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Research Article

Chronic Renal Failure: Perception and Knowledge of Patients at the Terminal Stage in Brazzaville

Insuffisance Rénale Chronique : Perception et Connaissances des Patients en Phase Terminale à Brazzaville

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ABSTRACT

Introduction. Chronic kidney disease (CKD) is a long-term condition in which the kidneys gradually lose their function over time, becomes impaired, leading to a buildup of waste and toxins in the body.This study aimed at evaluating the perception of CKD among newly diagnosed end-stage chronic renal failure patients. **Methodology**. This was a descriptive cross-sectional study with prospective data collection, which took place over the period from January 1 to October 30, 2023, in the Nephrology department of the Brazzaville university hospital. It covered 128 patients who were exhaustively identified. sociodemographic data and data on illness perception were collected from medical records and during individual interviews using pre-established survey forms. Microsoft Excel 2021 software enabled data analysis and processing. **Results.** We studied 128 participants with a sex ratio of 2.5 and the median age was 50. There was a misperception of CKD among 46.1% of our participants. CKD was thought incurable by 51,6% of them and it was considered a fairly worrying disease by 61.7% of patients. The belief of CKD having a supernatural cause was held by 46.9% of patients. Patients thought that CKD could be treated with traditional medicine (36,7%), modern medicine (27,3%) and through prayer (18%). CKD was unknown before hospitalization by 76,6% of patients. **Conclusion**. There is a wrong perception of chronic kidney failure by patients in the end stage of their kidney disease due to the general public's low level of knowledge about kidney diseases.

RÉSUMÉ

Introduction. La maladie rénale chronique (MRC) est une affection à long terme au cours de laquelle les reins perdent progressivement leur fonction au fil du temps, deviennent altérés, ce qui entraîne une accumulation de déchets et de toxines dans le corps. Cette étude visait à évaluer la perception de la MRC chez les patients atteints d'insuffisance rénale chronique au stade terminal récemment diagnostiqués. **Méthodologie.** Il s'agissait d'une étude descriptive transversale avec une collecte prospective des données, qui s'est déroulée du 1er janvier au 30 octobre 2023, au service de néphrologie de l'hôpital universitaire de Brazzaville. Elle concernait 128 patients qui ont été identifiés de manière exhaustive. Les données sociodémographiques et les données sur la perception de la maladie ont été collectées à partir des dossiers médicaux et lors d'entretiens individuels à l'aide de formulaires d'enquête préétablis. Le logiciel Microsoft Excel 2021 a permis l'analyse et le traitement des données. **Résultats.** Nous avons étudié 128 participants, avec un ratio homme-femme de 2,5 et un âge médian de 50 ans. Il y avait une méconnaissance de la MRC chez 46,1% de nos participants. 51,6% d'entre eux pensaient que la MRC était incurable et 61,7% des patients considéraient cette maladie comme assez inquiétante. 46,9% des patients pensaient que la MRC avait une cause surnaturelle. Les patients pensaient que la MRC pouvait être traitée avec la médecine traditionnelle (36,7%), la médecine moderne (27,3%) et par la prière (18%). La MRC était méconnue avant l'hospitalisation chez 76,6% des patients. **Conclusion.** Il existe une perception erronée de l'insuffisance rénale chronique chez les patients en stade terminal de leur maladie rénale dû à la faible connaissance du grand public sur les maladies rénales.

INTRODUCTION

In the Republic of Congo, chronic kidney failure (CKD) represents a real public health problem due to the complications it causes, the high cost of its management, in a context where universal health insurance is not yet fully implemented **[1]**.

KEY RESULTS

Aim of this study

The study aimed at evaluating the perception of CKD among newly diagnosed end-stage chronic renal failure patients

Key Results

1. This intra-hospital study carried out at the Brazzaville University Hospital showed that 52.1% of patients admitted to nephrology had chronic kidney disease (CKD) and among them 72.5% were in the terminal stage.
2. 76,6% of patients had never heard of CKD before their hospitalization.
3. CKD was considered an incurable disease for 51,6% of our participants.

