

KNOWLEDGE REGARDING ARTERIO-VEIN FISTULA AMONG HEMODIALYSIS PATIENTS IN A HOSPITAL OF RUPANDEHI

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ABSTRACT

INTRODUCTION

An arteriovenous fistula (AVF) is a connection between an artery and a vein as an access for rapid blood flow for hemodialysis. The vascular access complications are the major causes for high morbidity and mortality among patients.

MATERIAL AND METHODS

A descriptive cross-sectional study was conducted to find out the awareness regarding AVF among 70 hemodialysis patients of Universal College of Medical Sciences, Rupandehi. The purposive sampling method was used. The data was collected by semi-structured interview schedule. The total duration of the study was from August 12, 2018 to October 5, 2018. The data was analyzed by using descriptive and inferential statistics with SPSS software version 20.0.

RESULTS

The study revealed that 58.57% of the respondents had high awareness regarding AVF, 54.28% answered 4-6 weeks as a maturation time for AVF, 12.90% answered at least three times of daily checking thrill, 95.71% answered to avoid to carry heavy items and to check blood pressure on AVF site and 24.28% answered at least 3-5 times as times of doing daily rubber ball exercise.

CONCLUSION

Based on the study findings, it is concluded that the respondents have good knowledge on maturation time of AVF, avoiding sleep on AVF arm, wearing tight cloth and carrying heavy items. Respondents had low knowledge on checking thrill on AVF site as well as rubber ball exercise. Hence, it is needed to continue awareness program regarding AVF among hemodialysis patients.

KEYWORDS Awareness, Arteriovenous fistula, Hemodialysis

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INTRODUCTION

AVF is a connection between an artery and a vein as a ready source for a rapid blood flow.¹ AVF is the best access for longevity and has the lowest association with morbidity and mortality.² The awareness on AVF ensures a quality of treatment and patient's life through maintenance of access and reducing AVF related complications.³ The AVF related complications are major causes for high morbidity and mortality among patients. There is one or two times of hospitalization in a year because of AVF related complications.⁴ The AVF related complications can be prevented if having good awareness on AVF. Therefore, it is needed to assess awareness on AVF among patients.⁵ This study was conducted to find out the level of awareness regarding AVF among hemodialysis patients and to find out the association between awareness regarding AVF and socio-demographic characteristics.

MATERIAL AND METHODS

A descriptive cross-sectional study was conducted among hemodialysis patients in dialysis unit of Universal College of Medical Sciences, Teaching Hospital (UCMS-TH), Rupandehi. Ethical approval was obtained from Institutional Review Committee of Universal College of Medical Sciences. Administrative approval was obtained from UCMS-TH. Written informed consent was obtained voluntarily from each respondent by clarifying the objectives of the study. The patients with AVF who had completed dialysis session with AVF at least one time were included in the study. There were 90 patients under hemodialysis. Sample size was estimated by using Slovin's formula.⁶

The sample size was 73. The purposive sampling method was used. Only 70 patients were included during the period of data collection of the study. The data was collected by using semi-structured interview schedule. The data was analyzed by using descriptive and inferential statistics with SPSS software version 20.0.

RESULTS

Table 1. Patients' socio-demographic characteristics

Variables	Frequency	Percentage
Age (in year)	35	50.00
17-46	35	50.00
47-76		
<i>Mean± SD = 48.81±14.34</i>		
Sex		
Male	46	65.71
Female	24	34.29
Education status		
Illiterate	22	31.42
Literate	48	68.58
Dialysis session		
<150 times	51	72.86
>150 times	19	27.14

Table 1 shows 50% of the respondents were in the age group of 17-46 years and 50% were of 47-76 years. The mean age of respondents was 48.81. Among them 65.71% were male and 34.29% were female. Likewise, 68.58% were literate, 74.30% of were unemployed and 72.86% had completed 1-150 times of dialysis session.

