Research Article ISSN 2639-8486

Cardiology & Vascular Research

Evaluation of the Epidemiological-Clinical and Psycho-Social aspects of Hypertensive Patients with COVID-19 at the Epidemiological Treatment Center of Gbessia Conakry

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Received: 29 Nov 2024; **Accepted:** 02 Jan 2025; **Published:** 09 Jan 2025

Citation: Baldé Elhadj yaya, Barry Ibrahima Sory, Camara Ousmane Mamadama, et al. Evaluation of the Epidemiological-Clinical and Psycho-Social aspects of Hypertensive Patients with COVID-19 at the Epidemiological Treatment Center of Gbessia Conakry. Cardiol Vasc Res. 2025; 9(1): 1-5.

ABSTRACT

Coronavirus disease 2019 (COVID-19), is a global pandemic that has affected 600 million cases worldwide [1] and more than 3.3 million cases in Japan in February 2022 [2]. Its impact in patients with comorbidities with cardiovascular risk factors such as high blood pressure (HBP) is unpredictable. We aimed through this study to evaluate the psychological impact of COVID-19 in hypertensive patients hospitalized at the Gbessia epidemiological treatment center. We conducted a retrospective descriptive study from November 1, 2020 to April 30, 2021 covering all known or incidentally discovered hypertensive patients hospitalized at the Gbessia epidemiological treatment center for COVID-19. Hypertensive patients represented 16.11% with an average age of 58.25#23 years with a female predominance at 51%, 36.19% of patients did not present symptoms and in symptomatic forms the picture was dominated by asthenia (27.10%), dyspnea (20.95%), and fever (15.71%). The majority of patients (49.05%) were in Grade 1 of High Blood Pressure (WHO). The study showed that the psychological impact was marked by an anxiety-depressive state in the majority of cases (62%). This psychological state showed a favorable evolution in the vast majority of our patients (81%). It should be noted through this study that the level of anxiety and depression linked to COVID-19 infection in hypertensive patients is not negligible and this must be a considerable element in the management of these patients.

Keywords

High blood pressure, COVID-19, Anxiety and depression, Epidemiological treatment center, Gbessia.

Introduction

Coronavirus disease 2019 (COVID-19), is a global pandemic that has affected 600 million cases worldwide [1] and more than 3.3 million cases in Japan in February 2022 [2]. It is a disease closely observed in hypertensive patients [3] and which claims the lives of 9 million people worldwide each year [4]. In sub-Saharan Africa, HBP affects more than 46 million adults aged over 25 years [5,6]. Furthermore, exposure to this SARS -cov 2 is high at more than 65% of people in this region (WHO) [7,8]. HBP is receiving increased attention, as in the 2020 report noting the association of COVID-19 and high blood pressure. Several studies have investigated the prevalence of HBP in COVID-19 patients worldwide [9,10]. Others have shown a prevalence ranging from 15 to more than 50% in the literature [11,12]. In addition, another study carried out reported pre-existing high blood pressure in 19% of patients with COVID-19 [13]. In Guinea, Donanou J et al.,

reported a prevalence of 77% of patients with at least one medical comorbidity in intensive care at the Donka Epidemiological Treatment Center, where in arterial HBP occupied the first place with a prevalence of 55% [14]. This prevalence generates manifestations of anxiety in the face of COVID-19 [15,16], particularly in hypertensive patients [17,18], which turns out to be the most important in patients hospitalized for COVID-19 in units intensive care (58%) [13,15,19]. Studies have reported in hypertensive patients, the presence of anxiety [20], depression [21] and fear of COVID-19. However, knowledge of the impact of this pandemic on the mental health of these patients remains limited [22]. Given that anxiety, depression and fear could worsen the health condition of hypertensive patients and/or non-hypertensive patients hospitalized for COVID-19; an overview of the association between psychological disorders and hypertension provided assistance in planning for the challenges linked to the COVID-19 pandemic. The objective of this study was to evaluate the psychological impact, particularly the level of anxiety and fear of COVID-19 among hypertensive patients hospitalized at the Gbessia epidemiological treatment center.