Implications for the future

It is important to carry out general public awareness campaigns on kidney diseases

It is discovered late and most often at the terminal stage requiring renal replacement therapy. The renal replacement technique available and used in Congo is hemodialysis (HD), but the latter constitutes a major obstacle due to its high cost estimated in 2023 at 7,569,600 FCFA per year payable by the patient.[**1**]. An intra-hospital study carried out at the Brazzaville University Hospital showed that 52.1% of patients admitted to nephrology had CKD and among them 72.5% were in the terminal stage. The discovery was recent in 61.9% of patients. The mortality rate was 49.9%**[2].** This high prevalence and mortality could be largely explained by late consultation evidenced by a frequency of more than 30% of dialysis emergencies but also by difficult access to dialysis.**[3]**. The frequency of non-terminal renal failure in the general population in Congo is currently unknown. No general public information campaign to raise awareness among the Congolese about kidney diseases has yet been carried out. The tendency in the general population is rather towards ignorance of the symptoms and treatments of CKD.**[4]**. It is with the aim of enacting preventive measures on CKD, in order to reduce its frequency, that we undertook to conduct a survey to evaluate the perception on CKD of patients with chronic renal failure in the newly terminal stage. diagnosed.

PATIENTS AND METHODS

We conducted a cross-sectional descriptive study with prospective data collection over 10 months which took place over the period from January 1 to October 30, 2023. The study was carried out in the nephrology department of the Brazzaville University Hospital. This is the only service specialized in the management of kidney diseases in the entire city of Brazzaville.

We randomly included newly discovered ESRD patients of all ages who were able to answer the questions. A total of 128 patients were exhaustively identified. Data collection was done using a questionnaire pre-established in French and then translated into national languages (Lingala and Kituba). This questionnaire consisted of two parts: the first part assessed patients' knowledge about CKD and the second provided information on the perception of the disease by these patients. The latter was designed taking inspiration from the "Brief Illness Perception Questionnaire" (Brief IPQ), a questionnaire assessing the cognitive and emotional representations of the illness.[5]. It consisted of 6 items, all items were evaluated using a response scale. Two items dealt with representations of cognitive illnesses: chronology (item 1), treatment control (item 2). These items were rated from 0 to 1. One item assessed emotional representations: worry (item 3) and another assessed the understandability of the illness (item 4). These items were rated from 0 to 2. Item 5 assessed causal representation and item 6 assessed knowledge of the disease. These 2 items were rated from 0 to 1.

The total score rated from 0 to 8 designated the sum of each point obtained and made it possible to classify the perception into: erroneous, fairly good, good.

- 0-3: incorrect perception
- 4-5: fairly good perception
- 6-8: good perception.

Data entry, processing and analysis were carried out using Microsoft Office Excel 2021 software. The various tables were generated using Microsoft Office Excel 2021 software. The quantitative variables were expressed as average with standard deviation or in median with the first and third quartile. The median was used when 10% of the entire part of the mean was greater than the standard deviation.

RESULTS

The median age was 50 years (the 1st quartile is 42 years; the 3rd quartile is 66 years) with extremes of 21 and 81 years. The study sample consisted of 91 (71.1%) men and 37 (28.9%) women, i.e. a sex ratio of 2.5 **(Table I).**

Table I. Distribution of patients by age groups (in years).

Age (years)	N=128	%
<30	13	10.2
30-39	14	10.9
40-49	30	23.4
50-59	28	21.9
≥60	43	33.6

Our participants were mostly unemployed (29, 7%) or workers of the informal sectors.They were mostly single (63,3%) or married (31,2%). **(Table II)**

Table II. Sociodemographic profile of patients participating in the study.

