

Profile of hospitalizations of women with heart failure in public hospitals in the municipality of Macapá, Amapá, 2016 to 2021

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Keywords— Sociodemographic profile, Internment, Cardiac insufficiency, Women.

Abstract— Objective: describe the sociodemographic profile of hospitalizations of women with heart failure in public hospitals in the city of Macapá, Amapá. **Method:** Retrospective study, with a quantitative approach, analyzing the profile of 704 women hospitalized with heart failure in four public hospitals in the city of Macapá-AP, between July 2016 and July 2021. **The Hospital Information System of the Health, through DATASUS and the Brazilian Institute of Geography. Results:** The results indicate that females represented 42.25% of hospitalizations, 75.55% occurred in the Emergency Hospital, 63.3% of hospitalized women were over 60 years old; 33.78% were brown; and 73.25% were hospitalized as an emergency. **Conclusion:** It is concluded that although women represent a large audience in the city of Macapá, the demand for hospitalization is still low in relation to heart failure, but it has been growing in the age group from 60 years old, which demonstrates the need to implement policies public services in Primary Health Care for disease prevention.

I. INTRODUCTION

Cardiovascular diseases (CVD) are one of the main causes of death for men and women in Brazil, accounting for about 20% of all deaths in individuals over 30 years of age, and 27.4% of hospitalizations in people over 60 years of age years, with congestive heart failure (CHF) being the main cause of hospitalization. [1] The entry of women into the labor market in the 1960s and social changes contributed to increased stress in the routine of this group, in addition to the adoption of habits such as smoking and poor diet, accompanied by a rapid rise in the female mortality rate, in which During this period, the mortality rate for women increased from 10% to 25%. [2]

Defined as a complex syndrome in which the heart loses the

ability to pump blood to the body to meet physiological metabolic needs, it causes twice as many deaths as all types of cancer, 2.5 times as many accidents and deaths from violence. [3]

Heart failure accounts for 8% of all deaths from CVD and in the period between 2001 and 2012, 3.96% of hospital admissions due to this heart disease in the country were found. Of these hospitalizations, the number of men and women were equivalent. Regarding age, 53% of hospitalized men were between 70-79 years old, while women were older from 80 years old and a slight increase in the third decade of life. [4]

This scenario demonstrates that the costs of hospitalizations for cardiovascular diseases are the highest among the main

causes of hospitalizations in Brazil, this is due to the increase in life expectancy and growth in the proportion of elderly people in the country, which tends to favor the incidence of CVD and increase of health costs in the elderly. [5]

The risk factors for CVD for both sexes are diverse, such as: sex, age, genetics, smoking, alcoholism, sedentary lifestyle and unhealthy foods. In addition to habits that aggravate the development of dyslipidemia, such as: overweight, insulin resistance, peripheral vascular disease and systemic arterial hypertension. [6] In addition, there are studies that point to the prevalence of hypercholesterolemia, hypertension and obesity in women. [7] Preventive measures aimed at reducing these factors directly impact a smaller number of cases of the disease. In this way, there is a significant reduction in the number of hospitalizations and deaths due to this pathology. [8]

Given the relevance of the topic for public health, it is essential to carry out a study on hospitalizations associated with heart disease, in order to direct health promotion policies for this gender. Thus, this study aimed to analyze the profile of women hospitalized with heart failure in public hospitals in the municipality of Macapá, in the State of Amapá, from 2016 to 2021.

II. METHOD

Retrospective study, with a quantitative approach, analyzing the profile of women hospitalized with heart failure in public hospitals in the city of Macapá-AP, between July 2016 and July 2021. The participating public health institutions were: Emergency Hospital, Children and Adolescents Hospital, Women's Hospital and Dr. Alberto Lima Clinics Hospital. The SUS Hospital Information System (SIH/SUS) was used as a data source, through DATASUS, available through the electronic address:

<http://tabnet.datasus.gov.br/cgi/tabcgi.exe?sih/cnv/nipi.def> and the Brazilian Institute of Geography (IBGE).

To obtain the epidemiological profile of these hospitalizations, the following variables were analyzed: total hospitalizations, hospitalizations per year, incidence of hospitalizations, deaths, sex (female, male), age group and color/race (white, brown and black).

To analyze the statistical data, Word and Excel programs were used, the information was arranged in tables and for the discussion of the results, the available literature on the subject was used, based on the LILACS data network (Latin American and Caribbean Literature in Sciences), SciELO (Scientific Electronic Library Online), Ministry of Health and Brazilian Society of Cardiology.

