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Original Article

## Hospital morbidity in a medium-sized city: differentials between men and women

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Objective: characterize the hospital morbidity of adults living in the city of Maringá, PR, Brazil, between 2000 and 2011, focusing on the differential between men and women. Method: this descriptive study was developed based on data from the Hospital Information System of the Unified Health System in order to investigate the association between groups of hospitalization causes and the average length of hospitalization per gender, in three-year periods. Results: the main groups of hospitalization causes for men were: mental disorders, lesions and circulatory diseases; and, among women: tumors, circulatory and genitourinary diseases. Mental disorders and lesions, tumors, circulatory and genitourinary diseases were significantly associated with the female and male genders across the study period. Although not significant, the mean length of hospitalization dropped across the four three-year periods, and only showed a significant difference between men and women in the second triennium. Conclusion: differences in the hospital morbidity profile between men and women underline the need for specific health and nursing actions, especially in primary health care, with a view to reducing hospitalizations due to the main groups of causes in the city.

Descriptors: Hospitalization; Health Profile; Gender and Health; Men's Health; Nursing.

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## Introduction

In Brazil, the current care model consists of health care networks, based on the user flow and on increasing levels of technological complexity, in which primary health care serves as the entry door to the health system and hospitals as the top of the care pyramid<sup>(1)</sup>. In this context, differences are found between men and women with regard to the health indicators and the usage pattern of the health services, including hospitalizations<sup>(2)</sup>. Therefore, the study of the hospitalization profile is fundamental for the planning and implementation of actions in the fight against inequalities that permeate illness and health service access among men and women.

Brazilian studies have focused on themes like health service access<sup>(3)</sup>, morbidity and mortality profiles<sup>(4)</sup>, representations about health and illness in certain social groups<sup>(5)</sup>, besides the socialization of health needs<sup>(6)</sup>, in line with possible gender differentials in the health profile of the population.

What the health differentials is concerned, the greater vulnerability of men to severe and chronic illnesses is evidenced, besides greater probability of premature deaths, while an opposite relation is evidenced among women, besides higher incidence levels of acute disease episodes: high morbidity and low mortality demands<sup>(4)</sup>. In addition, the predominance of men's access to the health system is verified through specialty and hospital outpatient clinics, because they only turn to primary health care services eventually, which differs from women<sup>(3)</sup>. This behavior regarding the search for health services goes against the reorganization of the care model and favors the delay in care delivery and the worsening of the disease<sup>(7)</sup>.

As a rule, culturally, men neglect the adoption of preventive habits, which acts as a barrier in care for their own health, besides the access difficulties represented by the way the managers and professionals structure the health services (service hours, physician-centered care and care focused on other population groups, as well as the banishment of demands related to the use of alcohol and other drugs, condom use, violence and mental suffering)<sup>(6)</sup>. In view of similar difficulties, however, women are closer to preventive care, in view of their better probabilities of evolution when in hospital<sup>(8)</sup>.

In Brazil, the Family Health Strategy exactly proposes the inversion in the focus of the traditional care model, from a cure and hospital-centered practice to work with the families, through an expanded

understanding of the health-disease process and of the importance of preventive interventions<sup>(1)</sup>. The task all primary health care professionals have in common is the analysis of the health situation based on epidemiological characteristics of the territory. Nurses, then, are responsible for assessing and supervising the work of the Community Health Agents and the nursing team in health care delivery to individuals and families in all developmental phases, including adult age<sup>(1)</sup>.

Based on these premises, it is relevant to consider the predominance of the male population in the profile of hospitalizations for almost all causes as an important differential, which can be justified by cultural gender patterns<sup>(2)</sup>. Therefore, morbidity studies are needed, as they permit comparisons among indicators that support the implementation of prevention, promotion and control actions<sup>(6)</sup>. In this perspective, the aim in this study is to characterize the hospital morbidity of adults living in Maringá/PR, between 2000 and 2011, focusing on the differentials between men and women in terms of groups of causes and lengths of hospitalization.

