula self-help home-based as well as in clinic-based (dialysis)”. Inadequate Attitude is as “absence of fistula self-help or disbelief in self-help”. We categorize the practices as always practising, occasionally practising, and never practising. We ran SPSS for Data analyzes. We describe quantitative variables e.g., age as (Mean ± SD) and qualitative variables e.g., age as frequency (f) and percentage. We used the Chi-Square method to find a relationship between knowledge, attitude, and practice in relation with Arteriovenous Fistula (AVF) self-help. p-value is significant at < 0.05.

**RESULTS:**

Both genders participated likewise, in this study male (50.7%) and female (49.3%) in a total of 138 subjects. The average age of subjects was (50.45 ± 12.29) years, fluctuating between 24 – 82. Maximum patients had a medical history of chronic disorder e.g., Ischemic Heart Illness (21.0%), Diabetes (46.4%), Glomerulonephritis (23.9%), Hepatitis C (31.2%), and Hypertension (89.1%). The majority was going through dialysis two times in a week (71.1%), others three times in a week (27.5%) and for one dialysis happens one time in a week. (0.7%). Twenty-five percent were illiterate. When we

examine the knowledge about AVF self-help 89.9% patients have good knowledge, 9.4% has adequate knowledge, and 0.7% has poor knowledge. Around 99.3 % patients know the requirement of Arteriovenous Fistula (AVF) and how it is effective than Double Lumen Catheter. But still 12.3% patients have no knowledge that they should not wear tight clothes near fistula, 10.1% do not know that there is no permission on sleeping on AVF access arm, 8.7 % not know cleaning AVF access site prior to haemodialysis. Patients have good knowledge attainment on dialysis for < 1 year (95.5%), 1 – 3 year (89.5%), and > 3 years (88.2%). Beyond our estimates correlation value was not significant between knowledge and duration of dialysis ( $p = 0.65$ ). around 99.3% of patients take care of fistula site in homes and in dialysis, 97. 8% perceive this care is helpful for them. “AVF access site hole escaping” and “AVF arm weight escaping” are most heavily practised (94.9% each) then “AVF care in haemodialysis” (92.8%). Taking about practice, 2/3 of the population of the study were consistent.

“Asking for pre-haemodialysis disinfection appeals” and “evading fitted clothing on AVF access site” were least practised. “Evading tight clothing” is a practice fail to care properly. The more the knowledge about the practice the more the frequency of practice e.g., 94.9% avoid weight on AVF arm because 92.8% know that we should avoid putting weight. Still some practices were present despite knowledge e.g., out of 94.9% patients (who knew routine thrill check-up) 77.5% go through routine thrill check-up. Similarly, in disinfection requirements 94.6% patients know Arteriovenous Fistula (AVF) pre and post haemodialysis but 76.8% go through this, 91.3% know washing AVF access site prior to dialysis however 81.2% practised. Peer group of 46 – 65 had a good number of patients who have “good knowledge” than peer groups of 24 – 45 and 65 – 85 ( $p = 0.017$ ). When we compare knowledge scores across genders the variance ends  $p$ -value was 0.376 or else when patients went through durations of dialysis  $p$ -value was 0.629.

**Table – I:** Demographic Features

Demographic characteristics		Number (138)	Percentage
Age	24 – 45 Years	58	42.00
	46 – 65 Years	64	46.40
	65 – 85 Years	16	11.60
Gender	Male	70	50.70
	Female	68	49.30
Other Medical Illnesses	Diabetes Mellitus	64	46.40
	Hypertension	123	89.10
	Ischemic heart disease	29	21.00
	Chronic glomerulonephritis	33	23.90
	Blindness	1	0.70
	Unilateral Kidney	1	0.70
	Hepatitis C	43	31.20
	Hepatitis B	2	1.40
	Autosomal dominant polycystic kidney disease	5	3.60
	Nephrolithiasis	2	1.40
	Pulmonary tuberculosis	1	0.70
	Pregnancy-induced acute kidney injury	2	1.40
	Systemic Lupus erythematosus	1	0.70
	Asthma	1	0.70
Hemodialysis frequency	Twice per week	99	71.70
	Thrice per week	38	27.50
	Once per week	1	0.70
Educational status	Uneducated	35	25.40
	Educated	103	74.60

