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ORIGINAL ARTICLE

PROFILE OF PATIENTS ADMITTED IN A CARDIOVASCULAR HOSPITAL
PERFIL DOS PACIENTES READMITIDOS EM UM HOSPITAL CARDIOVASCULAR
PERFIL DE LOS PACIENTES READMITIDOS EN UN HOSPITAL CARDIOVASCULAR

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ABSTRACT

Objective: to characterize the readmission of cardiac patients in highly complex institutions. *Method:* A retrospective, comparative, quantitative study, with patients readmitted in a public hospital in the state of São Paulo. Data was compared using the t test from *Student, Spearman and Pearson, Fisher's* exact test and the chi-square test. The study was approved by the Research Ethics Committee of the institution. *Results:* total: 728 records, mostly: men, elderly, married, with incomplete primary education, retired or performing domestic activities. Frequent medical diagnoses were acute coronary syndrome, heart failure and congenital malformations. Frequent nursing diagnoses: risk of infection, risk of decreased cardiac output and risk of sleep deprivation. The average stay was 8.8 days. *Conclusion:* the profile of the readmitted patients helps identify potential fragility of outbreaks and improvements, reducing the length of stay and readmissions. *Descriptors:* Readmission of the Patient; Cardiovascular Diseases; Nursing Diagnosis.

RESUMO

Objetivo: caracterizar a readmissão dos pacientes cardiopatas em instituição de alta complexidade. *Método:* estudo retrospectivo, comparativo, quantitativo, com pacientes reinternados em um hospital público do Estado de São Paulo. Os dados foram comparados pelos testes t de *Student, Spearman e Pearson,* teste exato de *Fisher* e teste Qui-Quadrado. O estudo foi aprovado pelo Comitê de Ética e Pesquisa da instituição. *Resultados:* total: 728 prontuários, maioria: homens, idosos, casados, com ensino fundamental incompleto, aposentados ou realizando atividade doméstica. Os diagnósticos médicos frequentes foram: síndrome coronariana aguda, insuficiência cardíaca e malformações congênitas. Os diagnósticos de enfermagem frequentes: risco de infecção, risco para débito cardíaco diminuído e risco para privação do sono. A média de permanência foi de 8,8 dias. *Conclusão:* o perfil dos pacientes readmitidos auxilia a identificação de possíveis focos de fragilidade e de melhoras, diminuindo o tempo de internação e readmissões. *Descritores:* Readmissão do Paciente; Doenças Cardiovasculares; Diagnóstico de Enfermagem.

RESUMEN

Objetivo: caracterizar la readmisión de los pacientes cardiópatas en instituciones de alta complejidad. *Método:* estudio retrospectivo, comparativo, cuantitativo, con pacientes re internados en un hospital público del Estado de São Paulo. Los datos fueron comparados por los testeos t de *Student, Spearman y Pearson,* testeo exacto de *Fisher* y testeo chi-cuadrado. El estudio fue aprobado por el Comité de Ética y Pesquisa de la institución. *Resultados:* total: 728 prontuarios, mayoría: hombres, ancianos, casados, con enseñanza primaria incompleta, jubilados o realizando actividad doméstica. Los diagnósticos médicos frecuentes fueron: síndrome coronaria aguda, insuficiencia cardíaca y malformaciones congénitas. Los diagnósticos de enfermería frecuentes: riesgo de infección, riesgo para débito cardíaco disminuyendo y riesgo para privación del sueño. La media de permanencia fue de 8,8 días. *Conclusión:* el perfil de los pacientes readmitidos auxilia la identificación de posibles focos de fragilidad y de mejoras, disminuyendo el tiempo de internación y readmisiones. *Descriptores:* Readmisión del Paciente; Enfermedades Cardiovasculares; Diagnóstico de Enfermería.

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INTRODUCTION

There are several re-hospitalization settings. One that considers the subsequent hospitalizations in which the main diagnosis is the same or is directly related to the initial hospitalization, while others consider those that occurred in the same service, regardless of the diagnosis that led to readmission. There are also differing definitions in relation to the time interval that can vary from 14 days to 1 year after release.[1]

A hospital readmission can be defined as a new hospitalization occurring in a period of 1, 2, 4 or 12 months after having been released, although this definition is no consensus within the scientific community.[2]

Hospital readmissions can be classified in planned and eventual. Planned are those necessary for the continuity of the diagnostic or therapeutic evaluation. On the other hand eventual ones can be grouped into potentially preventable and unpreventable. The shorter the interval between the first admission and readmission, the greater the chance of returning for complications having been potentially preventable.[3]

