# PROFILE OF ELDERLY PEOPLE WITH HEART FAILURE IN AN EMERGENCY HOSPITAL

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**ABSTRACT:** The aim of this study was to analyze the sociodemographic and clinical profile of elderly people with heart failure in an emergency hospital. This is a descriptive, quantitative study with a convenience sample of 83 elderly people hospitalized in an emergency reference hospital from September to November, 2015. The results showed an epidemiological profile represented mostly by men aged 60 to 79 years, who were married, illiterate, with monthly income of one to two minimum wages. Regarding etiology, the hypertensive type was found as the main cause, with greater frequency in the age group of 60 to 79 years. Of the total, 54 elderly people (65.1%) used three to five medications daily. Among the associated chronic diseases, arterial hypertension was present in 80 (96.4%) patients, followed by diabetes, diagnosed in 35 (42.2%) of the elderly. The study population was vulnerable to cardiovascular risk factors, with a predominance of arterial hypertension and diabetes. **DESCRIPTORS:** Aged; Nursing; Heart failure; Risk factors; Hospitalization.

#### PERFIL DO IDOSO COM INSUFICIÊNCIA CARDÍACA INTERNADO EM UM HOSPITAL DE URGÊNCIA

**RESUMO:** Objetivou-se analisar o perfil sociodemográfico e clínico do idoso com insuficiência cardíaca em um hospital de urgência. Estudo descritivo, quantitativo com amostra por conveniência composta de 83 idosos internados em um hospital de referência em urgência no período de setembro a novembro de 2015. Os resultados mostraram um perfil epidemiológico representado em sua maioria por homens, na faixa etária de 60 a 79 anos, casados, analfabetos, com renda mensal de um a dois salários mínimos. Quanto à etiologia, o tipo hipertensivo apresentou-se como a principal causa, com frequência maior na faixa etária de 60 a 79 anos. Do total de idosos, 54 (65,1%) usam de três a cinco medicamentos diariamente. Entre as doenças crônicas associadas, a hipertensão arterial encontrou-se presente em80 (96,4%) pacientes, seguindo-se da diabetes, diagnosticada em 35 (42,2%) idosos. Constatou-se vulnerabilidade da população em estudo aos fatores de risco cardiovascular, com predomínio da hipertensão arterial e diabetes. **DESCRITORES:** Idoso; Enfermagem; Insuficiência cardíaca; Fatores de risco; Hospitalização.

### PERFIL DEL ANCIANO CON INSUFICIENCIA CARDÍACA INTERNADO EN UN HOSPITAL DE URGENCIA

**RESUMEN:** Se objetivó analizar perfil sociodemográfico y clínico del anciano con insuficiencia cardíaca en hospital de urgencia. Estudio descriptivo, cuantitativo, con muestra por conveniencia constituida por 83 ancianos internados en hospital de urgencia de referencia, de setiembre a noviembre de 2015. Los resultados mostraron un perfil epidemiológicamente representado en mayoría por hombres, faja etaria de 60 a 79 años, casados, analfabetos, con ingresos mensuales de uno a dos salarios mínimos. Respecto a la etiología, el tipo hipertensivo se presentó como principal causa, con frecuencia mayor en la faja etaria de 60 a 79 años. Del total de ancianos, 54 (65,1%) utilizan de tres a cinco medicamentos diarios. Entre las enfermedades crónicas asociadas, la hipertensión arterial, se encontró presente en 80 pacientes (96,4%), seguida de diabetes, diagnosticada en 35 ancianos (42,2%). Se constató vulnerabilidad de la población en estudio a los factores de riesgo cardiovascular, con predominio de hipertensión arterial y diabetes. **DESCRIPTORES:** Anciano; Enfermería; Insuficiencia Cardíaca; Factores de Riesgo; Hospitalización.

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#### INTRODUCTION

According to the Ministry of Health (MS) longevity is a triumph. There are, however, important differences between developed and developing countries. While in the former aging was associated with improvements in general living conditions, in others this process happens quickly, with no time for adequate social and health reorganization, in order to meet emerging new demands. By 2050, the expectation in Brazil, as well as in the world, is that there will be more elderly people than children under 15 years old, an unprecedented phenomenon<sup>(1)</sup>.

