

What did the COVID-19 pandemic do to systemic blood pressure?*¿Qué le hizo la pandemia de COVID-19 a la presión arterial sistémica?**O que a pandemia da COVID-19 fez com a pressão arterial sistêmica?***Wenderson Bruno Herculano da Silva¹**

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Silva WBH, Côrtes EMP, Lima TA, Gouvêa NA, Marta CB, Ferreira MA, Machado PRF, Silva WGR, Paulo AOS, Oliveira DAE. What did the COVID-19 pandemic do to systemic blood pressure? Glob Acad Nurs. 2021;2(Spe.2):e105.
<https://dx.doi.org/10.5935/2675-5602.20200105>

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Chief Editor: Carolyn dos Santos
Guimarães da Fonseca
Executive Editor: Kátia dos Santos
Armada de Oliveira

Submission: 01-30-2021

Approval: 03-01-2021

Abstract

The aim was to identify whether there was any influence of the pandemic in the lives of patients with chronic non-communicable diseases accompanied by a family health strategy. This work was developed through a qualitative descriptive field research, carried out in a family health strategy in a neighborhood located in the North Zone of the State of Rio de Janeiro, from September to December 2020. Despite, proven effectiveness in preventive measures in combating complications caused by diseases caused by systemic arterial hypertension, treatments, whether pharmacological or not, impact on the population and the government. The results of this study showed that the pandemic caused by the new coronavirus influenced the blood pressure levels of patients with systemic arterial hypertension.

Descriptors: Nursing Care; Family Health Strategy; Coronavirus Infections; Hypertension; Telemonitoring.**Resumén**

El objetivo fue identificar si existía alguna influencia de la pandemia en la vida de los pacientes con enfermedades crónicas no transmisibles acompañadas de una estrategia de salud familiar. Este trabajo se desarrolló a través de una investigación de campo descriptiva cualitativa, realizada en una estrategia de salud familiar en un barrio ubicado en la Zona Norte del Estado de Río de Janeiro, de septiembre a diciembre de 2020. A pesar de la probada eficacia de las medidas preventivas para combatir las complicaciones provocadas por las enfermedades provocadas por la hipertensión arterial sistémica, los tratamientos, ya sean farmacológicos o no, tienen un impacto en la población y el gobierno. Los resultados de este estudio mostraron que la pandemia provocada por el nuevo coronavirus influyó en los niveles de presión arterial de los pacientes con hipertensión arterial sistémica.

Descriptores: Cuidado de Enfermería; Estrategia de Salud de la Familia; Infecciones por Coronavirus; Hipertensión; Telemonitorización.**Resumo**

Objetivou-se identificar se houve alguma influência da pandemia na vida dos pacientes portadores de doenças crônicas não transmissíveis acompanhados por uma estratégia da saúde da família. Esse trabalho foi desenvolvido através de uma pesquisa de campo de natureza descritiva qualitativa, realizada em uma estratégia da saúde da família em um bairro localizado na Zona Norte do Estado do Rio de Janeiro, entre os meses de setembro a dezembro de 2020. Apesar de uma comprovada eficácia nas medidas preventivas no combate as complicações ocasionadas pelas doenças provenientes da hipertensão arterial sistêmica, os tratamentos, sejam farmacológicos ou não, impactam em ônus para a população e para o governo. Os resultados desse estudo mostraram que a pandemia causada pelo novo coronavírus exerceu influência nos níveis pressóricos dos pacientes portadores de hipertensão arterial sistêmica.

Descriptores: Cuidados de Enfermagem; Estratégia Saúde da Família; Infecções por Coronavírus; Hipertensão; Telemonitoramento.

Introduction

Systemic Arterial Hypertension (SAH) is defined by the increase in pressure exerted within blood vessels by the volume of circulating blood during ventricular contraction, detected in two or more measurements at different times or using antihypertensive drugs¹.

