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Direct Financial Cost of Acute Kidney Injury Management in the Nephrology-Hemodialysis Department of CHU-B, Burkina Faso

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Abstract

Objective: To examine the direct financial costs incurred by patients with acute kidney injury who were hospitalized in the Nephrology-Hemodialysis Unit at CHU-B in Burkina Faso from January 1, 2023, to January 31, 2024. **Methodology:** This was a descriptive cross-sectional study with retrospective data collection conducted from January 1, 2023, to January 31, 2024, in the Nephrology-Hemodialysis Department of CHU-B in Ouagadougou, Burkina Faso. **Results:** Of the 116 patients included, 66.4% were male, with a mean age of 41.6 ± 14.8. Seventy-one point six percent (71.6%) of the patients resided in urban areas, and 81.9% were of low socioeconomic status. Acute kidney injury (AKI) was organic in 72.4% of cases. The mean length of stay was 7.5 ± 3.6 days. In financial terms, the average total cost was 154,600 ± 134,502 FCFA for patients not on dialysis—with medication costs accounting for the largest share (45.8%)—and 513,086 ± 199,802 FCFA for patients on dialysis—with dialysis costs accounting for the largest share (32.5%). The average cost of hemodialysis was 71,982 ± 82,669 CFA francs. One patient admitted for obstructive acute kidney injury underwent surgical treatment at a total cost of 258,000 CFA francs. **Conclusion:** Despite the government's efforts, the direct financial

cost of inpatient care for acute kidney injury remains beyond the reach of most people.

Keywords

Cost, AKI, Bogodogo

1. Introduction

Acute kidney injury (AKI) is a major global public health problem. In fact, it is estimated to affect approximately 13.3 million people worldwide, 85% of whom live in low- and middle-income countries [1]. Furthermore, it is estimated to account for 20% of hospitalizations at the Georges-Pompidou Hospital in Paris in 2020 [2].

The overall incidence of AKI among all hospitalized patients has been estimated at approximately 2% in the United States. It ranges from 1811 to 4085 cases per million population (cpm) depending on the country [3]-[5].

In Africa, its exact prevalence remains poorly documented. Most of the available data are hospital-based. In Morocco, the annual incidence of acute kidney injury (AKI) was 229 cases between 2018 and 2019 [6], compared to 9.87 per 10,000 pregnancies in 2010 [7].

In sub-Saharan Africa, prevalence rates of 29.5% among older individuals [8] were reported in Senegal.

In Burkina Faso, an incidence of 21.2% was found during a dengue outbreak in the city of Ouagadougou in 2020 [9], and incidences of 20.7% and 29.94%, respectively, in 2019 and 2022 in the Nephrology-Hemodialysis Department of the Bogodogo University Hospital [10]-[12].

Another factor that makes HIV a serious disease is the financial burden of its management. In developed countries, access to care remains high. The opposite is true in developing countries, where lack of access to antiretroviral therapy remains the primary challenge.

However, little data are available on the direct financial cost of managing the disease in our context. Nevertheless, Tchuenkam of Douala General Hospital reported an overall average cost (direct and indirect) per patient of 977556.65 ± 3,170,467 CFA francs in 2015 [13].

Data on the cost of care are not available in our country. The current treatment costs borne by patients are unknown; hence, the relevance of this study is to identify research areas regarding funding sources.

2. Patients and Methods

2.1. Study Design and Time Period

This was a descriptive cross-sectional study with retrospective data collection con-

ducted over a 13-month period from January 1, 2023, to January 31, 2024.

2.2. Sampling

The study included all patients hospitalized for at least 48 hours in the Nephrology-Hemodialysis Unit at Bogodogo University Hospital who had been diagnosed with acute kidney injury.

During the study period, 604 patients were admitted to the Nephrology-Hemodialysis Department at Bogodogo University Hospital (CHU-B). Of these patients, 152 presented with acute kidney injury (AKI). Thirty-six (36) patients were excluded due to incomplete prescription or billing records. Thus, 116 patients were included.

Data were collected from medical records stored in the archives of the Nephrology-Hemodialysis Department at CHU-Bogodogo. We ensured that each record contained fully completed medication and treatment prescription forms, clearly identifying all medications administered to the patient via enteral and parenteral routes from admission through discharge. The data collection also included all laboratory tests performed on the patient during hospitalization, whether in public or private laboratories. We also consulted the Bogodogo University Hospital's fee schedule, where we noted the rates for medical supplies, medications from the hospital pharmacy, paraclinical tests, hospitalization fees, and various medical and nursing procedures.