As a consequence of population aging, we have observed an increase in the prevalence of chronic diseases. Among them, we can highlight heart failure (HF), the incidence of which tends to increase in the next years, especially among the elderly<sup>(2)</sup>. Thus, it is observed that the three most frequent causes of hospitalizations in the elderly population of both genders are heart failure, bronchitis/emphysema, and other chronic obstructive pulmonary diseases, followed by pneumonia. In 2007, cardiovascular diseases represented the third cause of hospitalizations in the Unified Health System (SUS), with 1,156,136 hospitalizations, with an emphasis on HF as the most frequent cause of hospitalization due to cardiovascular disease, associated with systemic arterial hypertension (SAH) and coronary artery disease (CAD)<sup>(3)</sup>.

This disease consists of the inability of the heart to pump enough blood to meet the tissue oxygen and nutrient needs<sup>(4)</sup>. HF is a common final pathway of most heart diseases, being one of the most important current clinical challenges in the health area. It is characterized as a complex clinical syndrome of systemic nature, and defined as a cardiac dysfunction that causes an inadequate blood supply to meet metabolic needs. It has a systolic or diastolic origin<sup>(5)</sup>.

In the United States, more than 80 million Americans have one or more types of cardiovascular disease (CVD), including hypertension, coronary artery disease (CAD), heart failure (HF), stroke, and congenital cardiovascular defects<sup>(4)</sup>. Thus, the association between SAH and coronary artery disease is observed, with the adequate reduction of BP being crucial for the prevention of events related to CAD. Therefore, elderly people with multiple non-cardiovascular comorbidities should have their treatment carefully individualized<sup>(3)</sup>.

Heart failure has several risk factors involved in its genesis, making its prevention and management difficult. Since the last decade of the twentieth century, it has become one of the main public health problems, enhanced by an increase in the population over 65 years of age<sup>(5)</sup>. Such a disease is one of the main causes of disability, especially with regard to self-limitation of physical activity, which is closely related to the activities of daily living of the elderly, quality of life, and lifestyle changes<sup>(2)</sup>.

According to data from the Brazilian Institute of Geography and Statistics (IBGE), heart failure is a current problem that appears as the first cause of hospitalization at SUS. It is present in all age groups, and has been presented as an important indicator of functional disability<sup>(6)</sup>.

In this context, this study aimed to analyze the sociodemographic and clinical profile of elderly people with heart failure hospitalized in an emergency hospital. This theme was chosen because HF is one of the main pathologies affecting the elderly, contributing to an increase in the number of hospitalizations in this age group. In these circumstances, the elderly present some impairment in all their harmonic state, and may show limitations that require learning to manage their treatment.

During hospitalization, elderly people are restless, so care from the nursing team becomes crucial, and the nurse assumes an important role in this process, helping to face the difficulties resulting from the disease. This professional must have specific skills to adequately serve this population.

### METHOD

This descriptive study, using a quantitative approach, was carried out in a reference emergency hospital in the city of Teresina, which has 289 beds and three intensive care units.

The study population consisted of patients of both genders, according to the following inclusion

criteria: being 60 years of age or older, being admitted to the emergency hospital, and having a medical diagnosis of HF. The elderly who had difficulties to understand or communicate were excluded from the study. The process used to select the individuals included in the sample was based on convenience, in the sample period from September to November, 2015. Eighty-three elderly individuals were invited to participate, thus composing the final sample.

Data were collected during the day and night shifts, using a form developed by the researchers with identification data and those related to the clinical condition of HF.

Data were coded and transcribed using Microsoft Excel, and later imported and analyzed in the software Statistical Package for Social Sciences (SPSS) version 19.0, from which the tables were generated. In the statistical analysis, the qualitative variables were measured through the reading of absolute (no.) and relative (%) frequencies, whereas for the quantitative variables analysis was based on position (mean and median) and variability (standard deviation) measurements.

For this study to be carried out, the research project was submitted to evaluation and approval by the Research Ethics Committee of the University Center UNINOVAFAPI under report no. 1,220,209. After this approval, data were collected from patients, provided that their participation in the study was agreed with the signature of an informed consent form.

