Hypertensive kidney disease in Brazil between 2011 and 2021

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ABSTRACT
Hypertensive kidney disease (HCD) is a progressive kidney injury that has its origin due to long-term poorly controlled arterial hypertension, even with prevention campaigns, hypertension is still an important public health problem. The aim of this study was to describe the number of deaths caused by hypertensive kidney disease in Brazil from 2011 to 2021. This is a descriptive, exploratory study with a quantitative approach, with data collected through access to the DATASUS health data platform. Within the period analyzed, the total number of deaths was 106,973. In the ten years evaluated, the year with the highest number was 2021, totaling 10,979 deaths due to hypertensive kidney diseases. Regarding gender, there were 1,360 deaths in men and 1,185 deaths in women. In view of the data obtained, it is observed that male and elderly patients (60 to 80 years or older) have a greater susceptibility to the development of comorbidities associated with hypertensive renal crisis. This trend can be explained by the fact that men, in general, tend to show less concern with health and lower adherence to self-care practices when compared to women.

Keywords: Renal Hypertension, Causes of Death, Brazil.

1 INTRODUCTION

Hypertensive kidney disease (HCD) is a progressive kidney injury that has its origin due to long-term poorly controlled arterial hypertension (GRECIO, MAIA, LOPES, 2022). In addition, the clinical diagnosis of hypertensive kidney disease begins with the suspicion of an increase in serum creatinine and consequently a reduction in glomerular filtration rate, associated with proteinuria (WILLIAMS, et al, 2018; UNGER, et al, 2020). Consequently, when the lesion compromises a large extent of renal function, the treatment may require hemodialysis and for this, patients need a vascular

access that allows the connection of the patient's circulation to the external hemodialysis circuit (GRECIO, MAIA, LOPES, 2022).

Arterial hypertension can be considered one of the most common risk factors for strokes, cerebrovascular accidents, myocardial infarction and progressive kidney diseases. And despite the numerous health promotion campaigns, linked to the population's health education for the practice of healthy habits such as a balanced diet and physical exercise, the consequences of hypertensive problems entail a high cost for public health (SCHMITZ, 2012). In addition to long-term complications, such as changes in family dynamics, absenteeism, cardiovascular complications, among others.

According to DATASUS, diseases of the circulatory system are found in chapter IX of the International Classification of Diseases and Related Health Problems (ICD), which includes groups of diseases ranging from acute rheumatic fever (I00-I02) to other disorders, and unspecified diseases of the circulatory system (I95-I99). In the third group of hypertensive diseases (I10-I15), specifically in category I12, there is hypertensive kidney disease (HRD), which includes the following diseases: renal arteriosclerosis; arteriosclerotic nephritis, whether chronic or interstitial; hypertensive nephropathy; nephrosclerosis or any condition classified within the renal system1 which is a progressive kidney injury caused by long-term poorly controlled arterial hypertension (DATASUS).

It should be noted that HRD is a multicausal disease, since risk factors may be associated with therapy, presence of comorbidities; presence of acute diseases; age, hydroelectrolyte disorders; acid-base balance disorders, changes in fluid balance; in addition to individual susceptibility that may have repercussions on renal function (BENICHEL, MENEGUIN, 2020; DANTAS, et al, 2021).

Nurses play a crucial role in educating patients about the importance of adopting healthy habits to prevent HRD, in addition to assisting in the early identification of signs and symptoms and monitoring appropriate treatment. Prevention of the disease is of paramount importance so that the long-term repercussions are minimized. For this reason, and due to the various repercussions for the individual's health, the following question was raised: What are the rates of deaths from hypertensive kidney disease in Brazil?

2 OBJECTIVE

To describe the number of deaths caused by hypertensive kidney disease in Brazil from 2011 to 2021.

3 METHODS

This is a descriptive, exploratory study with a quantitative approach. Data were collected through access to the DATASUS health data platform. The search was conducted in August 2023.