According to studies carried out on the causes and treatments for hypertension, it is known among researchers that this condition becomes a risk factor for cardiovascular disease and a precedent that increases the risk of disability and of the population with this Chronic Non-Communicable Disease (CNCDs)¹.

The increase in circulating blood volume in the body or any other metabolic factor that leads to increased blood pressure (BP) are treatable risk factors for stroke, atrial fibrillation, heart failure and prevention of target organ damage¹.

As with most CNCDs, risk factors against morbidity and mortality caused by SAH could be avoided by changes in lifestyle, such as: adoption of healthy eating habits, physical activity practices, decrease in alcohol intake, among other precautions².

In Brazil, there are strategies to reduce the impacts caused by chronic diseases both in public services and in the population's daily life. These care plans are found in the three levels of care aimed at services provided to the public such as the primary, secondary, and tertiary level, but it is especially worked at the primary level where it plays a prominent role in the prevention and promotion of various diseases and their grievances².

To expand this work of health maintenance to the population, there are the Family Health Strategies (FHS), which participate with comprehensive and continuous attention to the health of users, with emphasis on home monitoring carried out by professionals working in these institutions and the performance of tests for preventive and early diagnosis².

During all the planning and organization carried out by the Primary Care Units, in 2020 we faced a pandemic caused by the new Coronavirus, COVID-19, which began on March 13, 2020, after the decree of the World Organization of Health (WHO). Originally it was an outbreak in Wuhan province in China, but after its rapid global spread, it has become a pandemic with a high number of deaths around the world³.

COVID-19 interacts with the cardiovascular system, increasing the number of cases of illness and death among patients with SAH or other pathologies of the cardiac system. Observing the growing number of deaths caused by this pathology, the present study aimed to identify whether there was any influence of the pandemic in the lives of patients with CNCDs assisted by the Unified Health System (UHS).

Methodology

This work was developed through a qualitative descriptive field research, carried out in an ESF in a neighborhood located in the North Zone of the State of Rio

de Janeiro, between the months of September and December 2020. At this unit there were, at the time of the research, 39,554 users registered in the system, among these registered 11,102 were diagnosed with arterial hypertension. There are 13 teams in this unit, consisting of a doctor, a nurse and four community health agents, in addition to having residents in Nursing and Medicine and receiving scholarship holders every year to train university students during the undergraduate period.

Data from this research were collected through interviews conducted with 10 of the nurses working in the unit, all study participants agreed to participate and signed an informed consent form, the proposed script was a semi-structured interview, which were previously scheduled in a way that did not interfere with the professionals' workflow.

The nurses who were eligible for the inclusion parameters in the research totaled 77% of professionals in this category working in the clinic. The criteria were: nurses who had more than 1 year of experience working on the same team before the pandemic and nurses who were not absent from the service for more than 40 consecutive days from January 2019 to October 2020.

This assessment was applied so that it was possible to ensure that the professionals participating in the study had a minimal knowledge of the team and users served by them and were able to trace a parameter through the assessments and measurements made and noted in medical records, observing any possible change that the COVID-19 pandemic and social distancing may have brought on the blood pressure of these patients with CNCD.

The blood pressure values of patients followed in the unit were surveyed 1 year before the social isolation measures were adopted in the State of Rio de Janeiro and they were compared to the values found after the social relaxation measures started to occur in the state and the consultations started. resuming your normal service flow.

Then, all ethical aspects required by the Ethics and Research Committee (CEP) of educational institutions were met, receiving a favorable opinion for the application of the study under the letter CAAE nº 35422820.8.0000.5279. The collection of information began only after CEP approval.

For the collection instrument, a semi-structured questionnaire consisting of open and closed questions was used so that there was a view of the sociodemographic profile of the respondents, and we obtained, through these questions, the answers that moved us to investigate this work, all professionals were identified by the initial of the category and an Arabic number as the interviews were conducted.