### • **RESULTS**

In Table 1, it was observed that the mean age of hospitalized elderly people with heart failure was 72.9 years (SD = 8.3), median age was 71 years, with a variation between 60 and 97 years. Most of the cases were observed among male elderly people, 49 (59%), 68 (81.9%) were in the age group of 60 to 79 years, 53 (63.9%) were married, 58 (69, 9%) were illiterate, and 75 (90.4%) had family income of one to two minimum wages.

Variables	Mean (standard deviation)	Median	Distribution in categories	n (%)
Group age (years)				
	72.9(8.3)	71	60 – 79 years	68 (81.9)
			80 years and over	15 (18.1)
Gender				
			Male	49 (59)
			Female	34(41)
Marital status				
			Single	6 (7.2)
			Married	53 (63.9)
			Separated/Divorced	1 (1.2)
			Widowed	23 (27.7)
Education				
			Illiterate	58 (69.9)
			Primary school	25 (30.1)
Monthly wage				
			Less than 1 MW	1 (1.2)
			1 to 2 MW	75 (90.4)
			3 to 5 MW	7 (8.4)
Total				83 (100)

Table 1 - Distribution of hospitalized elderly people with heart failure in a reference emergency hospital, according to sociodemographic aspects. Teresina, PI, Brazil, 2015

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In Table 2, it was observed that the hypertensive etiology was the first cause, in 75 (90.4%) of the cases, evidencing a predominance in 63 (92.7%) of the patients in the age group of 60 to 79 years, followed by ischemia found in four (4.8%) of the elderly patients, with a higher incidence in those aged 80 and over, corresponding to two patients (13.3%). The high prevalence of SAH, and its low rate of control are considered one of the main modifiable risk factors, and one of the most important public health problems, since mortality from cardiovascular disease increases progressively.

Variables 60 to 79 years  $\geq$  80 years Total % % % n n n 2 Ischemic 2.9 2 13.3 4 4.8 Hypertensive 63 92.7 12 80 75 90.4 1 1 Dilated 1.2 1.5 \_ -2 1 3 Chagas disease 2.9 6.7 3.6

100

15

100

83

100

68

Table 2 - Distribution of hospitalized elderly people with heart failure according to age and etiology. Teresina, PI, Brazil, 2015

Regarding the amount of drugs, Table 3 shows that 54 (65.1%) of the elderly people used three to five drugs with a prevalence of 65 (66.2%) patients in the 60-79 age group, with nine (60%) cases among the elderly of at least 80 years of age. Studies show the efficacy and safety of medications in the prevention of SAH, leading to the consideration of drug treatment in conditions of high or very high overall cardiovascular risk.

Table 3 - Distribution of hospitalized elderly people with heart failure according to the age group and the amount of medications in use by these patients. Teresina, PI, Brazil, 2015

Variables	60 to 79 years		≥ <b>80</b>	years	Total	
	n	%	Ν	%	n	%
Less than 3 medicines	9	13.2	1	6.7	10	12
From 3 to 5 medicines	45	66.2	9	60	54	65.1
More than 5 medicines	14	20.6	4	26.6	18	21.7
Ignored	-	-	1	6.7	1	1.2
Total	68	100	15	100	83	100

Table 4 shows that among the chronic diseases associated with HF, arterial hypertension was the most frequent, found in 80 (96.4%) elderly people. When analyzing the frequency of hypertension by gender, the presence of 33 (97.1%) women and 47 (95.9%) men was observed. Secondly, diabetes was observed in 35 (42.2%) elderly patients, and in 20 (58.8%) elderly women when compared to 15 (30.6%) cases found among the elderly males. Among the medications used by these patients, carvedilol was the first choice for 55 (66.3%) patients, followed by 51 (61.4%) elderly patients who used simvastatin, and 40 (48.2%) who were taking acetylsalicylic acid.