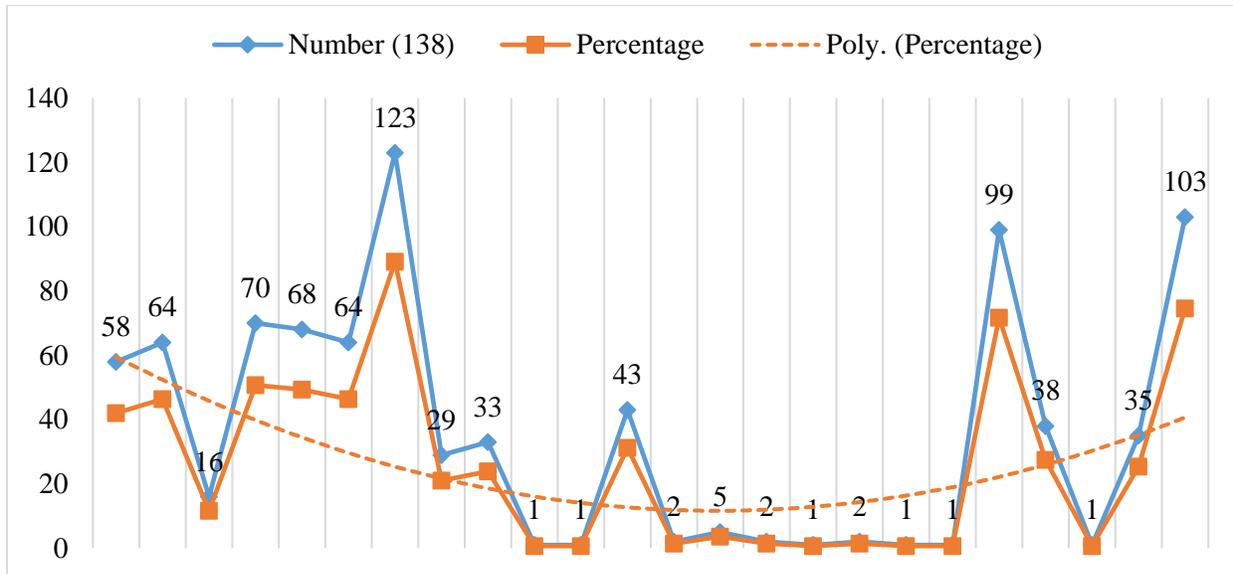


Table – II: Knowledge Score Distribution

Outcomes		Poor Knowledge (Score ≤ 4)		Adequate Knowledge (Score 5 - 7)		Good Knowledge (Score 8 - 10)		Total	P-Value
		No	%	No	%	No	%		
Age	24 – 45 Years	0	0	9	15.5	49	84.5	58	0.017
	46 – 65 Years	0	0	3	4.7	61	95.3		
	65 – 85 Years	1	6.3	1	6.3	14	87.5		
Gender	Male	0	0	5	7.1	65	92.9	70	0.376
	Female	1	1.5	8	11.8	59	86.6		
Dialysis Duration	< 1 Year	0	0	1	4.5	21	95.5	22	0.629
	1 – 3 Years	0	0	6	10.5	51	89.5		
	> 3 Years	1	1.7	6	10.2	52	88.1		

