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Therapeutic Compliance of Hypertensive Patients Followed in Ambulatory in the Cardiology Department of Kati University Hospital

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Abstract

Introduction: High blood pressure is a major public health problem worldwide due to its frequency and cardiovascular complications. Adherence to treatment for chronic diseases is a global problem. The aim was to study therapeutic adherence in hypertensive patients followed in ambulatory. **Materials and Methods**: This was a cross-sectional, descriptive study with prospective recruitment that took place from July 1 to December 31, 2022 (6 months) in the cardiology department of the university hospital of Kati. The variables studied were sociodemographic data, cardiovascular risk factors, comorbidities, the possession of insurance and compliance (the Girerd questionnaire was used to assess adherence). **Results**: A total of 1182 patients were consulted, including 887 for hypertension, a frequency of 75%. Fifty-six patients were included in the study. The average age was 58.18 ± 13.25 years with extremes of 30 and 80 years. There was a female predominance (75%) with a sex ratio of 0.3. The majority of patients lived in urban areas (89.3%). Out-of-school patients accounted for 44.6%, more than half of patients or 55.4% had no income, patients with medical coverage accounted for 67.9% of cases. The main risk factors were physical inactivity (25%) followed by smoking 14.3%. More than 71% of patients had a compliance problem and

the main reasons were forgetting to take the drug with 73.2%, followed by delayed treatment of 50% and drug discontinuation of 28.6%. **Conclusion**: Compliance is a real challenge and a major public health issue. This study allowed us to find a real problem of compliance in our hypertensive patients. There was a statistically significant relationship between drug adherence and forgetting to take the drug and drug discontinuation.

1. Introduction

High blood pressure is a major public health problem worldwide because of its frequency and cardiovascular complications [1]. In 2019, more than one billion hypertensive people lived in low-and middle-income countries [2]. It is the leading cause of premature mortality with ten million deaths observed in 2015 worldwide [3]. Adherence in hypertensive patients can be defined as respect for the degree of concordance between the patient's behaviors with the prescription or medical recommendations in terms of taking medication, diet monitoring or lifestyle change [4]. Adherence to treatment for chronic diseases is a global problem. Several studies have been conducted to assess the level of adherence of hypertensive patients. Girerd [5] in France found 8% poor adherence, 53% with minimal adherence problem and 39% with good adherence in a population of hypertensive patients followed in a specialized setting. In Morocco, in a study conducted in outpatients at the cardiology department of the Mohamed VI University Hospital, 65.5% of patients had problems with their observations [6]. A. Gangue in Senegal in 2018 found 9.1% poor adherence, 45.5% of minimal problems with observances and 45.5% good compliance in hypertensive patients followed at Grand Yoff Hospital [7]. The aim was to study therapeutic adherence in hypertensive patients followed in ambulatory in the cardiology department of the CHU de Kati.

2. Materials and Methods

This was a cross-sectional, descriptive study with prospective recruitment that took place from July 1 to December 31, 2022 (6 months) in the cardiology department of the CHU de Kati. Included were patients followed for essential high blood pressure in cardiological consultation for at least 3 months of progression, seen during the study period and agreeing to participate in the study. Not included were hypertensive patients who refused to participate, hypertensive patients less than three months of course, patients with hypertension on pregnancy and patients with secondary hypertension. The data were collected as follows: after a welcome, an acquisition of free and informed consent, we explained individually to the patients the interest of this work and the relevance in the man-

agement of its pathology, no inclusion had no influence on management. Then we conducted an interrogation in order to complete the survey sheet designed for the study. The interview took place in a consultation room in the form of a direct interview.

The variables studied were: sociodemographic data (age, sex, occupation, marital status, educational level, residence, income).

The patient's income level. For this the patients were classified into 4 classes.

- No revenue
- Low income < 40,000 FCFA corresponding to the SMIG (the guaranteed inter-professional minimum wage)
- Average income between 40,000 and 199,999 FCFA
- High revenues 200,000 FCFA

Cardiovascular risk factors (diabetes, dyslipidemia, smoking, obesity).

Medical coverage (health insurance or NGOs and uninsured). Therapeutic aspects of hypertension. Non-drug treatment (hygienic-dietetic measures), drug treatment with different therapeutic classes: IEC (conversion enzyme inhibitor), ARA II (angiotensin II receptor inhibitor), calcium inhibitors, anti-aldosterone, thiazide diuretics, Beta-blockers. Treatment modalities (monotherapy, dual therapy, triple therapy or quadritherapy). Treatment of complications (anti-platelet, statin and anticoagulant).