We have classified socioeconomic status (SES) according to Burkina Faso's National Institute of Statistics and Demography (INSD):

- High SES: for senior executives in the private and public sectors, entrepreneurs, business operators, and military officers.
- Medium SES: for civil servants and private-sector employees with a high school education, merchants, and non-commissioned officers in the military.
- Low SES: for manual laborers, homemakers, farmers, schoolchildren, retirees, and students.

2.3. Cost Calculation Approach

This involved a detailed breakdown of the costs associated with the various components of care. The direct cost of acute kidney injury (AKI) was defined as the sum of the monetary values of all resources consumed and expenses directly incurred by the patient with acute kidney injury or their family members as part of their care. It was broken down into direct medical and non-medical costs.

Direct Medical Costs

These included the costs of hospitalization, laboratory and imaging tests, consumables, medication, dialysis, surgery, and certain medical or nursing procedures incurred by the patient.

1) Hospitalization costs

For hospitalization costs, we applied the rates in effect at Bogodogo University

Hospital per day of hospitalization.

Category 1: corresponded to an air-conditioned room with a shower and a single bed. The daily cost was 25,000 CFA francs.

Category 2: corresponded to an air-conditioned room with two beds and a shower. The daily cost was 10,000 CFA francs.

Category 4: corresponded to a ventilated shared room with four beds; the daily cost was 1000 CFA francs.

2) Cost of paraclinical tests performed

The cost of paraclinical tests performed at Bogodogo University Hospital (public) was distinguished from the cost of those performed at private healthcare facilities. For paraclinical tests performed at Bogodogo University Hospital, costs were obtained from the fee schedule for paraclinical tests provided by the hospital's finance department. This fee schedule was in effect during the study period. The cost of paraclinical tests performed at private healthcare facilities was estimated using an average rate calculated from the rates obtained from two private laboratories in Ouagadougou.

2.4. Cost of Medications Administered

Pharmacological treatment for AKI was defined as the pharmacological management of uremic manifestations, complications, and conditions associated with AKI that required care in the Nephrology-Hemodialysis Department of the Bogodogo University Hospital. Associated conditions were defined as diseases with no direct link to AKI that arose spontaneously before or during hospitalization and for which treatment was provided. For the cost of medications at private pharmacies, an average price for each product was calculated based on prices obtained from two private pharmacies in the city of Ouagadougou.

2.5. Costs of Certain Medical and Nursing Procedures

These included, in particular, the cost of a blood transfusion at 2000 FCFA, catheter insertion at 25,000 FCFA, nasogastric tube insertion at 2000 FCFA, urinary catheter insertion at 2000 FCFA, and intravenous line insertion at 2000 FCFA.

2.6. Cost of Consumables

The cost of consumables available at the hospital pharmacy was obtained from the hospital's finance department. For consumables at private pharmacies, an average price for each product was calculated based on prices obtained from two private pharmacies in the city of Ouagadougou.

2.7. Cost of Surgery

The cost of surgery for the management of acute obstructive renal failure was determined in collaboration with the urology department for cost-estimation purposes.

2.8. Cost of Hemodialysis

The cost of dialysis was calculated based on the cost per session, which was 50,000 FCFA, plus the cost of the catheter and its insertion, which were 45,000 FCFA and 25,000 FCFA, respectively.

2.9. Direct Non-Medical Costs

These included the costs of other expenses incurred during hospitalization, notably the cost of round-trip ambulance transportation for hemodialysis sessions outside the Bogodogo University Hospital or for paraclinical tests not available at the hospital. This amounted to 4000 FCFA for each round trip. Meals were not included in this calculation because their costs were already covered by the hospitalization fee.

2.10. Data Collection

This data was collected using a questionnaire designed specifically for this purpose. A pretest was conducted to allow for any necessary revisions to the questionnaire.

The data were entered into a computer using EpiInfo version 7.2.6.0. The collected data were processed, analyzed, and reported using Word/Excel 2019 and EpiInfo version 7.2.6.0. Quantitative variables were expressed as mean and standard deviation, and qualitative variables as counts and percentages.