To analyze the content of open questions, the technique of Bardin⁴ was used, which proposes the process of categorization and subcategorization of the content obtained through communication, following the steps of pre-analysis, material exploration, treatment and interpretation of the data obtained.

After the research had taken place, the speeches were transcribed and their extensive reading began so that the grouping of ideas that were repeated or dealt with the



same subject could take place and the categorization of the elements followed: Established protocols for care the population, Findings made by the Nursing teams and Strategies developed by the teams.

Chart 1 presents the academic and professional profile of the professionals who took part in the study, showing the length of service in family health strategy, the age of these professionals, all those surveyed had specialization in family health.

Results and Discussion

Chart 1. Sociodemographic characterization of the sample. Rio de Janeiro, RJ, Brazil, 2020 (n=10)

Professionals	Age	Service Period
NURSE 1	34 years	4 years and 3 months
NURSE 2	36 years	10 years
NURSE 3	37 years	7 years
NURSE 4	30 years	5 years
NURSE 5	26 years	2 years and 7 months
NURSE 6	28 years	2 years
NURSE 7	35 years	3 years
NURSE 8	38 years	5 years
NURSE 9	29 years	2 years
NURSE 10	32 years	4 years

Despite a proven effectiveness in preventive measures in combating the complications caused by diseases arising from SAH, treatments, whether pharmacological or not, impact on the population and the government, it is important that there is assistance directly focused on the population with hypertension and that strategies are created for an adequate individualized treatment, thus reducing complications caused by heart disease.

The FHS plays an important role in controlling the reduction of damage caused by this CNCD, through this study we can observe how it continued to provide assistance to the population during the pandemic caused by COVID-19.

We organized the results and discussions of this study into categories so that we could observe the behaviors and managements created by nurses so that they could follow up with the treatments and guidelines given to the population.

Protocols established for the care of the population

We observed in the answers given by the interviewees that the entire team was guided to change their care schedule so that there was a prioritization in the care of respiratory symptomatics, and that they only kept appointments aimed at priority groups such as: prenatal care, patients with tuberculosis and childcare only.

"[...] because of this, at first, the schedule was closed for this line of care follow-up, we were ahead only to be able to attend to respiratory symptoms [...]" (NURSE 1).

"[...] at the beginning of the pandemic, and as soon as it started, we were not seeing patients in scheduled appointments, hypertension and diabetes, we were even providing care there from the rapid response team (ERR), and when the patient came on a spontaneous demand with something serious that needed to be attended at that time, right, we weren't making consultations and we weren't asking for tests, the only tests that were being done were also urgent, other than that, we weren't doing any follow-up [...]" (NURSE 2).

These guidelines that the nurses were following were guidelines coming directly from the Ministry of Health,

so that there was care and public services were cautious when providing care to the population, as it was a disease with a global reach and high lethality to the group of risk⁵.

Findings made by the Nursing teams

With the occurrence of social distancing, the closing of several public and private services, the increase in the number of cases and the number of deaths accumulated each day, the population was forced to remain inside their homes to preserve their lives and those of their loved ones. dear⁶.

However, with this period of confinement or more popularly known as quarantine, some factors observed by the teams were decisive for an increase in blood pressure levels in patients with SAH. It was found in the statements of some professionals that the factors that may have influenced were:

"Staying at home, many people were out of work, there was not much to do and they ended up leaving the diet and also because of the lack of follow-up, so don't come to the unit [...]" (NURSE 4).

"I think the food, the lack of physical activity, because even if they don't have regular activity, go for a walk and join a gym, I think they got like that [...], just staying at home, not being able to go out, no to be able to go for a walk, go to the bank, I came to the clinic, which is already a good walk, I think this contributed a lot to weight gain and then, the person stays at home just eating, and then they don't eat well and eat more no, eat right, I think that's it, especially the lack of physical activity" (NURSE 6).