## Method

Descriptive and comparative study of hospitalization rates in men and women living in a medium-sized city in the State of Paraná, observed across four three-year periods, from 2000 till 2011, based on a secondary source of data in the public domain (DATASUS – database of the Brazilian Ministry of Health). The reference city is Maringá-PR, located in the North-West Macroregion in the State of Paraná, at 425 kilometers from the capital Curitiba. The city has 357,077 inhabitants, 60.9% of whom are between 20 and 59 years old. Although the city is medium-sized, it shares problems with large centers since, as a hub and headquarters of the 15<sup>th</sup> Regional Health District in the State, the city faces the "metropolitanization" process.

The information used in the study is available in the Hospital Information System of the Unified Health System (SIH-SUS)<sup>(9)</sup>. The hospital morbidity, analyzed based on the primary hospitalization diagnosis, in the population from 20 till 59 years, was described based on the relative frequency per age range and the comparison between men and women, using hospitalization coefficients, groups of cases and the mean length of hospitalization per three-year period. The age range between 20 and 59 years was chosen because it is the most representative part of the population in numerical terms and because of its representativeness

in the general hospital morbidity profile, including hospitalizations in psychiatric hospitals.

The hospitalization causes were grouped per chapters of the International Classification of Diseases 10<sup>th</sup> Revision – ICD-10<sup>(10)</sup>. Hospitalizations due to pregnancy, childbirth and puerperium (Chapter 15), conditions originating in the perinatal period (Chapter 16) and external causes of morbidity and mortality (chapter 20) were excluded; hospitalizations due to pregnancy, childbirth and puerperium because they refer to conditions specifically related to women; perinatal conditions because they are related to children in the perinatal period; and external causes of morbidity and mortality because this chapter refers to exclusive causes for a secondary diagnosis. The mean length of hospitalization was considered in days. The tables were exported to and grouped in the software Tabwin 2.7.

To check for associations between the groups of causes and the gender, the chi-square test was applied. To compare the mean length of hospitalization across the four triennia for men and women, the Kruskal-Wallis

test for independent samples was used. To compare the mean length of hospitalization for men and women in each three-year period, Mann-Whitney's test for independent samples was applied. The non-parametrical tests were adopted based on the results of the Shapiro-Wilk test, which found the non-normal distribution of the data. Significance was set at 5% and the statistical tests were developed in the software SPSS Statistics 20. The research projects was forwarded to the Permanent Ethics Committee for Research involving Human Beings at Universidade Estadual de Maringá and was exempted from evaluation because the research was developed using secondary data in the public domain.

## Results

Individuals between 20 and 59 years of age were responsible, and to an increasing extent, for about 50% of hospitalizations in all age ranges across the four triennia (Table 1) and, in that age range, the hospitalizations of men in Maringá represented 56.1% of the total number in that period.

Table 1 - Hospitalizations (%) of adults according to age range and gender, per triennium, Maringá, PR, Brazil, 2000 till 2011

Age range (years)	2000 till 2002			2003 till 2005		
	Male	Female	Total	Male	Female	Total
< 1 till 19	23.5	19.9	21.9	20.4	18.2	19.4
20 till 59	48.1	48.9	48.4	49.9	48.0	49.1
≥ 60	28.4	31.2	29.7	29.7	33.8	31.5
Total		100			100	
Age range (years)	2006 till 2008			2009 till 2011		
	Male	Female	Total	Male	Female	Total
< 1 till 19	17.2	15.9	16.6	16.4	14.1	15.4
20 till 59	52.7	51.0	52.0	54.3	52.2	53.4
≥ 60	30.1	33.0	31.4	29.3	33.7	31.2
Total		100			100	

Source: SIH-SUS/DATASUS (Ministry of Health)

The five main groups of hospitalization causes for men were mental disorders (Chapter V), injuries and poisoning (Chapter XIX), diseases of the circulatory (Chapter IX), respiratory (Chapter X) and digestive systems (Chapter XI) (Table 2). An increase by 68.4% in male hospitalizations due to injuries and poisoning and a drop by 47.4% in hospitalizations due to respiratory diseases are highlighted from the start to the end of the period. As regards the women, neoplasms (Chapter II) and diseases of the circulatory and genitourinary systems (Chapter XIV) were the most frequent groups of causes, while hospitalizations due to injuries and poisoning only figured among the main groups of causes in the last triennium.