There was no need for submission to the Research Ethics Committee as the data were made available by the Unified Health System and collected from a public domain database.

III. RESULTS

According to the projection of the Brazilian Institute of Geography (IBGE) the resident population in the capital Macapá in 2015 was 456,175, there was a larger female population compared to males with 230,076 and 226,099 people, respectively.

In that period, 704 admissions for heart failure were recorded in public hospitals in the city of Macapá, corresponding to 0.89% of the total of 78,841 admissions in the four hospitals in the city. Males stood out with approximately 57.55% and females with 42.45% of hospitalizations for HF. Regarding hospitalizations for HF in health facilities, the Emergency Hospital presented 75.55%, followed by the Hospital de Clínicas Dr. Alberto Lima with 21.45%. However, Hospital de Clínicas admitted more women than men, as shown in table 1.

Table 1: Hospitalizations for Heart Failure in Public Hospitals in the city of Macapá, according to sex, Amapá, July 2016 to July 2021.

Hospital Institutions	Male		Female		Total
	f (x)	f (%)	f (x)	f (%)	
Children and Adolescents' Hospital	01	0,14	02	0,28	0,42
Women's Hospital	03	0,44	01	0,14	0,58
Clinic's Dr. Alberto Lima Hospital	73	10,37	78	11,08	21,45
Emergency's Hospital	328	46,60	218	30,95	77,55
Total	405	57,55	299	42,45	100%

Source: Ministry of Health - SUS Hospital Information System (SIH/SUS) /DATASUS, 2021.

According to table 2, when the scenario of the municipality is observed, only in females, it was found that women over 60 years of age were responsible for 63.3% of

hospitalizations for heart failure in females in the period under study, with a more significant value in the age group from 60 to 69 years of approximately 26.10% of the total.

Table 2: Age group of women hospitalized for heart failure in Hospital Establishments in the city of Macapá - AP, July 2016 to July 2021.

Age Group	Admissions	
	f (x)	f (%)
Under 1 year	04	1,30
15 ----- 19	02	0,65
20 ----- 29	06	2,00
30 ----- 39	16	5,35
40 ----- 49	32	10,70
50 ----- 59	50	16,70
60 ----- 69	78	26,10
70 ----- 79	47	15,70
80 years and over	64	21,50
Total	299	100,00%

Source: Ministry of Health - SUS Hospital Information System (SIH/SUS) /DATASUS, 2021.

Among the color characteristic, it was noticed in table 3 that hospitalizations for heart failure in brown women predominated with 33.78% of the cases. Another relevant data is the lack of information regarding this characteristic

representing 61.50%, it is important to fill in this field given the prevalence of some diseases whose color variable is relevant.

Table 3: Color of women hospitalized for heart failure in public hospitals in the city of Macapá-AP, July 2016 to July 2021.

Women's color	F (x)	F (%)
White	05	1,67
Black	05	1,67
Brown	101	33,78
Yellow	04	1,38
No information	184	61,50
Total	299	100,00

Source: Ministry of Health - SUS Hospital Information System (SIH/SUS) /DATASUS, 2021.

Analyzing table 4 by the nature of care, it was found that 73.25% of the women hospitalized were through the Emergency Department and 26.75% in an elective way,

mainly at the Emergency Hospital and Dr. Alberto Lima Clinics, respectively, verified in the table 1.

Table 4: Hospitalizations of women due to heart failure, according to the nature of care, in public hospitals in the city of Macapá-AP, July 2016 to July 2021.

Service Character	F (X)	F (%)
Elective	80	26,75
Urgency	219	73,25
Total	299	100,00%

Source: Ministry of Health - SUS Hospital Information System (SIH/SUS) /DATASUS, 2021.

According to the data below, in table 5, the mortality rate due to heart failure in these health institutions varied from 10.55% in the Emergency Hospital to 21.79% in the

Hospital de Clínicas Dr. Alberto Lima. In the other institutions there were no records and in the municipality this average rate was 13.38%.

Table 5: Mortality rate of women due to heart failure, according to Hospitals in the city of Macapá-AP, July 2016 to July 2021.

Hospital institutions	Mortality rate
Clinic's Dr. Alberto Lima Hospital	21,79
Emergency Hospital	10,55
Total	13,38

Source: Ministry of Health - SUS Hospital Information System (SIH/SUS) /DATASUS, 2021.

IV. DISCUSSION

CVDs are the main causes of death among men and women in Brazil, with the Southeast and South regions having the highest mortality rates compared to the North, Northeast and Midwest.