"[...] my patients have a very high level of vulnerability, so they have difficulty in complying with the treatment at all times, and I think the pandemic made it worse, right, that they were in total isolation, then the isolation of the family, isolation of professional, isolation of orientation and then I think it got a lot worse [...]" (NURSE 7).

"Discontinuity of care, he does not have access to consultations and routine laboratory tests where we can have greater surveillance in that case, if you have surveillance, you have an intervention, if there is no surveillance, if that doesn't appear there for people evidenced, we get kind of lost, right?" (NURSE 9).



What the researchers observed from the responses of these professionals is that some factors influenced the rise in blood pressure of these patients, social isolation causing these patients to remain inside their homes, anxiety due to the lack of work and income leading to these patients overeating, lack of follow-up and discontinuity of care for their pathologies causing them to become irregular with the treatment.

The effectiveness for an adequate health treatment is a multidisciplinary work in which the entire team (Nurses, Nutritionists, Social Services, Physicians, Occupational Therapists, Physiotherapists, Physical Educators and psychologists or other professionals linked to the NASF Family Health Support Center) outline with the patient a unique therapeutic project, so that good results are achieved in the treatment chosen for the citizen^{1,7}.

A study published in 2020 addressing issues such as social determinants and cardiovascular risks show us that the longer the individual lives with decompensated SAH, the greater the complications and injuries affected by this pathology, leading to the occurrence of secondary injuries and kidney problems, among other disorders in the cardiovascular system⁸.

These social factors entail a burden for the public coffers and consequently for society, as they lead to absenteeism, absence from employment, loss of work force, early retirement due to disabilities caused by injuries, sequelae and illnesses caused by the disease, in addition to expenses with drug treatments and rehabilitation and recovery services for a pathology that can be effectively controlled most of the time by lifestyle changes and regular follow-up in public or private services^{7,8}.

Strategies developed by teams

"[...] during the pandemic we had a more restricted time for appointments and then we started to monitor them over the phone" (NURSE 3).

"This issue of telemonitoring has also helped, this contact with the patient, many times in this period of distancing we did not have much contact with them because we were not able to come to the unit, and I believe that this part of telemonitoring helped a little" (NURSE 5).

"That of giving him the opportunity to come to the unit to be able to ask for the prescription, because most of our patients come to us asking to renew the prescription, many of them just want the prescription, you know? just renew the prescription they want, so I take advantage of this moment when he comes to the unit to be

The professionals working in this unit, which served as the place for the research, developed strategies to continue the treatment and monitoring of these patients. The work developed by community health workers and other professionals was very important in the contacts made via telemonitoring to patients with CNCD in the periods between March and July 2020⁹.

Another method thought by these nurses was to provide opportunities for patients to go to the service unit to renew the prescription to carry out the hypertension consultation that were already overdue due to the interruption of consultations and bring the responsibility of the treatment and its total effectiveness to the patient as well, making him be the main actor of his own care. Ensuring that the patient received guidance and information that could help with blood pressure control even during the period of isolation¹¹.

Conclusion

The results of this study showed that the pandemic caused by COVID-19 influenced the increase in blood pressure levels of patients with SAH, factors such as: social distancing, unbooking of routine appointments, unemployment, anxiety, sedentary lifestyle, inadequate nutrition, and discontinuity of follow-ups may have been factors that led to the increase in blood pressure levels of patients monitored by the teams in the researched area.

The study brought us the managements created by the teams to provide continuity of care to the population, as even during the first peak of the pandemic, the professionals observed that many patients were becoming decompensated in their pathologies and saw the need to develop strategies to continue to monitor them. , this makes us reflect on how we can be adaptable to the most diverse situations so that we can provide a service of professional excellence.

As a suggestion for future studies, we encourage interested researchers to monitor these patients and identify if there were sequelae caused by this period of elevation in blood pressure, if the patients were able to normalize their blood pressure levels within the recommended values and if there was an increase in morbidity and mortality influenced by the increase systemic blood pressure.

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