Profile	N=128	%
Occupation		
Unemployed	38	29.7
Actor in the informal sector	35	27.3
State employee	22	17.2
Retirement	18	14.1
Student	10	7.8
Private sector employee	5	3.9
Marital status		
Bachelor	81	63.3
Married/common law	40	31.2
Divorced/widowed	7	5.5
Educational level		
None	2	1.6
Primary	45	35.2
Secondary	54	42.2
Superior	27	21
Socioeconomic level		
Down	90	70.3
Average	34	26.6
Superior	4	3.1
Religion		
Christianity	114	89.1
Atheism	9	7
Animism	5	3.9

The perception of the CKD was erroneous among46.1% of patients.51.6% of patients thought that CKD was incurable, 61.7% of patients considered that CKD is a fairly worrying disease. 46.9% of patients believed that CKD is of supernatural cause.36.7% of patients thought that CKD could be treated with traditional medicine,27.3% through modern medicine and 18% through prayer.76.6% of patients had never heard of CKD before their hospitalization **(Table 3).**

Table III. Perception of CKD treatment

Perceptions	N=128	%
General perception		
Misperception	59	46.1
Fairly good perception	53	41.4
Good perception	16	12.5
Perception of evolution		
Curable disease	62	48.8
Incurable disease	66	51.6
Perception of treatment		
Traditional medicine	47	36.7
Modern medicine	35	27.3
Prayer	24	18.8
Self-medication	22	17.2
Perception about the severity of CKD		
Mild disease	10	7.8
Quite worrying disease	79	61.7
Serious illness	39	30.5
Perception about the cause of CKD		
Natural cause	68	53.1
Supernatural cause	60	46.9

In the study population, 30 (23.4%) patients had heard about renal failure before hospitalization. The main sources of information were those close to them (50%), the media (36.7%) and health workers (13.3%) though 76,6% of our participants did not understang anything at all about the disease **(Table IV).**

Table IV. Understanding of CKD

Understanding	N=128	%
Doesn't understand anything at all	98	76.6
Understands a little	20	15.6
Understood perfectly	10	7.8

In our series, 28 (22%) patients thought that ESRD can only be treated with medication, 5 (4%) patients were aware of the possibility of treatment by kidney transplant and 12 (9%) patients were at It is common knowledge that dialysis is a treatment for ESRD. No patient knew the different modalities of dialysis (peritoneal dialysis and hemodialysis).

DISCUSSION

The median age of our patients was 50 years [42 years; 66 years old]. CKD patients in Congo are young adults; thus joining the data from African literature. Diakité et al. in 2012 found a median age of 40 ± 12 years**[6]**. N'zoue et al. found a median age of 46 years. In economically developed countries, CKD is a pathology of the elderly. In France the median age is 70 years old**[7.8]**. This discrepancy could be explained by greater accessibility to care, prevention measures and the aging of the Western population.with its best life expectancy.

A male predominance was found in our study with a sex ratio of 2.5.Male predominance is an epidemiological constant found in other African studies**[9–13]**. No scientific evidence explains this sex inequality. Some scientists cite classic risk factors such as obesity and hypertension as well as a riskier lifestyle with excessive consumption of salt, phosphorus and proteins in men.**[14]**. Illness perception is how a person understands and feels about illness. It can be influenced by biological, psychological, social and cultural factors. This influences the choice of seeking care. The perception of CKD by our study population is different from the explanations given by modern sciences. Indeed, 46.1% of the patients collected had an erroneous general perception of the disease, almost half of the patients (48.8%) believed that CKD is curable. This erroneous perception reflects the lack of information among the Congolese population about CKD. More than half (76.6%) of the patients during our survey had never heard of kidney failure before this hospitalization. Result close to those Oluyombo et al. in Nigeria where 66.3% of participants had never heard of chronic kidney disease**[15]**. Among our participants, 46.9% believed that CKD was supernaturally caused. This result reflects the population's attachment to the tradition which represents the bodyhuman as a mysterious entity capable of being possessed by an "ancestor" or by "malicious sorcerers"**[16,17]**. The expression of this possession results in the appearance of illness, which justifies that18.8%of patients think that CKD can be treated with prayers. Thus, some patients first consult pastors, fetishists when signs of the disease appear.. This observation was also made by Oluyombo et al. in Nigeria where 45.9% of participants believed that CKD could be