Table 4 - Distribution of hospitalized elderly people with heart failure according to gender, pre-existing chronic diseases and the medications in use by these patients. Teresina, PI, Brazil, 2015 (continues)

Variables	Gender				Total		
	Male		Fer	nale			
	n	%	n	%	n	%	
Pre-existing diseases*							

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Total

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Diabetes	15	30.6	20	58.8	35	42.2
Arterial hypertension	47	95.9	33	97.1	80	96.4
Renal failure	8	16.3	7	20.6	15	18.1
Other diseases	41	83.7 29 85.3		85.3	70	84.3
Total	<b>49</b>	226.5	34	261.8	83	241
Medication used*						
ASA	26	53.1	14	41.2	40	48.2
Furosemide	22	44.9	17	50	39	47
Losartan	11	22.4	8	23.5	19	22.9
Simvastatin	31	63.3	20	58.8	51	61.4
Carvedilol	33	67.3	22	64.7	55	66.3
Hydralazine	2	4.1	6	17.6	8	9.6
Other medication	48	98	33	97.1	81	97.6
Total	49	353.1	34	352.9	83	353

\* Sum over 100%, a patient may have more than one type of associated disease and use more than one drug.

In Table 5, it was observed that arterial hypertension was the most prevalent associated disease, present in 81 (97.6%) patients investigated. The high prevalence of arterial hypertension and its low rates of control make it a major modifiable risk factor, and one of the most important public health problems.

Table 5 - Distribution of hospitalized elderly people with heart failure according to the etiology of HF and associated diseases. Teresina, PI, Brazil, 2015 (continues)

Variables	HF Etiology									
	Isch	emic	Hypertensive		Dilated		Chagas disease		Total	
	n	%	n	%	n	%	n	%	n	%
Diabetes										
Yes	2	50	30	40	1	100	-	-	33	39.8
No	2	50	45	60	-	-	3	100	50	60.2
Total	4	100	75	100	1	100	3	100	83	100
CPOD										
Yes	-	-	2	2.7	-	-	-	-	2	2.4
No	4	100	73	97.3	1	100	3	100	81	97.6
Total	4	100	75	100	1	100	3	100	83	100
Cataract										
Yes	-	-	24	32	-	-	-	-	24	29
No	4	100	51	68	1	100	3	100	59	71
Total	4	100	75	100	1	100	3	100	83	100
Glaucoma										
Yes	1	25	4	5.3	-	-	-	-	5	6
No	3	75	71	94.7	1	100	3	100	78	94
Total	4	100	75	100	1	100	3	100	83	100
Arterial Hyperte	ension									
Yes	3	75	75	100	1	100	2	66.7	81	97.6
No	1	25	-	-	-	-	1	33.3	2	2.4
Total	4	100	75	100	1	100	3	100	83	100

Depression										
Yes	-	-	4	5.3	-	-	-	-	4	4.8
No	4	100	71	94.7	1	100	3	100	79	95.2
Total	4	100	75	100	1	100	3	100	83	100
Renal Failure										
Yes	2	50	13	17.3	-	-	1	33.3	16	19.2
No	2	50	62	82.7	1	100	2	66.7	67	80.8
Total	4	100	75	100	1	100	3	100	83	100
Other disease										
Yes	3	75	15	20	-	-	-	-	18	21.7
No	1	25	60	80	1	100	3	100	65	78.3
Total	4	100	75	100	1	100	3	100	83	100

## DISCUSSION

It was possible to verify that among the 83 elderly patients hospitalized for HF the majority were aged 60 to 79 years, representing 81.9% of the cases, with a mean age of 72.9 years (SD = 8.3). Because age is a non-modifiable risk factor<sup>(7)</sup>, the growth of the elderly population in Brazil represents a potential growth of patients at risk or with HF<sup>(8)</sup>.

When analyzing the frequency by gender, 59% of the patients were male. The Ministry of Health has attributed this increased frequency among men to the fact that they are more vulnerable to diseases, especially severe and chronic diseases, and that they die earlier than women. Despite their greater vulnerability, and high morbidity and mortality rates, men do not seek, like women, primary care services<sup>(9)</sup>.

Regarding marital status, the majority were married (63.9%). This result is similar to that found in a study carried out in the city of Uberaba, state of Minas Gerais, in which 2,142 elderly people participated, whose data were collected at home to describe the sociodemographic profile, functional capacity and morbidities of the elderly, and to verify the association of quality of life with the number of functional disabilities and morbidities. The authors found that the majority were married (48.9%), with a family income between one and two minimum wages (90.4%)<sup>(10)</sup>. It is thought that in this generation of the elderly who participated in the study, affective relationships are more stable and lasting, which favors care, due to the possibility of the partner being a caregiver.