An increase by 81.4% was found in the male hospitalization coefficient due to injuries, reaching 141 hospitalizations for every 10,000 inhabitants in the last triennium, besides an increase by 83.2% in the difference in male and female coefficients. It is emphasized that injuries surpassed hospitalizations due to mental disorders in the fourth triennium. The difference between the hospitalization coefficients due to circulatory diseases indicates an inversion (from -3.6 to 2.0), keeping in mind that, as from the second triennium, men revealed a higher frequency of hospitalizations due to these causes when compared to women. The men predominated in the number of hospitalizations due to diseases of the respiratory

system, but the coefficient for men and women dropped throughout the period (from 70.4 to 39.7 among men and from 59.3 to 27.0 among women). The differential observed in the hospitalizations due to digestive diseases indicates higher coefficients among men; the

difference between the hospitalization coefficients due to endocrine diseases increased (from -0.8 to 2.5), particularly among men. Among the differentials for hospitalizations due to genitourinary diseases and neoplasms, women stood out (Table 3).

Table 2 - Hospitalizations (%) according to groups of disease causes and gender, per triennium, Maringá, PR, Brazil, 2000 till 2011

Groups of Causes (ICD 10)	2000 till 2002		2003 till 2005		2006 till 2008		2009 till 2011	
	Male	Female	Male	Female	Male	Female	Male	Female
Infectious	3.7	3.6	3.6	3.4	4.6	5.7	4.2	4.5
Neoplasms	3.6	12.8	6.5	17.3	6.9	15.8	6.1	16.7
Blood	0.4	1.0	0.4	0.6	0.4	0.8	0.4	1.1
Endocrine	2.0	2.8	2.3	2.9	2.3	2.8	1.8	2.0
Mental Disorders	22.4	6.9	18.3	9.6	20.5	11.2	21.5	10.3
Nervous System	2.3	2.1	4.9	3.3	5.3	2.5	2.0	2.3
Eye and adnexa	0.5	0.3	0.4	0.3	0.4	0.3	0.7	0.7
Ear	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2
Circulatory	11.1	15.5	11.1	13.8	8.5	11.9	8.8	12.8
Respiratory	13.5	15.0	9.5	9.7	8.1	8.3	7.1	7.3
Digestive	11.0	10.4	7.9	7.8	9.4	8.4	10.2	10.7
Skin	0.8	0.8	1.1	1.0	1.1	1.0	1.8	1.5
Musculoskeletal	5.0	3.6	5.1	4.5	4.6	3.9	3.0	2.7
Genitourinary	3.3	14.2	3.2	10.3	3.6	12.2	3.8	12.7
Congenital	0.4	0.5	0.6	0.9	0.4	0.5	0.3	0.4
Clinical/Laboratory	0.8	1.5	1.4	1.8	1.2	2.1	0.9	1.4
Injuries	14.9	5.7	16.0	7.1	15.1	6.8	25.1	10.7
Contacts with service	4.4	3.1	7.8	5.7	7.6	5.6	2.3	2.2
Total	100	100	100	100	100	100	100	100

Source: SIH-SUS/DATASUS (Ministry of Health)

Table 3 - Hospitalization coefficients (per 10,000 inhabitants) according to groups of causes of diseases and the difference between the genders, per triennium, Maringá, PR, Brazil, 2000 till 2011

