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INTRODUCTION

End Stage Renal Disease (ESRD) or commonly narrated medical condition as chronic renal failure, due to any medical or surgical cause, is one of the most frequent medical disease being presented in medical facilities all around the world especially in Pakistan and its prevalence is increasing gradually. ESRD can be secondary to number of medical conditions like diabetic or hypertensive nephropathy and chronic glomerulonephritis.¹

Hemodialysis is the most common, acceptable and the easiest treatment option available to patients with ESRD in our country because of its cost effectiveness and easy availability of hemodialysis facility as compared to the other renal replacement treatment options like renal transplantation. Dialysis either acts as bridge towards renal transplantation in patients who are waiting for renal transplantation or as long-term

Prevalence of erectile dysfunction (ED) in patients on hemodialysis.

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ABSTRACT... Objective: To find out the frequency of erectile dysfunction in patients who are on hemodialysis. **Study Design:** Cross Sectional study. **Setting:** Department of Urology and Kidney Transplantation, Allied Hospital/Faisalabad Medical University, Faisalabad. **Period:** November 2015 to May 2016. **Material & Methods:** Patients enrolled for study included indoor admitted patients, patients presenting in outdoor and patients being admitted in Department of Urology and Renal Transplantation, Allied Hospital/Faisalabad Medical University, Faisalabad for purpose of Arterio-Venous Fistula (AVF) surgery. ED assessed and graded using the questionnaire of International Index of Erectile Function (IIEF-5). **Results:** 60 patients enrolled and out of 60 cases, 27 (45%) were of age 25-35 years while 33 (55%) were between 36-45 years and mean+SD age was 36.15+5.47 years. 49 (81.67%) were having ED while 11 (18.33%) were not suffering from ED. Out of 49 patients having ED, results showed that 32 patients were having severe erectile dysfunction while 11 patients having moderate disease, 4 with mild to moderate disease and only 2 with mild ED. **Conclusion:** Based upon results, a conclusion has been made that the frequency of erectile dysfunction is significantly higher in patients of renal failure who are on hemodialysis. It is recommended that every patient undergoing hemodialysis should be sort out for erectile dysfunction.

Key words: Erectile Dysfunction, Frequency, Hemodialysis.

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maintenance treatment, in both it act as a reliable modality to increase life expectancy and survival rates among patients of ESRD.² ESRD and hemodialysis in particular, are associated with number of metabolic change which significantly affect reproductive functions especially in males like hyper-prolactinemia, hypergonadotropic hypogonadism, poor spermatogenesis and markedly reduced libido.³ ESRD and hemodialysis, both are associated with many complications which significantly alter the quality of daily life of patients and among these complications, there are few which are mostly ignored or under treated during prescription of a management plan for patients undergoing hemodialysis. These complications include psychological ailments like depression, psychomotor disorders and sexual ailment like erectile dysfunction and loss of libido.⁴ These complications not only significantly bother but also affect quality of life of patients especially young patients.⁵ ED is an

important, common and bothersome medical problem globally occurring in 5-69% of men.⁶ Erectile dysfunction is very frequent in patients with ESRD on hemodialysis, with prevalence as high as up to 83%.⁶ In spite of such high figures of prevalence globally, erectile dysfunction is neglected and mostly under diagnosed among such patients.⁷ So, a study showing prevalence of the erectile dysfunction in young patients of ESRD in our country on hemodialysis can be helpful in highlighting an important co-morbidity, for which early attention of clinician is required and starting prompt treatment can significantly improve life quality of patient as well as will

increase patient's compliance towards treatment by reducing depression in such patients.

The objective was to determine the frequency of erectile dysfunction among patients who are on hemodialysis.