To conduct our study, we obtained authorization from the head of the Nephrology-Hemodialysis Department as well as from the general director of CHU-B, following approval by the Ethics Committee of the Bogodogo University Hospital. Data collection was performed on-site anonymously, and confidentiality was guaranteed.

3. Results

A total of 116 patients were included in the study. The sex ratio was 2:1. The mean age of the patients was 41.6 ± 14.8 years, ranging from 15 to 95 years. The 25 - 40 age group accounted for 31% of the patients. Housewives and farmers accounted for 25.9%. The socioeconomic status (SES) was low in 81.9% of patients and moderate in 18.1%.

The mean length of stay was 7.5 ± 3.6 days, ranging from 2 to 36 days. A length of stay of [0 - 7] days was observed in 57 patients, or 49.1%.

Acute kidney injury was organic in 72.4% of patients, functional in 25.9%, and obstructive in 1.7%.

3.1. Total Direct Cost of Treating Acute Kidney Injury

The total direct cost of treating acute kidney injury amounted to 35,857,971 CFA francs. The average cost was 309,120 ± 244,262 CFA francs, with extremes ranging from 40,430 CFA francs to 1,300,714 CFA francs. Table 1 illustrates the overall

breakdown of expenditures by category.

For non-dialysis patients, this total cost was 10,203,642 CFA francs, with an average cost of 154,600 ± 134,502 CFA francs, whereas it was 25,654,324 CFA francs, with an average cost of 513,086 ± 199,802 CFA francs among patients who underwent hemodialysis sessions.

3.2. Total Direct Cost of Care by Etiological Type

The cost of care for patients admitted for organic ARF averaged 383,400 ± 81,116 CFA francs. This cost accounted for 89.9% of the total cost of care. The cost of care for obstructive acute renal failure accounted for 1.5% of the total cost, with one patient receiving surgical care valued at 258,000 CFA francs. Table 2 illustrates the distribution of care costs by etiological type of ARF.

Table 1. Overall breakdown of expenses by category.

Expenses categories	Average cost (FCFA)	Total cost	Percentage (%)
Hospitalization	29,120 ± 61,925	3,378,000	9.5
Laboratory tests	63,347 ± 30,857	7,348,100	20.6
Supplies	33,676 ± 27261	3,908,069	11
Medications	96,946 ± 96,569	11,245,797	31.5
Dialysis	71,982 ± 82,669	8,350,000	23.4
Medical and nursing procedures	11,794 ± 12,964	1,370,000	3.9
Transportation	240 ± 825	12,000	0.1
Total	**309,120 ± 244,262**	**35,857,971**	**100**

Table 2. Breakdown of treatment costs by etiological type.

Diagnostic	Number of patients	Average cost (FCFA)	Total cost (FCFA)
Functional ARF	30	103,348 ± 63,640	3,100,468
Obstructive ARF	2	271,744 ± 85,754	543,489
Organic ARF	84	383,400 ± 81,116	32,214,014
Total	**116**	**309,120 ± 244,262**	**35,857,971**

3.3. Direct Medical Costs

3.3.1. Hospitalization Costs

The total cost of hospitalization amounted to 3,378,000 CFA francs, or 9.5% of the overall cost. The average cost was 29,120 ± 33,239 CFA francs. This cost was 2,282,000 CFA francs, with an average of 45,640 ± 85,431 CFA francs among dialysis patients. Meanwhile, it was 1,096,000 CFA francs for non-dialysis patients, with an average of 16,606 ± 31,186 CFA francs.

The fourth category of hospital rooms accommodated 75% of patients. These patients stayed for 633 days at a total cost of 633,000 CFA francs, representing

18.7% of the total hospitalization cost. The breakdown of hospitalization costs is shown in Table 3.

Table 3. Hospitalization costs by room category.

Category	Number of patients	Cost per night (FCFA)	Length of stay (days)	Total cost (FCFA)
1	2	25,000	21	525,000
2	27	10,000	222	2,220,000
4	87	1,000	633	633,000
Total	**116**	-	**876**	**3,378,000**

3.3.2. Cost of Paraclinical Tests

The total cost of the paraclinical tests performed amounted to 7,348,100 CFA francs for 2176 tests conducted. This represented 20.6% of the total cost. The average cost was 63,347 ± 30,857 CFA francs, ranging from 6000 to 197,500 CFA francs. The breakdown of the cost of paraclinical tests by type of test is shown in Table 4.

Table 4. Breakdown of costs by paraclinical tests performed.