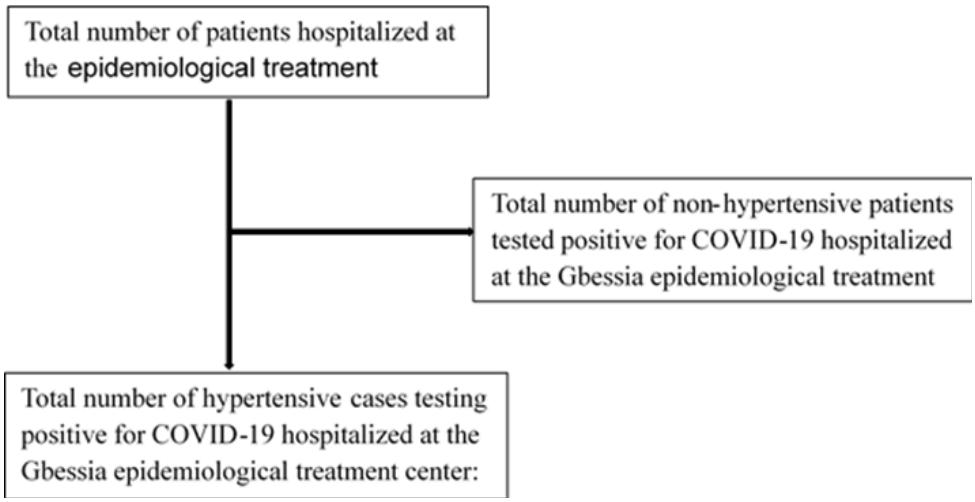
Methods

This was a retrospective descriptive study carried out from November 1, 2020 to April 30, 2021 at the Gbessia epidemiological treatment center covering all known or new hypertensive patients who were hospitalized at the Gbessia epidemiological treatment center Gbessia for COVID-19 during our study period. The study included all patients whose age is greater than or equal to 18 years with a blood pressure greater than or equal to 140/90 mmHg (confirmed by several measurements for patients not known to be hypertensive) and who tested positive for COVID-19 using the rapid diagnostic test with confirmation by PCR, managed at the Gbessia epidemiological treatment center according to the national COVID-19 therapeutic protocol, without distinction of sex or origin, cooperating to participate in the study. We carried out an exhaustive recruitment of patients in accordance with our inclusion criteria. For the retrospective part, we analyzed the medical records. Hypertensive patients were contacted by telephone after informed consent to administer the questionnaire on anxiety and depression. For the prospective part, hypertensive patients were selected on admission after taking blood pressure with the electronic blood pressure monitor and then questioning. The patients were followed throughout the hospitalization, those who presented complications were transferred to intensive care. At each stage of the study our information was reported on the survey form and hygiene measures were rigorous (washing hands before and after the examination, basic Epi). Our variables were quantitative and qualitative divided into epidemiological, clinical, psycho-social and evolutionary variables. The epidemiological variables concerned: age, sex and residence. The age variable allowed us to determine the mean, the standard deviation and the extremes. For its descriptive analysis we divided it into two branches with intervals of 10, namely (53 – 62 and 63 – 72) in order to determine the highest category. Gender, the modalities of which are: male and female and residence consisting of rural and urban region. The clinical variable defined: the clinical symptomatology and the different grades of HBP according to the WHO classification. For the psychosocial variable, we used the Hospital, Anxiety and Depression scale (C:\Users\TOURE\Desktop\outiechellehad.pdf) to assess the level of anxiety or depression in hypertensive patients. This scale explores anxiety and depressive symptoms. Patients who presented anxiety and depression benefited from psychosocial care. We used the epidemiological treatment center database to count the number of patients hospitalized during our study period. SPSS version 26 software was used for data entry and analysis. We performed descriptive statistics of the mean, standard deviation and extremes for the quantitative variables, and the number and proportion for the categorical variables. The non-cooperation of certain patients constituted our main difficulties. Our data was collected anonymously and confidentiality was required. The information obtained was used for scientific purposes.