OPERATIONAL DEFINITIONS

Erectile Dysfunction

Erectile dysfunction is too defined as by using International Index of Erectile Function (IIEF-5) using following table:

Over the past 6 months:					
1. How do you rate your confidence that you could get and keep an erection?	Very low 1	Low 2	Moderate 3	High 4	Very high 5
2. When you had erections with sexual stimulation, how often were your erections hard enough for penetration?	Almost never/ never 1	A few times (much less than half the time) 2	Sometimes (about half the time) 3	Most times (much more than half the time) 4	Almost always/ always 5
3. During sexual intercourse, how often were you able to maintain your erection after you had penetrated (entered) your partner?	Almost never/ never 1	A few times (much less than half the time) 2	Sometimes (about half the time) 3	Most times (much more than half the time) 4	Almost always/ always 5
4. During sexual intercourse, how difficult was it to maintain your erection to completion of intercourse?	Extremely difficult 1	Very difficult 2	Difficult 3	Slightly difficult 4	Not difficult 5
5. When you attempted sexual intercourse, how often was it satisfactory for you?	Almost never/ never 1	A few times (much less than half the time) 2	Sometimes (about half the time) 3	Most times (much more than half the time) 4	Almost always/ always 5

The IIEF-5 score is sum of the ordinal responses calculated to the 5 items.

1. No erectile dysfunction: 22-25
2. Mild erectile dysfunction: 17-21
3. Mild to moderate erectile dysfunction: 12-16
4. Moderate erectile dysfunction: 8-11
5. Severe erectile dysfunction: 5-7

MATERIAL & METHODS

This cross sectional study was conducted at Department of Urology and Kidney Transplantation, Allied Hospital/Faisalabad Medical University, Faisalabad for a period of 6 months from 14-11-2015 to 14-05-2016. The Sampling Technique used was Non probability consecutive sampling and the Sample Size was

calculated as 60.

Inclusion Criteria

- Married male patients with age 25 to 45 years.
- Patients on maintenance hemodialysis for more than 6 months.

Exclusion Criteria

- Unmarried
- Divorced patients.
- Patients admitted with advanced complications of End Stage Renal Disease like cardiac failure, encephalopathy, pleural effusion.
- Patients with history of ED prior to commencement of hemodialysis or prior to development of ESRD.

- Patients with history of diagnosed chronic medical/metabolic disorders or trauma to male reproductive organs.

Study conducted after approval from Faisalabad Medical University, Faisalabad Ethical Review Committee (555/2015). Patients for study were enrolled according to inclusion and exclusion criteria and included indoor patients admitted, outdoor patients and patients being admitted for arterio-venous fistula formation in Department of Urology and Renal Transplantation, Allied Hospital/Faisalabad Medical University, Faisalabad. Informed consent from patients was taken and erectile dysfunction was assessed, graded using the questionnaire of International Index of Erectile Function (IIEF-5).

All the data was entered and analyzed by using SPSS V-16. Mean and standard deviation were calculated for quantitative variables like age. Frequency and percentage was calculated for qualitative variables like erectile dysfunction. Effect modifiers of age and duration of hemodialysis was controlled by stratification. Post stratification chi-square test was applied. P value less than 0.05 was taken as significant.

RESULTS

A total of 60 cases were enrolled in study to find out the frequency of erectile dysfunction in ESRD patients on hemodialysis. Age distribution of the patients showed that 45% (n=27) were between 25-35 years, 55% (n=33) were between 36-45 years and mean+sd was 36.15+5.47 years. (Table-I) Frequency of Erectile dysfunction in patients on hemodialysis was recorded in 49 (81.67%) while 11 (18.33%) had no findings of the ED. (Table-II) Among 49 patients with morbidity, 32 patients were suffering with severe ED, 11 with moderate disease, 4 with mild to moderate and 2 patients were with mild ED. The data stratification done for age of the patients which showed that 24 (out of 27) were between 25-35 years of age and 25 (out of 33) patients were between 36-45 years and p value calculated as 0.19. (Table-III) The data stratification done for duration of the hemodialysis which showed that 19 were between 6-18 months duration of dialysis, while

30 had >18 months of duration of dialysis, p value was calculated as 0.04. (Table-IV)

Age (in years)	No. of Patients (%)
25-35	27 (45%)
36-45	33 (55%)
Total	60 (100%)
Mean+SD	Mean+SD

Table-I. Age distribution table. (n=60).