Table 2. Patients' awareness regarding maturation time and checking thrill for AVF n=70

Variables	Frequency	Percentage
Maturation Time for AVF		
1-3 weeks	9	12.85
4-6 weeks	38	54.28
7-9 weeks	19	27.14
10-12 weeks	4	5.73
Important to check thrill daily	31	44.29
Times of daily checking thrill (n=31)	40	57.14
At least one time in a day	5	16.13
At least two times in a day	17	54.84
At least three times in a day	4	12.90
At least four times in a day	5	16.13

Table 2 shows 54.28% of the respondents answered 4-6 weeks of maturation time. Likewise 44.29% answered as important of checking thrill. Among them 12.90% answered at least three times of daily checking thrill for AVF.

Table 3. Patients' awareness regarding care of AVF among hemodialysis patients n=70

Variables	Correct Responses	
	Frequency	Percentage
Protect AVF from injuries	70	100.00
Avoid to carry heavy items by hand with an AVF	67	95.71
Avoid to check blood pressure	67	95.71
Avoid to draw blood sample from hand with an AVF	66	94.28
Avoid to administration of drug	63	90.00
Avoid to wear watch or jewellery	62	88.57
Avoid to wear tight cloths	61	87.14
Maintain daily fluid intake	61	87.14
Control body weight	60	85.71
Avoid to sleep over arm with an AVF	51	72.85
Maintain renal diet	42	60.00
Do 3-5 times of rubber ball exercise in a day	17	24.28

Table 3 shows cent percent of respondents answered to protect AVF from injuries, 95.71% answered to avoid to carry heavy items by hand with an AVF and to check blood pressure on arm with AVF. Likewise, 87.17% answered to avoid wearing tight cloths, 72.85% answered to avoid to sleep over arm with an AVF, 60% answered to maintain renal diet and 24.28% answered to do 3-5 times of rubber ball exercise in a day.

Table 4. Patients' level of awareness regarding AVF among hemodialysis patients n=70

Level of Awareness	Frequency	Percentage
High	41	58.57
Low	29	41.43
Total	70	100.00

Mean score 17.96

Total score 25

Table 4 shows 58.57% of the respondents had high awareness and 41.43% had low awareness regarding arteriovenous fistula among hemodialysis patients. The mean score is 17.96.

Table 5. Association between level of awareness regarding AVF and socio-demographic characteristics n=70

Variables	Level of Awareness		χ^2	p-value
	High No. (%)	Low No. (%)		
Age (in years)				
17-46	21 (60.00)	14 (40.00)	0.059	0.808
47-76	20 (57.14)	15 (42.86)		
Sex				
Male	32 (69.56)	14 (30.44)	5.115	0.024
Female	10 (41.67)	14 (58.33)		
Education stat				
Illiterate	9 (40.91)	13 (59.09)	4.872	0.027
Literate	33 (68.75)	15 (31.25)		
Dialysis Sessio				
< 150 times	28 (54.90)	23 (45.10)	1.064	0.302
> 150 times	13 (68.42)	6 (31.58)		

Table 5 shows 58.57% of the respondents There was statistically significant association between level of awareness and sex ($p=0.024$) as well as education status ($p=0.027$).

DISCUSSION

The findings of the study showed that 65.71% were male and 34.29% were female and 68.58% were literate. Regarding dialysis session, 72.86% of patients had completed 1-150 times and 27.14% of patients had completed more than 150 times. The findings of the study showed that 77.14% of the patients had awareness regarding purposes of AVF as to provide a long lasting site for hemodialysis and 54.28% of the patients had awareness regarding maturation time for AVF as 4-6 weeks.