Between 2008 and 2016, there were 2,171,286 hospitalizations for HF in Brazil for the same standardization. In the Northeast, the lowest average was identified in Sergipe, with 4.68, and the highest in Piauí, with 15.82. The Midwest region was the most homogeneous, with the highest rate in Goiás, 13.99, and the lowest in Mato Grosso do Sul, with 11.28. In the Southeast region, there are rates around 10 hospitalizations per 10,000 inhabitants, except for the state of Minas Gerais, which presented an average of 17.9 cases. In the South region, Santa Catarina had the lowest rate, 16.70, and Paraná, the highest, with 21.10 [9]

The total of 704 admissions for heart failure in public hospitals in the city of Macapá corresponded to 0.89% of the total admissions. HF was responsible for 2.54% and 2.25% of all causes of hospital admissions in Paraíba and Brazil, respectively. In Paraíba, the total number of hospital admissions for HF between 2008 and 2017 was 51,172, representing the main cause of hospitalizations for cardiovascular diseases (29.4%), followed by other ischemic heart diseases (13%), stroke (11%), primary hypertension (10%) and acute myocardial infarction (5%). [10]

In this study, there was a predominance of males, although females had a high percentage. In Brazil, in the last five

decades there was a higher prevalence among men, and later women have been more affected, worsening with advancing age. [1] A similar proportion was found between men and women, differing from the information found in the Breathe study, carried out in 2015, in 51 Brazilian hospitals, both public and private, in which 60% of the patients were female. This difference may have occurred because the period analyzed in this study was longer, in addition to covering all hospitals that provide information to DATASUS. [12]

In the city of Macapá, women over 60 years old were responsible for 63.3% of hospitalizations for HF, being more significant in the age group from 60 to 69 years old, with approximately 26.1% of the total.

In the general public in Brazil, in the period from 2010 to 2019, there was a predominance of 25.9% among individuals aged between 70 and 79 years, 23.1% between 60 and 69 years and 21.3% in those over 80 years [12].

It is relevant to analyze that CVD accompany population aging, especially in women. Although cancer is still the biggest concern in this public, the highest incidence of death in women is in cardiovascular diseases (53%) compared to breast cancer (4%). According to the Ministry of Health, acute myocardial infarction and stroke are the main causes of death in Brazilian women over 50 years of age, the most vulnerable being in the postmenopausal period. [13] In addition, the presence of several modifiable risk factors deserves attention in prevention, such as smoking, dyslipidemia, obesity, metabolic syndrome, sedentary lifestyle, arterial hypertension and diabetes mellitus. [14]

In this study, there was a high rate of lack of information, followed by a predominance of brown color. A study carried out in Piauí found the absence of records of this information in 72.6% of hospitalizations, 25.2% were brown, 0.52% were white and 1.0% were black. [15]

Regarding the reproductive period of women, several authors consider that although female hormones have protective activity in the pre-menopausal period, it has now been found that vascular impairment can start in the female population even in youth, when associated with some factors, such as contraceptives oral diseases, polycystic ovary syndrome, obesity and smoking, contribute to health weaknesses in this population and increase the risk for CVD. [7]

This high prevalence of risk factors for CVD in the female population may be related to the insertion of women in the labor market, exposing them to a sedentary lifestyle, smoking and inadequate eating habits. In addition to the overload of responsibilities in family care and domestic activities. [6; 16]

There is an evident need to invest in health promotion and prevention actions, which provide more information to individuals about risk factors, in order to raise awareness of behavioral changes and favor aging with quality of life. [16] Physical inactivity is directly associated with the risk of increased cardiovascular diseases, and it is essential to maintain the ability to move efficiently through physical exercise, which favors the reduction of sedentary lifestyle and the progress of chronic degenerative pathologies. [17]

V. CONCLUSION

Knowing the profile of women who are being hospitalized in hospital units is of great relevance for health planning, seeking to direct care assistance to the existing demand for this demographic group. The percentage of hospitalizations for heart failure in the city was more expressive in the male population, but it is observed that elderly women aged 60 years represent an important number of hospitalizations, mainly due to the risk of complications.

Such hospitalizations and complications generate a burden on the health system and quality of life of these elderly women, so it is necessary to act on changing habits and eliminating risk factors highly prevalent in the female population, such as a sedentary lifestyle, smoking and decompensated blood pressure. For this, the performance of primary health care is essential, in order to prevent the progression of underlying diseases and intervene in the different levels of health prevention, in order to reduce mortality from cardiovascular diseases in the female public.

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