Girerd's questionnaire was used to assess compliance.

3. Ethics

Participation was voluntary for all included patients with free and informed verbal consent from everyone prior to participation in surveys. Respect for the confidentiality of the information collected was required. This information would only be released for scientific purposes.

Data was captured and analyzed on SPSS version 23.0, Microsoft Word 2010. The Khi² statistical test was used for cross-tabulations with p 0.05

4. Results

A total of 1182 patients were consulted, including 887 for hypertension, a frequency of 75%. Fifty-six patients were included in the study. The average age was 58.18 ± 13.25 years with extremes of 30 and 80 years. There was a female predominance (75%) with a sex ratio of 0.3. The age group (50 - 69) was predominant at 51.8%. Housewives were the majority, 60.7%. The married represented 75% of cases, forty decimal six percent of patients were not educated. The majority of cases were in urban areas (89.3%). Patients with medical coverage accounted for 67.9% of cases. The main risk factors were inactivity (25%), followed by smoking 14.3%. Nearly 57 percent of patients were on dual therapy, followed by triple therapy with 19.6%. More than 71% of patients had a compliance problem. The main reasons for poor adherence were: Forgetting to take the drug (73.2%), followed by taking the drug late 50.0%, and drug rupture with 28.6%.

5. Discussion

Limitations of our study:

Small sample size, insufficient adherence assessment methodology, and quality of patient responses, thus limiting the detection of other potential factors associated with non-compliance.

A total of 1182 patients were consulted in the cardiology department, including 887 for hypertension, a frequency of 75%. Fifty-six patients were included in the study. Coulibaly had found a hospital frequency of 17.7% at the Gabriel Touré hospital [8], in the study conducted by Maiga the frequency of hypertension was 23.7% [9]. The hospital frequency of hypertension is high in our study, this result can be explained by the fact that hypertension is the main reason for consultation in the service. The average age was 58.18 ±13.25 years with extremes of 30 and 80 years. The age group (50 - 69 years) accounted for 51.8% of cases (Table 1). There was a female predominance (75%) with a sex ratio of 0.3 (Table 2). Similar result was observed in the Coulibaly study, the average age of patients was 58.37 ±16.5 years with extremes from 22 to 88 years. The age group 54 and over accounted for 63.1% of cases. The female sex predominated with a sex ratio of 0.36. The risk of hypertension increases with age, including hemodynamic, and mechanical changes in the blood vessels will cause a rise in blood pressure. At menopause, the loss of the protective effect of vasodilator and antiproliferative estrogen on the vessels women are increasingly exposed to hypertension. The majority of housewives were 60.7%, followed by civil servants 8.9%. The married represented 75% of cases (Figure 1), forty decimal six percent of patients were not educated. The majority of cases were in urban areas (89.3%). In contrast to the Coulibaly study [8], more than half of the patients (57.6%) were in school. Schooling is important in the management of chronic diseases, facilitates understanding of the disease, risk perception and adherence to treatment. More than half of the patients or 55.4% had no income. Lack of income can have negative consequences on adherence. 67.9% of cases had medical coverage (Table 3). This medical coverage may contribute to adherence. The main risk factor (Figure 2) was sedentary lifestyle (25%), followed by smoking 14.3%. In the Coulibaly study, risk factors were dominated by sedentary lifestyle (28%), followed by obesity 20.3% [8]. Patients should be sensitized through therapeutic education on the importance of performing sports, as well as reducing salt consumption, fatty foods, carbohydrates, quitting smoking, and reducing alcohol consumption. Nearly fifty-seven percent of patients were on dual therapy, followed by triple therapy with 19.6% (Figure 3). In contrast in Coulibaly, monotherapy (52.8%), followed by dual therapy (34.3%) and triple therapy (11.4%) were the most prescribed [8]. In Congo, Ikama in its study, dual therapy accounted for 47.6%, followed by monotherapy 35.4% and triple therapy 12.3% [10]. In Côte d'Ivoire, patients on monotherapy (45%) were the majority, followed by dual therapy (28.5%) and triple therapy 26.5% [11]. Indeed, the higher the number of antihypertensive drugs, the higher the risk of poor adherence.

