

Why Did Sudanese End Stage Renal Failure Patients Refuse Renal Transplantation?

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Abstract

Renal transplantation remains the most effective treatment of End Stage Renal Failure (ESRF). In this cross sectional study we explore the reasons behind refusal of renal transplantation among adults' Sudanese haemodialysis patients. The subjects of the study are ESRF adults' patients on regular haemodialysis treatment in 15 haemodialysis centres in Khartoum/Sudan. All patients who are on regular haemodialysis were interviewed by questionnaire to explore the reasons of refusal of renal transplantation. A total of 1583 ESRF adults' patients on regular haemodialysis have been participated in the study, 381 (24.1%) patients refused kidney transplantation. The mean age of patients refusing kidney transplantation was (58.5 + 15.1 years); 77.4% of them were ≥50 years old, 59.2% were males and 88.1% were unemployed, patients older than 50 years old and unemployed are tend to refuse renal transplantation ($P < 0.001$). The main reason of refusal was that the patients refuse to accept kidney from living donors (34.8%). 17.6% of patients decline kidney transplantation because of financial reason, 18.1% of patients refused to do transplantation because of fear of transplant surgery, 15.7% of patients believe that kidney transplantation is against their religious values, 11.9% of patients refused transplantation because they don't have enough knowledge on renal transplantation, only 0.5% of patients refuse transplantation because of side effect of immunosuppressive drugs. In conclusion, in this study we found that elderly and unemployed ESRF patients tend to refuse renal transplantation, the most important

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reason behind refusal of renal transplantation is refusal of accepting kidney donation from living related donors. This reflects the need for development of cadaveric donors program in the Sudan. ESRF patients need education and counseling on renal transplantation.

Keywords

Sudan, ESRF, Transplantation, Refusal

1. Introduction

Renal transplantation remains the most effective treatment of End Stage Renal Failure (ESRF). Only seven countries in Sub Saharan Africa (SSA) including Sudan have renal transplantation program [1]. Renal transplantation in Sudan is from living donors and no cadaveric donation program is available. The first patient transplanted from a living donor in Sudan was in 1974. Renal transplantation constitutes 28.4% of total Renal Replacement Therapy (RRT) in Sudan [2] [3].

Known the fact that renal transplantation improves the quality of life of ESRF patients, still some patients refuse renal transplantation. A previous study conducted in Sudan explored the barriers to kidney transplantation among 462 ESRF patients who are on maintenance haemodialysis [4]. In this study, we focused on ESRF patients who refused renal transplantation exploring in depth the main reasons behind their refusal and the determinants of their decision.

2. Materials and Methods

This study is a cross sectional hospital based descriptive study. All patients on regular haemodialysis in 15 hemodialysis centers in Khartoum-Sudan were approached to participate in the study in the period from 1/11/2014 to 1/12/2014. Out of 1602 patients a total of 1583 ESRF adults' patients on regular haemodialysis participated in the study with response rate of 98.8%. A questionnaire was used to collect the personal data (age, gender, occupation, duration of dialysis), and for those who refuse renal transplantation we explored the reasons for non acceptance of transplantation. We excluded haemodialysis patients who are less than 18 years old and haemodialysis unit where located in rural area of Khartoum State. Statistical analysis was performed using SPSS 21 software package (SPSS Inc, Chicago, IL, USA); results were presented in number, percent, mean and standard deviation. Chi-square and student t tests have been used to test the statistical significance and P values < 0.05 were considered significant. Ethical clearance was obtained from the ethics and research committees of the ministry of health/Sudan. Permission for the study was obtained from directors of the dialysis units. An informed consent was obtained from each patient participated in the study.

3. Results

A total of 1583 ESRF adults' patients on regular haemodialysis participated in the study, 381 (24.1%) patients refused kidney transplantation. The mean age \pm (SD) of patients refusing kidney transplantation was 58.5 ± 15.1 years, 77.4% of them were ≥ 50 years old, 59.2% were males and 88.1% were unemployed (**Table 1**). In this study we found that patients who are older than 50 years old and unemployed tend to refuse renal transplantation ($P < 0.0001$) (**Table 1**).

The reasons of refusal of kidney transplantation are shown on **Table 2**. The main reason was that patients do not want to accept kidney from life related donors (34.8%). Other mentioned reasons were financial reason (17.6%), fear of transplant surgery (18.1%), believes that kidney transplantation is against their religious values (15.7%), they do not have enough knowledge on renal transplantation (13.4%), fear of the side effects of immunosuppressive drugs (0.5%).

4. Discussion

In this study, we found that elderly patients (≥ 50 years) tend to refuse renal transplantation more than young

Table 1. Characteristic of patients refuse kidney transplantation.

	Accept Transplantation	Refuse transplantation	P value
Age ¹	46.18 ±15.13 years	58.5±15.1 years	<0.0001
≥50 years old ²	530 (44.1%)	295 (77.4%)	<0.0001
<50 years old	672 (55.9%)	86 (22.6%)	
Occupation ²	Employed 331(27.5%) Unemployed 871 (72.5%)	Employed 44 (11.5%) Unemployed 337 (88.5%)	<0.0001
Gender ²	Male 775 (64.5%) Female 427 (35.5%)	Male 229 (60.1%) Female 152 (39.9%)	0.12
Duration of dialysis ¹	4.37 ± 3.9 years	4.41 ± 4.96 years	0.89

¹Mean ± SD. ²Number (percentage).