Results

In total, 210 patients received at the Gbessia epidemiological treatment center presented symptoms and manifestations linked to COVID-19 with proof of a positive PCR test for COVID-19 or SARS-CoV-2 during our period study corresponding to a prevalence of 16.11% (Figure 1). The average age of patients was

Figure 1



58.25 +/- 23 years with a female predominance of 51% for a M/F ratio=0.94. patients in urban areas were the most affected with a frequency of 90% (Table 1). 36.19% of patients were asymptomatic and in symptomatic forms, the clinical picture was dominated by physical asthenia (27.14%), dyspnea (20.95%) and fever (15.72%) (Table 2). The majority of patients had mild hypertension (49.05%) (Table 3). We noted the presence of an anxiety-depressive state in the majority of patients (60%) and this picture was doubtful in 40% (Figure 2). What emerges from this study is that 81% of our patients presented a favorable outcome compared to 19% who presented complications such as respiratory distress (Figure 3).

Table 1

Demographic characteristics	Number (n=210)	Proportions (%)
Age (years)		
53-62	72	34
63-72	56	26
Means +/- standard deviation, [extreme]	58,25 +/- 23	53-72
Sex		
Female	108	51
Male	102	49
Ratio (M/W)	0,94	
Residency		
Rural	19	9
Urban	191	90

Table 2

Symptoms	Number (n=210)	Proportions (%)
Asymptomatic	83	36.19
Asthenia	57	27.14
Dyspnea	44	20,95
Fever	33	15.71
Anorexia	32	15,24
Headaches	31	10,48
Sore throat	13	6,19
Anosmia	12	5,71
Taste loss	21	10
Chest pain	6	0,48
Other symptoms	6	0,48

Figure 2

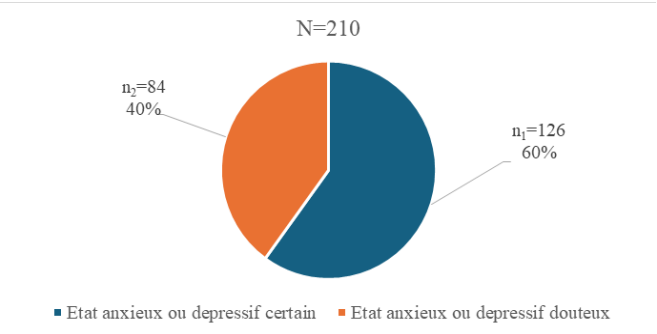
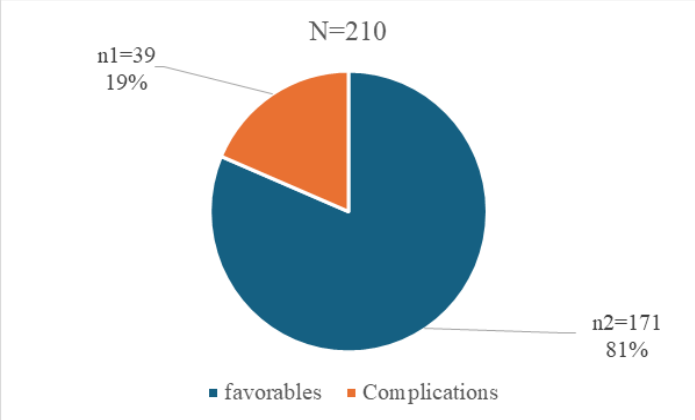


Table 3

Grade of high blood pressure	Number (n=210)	Proportions (%)
Grade 1	103	49,05
Grade 2	74	34,29
Grade 3	33	15,71
Total	210	100