Type of examination	Cost (private and public)	Percentage (%)
Biochemistry	3,853,850	52.4
Imaging	1,232,500	16.8
Hematology	1,104,000	15.1
Immunology	1,029,250	14
Bacteriology	128,500	1.7

The cost of paraclinical tests performed at CHU-B was 6,848,000 CFA francs, representing an average cost of 59,395 ± 45,989 CFA francs. This accounted for 93.2% of the total cost for 2124 additional tests performed (97.6% of the total number of tests). The cost of biochemical tests amounted to 3,762,250 CFA francs, or 55% of the cost of tests in the public sector.

Forty-two patients, or 36.2%, had undergone at least one paraclinical test in private medical testing laboratories. This cost was 500,100 CFA francs, with an average of 8930 ± 10,916 CFA francs. The cost of tests performed in private facilities accounted for 6.8% of the total cost of paraclinical tests.

A total of 52 paraclinical tests were performed (2.4% of all tests performed). The cost of immunological paraclinical tests amounted to 187,000 CFA francs, or 37.4% of the cost of tests in the private sector. The cost of imaging tests amounted to 171,500 CFA francs, or 34.3% of the cost of tests performed in the private sector.

3.3.3. Treatment Costs

- **Cost of medical supplies**

The cost of medical supplies totaled 3,908,069 CFA francs for 6386 items, with

an average cost of 33,676 ± 27,261 CFA francs. For dialysis patients, this cost was 3,124,843 CFA francs with an average cost of 62,496 ± 10,403 CFA francs, while it was 783,226 CFA francs with an average cost of 11,867 ± 11,047 CFA francs for non-dialysis patients.

Fifty central venous catheters were purchased for a total of 2,250,000 CFA francs.

➢ **Cost of medications**

The total cost of drug treatment amounted to 11,245,797 CFA francs, representing an average of 96,946 ± 96,988 CFA francs, with extremes of 7780 and 584,251 CFA francs. This cost accounted for 31.5% of the overall cost of managing ARF.

The cost of etiological treatment amounted to 3,137,728 CFA francs, or 27.9%, with an average of 27,049 ± 31,490 CFA francs. It is shown in Table 5.

Table 5. Breakdown of costs by medications prescribed for etiological purposes.

Type of treatment	Number	Average cost (FCFA)	Total cost (FCFA)
Antibiotics	1354	23,819 ± 22,458	2,763,044
Antiparasitic	11	108 ± 339	12,600
Antifongical	11	204 ± 661	23,663
Zoledronic acid	1	100,825 ± 00	100,825
Antimalarials	93	2048 ± 3496	237,596

As for the cost of symptomatic treatment and complications, it amounted to 7,803,408 CFA francs, or 69.4%, with an average cost of 69,897 ± 77,706 CFA francs.

The cost of treating associated conditions amounted to 304,661 CFA francs, or 2.7% of the total cost of medications. This consists of the cost of antidiabetic drugs, valued at 25,060 CFA francs (0.2%), and that of antihypertensive drugs, amounting to 279,601 CFA francs, or 2.5%.

➢ **Cost of hemodialysis**

The cost of hemodialysis amounted to 8,350,000 CFA francs for 167 hemodialysis sessions in 50 patients, with an average of 1.4 ± 1.8 sessions. This average cost was 71,982 ± 82,669 CFA francs, ranging from 50,000 to 350,000 CFA francs. All hemodialysis sessions were performed at CHU-B.

➢ **Cost of medical procedures**

A total of 110 procedures were recorded, with a total cost of 1,370,000 CFA francs, representing 3.9% of the overall cost of ARF care. Procedures such as catheter placement and blood transfusion were the only ones identified in our study. Sixty blood transfusions were performed at a total cost of 120,000 CFA francs and an average cost of 1034 ± 1758 CFA francs. Fifty catheter insertions were performed at a total cost of 1,250,000 CFA francs and an average cost of 10,775 ± 12,434 CFA francs.

3.3.4. Direct Non-Medical Costs

These consisted solely of the cost of ambulance transport for certain paraclinical tests that could not be performed at CHU-B. The associated cost was 12,000 CFA francs for a total of three patients transported.

4. Discussion

Limitations and Constraints

It should be noted that our study did have limitations and constraints related to its retrospective, cross-sectional, descriptive, and single-center nature. It assessed only direct financial costs.