Groups of Causes (ICD 10)	2000 till 2002			2003 till 2005		
	Male	Female	Difference	Male	Female	Difference
Neoplasms	18.8	50.4	-31.6	33.4	62.2	-28.8
Endocrine	10.3	11.1	-0.8	11.6	10.5	1.1
Mental	117	27.3	89.7	93.9	34.4	59.5
Circulatory	57.7	61.2	-3.6	57.1	49.7	7.5
Respiratory	70.4	59.3	11.1	48.7	34.9	13.8
Digestive	57.4	40.9	16.5	40.6	28.2	12.4
Genitourinary	17.1	55.8	-38.6	16.3	37.1	-20.8
Lesions	77.7	22.4	55.3	82.5	25.5	56.9
Total	522	394	128	515	360	155
Groups of Causes (ICD 10)	2006 till 2008			2009 till 2011		
	Male	Female	Difference	Male	Female	Difference
Neoplasms	37.6	59.8	-22.3	34.5	61.9	-27.5
Endocrine	12.6	10.6	2.0	9.9	7.4	2.5
Mental	112	42.4	69.9	120	38.2	82.1
Circulatory	46.4	45.2	1.2	49.6	47.6	2.0
Respiratory	44.5	31.4	13.1	39.7	27.0	12.7
Digestive	51.3	31.7	19.6	57.4	39.6	17.8
Genitourinary	19.9	46.3	-26.4	21.0	47.0	-25.9
Lesions	82.6	25.9	56.7	141	39.7	101
Total	548	379	169	561	371	190

A significant association was found between hospitalizations due to mental disorders and injuries for men across the four triennia, with an approximately four times higher chance of hospitalization due to mental disorders (OR=3.9) and almost three times higher due to injuries and poisoning (OR=2.9) than women; in the first three triennia, they also revealed higher chances

of hospitalization due to musculoskeletal diseases and contact with health services, characterized by the search for tests or care and/or specific procedures. Nevertheless, associations were found between hospitalizations due to neoplasms, circulatory and genitourinary diseases among women throughout the study period (Table 4).

Table 4 - Odds ratio for male gender according to groups of disease causes, per triennium, Maringá, PR, Brazil, 2000 till 2011

Groups of Causes (ICD 10)	2000 till 2002	2003 till 2005	2006 till 2008	2009 till 2011
	OR (CI 95%)	OR (CI 95%)	OR (CI 95%)	OR (CI 95%)
Neoplasms	0.3* (0.23-0.28)	0.3* (0.30-0.36)	0.4* (0.36-0.42)	0.3* (0.30-0.35)
Endocrine	0.7* (0.58-0.82)	0.8† (0.65-0.90)	0.8† (0.70-0.96)	0.9* (0.75-1.05)
Mental	3.9* (3.58-4.21)	2.4* (2.05-2.40)	2.0* (1.91-2.19)	2.4* (2.23-2.55)
Circulatory	0.7* (0.63-0.73)	0.8* (0.72-0.84)	0.7* (0.63-0.74)	0.7* (0.61-0.71)
Respiratory	0.9† (0.82-0.95)	1.0‡ (0.89-1.06)	1.0‡ (0.90-1.07)	1.0‡ (0.89-1.06)
Digestive	1.1† (0.98-1.16)	1.0‡ (0.91-1.11)	1.1† (1.04-1.23)	1.0‡ (0.89-1.03)
Musculoskeletal	1.4* (1.23-1.60)	1.2† (1.02-1.30)	1.2† (1.05-1.34)	1.1† (0.97-1.28)
Genitourinary	0.2* (0.19-0.23)	0.3* (0.30-0.38)	0.3* (0.25-0.30)	0.3* (0.25-0.39)
Injuries	2.9* (2.64-3.18)	2.5* (2.29-2.73)	2.4* (2.23-2.63)	2.8* (2.63-2.99)
Contacts with service	1.4* (1.26-1.66)	1.4* (1.26-1.56)	1.4* (1.23-1.53)	1.0† (0.88-1.21)

\*p<0.001; †p<0.05; ‡p>0.05

The group of disease causes of with the longest mean length of hospitalization was mental disorders. A reduction in the mean length of hospitalization as perceived across the triennia, but this was not significant for both genders (p=0.084 for men and

p=0.449 for women). When comparing the mean length of hospitalization for men and women, a significant difference (p=0.040) was identified in the second triennium (Table 5).