Figure 3



Discussion

High blood pressure being a major cardiovascular risk factor, the effect of the psychosocial impact of COVID-19 infection in hypertensive patients could be deleterious and worsen the risk of complications. Our study shows that 16.11% of patients admitted to the Gbessia epidemiological treatment center were hypertensive. Yannick CB and col [23] in 2023 found 38.2%, a result higher than ours. On the other hand, in certain studies we find results comparable to ours [24]. We explained these results by the fact that high blood pressure being a major risk factor is a chronic disease more common in the elderly; the low rate in our series compared to other authors could be explained by the small size of our sample which does not cover patients without a COVID-19 PCR test. Our patients were mainly aged 53 to 62 years with an average age of 58.25 +/- 23 years and the female layer was the most affected (51%). This result is comparable to that of Konaté et al. [25] who obtained an average age of 55.21 +/- 14.61 years. This high frequency among the elderly could be explained by the multiplicity of age-related comorbidities. Some studies [26] also mention female predominance, but other authors find a higher frequency among men [27]. In our series, 36.19% of patients were asymptomatic on admission and among those who presented symptoms, the tables were dominated respectively by physical asthenia (27.14%), dyspnea (20.95%) and fever (15.71%). For Yannick CB and col. [22] in 2023 physical asthenia was the main symptom in 73.5% of cases followed by fever (58.8%) and cough (58.8%). The studies of Konaté and col. [25] in 2025 revealed some signs namely: cough (41.02%), ageusia (11.53%), and dyspnea (10.25%). After checking the blood pressure figures in the patient, we found that the majority (49.05%) of patients had mild hypertension. Konaté and col. found higher grades of high blood pressure. On the psychological level, our results showed

that the majority of patients had a definite anxiety-depressive state (82%) and in 38% of cases this picture was doubtful. This result is close to that of Sensoy B and col. [18] who noted a higher rate of anxiety (55%). This high rate of anxiety could be explained by the lack of information about COVID-19 infection within the population. Regarding barrier measures and availability anti-COVID-19 vaccines, on the other hand by the high mortality rate linked to this pandemic over the last three decades. The evolution in our study is comparable to Huang S and col. [28] who in 2029 reported that hypertensive patients had a mortality rate of 24.8%.

Conclusion

Although our study is limited by certain factors such as the small size of the sample, the lack of identification of certain cases who did not consult and the scarcity of centers for the management of complicated cases, however, it was able to highlight the psychological impact of COVID-19 infection in hypertensive patients hospitalized at the Gbessia epidemiological treatment center regarding their anxiety-depressive state. Psychological care alongside specific treatment of COVID-19 infection could contribute to the clinical improvement of these patients. It is therefore crucial to guide an intervention policy aimed at maintaining their psychological well-being so that the challenge facing this pandemic can be beneficial.