In fact, our sources of information, which were primarily medical records, treatment records, and patient prescription records, were often incomplete. Certain procedures, observations, or complications were not reported. The cost of medications and paraclinical tests, particularly in private facilities, may have varied slightly from one facility to another. Costs may have been underestimated because certain paraclinical tests were not performed due to patients' financial difficulties in paying for them. The inclusion of the cost of comorbidities may have introduced a measurement bias.

Despite these constraints and limitations, we were able to conduct an assessment of the direct financial cost of managing acute kidney injury (AKI) in the Nephrology-Hemodialysis Department at CHU-B in Burkina Faso.

The mean age of our patients was 41.6 ± 14.8 years, ranging from 15 to 95 years. More than half of our patients, or 76.7%, were under 55 years of age. Our data are comparable to those reported by other African studies. Indeed, Kissou *et al.* [10] in Burkina Faso and Guei *et al.* [14] in Côte d'Ivoire found mean ages of 40.6 ± 21.4 years and 42.6 ± 15.5 years, respectively. Our data corroborate those in the African literature, which indicate that kidney failure is predominantly found in young individuals in the African context, constituting a negative factor for the economic profitability and productivity of our countries. In contrast, in developed countries, ARF occurs in older individuals, as evidenced by the study by Brivet *et al.* [15] and that by El Khayat *et al.* [16], which reported mean ages of 65.1 ± 14.9 years and 53 ± 21.3 years, respectively.

Our study population was characterized by a low socioeconomic status in 81.9% of cases, as in most studies conducted in Burkina Faso [11] [12]. Indeed, Burkina Faso ranks 184th out of 191 countries in the latest UNDP Human Development Index 2021, with more than 40% of the population living below the poverty line [17]. This is due to the fact that low household income hinders access to health services. As a result, some people resort to modern and/or traditional self-medication, thereby contributing to the occurrence of certain cases of ARF.

The average total direct cost of treating a patient with ARF in the Nephrology-Hemodialysis Unit at CHU-B was 309,120 ± 244,262 CFA francs. This average cost varied depending on whether the patient underwent dialysis or not, at 513,086 ± 199,802 CFA francs and 154,600 ± 134,502 CFA francs, respectively.

These costs are significantly higher than the guaranteed minimum monthly wage (SMIG), which is 45,000 CFA francs [18]. This is all the more challenging when one considers that over 40% of the Burkinabé population lives below the poverty line [17] and that per capita health expenditure was 31045.5 CFA francs in 2020 [19].

In England, the estimated costs of patients hospitalized for acute kidney injury (AKI) amounted to 1% of the National Health Service (NHS) budget. In the United States, AKI is associated with an increase in hospitalization costs ranging from $5.4 billion to $24 billion, or 3,266,460 to 14,517,600 million CFA francs, with a variation of $11,016 to $42,077, or 6663578.4 to 25452377.3 CFA francs more per hospitalization for those requiring dialysis [20].

The conclusion is therefore clear: the economic burden of AKI in hospitals is unsustainable; indeed, the majority of our population lives without health insurance and/or health coverage. It is therefore essential to come to the aid of these patients in particular. Although hemodialysis is subsidized by the government, additional measures are still needed to give these patients a glimmer of hope. Thus, raising awareness about the harmful effects of self-medication, especially with NSAIDs and herbal remedies, would be a major asset.

The total cost of hospitalization during our study amounted to 3,378,000 CFA francs, with an average of 29,120 ± 33,239 CFA francs. It represented the fifth-largest expense category among dialysis patients and the third-largest among non-dialysis patients, accounting for 8.9% and 10.7% of total costs, respectively.

In fact, at the time of our study, 75% of our patients were housed in fourth-category hospital rooms. These were social-rate rooms costing 1000 CFA francs per day, which significantly reduced the cost of hospitalization.

The total cost of paraclinical tests amounted to 7,348,100 CFA francs, with an average of 63,347 ± 30,857 CFA francs. This cost constituted the second-largest expense category for non-dialysis patients and the third-largest for dialysis patients. Biochemical testing was the subgroup that generated the highest expenses among our patients, amounting to 3,850,405 CFA francs, or 52.4%, followed by imaging at 1,234,480 CFA francs, or 16.8%.