Readmission when potentially preventable could have been avoided with better management of the patient's condition, appropriate discharge planning, and provision of resources at home to meet the patient's needs.[3]

In this study we will use as a definition for hospital readmission of those occurring in the period of one year, which may be due to the worsening of the previous condition of the patient or other associated morbidities.[4]

Hospital readmissions may represent deficiencies in meeting the needs corresponding to a particular disease,[3] also reflecting the impact of hospital care in the patient's condition after release.[5]

Studies have shown that high rates of readmissions are related to an increase in expenditure in the health sector, with a decreasing quality of health care and high hospital mortality rates.[2] International studies identified hospital readmission rates ranging from 0.47 .5% to 25.4%.[5]

There is a considerable variation in factors associated with readmissions such as age and financial need, ethnicity, distance to the hospital, rurality, lifestyle, weather factors and access to primary care.[6]

Readmissions are also a reflection of the patient's potential for self-care, their health behaviors, including bio-psychosocial and cultural conditions that interfere in this process. The most potentially preventable readmission is caused by complications of surgical procedures and chronic diseases that depend on patient compliance to treatment for the stability of the clinical frame[3], for example, in the case of cardiovascular disease, when the patient becomes responsible for maintaining a healthy, low sodium, low fat diet, regular physical activities, control the water intake and take medications correctly, and following a medical follow-up periodically. In a study of patients with heart failure, it was shown that hospital readmission reasons involve the worsening of the disease, non-adherence to treatment and non-optimized medications.[7]

According Benbassat and Taragin, between 9% and 48% of hospitalizations could be prevented, in that they are associated with inadequate care during hospitalization. Moreover, according to the same study, between 12% to 75% of readmissions could be avoided with patient education resources such as: a correct evaluation before a discharge decision, and maintenance of home care. In fact, maintaining home care long term appears to play an important role in relation to what amounts to prevention of re-hospitalization,[2] since, for example, continued use of alcohol and tobacco at home, are related to increased hospital readmissions in cardiac patients.[8]

A study shows that readmission rates are higher in the central hospitals, larger (more than 200 beds), more complex, with more sophisticated technologies and more specialized, considering they receive a greater proportion of patients with more serious problems.[2]

The reduction in re-hospitalization rates reduces hospital costs and improves the quality of care,[2] whereas a re-hospitalization brings an enormous burden to the health system, and discomfort to the patient and their families.[5]

OBJECTIVES

- To characterize the readmission of cardiac patients in highly complex institutions that occur in the same hospital and after discharge, in units of the emergency room, hemodynamics, adult and pediatric hospitalization, intensive care and hospital days.

- To characterize readmissions according to the socio-demographic profile of the patient, cause, time to readmission and type of readmission (after discharge).

● To correlate patient profile variables to the cause of readmission; correlate the length of stay with the type of readmission.

● To correlate the nursing diagnoses and development of release with the cause of readmission; and propose strategies in nursing care to reduce the incidence of readmission of patients.

METHOD

Article drawn from the **Profile of patients readmitted in a cardiovascular hospital** monograph submitted to the Post-graduate Program *Lato-sensu*, Residency in Cardiovascular Nursing mode of Dante Pazzanese Institute of Cardiology (DPCI), in partnership with the University of São Paulo Nursing School (USPNS). São Paulo-SP, Brazil. 2014

A retrospective, comparative and quantitative analysis study was carried out in a public hospital institution, a reference in care in cardiology of the State Health Secretariat of São Paulo.

The population covered in this study consists of readmitted patients in the various hospital departments (emergency room, inpatient units, intensive care units, hemodynamic, pediatrics and hospital days) and who underwent medical or surgical treatment during the year 2012.

First, the occurrence of readmission of patients in the year 2012 was raised and analyzed, the SAME database of the institution regarding: admission date, unit, cause, time interval between admissions and length of stay. Later, the data was collected from medical records of patients referring to the year 2012 as the provided nursing care (Nursing Diagnoses and Evolution-NDE on the first day of admission and the day before the discharge), and medical notes and nursing related to death if it had occurred. After collection, the data were stored in an Excel spreadsheet, containing the variables: age, gender, place of residence, work status, social status, medical diagnosis, co-morbidities, length of stay, number of hospitalizations in the period, time between one hospitalization and another, nursing diagnosis and nursing evolution upon discharge.

The Excel spreadsheet was subjected to statistical analysis using SPSS and using parametric and non-parametric tests with 5% significance level.