Erectile Dysfunction	No. of Patients (%)
Yes	49 (81.67%)
No	11 (18.33%)
Total	60 (100%)

Table-II. Frequency of erectile dysfunction (ED) in patients on hemodialysis.

Age (in years)	Erectile Dysfunction		P-Value
	Yes	No	
25-35	24	3	0.19
36-45	25	8	

Table-III. Stratification for frequency of erectile dysfunction (ED) in patients on hemodialysis with regards to age.

Duration (in months)	Erectile dysfunction		P-Value
	Yes	No	
6-18	19	8	0.04
>18	30	3	

Table-IV. Stratification for frequency of erectile dysfunction (ED) in patients on hemodialysis with regards to duration of hemodialysis.

DISCUSSION

Erectile dysfunction (ED) is a common and psychologically disturbing medical problem in hemodialysis patients. Number of factors including organic and psychological factors are considered as key factors for development of this medical condition. Although ED is commonly found in hemodialysis patients however there is no consensus worldwide on the prevalence of ED in the literature. This study was conducted with the view that a national level study is mandatory required to find out the exact prevalence of erectile dysfunction in our young patients of End Stage Renal Disease who are on hemodialysis. It can be helpful not only for identifying and highlighting an important co-morbidity but also early attention

of clinicians can start management as a part of patient's rehabilitation plan which in long term will significantly improve quality of life of such patients.

In our study, out of 60 cases, 81.67% (n=49) had while 18.33% (n=11) had no ED. In literature, a previous study also revealed that ED is commonly found in patients on hemodialysis, with high prevalence rate of 83%.⁶ Studies being conducted on males suffering with ESRD have shown varying levels of severity for erectile dysfunction ranging from 41-93%⁸⁻¹³ and increasing age was found to be significantly correlated with the prevalence and severity of ED.¹³ In another study using IIEF-5 as study tool, it was reported that the prevalence of ED with any severity was 82%.¹⁴ In this study, the prevalence of ED for the patients aged less than 50 years and the patients aged 50 years or above was found to be at 63% and 90% respectively. Results showed that ED prevalence is relatively high for patients with age less than 50 years. This difference may be related to presence of concomitant diseases, dialysis mode, patient compliance towards treatment, dialysis session frequency and medications that are being used or may relate to the individual expectations and levels of personal satisfaction related to sexual health which may differ cross-culturally.

Previous studies showed that the prevalence and determinant factors of ED are considerably variable in hemodialysis patients. The determinant factors for this are not totally understood and the prevalence of the disease ranges from 43 to 87%.¹⁵⁻¹⁶ These facts because of the reason that standardization and categorization is lacking in assessment of ED by previous researches.¹⁷⁻¹⁸ Although in a study¹⁹, it was observed that ED is a common medical problem seen among male patients with hemodialysis, but still is considered a taboo subject for discussion and treatment in different cultures and societies worldwide for which the result is that prevalence of the morbidity (ED) among patients has not been well characterized. The findings drawn out of our study are showing higher prevalence in young patients of ESRD on hemodialysis and these findings can be considered as a base to high-light an important

co-morbidity and seeking early attention of clinician is required and prompt management of ED should be included in patient's rehabilitation plan and it in long term will significantly improve quality of life of our patients.

CONCLUSION

We concluded, based upon our results, that the frequency of erectile dysfunction is higher among patients who are having hemodialysis.

It is recommended that every patient undergoing hemodialysis should be evaluated for erectile dysfunction. However, it is also required that every setup in our country should have their surveillance in order to know the frequency of the problem.






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