The compliance level was good in 28.6% of patients, 51.8 of cases had a minor compliance problem and 19.6% were poor. The number of patients with good compliance in our study (Table 4) was higher than that of Coulibaly, in whom good compliance represented 10.3% and nearly 90% of patients had compliance problems [8]. Our score is lower than that of Girerd in France, good compliance represented 66%, patients with minimal compliance problems were 24% and only 10% poor compliance [12]. African and sub-regional data [10] [11] [13] show the same trend as in our series. The main reasons for poor adherence were: forgetfulness of taking the drug (73.2%), followed by treatment delay or 50%, and drug discontinuation at 28.6% (Table 5). There was a statistically significant relationship with a p = 0.01 between adherence and forgetting to take the drug, however, there was no statistically significant relationship between adherence and drug discontinuation with a p = 0.08.

Table 1. Distribution by sex.

Sex	N	%
Male	14	25.0
Female	42	**75.0**
Total	56	100

Table 2. Distribution by age group.

Age group	N	%
30 to 49 years	15	26.8
50 to 69 years	29	**51.8**
70 to 80 years	12	21.4
Total	56	100
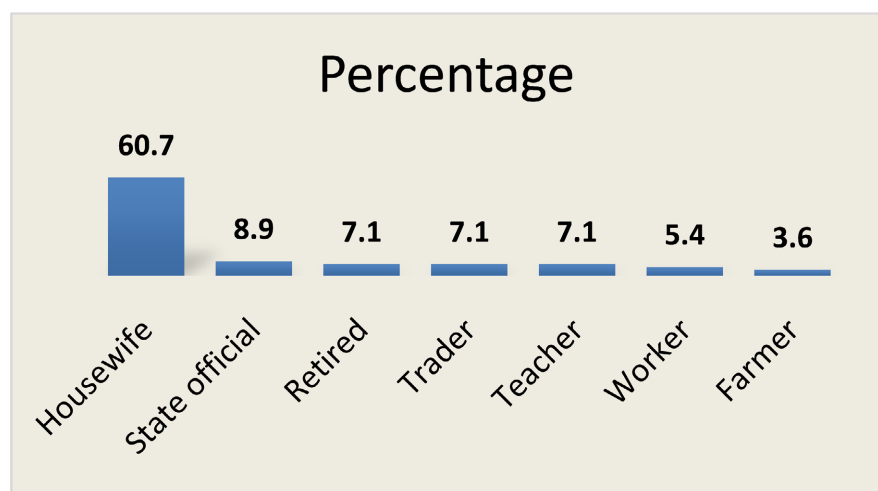
Figure 1. Distribution by occupation.

Table 3. Distribution by income levels.

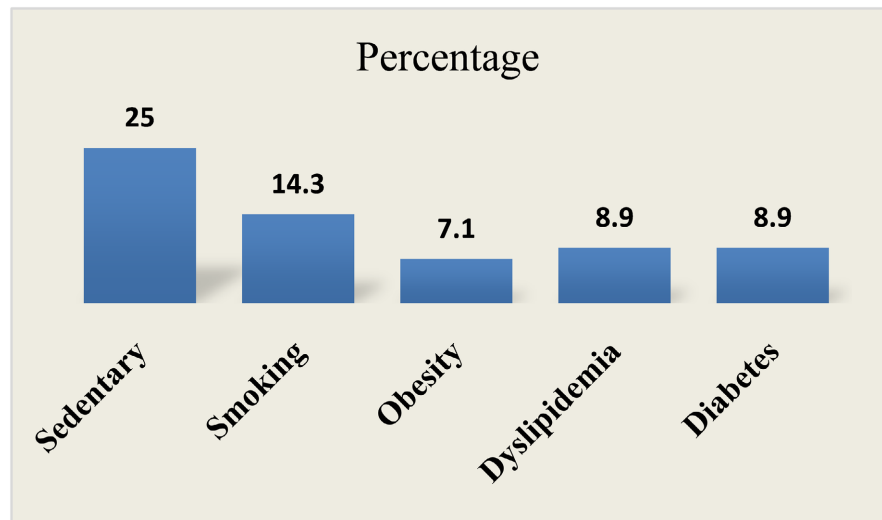| Medical coverage	N	%
Not insured	18	32.1
Insured (AMO)	38	**67.9**
Total	56	100

