


# Epidemiological, Clinical and Therapeutic Aspects of Arterial Hypertension at the General Medicine Department of Nzerekore Regional Hospital

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## Abstract

**Introduction:** High blood pressure is a public health problem in Guinea as well as everywhere in Africa. The objective of our study was to assess the epidemiological, clinical and therapeutic aspects of High blood pressure in the general medicine department of the Nzérékoré regional hospital. **Methodology:** This was a prospective study of a descriptive type, lasting 06 months, from July 1 to December 31, 2014. **Results:** We recorded 156 cases of High blood pressure among a total of 570 patients, for a hospital frequency of 27%. The 56 - 65 age group was the most affected, at 29.4%, with a predominance of men (sex ratio: 1.5). Alcoholism was the most common cardiovascular risk factor with a frequency of 51.2%, smoking and physical inactivity were found in 35.8% and 30.7% respectively; psychosocial stress was found in 24.3% of patients. The clinic was dominated by headache (100%) and dizziness (57.6%). All our patients were subjected to a healthy diet. Fixed dual therapy was the most widely used treatment regimen, *i.e.* 91 patients (58.3%) and included a diuretic in 37.1% of cases, a calcium channel blocker in 25% of cases and an ACE inhibitor in 24.3%. **Conclusion:** This study revealed a high frequency of hypertension in the general medicine department of the regional hospital of Nzérékoré.

## Keywords

Epidemiology, Clinical, Therapeutic, Hypertension

## 1. Introduction

According to WHO, hypertension is an increase in blood pressure with systolic blood pressure greater than or equal to 140 mmHg and/or diastolic blood pressure greater than or equal to 90 mmHg [1].

Responsible for at least 45% of deaths from heart disease, 51% from stroke and 30% of deaths from kidney failure, it is currently a real public health problem around the world [2] [3] [4].

In the United States, between 1999 and 2000, the prevalence of hypertension was 33.5% in the black population aged 18 and over against 28.9% in the white population [5].

In France, the prevalence rate of hypertension was 31% among adults aged 18 to 74 (34.1% for men and 27.8% for women) [6].

In Africa, it represents nearly 44% of hospitalizations with hospital mortality estimated at 7% [7]. Cohort studies in Nigeria and Zimbabwe show that 10 to 20 million people could be affected and that treatment could prevent around 250,000 deaths each year [8]. In Cameroon, the age-adjusted prevalence was 15.4% in rural areas and 19.1% in urban areas [9]. A study carried out in Fouta Djallon in 2006 reported a frequency of 43.6% in urban areas and 14.9% in rural areas [4].

The objective of this study was to describe the epidemiological, clinical and therapeutic profile of patients in the general medicine department of the Nzérékoré regional hospital.

## 2. Material and Methods

The general medicine department of the Nzérékoré regional hospital served as the study framework for this study.

This was a prospective descriptive study, lasting 06 months, from July 1 to December 31, 2014 and involved all patients with blood pressure greater than or equal to 140/90 mmHg.

Were included, all patients hospitalized or seen on an outpatient basis with blood pressure greater than or equal to 140/90mmHg, as well as patients already known to be hypertensive under treatment.

Our analysis focused on demographic data (age, sex), risk factors (alcoholism, smoking, diabetes, sedentary lifestyle, psychosocial stress, taking oral contraceptives), clinical signs on admission; the grade of hypertension, the treatment modalities.

We carried out a comprehensive recruitment in which data was collected using a pre-established survey sheet. These data were distributed as frequencies and were analyzed as percentages.

## 3. Results

During the study period, 570 patients were seen for consultation, of which 156 met our inclusion criteria, *i.e.* 27.3% of patients. The 56 - 65 age group was the most affected, at 29.4%, followed by the 46 - 55 age group (23.7%) (**Table 1**).

There was a male predominance (60.9%) with a sex ration of 1.5. More than half of the patients (51.2%) were alcoholics, smoking and physical inactivity were found in 35.8% and 30.7% respectively; psychosocial stress was found in 24.3% of patients; diabetes in 17.3%, oral contraceptives in 9.6% and obesity in 5.1% of patients (**Table 2**).

Clinical signs on admission were in **Table 3** dominated by headache (100%), dizziness (57.6%), tinnitus (48.1%), visual blurring (12.8%), dyspnea (12, 1%) and palpitations (9.6%).

Hypertension was grade I in 23.7%, grade II in 59.7% and grade III in 16.6%.

