

Kidney Donation: Factors Influencing the Choice of Relatives of Guinean Hemodialysis Patients at the Donka Chu National Hospital in Conakry

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Abstract

This study to determine the level of information among relatives of Guinean hemodialysis patients about Chronic Kidney Disease (CKD), dialysis, transplantation and the possibility of kidney donation by relatives. This was a descriptive and analytical cross-sectional study from September 1st to November 30th 2020; we carried out exhaustive recruitment of all hemodialysis patients in our center and two out of five contacts of relatives of patients involved in the study. Data were analyzed in SPSS v20. The survey involved 166 relatives of Guinean hemodialysis patients, 66.5% of whom were male, the average age was 38.29 ± 11.18 years; 59.6% of relatives expressed a desire to donate a kidney; 32.6% refused the reason for refusal was fear of the risk of kidney disease for the donor (20.5%), 56.02% of relatives said they had never been informed about transplantation. In terms of family ties, children were the most represented at 18.67%, followed by siblings (10.84%) and spouses (5.42%). Lack of information about kidney disease, kidney donation and lack of health coverage are real obstacles to kidney donation from living related donors.

Keywords: Kidney donation; Relatives; Hemodialysis; Guinea; SPSS v20

Introduction

Renal transplantation is the best replacement therapy for end-stage chronic kidney disease, with improved survival and quality of life, less cardiovascular morbidity and lower treatment costs after the first year [1-3].

Identifying potential donors is a major objective if we are to increase kidney donation, especially as the rate of opposition to organ removal by relatives continues unabated and the number of kidney transplant candidates is on the rise [4-6]. The aim of

this study was to determine the level of information available to relatives of Guinean hemodialysis patients about CKD, dialysis, transplantation and the possibility of kidney donation by relatives.

Study Protocol

This was a descriptive and analytical cross-sectional study running from September 1st to November 30th 2020 we proceeded with an exhaustive recruitment of all hemodialysis patients in our center for more than a year who agreed to submit the names of five (5) of their relatives, sons, husbands or wives, mothers, fathers, brothers, sisters, aunts, uncles, cousins, friends then we drew the names of two of their relatives at random, followed by the electronic contacts of these two people, who were subjected to the questionnaire anonymously, after their consent. The data were analyzed in SPSS v20.

In this study, around 2/3 of hemodialysis patients' relatives were male, with a sex ratio of 1.9 (Figure 1).