Deaths from 2011 to 2021 were selected using the International Classification of Diseases (ICD) Diseases of the Circulatory System, belonging to chapter IX. After this analysis, the following filters were used: a) Gender b) Age to verify which gender and age group were most affected by hypertensive kidney diseases, and this item was grouped into: < one year; one to four years; five to 19 years; 20 to 59 years old and 60 to 80 years old or older.

As this is a research carried out exclusively with data in the public domain and in accordance with the guidelines established by Resolution 674/2022 of the National Health Council, the present study does not require consideration by the Ethics Committee.

4 RESULTS AND DISCUSSION

Within the period analyzed, the total number of deaths was 106,973 thousand. In the ten years evaluated, the year with the highest number was 2021, totaling 10,979 deaths due to hypertensive kidney diseases. Considering that the first three most affected cities were São Paulo (23% - 2,545), Rio de Janeiro (11% - 1,200) and Minas Gerais (9% - 1,047), it was decided to stratify the age groups only in these three municipalities.

After using the filters, the following results can be observed: for males, in São Paulo, 2 deaths (< 1 year); 0 deaths (1 to 4 years and 5 to 19 years); 282 deaths (20 to 59 years old) and 1,076 deaths (60 to 80 years old or older), totaling 1,360 deaths.

In Rio de Janeiro, no deaths due to hypertensive kidney disease were reported for the first three groups; 129 deaths (20 to 59 years old) and 462 (60 to 80 years old or older), totaling 591 deaths. And in Minas Gerais, no deaths due to hypertensive kidney disease were reported for the first two groups, 2 deaths (5 to 19 years); 125 deaths (20 to 59 years old) and 418 deaths (60 to 80 years old or older), totaling 545 deaths.

For females, in São Paulo, 0 deaths (< 1 year); 0 deaths (1 to 4 years); 2 deaths (5 to 19 years old); 257 deaths (20 to 59 years old) and 926 deaths (60 to 80 years old or older), totaling 1,185 deaths; in Rio de Janeiro, no deaths from hypertensive kidney disease were reported for the first two groups; 2 deaths (5 to 19 years old); 123 deaths (20 to 59 years old) and 484 (60 to 80 years old or older), totaling 609 deaths. In Minas Gerais, no deaths due to hypertensive kidney disease were reported for the first three groups; 86 deaths (20 to 59 years old) and 416 deaths (60 to 80 years old or older), totaling 502 deaths.

The results show that the incidence of hypertensive kidney diseases is more present in the age group of 60 to 80 years or older and the most affected sex is male. This outcome is in line with another study published in the literature, where males, as well as advanced age, were more susceptible to chronic kidney problems (BIAZE, et al, 2022).

Studies indicate that renal failure affects around twice as many men (14.7%) as women (5.9%), so the sex is more likely to develop the final stage of chronic renal failure, that is, hypertensive nephropathy. It is noteworthy that advanced age is one of the risk factors for chronic renal failure (NOBLAT et al, 2004). In addition, taking into account that hypertensive kidney diseases arise when not treated in the long term, it should be taken into account that the lifestyle that women lead is superior when compared to men (COSTA et al, 2015).

In addition, studies indicate that males may face greater health challenges due to their reluctance to seek care. This can be attributed, in large part, to the presence of cultural, socioeconomic, educational, and bureaucratic obstacles that act as barriers to the effective participation of men in the Brazilian public health scenario (SANTOS et al, 2022). In addition, men tend to seek care at longer intervals (DIAS et al, 2022), when the signs and symptoms are possibly already well aggravated.

5 CONCLUSION

In view of the data obtained, it is observed that male and elderly patients (60 to 80 years or older) have a greater susceptibility to the development of comorbidities associated with hypertensive renal crisis. This trend can be explained by the fact that men, in general, tend to show less concern with health and lower adherence to self-care practices when compared to women. These long-term behavior patterns can influence the onset not only of hypertensive kidney crisis, but also of other health conditions. Therefore, it is essential to recognize these specific risk factors in order to implement promotion, prevention, and targeted intervention strategies for this population.

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