cured through spiritual means**[15]**. Our study shows that 36.7% of patients believe that CKD can be treated with traditional medicine.Oluyombo et al. in Nigeriafound a result similar to ours. Indeed, 47.8% of his study population believed that CKD could be cured by the use of local herbal concoctions. This result shows that atCongo, as in other sub-Saharan African countries, modern medicine and traditional medicine coexist. Despite awareness campaigns to encourage the use of modern medical care structures, the population's attachment to traditional medicine remains and it is still relevant today and takes care of a significant part of the population, both urban and rural **[18]**. The WHO officially recognizes traditional medicine and estimates that it is used by 80% of the population in sub-Saharan Africa**.[19]**. The results provided by this survey match those of a previous study carried out in a university environment and which found poor knowledge as well as an erroneous perception of kidney diseases**.[4].** These data reflect the need to promote the prevention of chronic kidney disease through awareness campaigns among people at risk of kidney disease (diabetes, hypertension, gout, HIV, etc.), doctors treating chronic pathologies, and the general population. via media that have broad distribution power such as: printed and television newspapers, TV shows, social networks.

CONCLUSION

The perception of chronic kidney disease by ESRD patients is incorrect. This may be due to the general public's low level of knowledge about kidney diseases. It is therefore important to carry out public awareness campaigns on kidney diseases.

RÉFÉRENCES

1. Mahoungou GH, Eyeni Sinomono DT, Clauvel Niama A, Ngoma P, Gandzali-Ngabé E. Cost of Therapeutic Care for Patients on Maintenance Hemodialysis in a Public Hospital in Congo Brazzaville in 2022. Int J Nephrol Kidney Fail [Online]. 2023 [cited December 23, 2023];9(2):1-6. Available: https://www.researchgate.net/profile/Dt-Sinomono/publication/372524016_Cost_of_Therapeutic_Care_for_Patients_on_Maintenance_Hemodialysis_in_a_Public_Hospital_in_Congo_Brazzaville_in_2022/links/64bc17a3b9ed6874a53a3b57/Cost -of-Therapeutic-Care-for-Patients-on-Maintenance-Hemodialysis-in-a-Public- Hospital-in-Congo-Brazzaville-in-2022.pdf
2. Sinomono DE, Koumou GG, Loumingou R. Epidemiological profile of chronic renal failure at Brazzaville University Hospital in 2016. Nephrology & Therapeutics. 2017;13(5):396.
3. Mahoungou GH, Sinomono DT, Nyanga YI, Tsiloulou EF, Mongo SB, Ngabe PE, et al. Epidemiological, Clinical and Evolutionary Profiles of Patients Admitted in a Dialytic Emergency Situation at the University Hospital of Brazzaville. Asian Journal of Research in Nephrology. 2021;4(3):18-27.
4. Mahoungou G, Niama AC, Batchi-Bouyou AL, Sinomono DE, Ngabe EN, Essie DM, et al. Knowledge and perceptions of kidney disease among workers of Marien Ngouabi University, Republic of Congo. HEALTH SCIENCES AND DISEASE [Online]. 2022 [cited December 29, 2023];23(6):109-112 Available: https://www.hsd-fmsb.org/index.php/hsd/article/view/3702
5. Broadbent E, Petrie KJ, Main J,Weinman J. The Brief Illness Perception Questionnaire. Journal of Psychosomatic Research [Online].2006 [cited December 5, 2023];60(6):631-7. Available: https://www.sciencedirect.com/science/article/pii/S0022399905004915
6. Diakite F, Balde MS, Bah AB, Traore M, Cherif I, Barry AY, et al. Seroprevalence of viral hepatitis B and C, and human immunodeficiency virus in chronic renal failure patients in the Nephrology department of the Donka National Hospital. African Journal of Internal Medicine [Online]. 2019 [cited January 12, 2024];6(1-3):28-33. Available: http://www.rafmi.org/index.php/rafmi/article/view/357