Table 5 - Mean length of hospitalization according to groups of disease causes and gender, per triennium, Maringá, PR, Brazil, 2000 till 2011

Groups of Causes (ICD 10)	2000 till 2002 (p=0,239*)		2003 till 2005 (p=0,040*)	
	Male (p=0,084†)	Female (p=0,049†)	Male (p=0,084†)	Female (p=0,049†)
Infectious	7.7	6.6	9.1	5.5
Neoplasms	5.5	3.4	5.4	3.7
Blood	4.4	4.0	4.7	3.8
Endocrine	4.8	4.9	5.7	4.5
Mental Disorders	37.9	45.7	32.9	30.3
Nervous System	5.4	4.7	5.6	6.1
Eye and adnexa	1.0	0.6	1.4	1.0
Ear	1.9	1.6	4.1	1.3
Circulatory	4.7	4.0	5.6	4.4
Respiratory	3.9	3.5	5.4	4.7
Digestive	3.7	3.7	4.5	4.2
Skin	4.1	3.3	5.4	4.9
Musculoskeletal	3.9	3.3	4.2	3.6
Genitourinary	3.7	2.8	5.0	3.6
Congenital	3.4	4.4	7.0	6.0
Clinical/Laboratory	4.0	3.5	5.8	3.9
Injuries	3.6	3.2	4.8	4.1
Contacts with service	2.0	2.1	2.4	3.3
<b>General Mean</b>	11.7	6.5	10.1	6.6

(continue...)

Table 5 - (continuation)

Groups of Causes (ICD 10)	2006 till 2008 (p=0,085*)		2009 till 2011 (p=0,293*)	
	Male (p=0,084†)	Female (p=0,049†)	Male (p=0,084†)	Female (p=0,049†)
Infectious	6.9	6.6	7.9	6.3
Neoplasms	4.8	3.8	4.6	3.2
Blood	3.6	3.4	3.6	4.0
Endocrine	4.8	4.2	5.5	5.6
Mental Disorders	25.0	24.4	26.1	23.3
Nervous System	4.4	5.7	4.8	3.4
Eye and adnexa	1.6	1.8	0.6	0.6
Ear	2.0	1.8	2.0	2.2
Circulatory	4.4	3.4	4.6	3.2
Respiratory	5.0	4.3	6.0	4.6
Digestive	4.4	3.7	3.7	3.0
Skin	5.5	3.4	4.2	3.9
Musculoskeletal	4.1	3.8	4.8	4.0
Genitourinary	4.6	3.4	3.4	3.0
Congenital	8.5	5.7	3.6	4.9
Clinical/Laboratory	4.7	3.0	3.3	2.4
Injuries	5.0	4.3	4.6	3.9
Contacts with service	2.6	2.0	1.3	1.2
<b>General Mean</b>	<b>8.8</b>	<b>6.2</b>	<b>9.2</b>	<b>5.6</b>

Source: SIH-SUS/DATASUS (Ministry of Health).

\*Mann Whitney test for independent samples

†Kruskal Wallis Test for independent samples

## Discussion

The SIH/SUS has been used in analyses of the health situation according to hospital morbidity for the development of methods and indicators that disclose not only health inequities, but also problems related to the coverage and quality of the information in that system<sup>(11)</sup>. One of the limitations in this study should be indicated though, keeping in mind that the use of this information for epidemiological purposes requires caution, but can contribute to the quality of health records, reliability of the data and health action planning, including nursing actions.

The gradual rise in the number of hospitalizations shows the importance of the hospital demand for the health system, regarding the high costs and need for discussion about public health policies<sup>(12)</sup>, mainly with regard to the adult population, in view of the extent of the challenges related to the health of economically active individuals<sup>(13)</sup>. In the population of Maringá, which grew by 24% across the study period, including a trend towards ageing, the policies have been focused on the quality of life of elderly people.