Table 2. Reasons behind refusal of renal transplantation.

Reasons behind refusal of renal transplantation	Frequency (%)
Financial	67 (17.6%)
Fear of renal transplant surgery	69 (18.1%)
Refuse to accept kidney from living donors	132 (34.8%)
Religious	60 (15.7%)
Lack of knowledge about renal transplantation	51 (13.4%)
Immunosuppressive treatments side effects	2 (0.5%)

patients. As has been shown before in previous study, age was a factor in refusal of renal transplantation [5]. Patients who are employed tend to accept renal transplantation. This might reflect that frequent visits to hospital to receive hemodialysis affect the working life of our patients. However, we found no significant difference regarding gender or duration of dialysis.

Almost one in four ESRF patients refused to perform renal transplantation. Several studies pointed out that renal transplantation is associated with better quality of life when it compare with dialysis [6]-[8]. However, there were many studies reported increase number of patients who are refusing renal transplantation. In Morocco a study reported that 37.4% of ESRF patients were wouldn't like to go for renal transplantation [9]. In Slovenia, 13.7% of ESRF patients refused renal transplantation [10].

One in three patients who refused to go for renal transplantation stated that they do not want to accept kidney from living related donor. This raises the importance of establishing a cadaveric donor program in Sudan. In SSA, only South Africa has a cadaveric donor program [1]. Published data clearly reported that living kidney donation from healthy persons is associated with minimal perioperative risk [11]. A review of medical literature on living kidney donation found that unilateral nephrectomy is not harmful to healthy persons [12]. Increase awareness of ESRF patients and potential kidney donors about the living kidney donation is essential to increase the number of transplanted patients.

Financial constrains was one of the causes for refusal of renal transplantation despite that renal transplantation surgery in Sudan is free and the immunosuppressive treatments are distributed free for patients. However, patients and donors still need to pay for the necessary investigations and work-up pre transplant. On the other hand, some patients wish to do renal transplantation outside Sudan. The reason for that is the long waiting list. In previous study conducted in Sudan about attitude of patients toward renal transplantation reported that 24.2% of ESRF patients could not proceed to renal transplantation because of financial problems [4]. The same results were obtained from developed countries where reported that low socioeconomic status and lack of medical insurance was associated with failure of or delay of renal transplantation [13].

One in five of patients who refused renal transplantation were due to fear from the transplant surgery. There is a need to raise awareness about the risk of transplant surgeries. Transplanted patients have long term lower mortality risk in comparison with dialysis patients [14]. The survival rate after one year of transplantation is

about 95% and around 90% on five years' post transplantation [15]. The quality of life is markedly improved with transplantation [16].

Among those who refused renal transplantation, 15.7% of patients reject transplantation because of religious reasons believing that Islam is against renal transplantation. Islam does not prohibit transplantation. In 1988, the Islamic Jurisprudence Assembly Council in Saudi Arabia approved cadaveric and live kidney donations [17]. The same decision about kidney donation has been approved in Iran and Egypt [18]. Despite that, some patients still refuse transplantation based on religious values in Muslims countries. One third of ESRF patient in Morocco refused transplantation on the belief that Islam is against it [9]. In a study conducted in Saudi Arabia, 26.2% believes that Islam is against renal transplantation [19]. So an increasing awareness is needed from Muslims' scholars and Islamic institutions to promote renal transplantation.

In the current study, 13.4% of those who refused transplantation stated that they have no enough information about renal transplantation. This reflects the poor counseling on renal transplantation, which should be carried out by physicians and following nephrologists. Several studies pointed out the attitude of health worker toward renal transplantation. In one study, 49% of physicians they did not agree with live kidney donation and 53% of them didn't have enough information on renal transplantation [20]. Other study, conducted in Tunisia, reported that 41% of physicians refused organ transplantation [21]. In previous study in Sudan among haemodialysis patients, 31.6% of patient reported that they haven't been counseled for renal transplantation [4]. Education of health workers about renal transplantation might play an important role in increasing the acceptance rate of kidney transplant among ESRF patients.

In the current study, we reported that a minority of patient (<1%) refused transplantation because they fear the side effect of immunosuppressive medications. In contrast, other study reported that side effects of immunosuppressive medications are a major reason behind refusal of renal transplantation among ESRF patients [5].

There was limitation in our study, we focused only in patients who refuse renal transplantation however more researches are needed to explore the barriers toward renal transplantation among patients who accept but couldn't perform renal transplantation, in other hand a decision of refusal of renal transplantation may be affected by the cause of the original kidney disease and definitely more researches are needed to explore such association.

5. Conclusion

In conclusion, in this study, we found that elderly and unemployed ESRF patients tend to refuse renal transplantation. The most important reason behind refusal of renal transplantation is refusal of accepting kidney donation from living related donors. This reflects the need to develop cadaveric donors program in Sudan. ESRF patients need education and counseling on renal transplantation.

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