7. Hamroun A, Frimat M, Beuscart JB, Buob D, Lionet A, Lebas C, et al. Specificities of nephropathy in the elderly. Nephrology & Therapeutics [Online]. 2019 [cited January 12, 2024];15(7):533-52. Available: https://www.sciencedirect.com/science/article/pii/S1769725519305371
8. World Kidney Day Symposium – Kidney Foundation [Online]. [cited January 12, 2024]. Available: https://fondation-du-rein.org/colloque-de-la-journee-mondiale-du-rein/
9. Diakite F, Traore A, Camara MLT, Camara1 M, Bah AO, Kaba ML. Emergency haemodialysis: risk factors for mortality at the Donka National Haemodialysis Centre. HEALTH SCIENCES AND DISEASE [Online]. 2023 [cited January 12, 2024]; 24(4): 40-4. Available: https://www.hsd-fmsb.org/index.php/hsd/article/view/4355
10. Konan SD,Guei MC, Diopoh SP, Kissou PF, Aka JA, Yao KH. First Emergency Hemodialysis Session at the Nephrology Department of Yopougon University Hospital: a Study of 146 Patients. HEALTH SCIENCES AND DISEASE [Online]. 2021 [cited January 12, 2024];22(7):83-7. Available: http://www.hsd-fmsb.org/index.php/hsd/article/view/2838
11. Ilboudo CS, Doro H, Guibla I, Belem F, Konate S, Semdé A, et al. Prognosis of Emergency Hemodialysis Patients in the Nephrology and Dialysis Department of the Souro Sanou University Hospital Center (Bobo Dioulasso). HEALTH SCIENCES AND DISEASE [Online]. 2021 [cited January 12, 2024];22(6):11-14. Available: http://hsd-fmsb.org/index.php/hsd/article/view/2806
12. Dede Z, Fradi A, Boukadida R, Sow N, Aicha NB, Zellama D, et al. COVID-19 in diabetic patients with chronic renal failure: epidemiological and evolutionary profile. Nephrology & Therapeutics [Online]. 2022 [cited January 12, 2024];18(5):420. Available: https://www.sciencedirect.com/science/article/pii/S176972552200517X
13. Traore AK,Yattara H, Fofana AS, Coulibaly J, Sy S, Samaké M, et al. Epidemioclinical data and outcome of emergency haemodialysis patients in the Point G University Teaching Hospital (Mali). HEALTH SCIENCES AND DISEASE [Online]. 2023 [cited January 12, 2024];24(6):71-7. Available: http://hsd-fmsb.org/index.php/hsd/article/view/4485
14. Bridge B,Pruijm M, Marques-Vidal P, Martin PY, Burnier M, Paccaud F, et al. Determinants and burden of chronic kidney disease in the population-based CoLaus study: a cross-sectional analysis. Nephrology Dialysis Transplantation [Online]. 2013 [cited January 12, 2024];28(9):2329-39. Available: https://academic.oup.com/ndt/article-lookup/doi/10.1093/ndt/gft206
15. Oluyombo R, Ayodele OE, Akinwusi PO, Okunola OO, Gbadegesin BA, Soje MO, et al. Awareness, knowledge and perception of chronic kidney disease in a rural community of South-West Nigeria. Niger J Clin Pract. 2016;19(2):161-9.
16. Ouango JG, Karfo K, Kere M, Ouedraogo M, Kabore G, Ouedraogo A. Traditional concept of madness and psychiatric therapeutic difficulties among the Moosé of Kadiogo. smq [Online]. 2007 [cited January 12, 2024];23(2):197-211.

Available at: https://www.erudit.org/en/journals/smq/1900-v1-n1-smq1830/032459ar/abstract/
17. Konaré DAO,Koumaré B, Moro MR. Therapeutic pathways in Mali in mental health. The Other [Online]. 2014 [cited January 12, 2024];15(1):38-45. Available: https://www.cairn.info/revue-l-autre-2014-1-page-38.htm
18. Yao 1 YP, Yeo-Tenena 2 YJM, Assi-Sedji 3 C, Tetchi 4 EO, Ngongi 5 KPP, Delafosse 6 RCJ. Therapeutic itineraries for schizophrenics in Abidjan. Psychiatric information [Online]. 2009 [cited January 12, 2024];(5):461-9. Available: https://www.cairn.info/revue-l-information-psychiatrique-2009-5-page-461.htm
19. African Traditional Medicine Day 2022 [Online]. WHO | Regional Office for Africa. 2024 [cited January 12, 2024]. Available: https://www.afro.who.int/fr/regional-director/speeches-messages/journee-africaine-de-la-medecine-traditionnelle-2022