In Brazil<sup>(4)</sup>, most hospitalizations in that age range were for women. In a study undertaken in Maringá between 1998 and 2002, however, the authors found that more than half (53.7%) of the hospitalizations in that age range involved men<sup>(14)</sup>. As regards the main groups of hospitalization causes, among men as well as women, the results found are similar to studies developed in Brazil<sup>(4)</sup> and in the same city<sup>(14)</sup>. Concerning hospitalizations due to mental disorders, in accordance with the national dehospitalization policy, the city of Maringá has cut down on the number of psychiatric beds from 49.2% of all SUS beds in 2002<sup>(14)</sup> to 32.8%<sup>(15)</sup> in 2010, which influenced the reduction in the number of hospitalizations due to this cause evidenced in this study.

A study undertaken in a state capital in the Northeast of Brazil also revealed a higher frequency of hospitalizations due to mental disorders among men between 20 and 60 years of age, especially due to alcohol and drugs use (27.6%)<sup>(16)</sup>. In the same research, it was verified that mainly the family members were responsible for taking the users to the hospital and requesting their

hospitalization (88.6%). Thus, getting to know the hospitalization profile can direct the attention to specific groups – alcohol users for example – acting on causal factors together with important members of these individuals' support network, including family members.

Hospitalizations due to mental disorders resumed growth across the period, even after the set-up of the Psychosocial Care Centers in the city of Maringá as from 2001, after the Psychiatric Reform Law. In this study, however, a reduction was found in the length of hospitalization, which can also be attributed to results of the deinstitutionalization policy<sup>(17)</sup>.

As regards the injuries, in a study undertaken in Pernambuco, the authors found that 59% of trauma care was delivered to men with a mean age of 34 years<sup>(18)</sup>. Besides sociocultural determinants, part of this violence has been attributed, among other factors (unemployment, marginality, illegal drugs use and large-scale availability of firearms), to alcohol abuse<sup>(19)</sup>. It should be highlighted that, according to a study based on a telephone survey, 26.2% of Brazilian men, aged 18 years or older, declared alcohol abuse; and that, between 2006 and 2011, no strong change was found in alcohol abuse rates<sup>(20)</sup>. The same study evidenced an increasing trend towards alcohol consumption among women, which in the near future can modify the disease and, consequently, the hospitalization profile due to this practice<sup>(20)</sup>.

Alcohol abuse has been predominant among men for long<sup>(19)</sup>, provoking great damage in this population group, mainly as a preponderant factor for hospitalizations due to mental and behavioral disorders, injuries and liver diseases. In view of the growing trend towards alcohol use among women, however, nursing professionals should target both – men and women – considering that they can bond with primary health care service users who live with addiction, identify potential changes and not naturalize this practice related to sociocultural aspects. Therefore, teamwork, linked with intersectoral actions, permits efficiency in holistic care delivery, which is such an important principle for the functioning of the current care model<sup>(1)</sup>.

Concerning hospitalizations due to diseases of the circulatory system, a study based on SIH/SUS data identified the reduced hospitalization coefficient in Niterói, between 1998 and 2007, between male and female individuals between 30 and 59 years of age<sup>(21)</sup>. Nevertheless, the coefficient continued higher among men, similar to the present study findings as from the second triennium. Moreover, it should be highlighted,

based on a survey among men in Juiz de Fora<sup>(22)</sup>, that 80% of them presented at least one of the risk factors for cardiovascular diseases. Overweight/obesity, sedentariness/irregular physical exercise, smoking, arterial hypertension and borderline arterial pressure were assessed, as these contribute significantly to the hospitalization profile due to diseases of the circulatory system and, hence, demand professional care, mainly due to the modifiable nature of these factors.