All our patients benefited from a healthy diet; dual antihypertensive therapy was used in 91 patients with a frequency of 58.3%; 37 patients (23.8%) received monotherapy and 28 patients (17.9%) were on triple therapy. The most widely used classes of antihypertensive drugs were thiazide diuretics (37.1%), followed by calcium channel blockers (25%), ACE inhibitors (24.3), beta blockers (6.4%.) and angiotensin receptor antagonists (3.2%) (**Table 4**).

**Table 1.** Distribution of patients according to demographic data.

Variables	Effective	Percentage (%)
<b>Sex</b>	<b>156</b>	<b>100</b>
Male	95	60.9
Female	61	39.1
<b>Age group (years)</b>	<b>156</b>	<b>100</b>
16 - 25	5	3.2
26 - 35	14	8.9
36 - 45	26	16.7
46 - 55	37	23.7
56 - 65	46	29.4
66 - 75	20	12.9
76 - 85	8	5.1
<b>Total</b>	<b>156</b>	<b>100</b>

**Table 2.** Distribution of patients according to risk factors.

Risk factors	Effective	Percentage (%)
Alcohol	80	51.2
Tobacco	56	35.8
Sedentary lifestyle	48	30.7
Psycho-social stress	38	24.3
Diabetes	27	17.3
Obesity	8	5.1
Oral contraceptives	15	9.6

**Table 3.** Distribution of patients according to clinical signs.

Clinical signs	Effective	Percentage (%)
Headache	156	100
Dizziness	90	57.6
Ringling in the ears	75	48.07
Visual blur	20	12.8
Dyspnea	19	12.1
Palpitation	15	9.6
Vomiting	9	5.7
Edema of the lower limbs	7	4.4
Chest pain	7	4.4
Epigastric pain	6	3.8
Oliguria	4	2.5

**Table 4.** Distribution of patients according to the classes of antihypertensive drugs used.

Therapeutic classes	Effective	Percentage (%)
Diuretics	58	37.1
Calcium channel blockers	40	25.6
Converting enzyme inhibitors	38	24.3
Beta-blockers	10	6.4
ARA II	5	3.2

#### 4. Discussion

During our study period, 570 patients were seen in consultation, 156 cases high blood pressure or a hospital frequency of 27%. In the ESTEBAN study in 2015 in France, Perrine *et al.*; reported a frequency of hypertension of 32.3% [10]. Our results are superior to those found by Damorou *et al.*; in Togo, which reported a hospital frequency of 22% [11]. Baldé *et al.*; during a survey carried out on a cohort of 669 subjects in the prefectures of Forécariah, Fria and Boké found 29% of hypertensive patients [12].

The 56 - 65 age group was the most affected, at 29.4%. This result shows the fact that hypertension increases with age as indicated by the data in the literature [13].

In our study there was a male predominance with a frequency of 60.89%. Our results are different from those found by Twagirumukiza *et al.*; in Rwanda, which reported a female predominance of 59% [14]. On the other hand, our results are comparable to those of Ikama *et al.*; in 2014 in Congo Brazzaville who found male predominance in 56.8%. This male predominance is thought to be due to the fact that men are more exposed to cardiovascular risk factors [15].

Alcoholism was the main cardiovascular risk factor found (51.2%). However Baldé *et al.*; reported 3% alcoholism in a study involving 669 hypertensive patients [12]. This high proportion of alcoholism in our study is linked to the fact that the Nzérékoré region is a region where the consumption of alcoholic beverages is widespread. Sedentary lifestyle and smoking were found in 35.8%, and 30.7% respectively. Ikama *et al.*; in 2014 found 44.4% sedentary and 4% smoking [15].

All our patients benefited from a healthy diet; dual antihypertensive therapy was used in 91 patients (58.3%); 37 patients (23.8%) received monotherapy and 28 patients (17.9%) were on triple therapy. Based on ESC/ESH 2018 Guidelines for the management of high blood pressure fixed dual therapy (ACE inhibitor or ARB II combined in the same tablet with a calcium channel blocker or a thiazide or related diuretic) is the treatment of first choice. The only exceptions are frail elderly patients and the rare patients at high cardiovascular risk who would be prescribed treatment for normal-high blood pressure [16].

## 5. Conclusion

This study shows a high prevalence of hypertension in the general medicine department of the regional hospital of Nzérékoré. As it is a chronic pathology requiring continuous management and regular monitoring, it would be interesting to focus on primary prevention linked to risk factors within the population.

## Conflicts of Interest

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

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