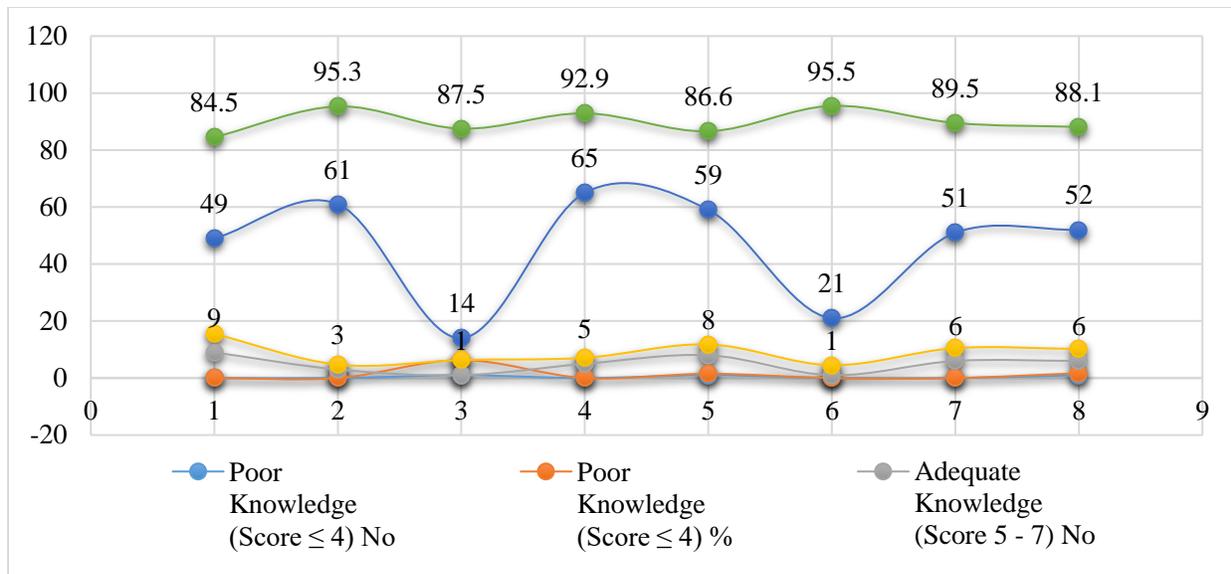
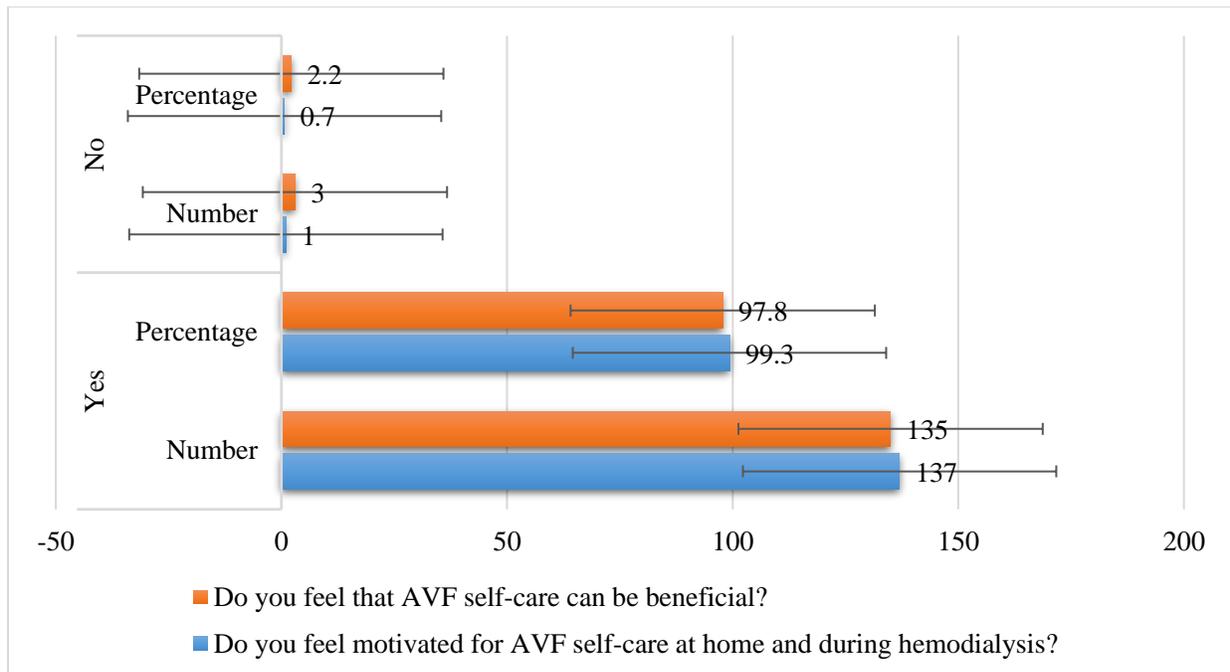


Table – III: Knowledge and Attitude Frequency

Questions	Yes		No	
	Number	Percentage	Number	Percentage
What was the need to make AVF access?	137	99.30	1	0.70
What is the benefit of AVF access over dialysis catheter?	137	99.30	1	0.70
Are you aware to check pulse/thrill of your AVF site daily?	131	94.90	7	5.10
Are you aware to avoid sleeping over AVF access site?	124	89.90	14	10.10
Are you aware to avoid lifting the excessive weight from AVF site?	128	92.80	10	7.20
Are you aware to avoid wearing tight clothes, watch or jewellery etc. on AVF access site?	121	87.70	17	12.30
Are you aware to wash your AVF site before dialysis?	126	91.30	12	8.70
Are you aware to avoid getting a prick at AVF site apart from that needed for hemodialysis access?	127	92.00	11	8.00
Are you aware to avoid performing BP measurements on AVF site?	130	94.20	8	5.80
Are you aware of AVF access site cleansing/disinfection before and after dialysis treatment?	130	94.20	8	5.80