In the population from 20 till 59 years, hospitalizations due to respiratory diseases declined over time in Maringá. The same happened in São Paulo, where the reduction happened across all ages<sup>(23)</sup>. In view of this reduction, the expansion of the Family Health Strategy in the first decade of the year 2000 should be highlighted, as well as the positive actions of health professionals in the prevention of respiratory diseases, through immunization activities, which are the main actions for the control of respiratory infections and other diseases preventable through immunization. Therefore, it is inferred that the access to vaccines in the extreme age groups of the population, mainly in children, plays a determinant/effective role in the fight against the transmission of diseases like flue for example.

In an estimate by the National Cancer Institute (INCA), higher incidence of neoplasms is found among women. As regards the type of cancer in the population from the state of Paraná, it is verified that, among men, oral, pharynx, stomach and esophageal cancer are still the most frequent; for women, besides breast and cervical cancer, colon and rectal cancer represent another important cause of morbidity<sup>(24)</sup>. Coping with cancer should include health education, promotion and prevention actions across all levels, besides epidemiological analyses based on the available information systems<sup>(24)</sup>.

The gradual advance in the difference between hospitalization coefficients due to Diabetes Mellitus suggests that there are difference in the control and prevention of complications deriving from this conditions, including the medication use profile, women's greater concern with health, their greater demand for health services than among men and the amount of health programs focused on women<sup>(25)</sup>. These strategies mainly permeate the primary health care sphere, in which the implementation of actions should go against the curative sense through preventive and territorialized practices.

In this study, as well as in a study undertaken in Brazil in 2005, hospitalizations due to musculoskeletal

diseases were more frequent among men<sup>(4)</sup>. Nevertheless, another study reveals that these diseases affect women more, in practically all body regions, especially due to their occupational activities<sup>(26)</sup>.

As regards "contacts with health services" (ICD-10), which includes tests and specific procedures, the frequency was significantly higher among men than among women, which can reflect the little demand for preventive tests among men and, consequently, the trend towards the greater use of services, motivated by factors that influence the health condition. This kind of findings made the Ministry of Health elaborate the National Comprehensive Care Policy for Men's Health (PNAISH) which, allied with primary health care, should be implemented among health professionals and services with a view to the reorganization of health care for men, enhancing the possibilities of service use with a focus on health prevention and promotion.

The technological evolution of health practices and the consequent reduction in the length of hospitalization needed lead to a decrease in the mean length of hospitalization<sup>(12)</sup>. The general mean length is longer for men and, at certain times, significantly longer than the length of hospitalization for women, supposedly due to the fact that they are hospitalized in more severe conditions, extending the treatment. This consideration indicates the gender-related behavioral issue, the socialization of health needs and the inequities in the search for preventive care practices<sup>(6)</sup>, which entails bottlenecks for the user flow across the health system.

In that sense, not only the differential of hospital morbidity between men and women should be taken into account, but also the gender particularities in the preventive and curative use of health services. Nursing professionals need to consider the morbidity profile of the population, which enables them to act in raising men's awareness about the benefits of preventive behaviors for health, following the example of women, who have advanced relatively well in these practices, as demonstrated by the increased life expectancy and quality of life in the female population.

## Conclusion

These study results show that men are mainly hospitalized due to mental disorders, injuries and circulatory diseases, and that hospitalizations among women are mainly motivated by neoplasms, circulatory and genitourinary diseases. A significant association was found between some of these groups of causes and

gender – male and female – across the study period, which underlines the need for specific care delivery to men and women, according to the main diagnoses that lead to hospitalization.

As regards the mean length of hospitalization, a general but not significant decrease was found across the study period. When comparing men and women, a significant difference was found in the second triennium, with a general mean for men always higher than for women, supposedly because men take more time than women to seek care, which aggravates their health condition.

In this study, besides adding knowledge about the particularities among women and men, the results characterize the hospitalization profile in a time perspective through comparisons among the three-year periods across the study period. Therefore, it is concluded that this kind of studies can cooperate to health service management and organization, based on epidemiological characteristics and local needs, with a view to allowing future studies to outline increasingly favorable health profiles.

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