References

1. Hirae K, Hoshina T, Koga H. Impact of the COVID-19 pandemic on the epidemiology of other communicable diseases in Japan. Int J Infect Dis. 2023; 128: 265-271.
2. https://covid19.mhlw.go.jp/en/
3. Rapsomaniki E, Timmis A, George J, et al. Blood pressure and incidence of twelve cardiovascular diseases: lifetime risks, healthy life-years lost, and age-specific associations in 1·25 million people. The Lancet. 2014; 383: 1899-1911.
4. Sohrabivafa M, Sadeghi R, Feiz-Haddad MH. Worldwide Prevalence of Hypertension in Patients with COVID-19: A Meta-analysis and Systematic Review. Health Scope. 2022.
5. Organisation mondiale de la santé. Organisation Mondiale de la Santé; Genève, Suisse: 2013. Une synthèse mondiale sur l'hypertension: tueur silencieux, crise mondiale de santé publique. 2013.
6. Rahman M, Douglas JG, Wright JT. Pathophysiology and treatment implications of hypertension in the African-American population. Endocrinol Metab Clin North Am. 1997; 26: 125-144.
7. Yannick CB, Justin MB, Aimerance NB, et al. Influence of arterial hypertension on the clinical profile and prognosis of patients hospitalized for COVID-19 in the city of Bukavu, in the Democratic Republic of Congo : Prospective cohort study. Ann Cardiol Angeiol (Paris). 2023; 72: 25-30.
8. Shibata S, Arima H, Asayama K, et al. Hypertension and related diseases in the era of COVID-19: a report from the Japanese Society of Hypertension Task Force on COVID-19. Hypertens Res Off J Jpn Soc Hypertens. 2020; 43: 1028-1046.
9. Krajewska - Ferishah K, Krajewska-Kułak E, Terlikowski S, et al. Analysis of quality of life of women in menopause period in Poland, Greece, Belarus and Belgium using MRS Scale. A multicenter study. Adv Med Sci. 2010; 55: 191-195.
10. Reyhani M, Kazemi A, Keshvari M, et al. Sexual expectations and needs of middle-aged women: A qualitative study. J Educ Health Promot. 2018; 7: 49.
11. Driggin E, Madhavan MV, Bikdeli B, et al. Cardiovascular Considerations for Patients, Health Care Workers, and Health Systems During the COVID-19 Pandemic. J Am Coll Cardiol. 2020; 75: 2352-2371.
12. Grasselli G, Zangrillo A, Zanella A, et al. Baseline characteristics and outcomes of 1591 patients infected with SARS-CoV-2 admitted to ICUs of the Lombardy Region, Italy. Jama. 2020; 323: 1574-1581.
13. Li J, Huang DQ, Zou B, et al. Epidemiology of COVID-19: A systematic review and meta-analysis of clinical characteristics, risk factors, and outcomes. J Med Virol. 2021; 93: 1449-1458.
14. Donamou J, Bangoura A, Camara LM, et al. Caractéristiques épidémiologiques et cliniques des patients COVID-19 admis en réanimation à l'hôpital Donka de Conakry, Guinée: étude descriptive des 140 premiers cas hospitalisés. Anesth Réanimation. 2021; 7: 102-109.
15. Wang C, Pan R, Wan X, et al. Immediate Psychological Responses and Associated Factors during the Initial Stage of the 2019 Coronavirus Disease (COVID-19) Epidemic among the General Population in China. Int J Environ Res Public Health. 2020; 17: 1729.
16. Cao W, Fang Z, Hou G, et al. The psychological impact of the COVID-19 epidemic on college students in China. Psychiatry Res. 2020; 287: 112934.
17. Sensoy B, Gunes A, Ari S. Anxiety and depression levels in Covid-19 disease and their relation to hypertension. Clin Exp Hypertens. 2021; 43: 237-241.
18. Şensoy B, Çamci S. The relationship between the desired blood pressure level and anxiety in hypertensive patients with COVID-19. Anatol J Cardiol. 2020.
19. Cinaud A, Sorbets E, Blachier V, et al. Hypertension artérielle et COVID-19. Presse Médicale Form. 2021; 2: 25-32.
20. Sensoy B, Gunes A, Ari S. Anxiety and depression levels in Covid-19 disease and their relation to hypertension. Clin Exp Hypertens. 2021; 43: 237-241.
21. De Paiva Teixeira LEP, Freitas RLD, Abad A, et al. Psychological Impacts Related to Stress and Fear during the COVID-19 Pandemic: Cardiovascular Diseases, Diabetes and Psychological Disorders as Risk Factors. World J Neurosci. 2020; 10: 191-205.
22. Yannick CB, Justin MB, Aimerance NB, et al. Influence de l'hypertension artérielle sur le profil clinique et le pronostic des patients hospitalisés pour COVID-19 dans la ville de Bukavu, en République Démocratique du Congo : étude de cohorte prospective. Ann Cardiol Angeiol (Paris). 2023; 72: 25-30.

23. Driggin E, Madhavan MV, Bikdeli B, et al. Cardiovascular Considerations for Patients, Health Care Workers, and Health Systems During the COVID-19 Pandemic. J Am Coll Cardiol. 2020; 75: 2352-2371.

24. Richardson S, Hirsch JS, Narasimhan M, et al. Presenting Characteristics, Comorbidities, and Outcomes Among 5700 Patients Hospitalized with COVID-19 in the New York City Area. JAMA. 2020; 323: 2052-2059.

25. Konaté M, Sako M, Traoré D, et al. Epidemiology of Covid-19 and high blood pressure association at Mali'shospital. Mali Med. 2021; 36: 19-22.

26. Akpek M. Does COVID-19 Cause Hypertension?. Angiology. 2022; 73: 682.

27. Delalić Đ, Jug J, Prkačin I. Arterial Hypertension Following Covid-19: A Retrospective Study Of Patients In A Central European Tertiary Care Center. Acta Clin Croat. 2022; 61: 23-27.

28. Huang S, Wang J, Liu F, et al. COVID-19 patients with hypertension have more severe disease: a multicenter retrospective observational study. Hypertens Res. 2020; 43: 824-831.