AMO: statutory health insurance.
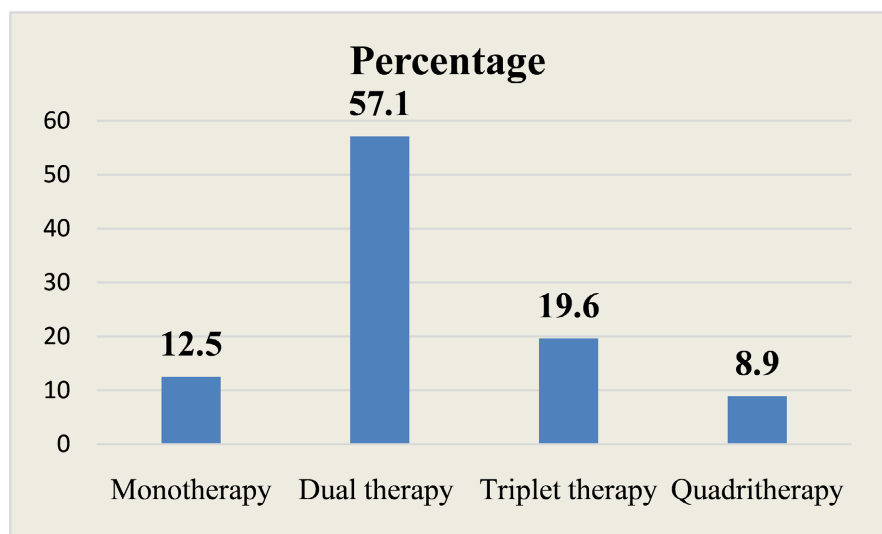

Figure 2. Distribution by cardiovascular risk factors.

Figure 3. Breakdown by type of treatment.

Table 4. Breakdown by reasons for poor compliance.

Reasons for poor adherence	N	%
Forgot to take the drug	41	**73.2**

Continued

Rupture of medication	16	**28.6**
Taking the drug late	28	**50.0**
Forgetting some days by default of memory	11	19.6
Side effect	03	5.3
Too much medication to take	9	16.0

Table 5. Distribution by treatment adherence.

Compliance	N	%
Good observance	16	28.6
Minimal problem compliance	29	**51.8**
Poor compliance	11	**19.6**
Total	56	100

6. Conclusion

Compliance is a real challenge and a major public health issue. This study allowed us to find a real problem of compliance in our hypertensive patients. There was a statistically significant relationship between adherence and forgetting to take the medication.

Recommendations

At the end of this study, the following recommendations are proposed and addressed to policymakers:

   - Improve strategies to combat non-communicable diseases, including hypertension.

   - Adopt national guidelines for the management of hypertension according to the recommendations of learned societies.

   - Make available and accessible drugs for the management of hypertension.

Conflicts of Interest

We have no conflicts of interest.

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Appendix

Therapeutic Adherence In Patients Followed For Ambulatory Hypertension

Investigation Sheet:

The variables collected were:

Age Sex

Profession

Marital status

Married   Single   Widower/widow

School level

Out of school   primary school   Secondary school

Academic

Residence

Rural Urban

Patient income level. For this the patients were classified into 4 classes.

- No revenue

– Low income < 40,000 FCFA corresponding to the SMIG

– Average income between 40000 and 199999 FCFA

– High revenues 200,000 FCFA

Social security

Health insurance or NGOs (non-governmental organization):Uninsured:

Quality of the family environment

Education level of family members living with the patient:

Spouse: Out of school   primary school   Secondary school   Academic

Children: Out of school   primary school   Secondary school   Academic

Parents: Out of school   primary school   Secondary school   Academic

Cardiovascular risk factors

Diabetes Sedentary lifestyle

Dyslipidemia Smoking Obesity

History of cardiovascular disease

Stroke   Ischemic heart disease   Heart failure   Valvulopathy

PAD (peripheral arterial disease)

Characteristics of hypertension

Duration of evolution

HTA grade on day of data collection

Treatment of hypertension:

Non-drug (health-dietary measures)

Medicated

IEC (conversion enzyme inhibitor)   ARA II (angiotensin II receptor inhibitor)

Calcium channel blockers   Anti-aldosterone   Thiazide diuretics

Beta-blockers

Monotherapy Dual therapy Triple therapy   Quadritherapy

Treatment of complications

Antiplatelet   Statin   Anticoagulant   Arrhythmic

Adherence was assessed from the Girerd questionnaire.

The questions asked were as follows with a yes or no answer.

Did you forget to take your medicine this morning?

Since the last consultation have you been out of medication?

Have you ever taken your treatment late compared to the usual time?

Have you ever not taken your treatment because, on certain days, your memory is lacking?

Have you ever not taken your treatment because some days you feel that your treatment is doing you more harm than good?

Do you think you have too much medication to take?

During a consultation for the renewal of the prescription for the treatment of high blood pressure all questions are asked by the doctor to the patient.

Total YES = 0. Score = 0: Good Adherence

Total YES = 1 or 2. Score = 1 or 2: Minimal compliance problem

Total YES = 3. Score = 3: Poor adherence