Another study that aimed to describe the prevalence of increased blood pressure levels and socioeconomic aspects of the elderly assisted in the Family Health Strategy in the urban area of the city of Floriano, state of Piauí, which was performed with 385 elderly people, observed that 70.8% of them had a low level of education, reflecting the social inequality and education policies in force, showing the low level of education as a possible explanation for the low income mentioned by the majority of the surveyed elderly, thus stating that the lower the school level, the lower the monthly individual income<sup>(11)</sup>. Low schooling and lower monthly income can make the understanding of the guidelines provided by healthcare professionals and adequate access to preventive care difficult, respectively, and this leads to worsening and complications of the existing disease.

A study was carried out in cardiology wards of three public hospitals in the city of Campos dos Goytacazes, with the objective to analyze the presence of depressive symptoms (DS) in patients hospitalized for HF, determining their prevalence, predictor variables, and correlating severity of DS with mortality. The authors found different results from the present study, finding that 63.1% were female, 73.8% were literate, with the non-ischemic etiology being the most present (57.3%), classified as valvar (28.5%), and diabetic (43.7%)<sup>(12)</sup>.

With regard to the etiology of heart failure in the hospitalized elderly, the prevalence of hypertension, with supremacy in the age group of 60 to 79 years (92.7%), was verified. This is due to the fact that

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hypertension is one of the most frequent risk factors associated with the onset of HF<sup>(13)</sup>.

About 80% of subjects over 65 years of age have at least one chronic health problem, as well as the presence of multiple diseases with different severities that may influence the performance of their daily activities<sup>(10)</sup>. There was a reduction in mortality due to cardiovascular diseases, and ischemic heart disease shows recent advances in therapy, but this did not result in a reduction in the prevalence of HF, probably because of the population aging phenomenon<sup>(14)</sup>.

Regarding the etiology of Chagas disease, there was a frequency of 3.6% in the sample studied. Chagas disease represents the third largest parasitic disease in the world. In 2009, the chronic chagasic cardiomyopathy was the most common form of dilated cardiomyopathy, and an important cause of morbidity and mortality in Latin America, with estimated 10 to 12 million people infected<sup>(15)</sup>. Heart is the organ affected in between 10% and 40% of patients with Chagas disease, which impairs the patient physically and psychologically<sup>(5)</sup>.

Only 1.2% of cases of dilated etiology were observed among the participants studied. A retrospective, descriptive and observational study of 144 medical reports of patients with HF at the Hospital das Clínicas Outpatient Clinic of the Federal University of Goiás (UFG), who were selected on the basis of convenience, found that patients aged 61 ± 15 years, those with dilated cardiomyopathy and others, presented a mean age (50.5 ± 18.3) lower than that for the other categories<sup>(13)</sup>.

When analyzing the amount of drugs in use by the patients, 65.1% used three to five drugs with a higher prevalence in the age group of 60 to 79 years. The outpatient survival estimate cannot be generalized for hospitalized patients with other comorbidities. Whenever the clinical status or medications are modified, the patient's score has to be recalculated. Patients with HF suffer the impact of each medication that is added to the prescription<sup>(15)</sup>.

The optimization of the medication recommended in HF has been compromised during the evaluation and valuation of the relevance of the results of large prospective randomized studies, due to lack of optimization or information of quantities<sup>(9)</sup>.

Arterial hypertension is the pre-existing chronic disease with the highest occurrence (96.4%), and mortality from cardiovascular disease has progressively increased with the increase in BP<sup>(3)</sup>. Thus, it represents a multifactorial and multicausal disease characterized by sustained levels of increased blood pressure that, when uncontrolled, cause impairment of target organs such as heart, brain, kidneys and blood vessels<sup>(11)</sup>.

A study conducted with patients with HF at the Congestive Heart Failure Outpatient Clinic of Hospital das Clínicas of the UFG estimated that the prevalence of hypertensive cardiomyopathy in female patients was associated with the risk of developing HF, and correlated it with women aging, probably related to loss of a cardiovascular protective effect after menopause<sup>(13)</sup>.