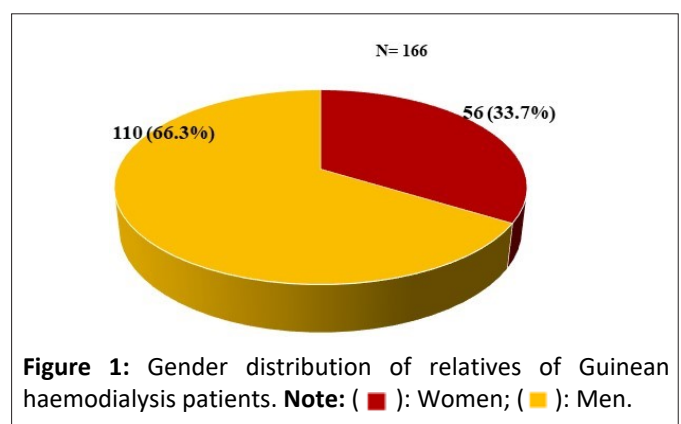


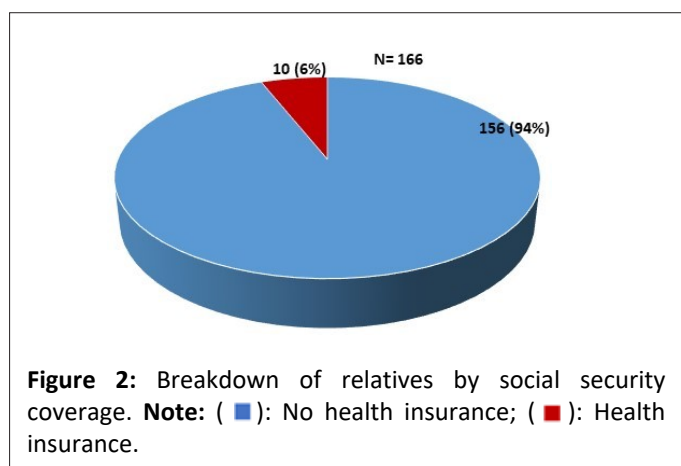
Figure 1: Gender distribution of relatives of Guinean haemodialysis patients. **Note:** (■): Women; (■): Men.

More than half the people in our study were young, with a predominance of the 18-30 age group, followed by the 35-44 age group, with frequencies of 34.3% and 30.1% respectively (Table 1).

Table 1: Distribution of relatives by age group.

Age ranges	Workforce	Percentage (%)
25 years	12	7,2
25-34 years	57	34,3
35-44 years	50	30,1
45-54 years	30	18,1
55-64 years	16	9,6
65 and over	1	0,6
Total	166	100,0

The results show a very low proportion of people with health insurance, at 6% (**Figure 2**).



More than half of relatives wanted to donate a kidney 59.6%, (**Table 2**).

This study revealed a very low level of information about kidney transplantation among patients' relatives (56.02%) (**Table 3**).

The reason for refusing to donate a kidney was dominated by people who thought that kidney donation would put the donor at risk of developing kidney disease 20.50% (**Table 4**).

Sons or daughters of hemodialysis patients were the most numerous among relatives wishing to donate kidneys, at 18.67% and brothers or sisters were the most numerous in the group refusing kidney donation, at 13.86%.

For **Table 5**, dashes do not represent missing data, but earlier there were no people concerned, so dash instead of 0.

Table 2: Distribution of relatives according to desire for kidney donation.

About potential donors	Workforce	Percentage (%)
Yes	99	59,6
No	54	32,6
Abstention	13	7,8
Total	166	100

Table 3: Distribution of relatives according to level of information about kidney transplantation.

Level of information on RT	Workforce	Percentage (%)
Subjects who know a transplant recipient	23	13,85
Subject has already heard of RT	73	43,98
Subjects never informed about RT	93	56,02
Subjects who know a living kidney donor	1	0,6

Table 4: Distribution by reason for refusal of kidney donation.

Reasons for refusing a kidney donation	Workforce	Percentage (%)
Subjects say they are young	2	1,2
Patient's advanced age	3	1,8
It is a handicap and exposes the donor to disease	6	3,6
Total lack of information	9	5,4
Think it's a dangerous act	13	7,8
A risk of kidney disease for the donor	34	20,5

Table 5: Family and social relationships of potential donors.

Family and social ties	About potential donors			Total
	Yes	No	Abstention	
Husband and wife	9 (5,42%)	4 (2,41%)	1 (0,60%)	14
Neighbors	3 (1,81%)	4 (2,41%)	-	7
Little sons	-	3 (1,81%)	-	3
Uncle	4 (2,41%)	3 (1,81%)	1 (0,60%)	8
Wives	9 (5,42%)	5 (3,01%)	-	14
Son/Daughter	31 (18,67%)	9 (5,42%)	4 (2,41%)	44
Mother	12 (7,23%)	-	1 (0,60%)	13
Father	6 (3,62%)	-	-	6
Neveux	6 (3,62%)	2 (1,20%)	1 (0,60%)	9
Brother/Sister	16 (9,64%)	23 (13,86%)	3 (1,81%)	42
Cousin	2 (1,20%)	-	1 (0,60%)	3
Friends	1 (0,60%)	1 (0,60%)	1 (0,60%)	3
Total	99 (59,64%)	54 (32,53%)	13 (7,83%)	166

Discussion

Our study involved 166 people close to the patients we noted a predominance of males in about 2/3 of cases, with a sex ratio of 1.9. Our result is comparable to that of Niang et al., in Senegal 2012 who had found male predominance of 56.75% [6] but different from those of Lammouchi et al., Tunisia 2015 who had reported 50% male and 50% female [7] and that of Kaza et al., in Morocco in 2014 who had reported a female predominance of

56.8% [8]. Our results could be explained by the fact that in our society, men are most often the designated family carers. By age group our results are comparable to those of Niang et al., Senegal 2012, who reported the predominance of the 18-30 age group 48.5% [6]. These results could be explained by the fact that in most African countries, the population is young. The difference in our results could be explained by the size of our samples.