**Table – IV:** Self-Care Frequency

Questions	Yes		No	
	Number	Percentage	Number	Percentage
Do you feel motivated by AVF self-care at home and during hemodialysis?	137	99.3	1	0.7
Do you feel that AVF self-care can be beneficial?	135	97.8	3	2.2

**Table – V:** AVF Self-Care Frequency

AVF Self-Care	Always Practising		Occasionally Practising		Never Practising	
	No	%	No	%	No	%
Daily AVF thrill checkup	107	77.5	30	21.7	1	0.7
Daily AVF washing	112	81.2	25	18.1	1	0.7
Avoiding sleep over AVF access site	123	89.1	11	8	4	2.9
Weight lifting avoidance from AVF access site	131	94.9	5	3.6	2	1.4
Avoiding tight wearing on AVF access site	123	89.1	7	5.1	8	5.8
Following AVF care instructions during dialysis	128	92.8	8	5.8	2	1.4
Pre-dialysis AVF cleansing	115	83.3	19	13.8	4	2.9
Pre and post dialysis disinfection	106	76.8	24	17.4	8	5.8
AVF access site prick avoidance	131	94.9	2	1.4	5	3.6

**DISCUSSION:**

Before treatment knowledge regarding Arteriovenous Fistula (AVF) helps to reduce its side effects [18]. Haemodialysis through AVF access site is a long treatment and if patients have knowledge about this process the chance for its effectiveness increases and it helps in prevention as well [19]. In the present study we found that general knowledge scores were high in all peer groups but in 44 – 65 it was much higher. We found knowledge variate according to culture among peer groups, in this case, we found it in 46 – 65 years [20]. This increased level of knowledge in tertiary care hospital is owing to a healthy relationship between patients and staff because they talk double times in seven days of the dialysis session. This situation does not exist in the case of rural areas hospitals as there is less number of skilled staff for health provision. Furthermore, it is less sure whether patients in other tertiary hospital have the same level of knowledge or not. It was likely that the level of knowledge is inadequate in other rural areas and it is more on lower ends than what we get here. We can compare it with a similar type of study (knowledge, attitude and practice. KAP) on ESRD patients in tertiary care hospital. Beyond our estimates correlation value was not significant between knowledge and duration of dialysis ( $p = 0.65$ ). Health caregiver less information regarding AVF self-help might be the cause. We recommend that doctors should give all sort of info orally and with forms to patients. Attitude is as for how patients feel about AVF care. Patients have a good attitude about fistula care. With good knowledge, they should practice like fistula care actions. Our results indicate that besides having knowledge patients were not following and practising in the real sense. It was shown in regular thrill check-up of AVF access place, pre-as well as post dialysis Arteriovenous Fistula (AVF) cleaning and decontamination. Motivation to this conduct isn't the consideration here however it is multi-factorial going from patient's low certainty on self-check-up to ecological elements like the absence of infection resisting services in health-care settings and the absence of correspondence among patient and doctors [21]. With practice, knowledge can spread e.g., prior to haemodialysis doctors should advise the patients to wash AVF access place [22]. By such advice mostly patients will follow rest can see follow in future. For effective compliance doctors should ask about guidelines on each visit to the patient's home [23, 24]. Patients possess good knowledge and adequate attitude regarding AVF access site self-help, practice is in accordance with knowledge but in some areas, patients don't follow the guideline e.g., regular thrill check-up of AVF access site, pre-post dialysis

AVF cleaning and decontamination. Hence, we suggest for ESRD patients that health care staff should give routine refreshers and assessments on haemodialysis.

**CONCLUSION:**

Present research responded that patients possess a decent understanding and satisfactory attitude to self-help of AVF access place. Regardless of the majority of the practices were sufficiently copied and also in accordance with the good knowledge, few inconsistencies are present in a couple of practices e.g., routine AVF thrill check-up, cleaning and decontamination before haemodialysis. So, we suggest that consistent cues and scheduled assessment should be provided by health providers on practical parts of AVF self-care patients of ESRD coming on haemodialysis.

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