In our study, 93.2% of the total cost of paraclinical investigations was incurred at CHU-B. This reflects improvements in laboratory and radiology services due to the availability of supplies and the effective operation of the emergency department at CHU-B. However, we note some equipment failures and the unavailability of certain diagnostic tests, which resulted in 6.2% of the total cost being incurred at private facilities, amounting to over 500,000 CFA francs. In fact, the cost of immunological tests accounted for the largest share of tests performed in private facilities, at 37.4%, with 69.5% of these relating solely to dengue serology. This could be explained by the dengue epidemic, which caused a shortage of reagents at the CHU laboratory.

The cost of medical supplies amounted to 3,906,429 CFA francs, with an average cost of 33,676 ± 27,261 CFA francs, representing 11% of the total cost. It con-

stituted the fourth-largest expense category for both dialysis patients and non-dialysis patients. The most commonly used supplies were syringes, costing 255,990 CFA francs for 3657 syringes, followed by gauze pads at 100,000 CFA francs for 1000 pads. Dialysis patients spent an average of 50,647 ± 1020 CFA francs more than non-dialysis patients. This cost difference can be explained by the purchase cost of the central venous catheter, its insertion, and its maintenance, which required more supplies. In fact, the cost of catheters accounted for 57.6% of the total cost of supplies.

The total cost of medications amounted to 11,245,797 CFA francs, with an average of 96,946 ± 96,988 CFA francs, representing 31.5% of the overall cost. It was the largest expense category for non-dialysis patients and the second largest for dialysis patients.

The majority of medication prescriptions were filled at the Bogodogo University Hospital pharmacy, accounting for 56% of the total cost of medications. Most of these medications were specialty drugs. Furthermore, 44% of medications were purchased at private pharmacies due to their unavailability at the hospital pharmacy. Given the population's poverty level, essential generic medications should be made available at the hospital pharmacy to provide some relief to the population. The cost of symptomatic treatment and complications was the highest, accounting for 69.4% of the total cost of medications. This underscores the need for early and appropriate management of symptoms and potential complications.

The cost of emergency hemodialysis amounted to 8,350,000 CFA francs for 50 patients undergoing dialysis. The average cost of hemodialysis was 71,982 ± 82,669 CFA francs for 1.4 ± 1.8 hemodialysis sessions. In fact, the hemodialysis unit at CHU-B, operational since November 2020, enabled the immediate care of all patients requiring hemodialysis once all necessary equipment had been secured. It represented the largest expense category for dialysis patients, accounting for 23.3% of the total cost. This figure was higher than that reported by Tchuenkam LW [13] in 2015, who found an average of 48,090 ± 177,513 FCFA for 7 ± 6 dialysis sessions, representing 10.6% of the total cost. This difference could be explained by the difference in sample size as well as the average number of dialysis sessions.

Hemodialysis care has recently benefited from a subsidy from the Burkinabe government, reducing the cost of an acute session to 2500 CFA francs. Although this initiative is commendable, it remains incomplete. In fact, as of today, Burkina Faso has only six public hemodialysis centers with a total capacity of 92 stations for a general population estimated at 23.2 million inhabitants in 2022 [21].

Transportation and meal costs are not often included in the financial burden of the disease. However, they represent significant expenses. In our study, meal costs were included in hospitalization expenses. As for transportation, it consisted solely of the cost of ambulance transport for tests not available at Bogodogo University Hospital. The associated cost was 12,000 CFA francs. It represented the seventh-largest expense category and applied only to dialysis patients.

In our cohort, 49.1% of patients stayed for less than 7 days at a cost of 8,943,480

CFA francs (25%), or an average of 152,376 ± 128,637 CFA francs. Similarly, 2.6% of patients stayed for more than three weeks at an overall average cost of 774,079 ± 59,202 CFA francs. Long hospital stays may be due to the severity of the patients' condition at admission, with numerous complications and associated conditions, the management of which requires a long hospital stay and, consequently, high costs. Seeking early medical consultation should remain the first course of action in the event of illness to ensure adequate prevention.

5. Conclusions

Acute kidney injury is a serious and common medical condition. It remains a major public health problem in our context as a low-income country with limited resources.

Hospital care for ARF is expensive and far beyond the financial means of most Burkinabè. This cost is both economic and human, and is exacerbated by the use of traditional and/or modern self-medication as a first-line treatment. The limited resources of our population make the progression to chronicity a serious concern.

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Obtention de financements: Néant.

Tous les auteurs ont lu et approuvé la version publiée du manuscrit.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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