The findings of the study showed that 44.29% of the respondents had awareness regarding important for daily checking thrill on AVF site. The finding is not consistent with the study conducted by Rashid et al (2018) in Lahore, Pakistan which shows that 94.9% had awareness regarding importance for daily checking thrill.¹

The findings of the study showed that 70% of the patients had awareness regarding AVF care as to wash AVF arm daily with soap and water. The finding is consistent with the study conducted by Pessoa and Linhares (2015) in Recife-PE, Brazil which shows that 73.3% had awareness regarding AVF care as to wash AVF arm daily with soap and water.⁷

The findings of the study showed that 95.71% of the patients had awareness regarding AVF care as to avoid carry heavy items by AVF hand. The finding is consistent with the study conducted by Clementino et al (2018) in Recife- PE, Brazil which shows that 96.9% had awareness regarding AVF care as to avoid carry heavy items by AVF hand.³

The findings of the study showed that 72.85% of the patients had awareness regarding AVF care as to avoid sleep over AVF arm. The finding is consistent with the study conducted by Hajbaghery et al. (2012) in Iran which shows that 73.6% had awareness regarding AVF care as to avoid sleep over AVF arm.⁸

The findings of the study showed that 88.57% of the patients had awareness regarding AVF care as to avoid wearing watch or jewellery on AVF hand. The finding is consistent with the study conducted by Rashid et al (2018) in Lahore, Pakistan which shows that 87.7% had awareness regarding to avoid wearing watch or jewellery on AVF hand.¹ The findings of the study showed that 87.14% and 95.71% of the patients' had awareness regarding AVF care as to avoid wearing tight cloths and avoiding checking blood pressure AVF as care of AVF hand respectively. The findings are consistent with the study conducted by Rashid et al (2018) in Lahore, Pakistan which shows that 87.7% and 94.2% had awareness regarding to avoid wearing tight cloths and avoid checking blood pressure on AVF hand respectively.¹

The findings of the study showed that 90% of the patients had awareness regarding AVF care as to avoid of drug administration AVF hand. The finding is not consistent with the study conducted by Clementino et al (2018) in Recife- PE, Brazil which shows that 96.9% had awareness regarding avoidance of drug administration on AVF hand.³ The findings of the study showed that 94.28% of the patients' had awareness regarding AVF care as to avoid drawing blood sample from AVF hand. The finding is consistent with the study conducted by Clementino et al (2018) in Recife- PE, Brazil which shows that 96.9% had awareness regarding to avoid drawing blood sample from AVF hand.³

The findings of the study showed that 60% of the respondents had awareness regarding AVF care as to maintain renal diet. The finding is not consistent with the study conducted by Shrestha et al (2016) in Kathmandu, Nepal which shows that 80% had awareness regarding AVF care as to maintain renal diet.⁹

The findings of the study showed that 100% of the patients had awareness regarding AVF care as to protect AVF from injuries.

The finding is consistent with the study conducted by Clementino et al (2018) in Recife- PE, Brazil which shows that 100% had awareness regarding AVF care as to protect AVF from injuries.³ The findings of the study showed that 81.42% of the patients' had awareness regarding the purpose of rubber ball exercise as to mature fistula faster. The finding is not consistent with the study conducted by Clementino et al (2018) in Recife-PE, Brazil which shows that 100% had awareness regarding the purpose of rubber ball exercise as to mature fistula faster.³

The findings of the study showed that 41.42% and 44.28% of the patients had awareness that infection and thrombosis site were complications of AVF respectively. The findings are not consistent with the study conducted by Wedaa (2016) in Sudan which shows that 55.5% and 8.8% had awareness that infection and thrombosis were complications respectively.¹⁰

The findings of the study showed that there was statistically significant association between patients' level of awareness regarding AVF and sex ($p= 0.024$) as well as education status ($p= 0.027$). The study included the patients attending hemodialysis unit in two weeks of period.

CONCLUSION

Based on the study findings, 58.57% of patients have high awareness regarding AVF. Nearly half of the patients know the purposes of AVF. More than half of the patients know the maturation time for AVF as 4-6 weeks. Less than half of the patients are aware on the importance of daily checking thrill on AVF site. More than half of the patients are aware on AVF care as to wash AVF arm daily with soap and water, not to carry heavy items by AVF hand, not to check blood pressure on AVF hand. More than half of the patients know the purposes of rubber ball exercise. More than half of the patients know the complications as bleeding and hematoma. The sex and education status are the related factors for level of awareness regarding AVF. Hence, there is utmost need to continue in-service education to the patients to improve their awareness relating to AVF.

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