There is a prevalence of SAH in almost 50% of the cases, between 60 and 69 years, and in 75% after 70 years of age<sup>(3)</sup>. It is noteworthy that the treatment of arterial hypertension reduces cardiovascular morbidity and mortality. Thus, the use of anti-hypertensives should not only reduce blood pressure, but also fatal and non-fatal cardiovascular events, and the mortality rate.

The second most frequent disease among the elderly in the study was diabetes (42.2%). According to a study conducted with diabetic and non-diabetic elderly patients in a University Center of Belo Horizonte, the lack of insulin and/or the inability of the hormone to adequately exert its effects may lead to the development of associated diseases and complications<sup>(16)</sup>. Patients with diabetes are at high risk for HF<sup>(4)</sup>, which occurred in 39.8% of hospitalized patients with this diagnosis. Because it is a systemic clinical syndrome, it has several associated factors, which makes its prevention and management difficult<sup>(2)</sup>.

Renal failure accounted for 18.1% of the cases. The prevalence of renal failure in patients with HF may reach 29.6% in ambulatory care<sup>(9)</sup>. Thus, the association of cardiac and renal disease persists as a marker of poor prognosis in patients with chronic HF.

However, there is concern about the cardiorenal syndrome (CRS), which is manifested as a clinical picture that involves the participation of both organs, its deleterious effects being reinforced in such

a way that renal and myocardial damage progresses rapidly, hindering its treatment. CRS may be an association caused by the coexistence of cardiovascular risk factors and chronic kidney disease (CKD), or by a direct effect of cardiac damage on kidney damage, or vice versa<sup>(17)</sup>.

Among the three medications most used by patients in this study are carvedilol as the first choice with a total percentage of 66.3%, followed by simvastatin (61.4%), and ASA (48.2%). The current pharmacological treatment for HF is based on the concept of evidence-based medicine capable of reducing mortality and number of hospitalizations, controlling the onset of symptoms, and improving quality of life<sup>(5)</sup>.

A study developed with young adults with arterial hypertension and diabetes mellitus at six basic health units in the city of Fortaleza identified Chagas cardiomyopathy as the most frequent etiology, corresponding to 41%, followed by idiopathic dilated cardiomyopathy, and others (25%), hypertensive cardiomyopathy (22.2%), and ischemic cardiomyopathy (11.8%)<sup>(18)</sup>.

Considering the relevance of HF, the central role of nurses in the care of patients stand out, since they assess and identify the affected human responses, establish nursing diagnoses, and propose, execute and evaluate the results of nursing interventions<sup>(19)</sup>. It is known that a good clinical evaluation can identify patients with congestive or hypovolemic conditions, as well as patients with low or normal cardiac output<sup>(20)</sup>.

Thus, it is observed that the role of nurses in HF has been strongly focused on therapeutic, educational and self-care interventions. HF patients have specific demands for care, and it is important to raise awareness from nurses of their role as educators, in primary care or hospitalization, favoring the improvement of quality of life, therapeutic compliance, as well as the prevention of further decompensation<sup>(20)</sup>.

The small size of the sample represents a limitation of this study; however, it is not an impediment for the results to help in the planning of care for elderly patients suffering from heart failure.

### CONCLUSION

The epidemiological profile of HF occurrence in hospitalized elderly patients is represented by men in the age group between 60 and 79 years, with a mean age of 72.9 years (SD = 8.3), range between 60 and 97, who were married, illiterate, and with a monthly income of one to two minimum wages.

As to the etiology, the hypertensive type presented as one of the main causes, mainly in the age group of 60 to 79 years. Analysis of the number of drugs in use by these patients has shown that most of them used three to five medications daily.

The vulnerability of the study population to the cardiovascular risk factors was observed, with arterial hypertension and diabetes standing out among other diseases. The results of this study can help in the planning of nursing care and in the elaboration of preventive measures for HF. Thus, it is important that the nurse understands that chronic diseases require constant clinical and critical reasoning from professionals, which allows better treatment and care for the elderly in this risk group.

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