In our households, only 6% of relatives of Guinean haemodialysis patients had health cover, compared with 94% without health cover. An increase in the poverty rate and low monthly income in our society could explain these results. In the population of subjects collected, 59.6% of relatives expressed their wish to donate a kidney; subjects who were not candidates for kidney donation were 32.60% abstention was 7.8%. Nlandu et al., in France in 2020 reported in their study 48.8% of kidney donation refusals [2].

Kaza et al., Morocco 2014 had found 35.7% of relatives who expressed their desire to donate a kidney to their loved one of which 14.3% were registered on the kidney donation list [8]. However, throughout the world, there is the major problem of a mismatch between the ever-increasing number of recipients and the number of donors [5].

Concerning knowledge of kidney transplantation 56.02% of subjects said they had never been informed about transplantation before our contact, compared with 43.98% of those who had already been informed those who already knew a relative or friend who had undergone a transplant were 13.85% only one person knew a living kidney donor. According to the study carried out in Senegal on the same subject, 47.3% of people were informed about transplantation; those who had a friend or close relative with a transplant were 5% [6].

Lanot et al., had reported 61.4% of relatives who had no information about kidney transplantation [9]. Nlandu et al., in a recent study of the population's knowledge of organ transplantation, 62.3% of a sample of 2,000 people maintained an average or low level of knowledge [2].

These results could be explained by the fact that CKD is discovered late in the complications phase, which most often requires emergency treatment and only relatives present at the time of diagnosis are informed about kidney disease and hemodialysis.

Concerning the reasons for refusing kidney donation, those who thought it represented a risk of kidney disease for the donor were 20.5%, followed by those who thought it was a dangerous act for the donor 7.8% those who lacked information and didn't give an opinion were and those who thought the patient was elderly represented 1.8%.

According to the study published by Nlandu et al., in France 48.8% refused to be donors the main reasons for this refusal were fear of possible medical complications after donation [2].

Lanot et al., in France 2017, had reported in their study that nephrectomy results in a decrease in Glomerular Filtration Rate (GFR) of around 35% in the immediate aftermath of nephrectomy and compensatory hyperfiltration of the single kidney followed over a period ranging from 1 to 40 years, 6 developed CKD that returned at 36 to 46 years [9].

Children represented 18.67%, siblings 9.64% and husbands and wives 5.42% each our results differ from those of Raoundi et al., in Morocco 2015 of 81 patients who had a kidney transplant from a Ventricular Assist Device (VAD) sampling was performed from parents and siblings in 45.6% and 46.9% of cases respectively [10].

Conclusion

Transplantation is the best form of renal replacement therapy, offering patients a better quality of life. As the number of people reaching the stage of chronic end-stage renal failure rises, the need for organs increases from year to year however, the number of donors remains insufficient. Lack of information among relatives about kidney disease, kidney donation and lack of health coverage are real obstacles to kidney donation from living related donors. Efforts need to be focused on raising awareness and informing the general population and patients families in particular, about kidney donation, as most of them still face problems of understanding. The difficulties of setting up kidney transplant units in certain African countries are still marked by a lack of resources and the absence of a project, given that the number of patients reaching the end stage of renal failure is increasing year on year in a country where the number of dialysis centers is still sometimes insufficient. The need for chronic disease management and state subsidies for immunosuppressants remains fundamental to the development of transplantation in Africa.

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Declaration of Informed Consent

All authors appearing in this article equally share and agree to the publication of this article in your journal.

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