For data analysis, socio-demographic characteristics were compared and causes of readmission by t test, *Student*, *Spearman e Pearson*, and compared to clinical conditions and nursing and causes of readmission by the *Fisher's* exact test and chi-square test.

The design of this study was previously submitted and approved on July 2nd, 2013, by the Research Ethics Committee of the DPCI by CAAE No 18774113.0.0000.5462 under the 4351/2013 Protocol, taking into account determinations recommended by Resolution No. 466/12 of National Health Council (NHC), which regulates research involving human beings.[9]

RESULTS

◆ Sample Profile

Of the 728 records collected, 445 (61%) refer to male users and 283 (39%) to females, most of them from the city and state of São Paulo 442 (60.7%), and 257 (35.3%) arising from other cities and municipalities in the state of São Paulo. The other 29 (4%) users correspond to the states of Rio de Janeiro, Goiás, Bahia, Minas Gerais, Paraná, Pará, Roraima and Holy Spirit.

As for age, 7 (0.96%) were younger than 1 year, 51 (7.01%) are between 1 and 10 years, 18 (2.47%) are aged from 11 to 20 years, 20 (2.75%) are between 21 and 30 years, 39 (5.36%) between 31 and 40, 77 (10.58%) between 41 and 50 years, 146 (20.05%) between 51 and 60 years, 168 (23.08%) between 61 and 70 years, 147 (20.19%) between 71 and 80, 51 (7.01%) between 81 and 90 years and 4 (0.55%) are above 90 years, the lowest age of 1 month and the highest age of 101 years.

Regarding marital status, 405 (55.63%) are married, 92 (12.64%) are single, 81 (11.13%) widowers, 58 (7.97%) are divorced and 13 (1.79%) are stable. In those classified as "not applicable", fall into the category of children / teenagers, found in 60 (8.24%) medical records and in 19 (2.61%) records no records were found.

With regard to education, the majority of users had not completed elementary school, 250 (34.34%), 128 (17.58%) had completed elementary school, 124 (17.03%) had completed high school, 59 (8 10%) were illiterate, 44 (6.04%) had completed higher education, 20 (2.75%) Some high school and 16 (2.20%) incomplete higher education. 39 (5.36%) had the schooling data defined as "not applicable" for not being in school age and in 48 (6.59%) records this data was not recorded.

When we crossed gender with marital status, it is emphasized that there are more single women (16.2%) and widows (20.5%), while there are more married men (63.8%) and separated or divorced (9.3%). The stable union

and the "not applicable" showed no residue adjustment> 1.97. Due to lack of information in the medical records regarding the marital status of 19 patients, the percentages quoted above refer to a total of 709 patients. This data will be presented in table 1.

Table 1. Marital Status according to gender. São Paulo, 2014.

Marital Status	Female		Male		p
	n	%	n	%	
Single	45	16,2%	47	10,9%	<0,001
Married	130	46,8%	275	63,8%	
Widow	57	20,5%	24	5,6%	
Separated/Divorced	18	6,5%	40	9,3%	
Stable Union	5	1,8%	8	1,9%	
Non Applicable	23	8,3%	37	8,6%	

When crossing gender with education, there are more illiterate women (11.9% of the total of 283 women), with incomplete primary education (40.0%), with incomplete secondary education (4.1%) and classified as "does not apply "due to not being of school age (6.7%) than men. However incomplete primary levels of education, secondary education, incomplete higher education and complete higher education, more men than women, with respectively 20.0%, 19.8%, 2.7% and 9.0% of the total of 445 men (p = 0.002). But it is noteworthy that the incomplete and complete primary school options and incomplete and complete high school options showed no residue adjustment> 1.97. As there was no education in the medical record of 48 patients, the percentages quoted above refer to a total of 680 patients. This data will be presented in table 2.

Table 2. Education according to gender. São Paulo, 2014.

Education	Female		Male		p
	n	%	n	%	
Illiterate	32	11,9	27	6,6	
Incomplete primary school	108	40,0	142	34,6	
Complete primary school	46	17,0	82	20,0	
Incomplete highschool	11	4,1	9	2,2	<0,002
Complete highschool	43	15,9	81	19,8	
Incomplete higher education	5	1,9	11	68,8	
Complete higher education	7	2,6	37	9,0	
Non Applicable	18	6,7	21	5,1	

As for the labor situation, 296 (40.66%) are retired, 191 (26.24%) have paid work, 18 (2.47%) are unemployed and 18 (2.47%) are on leave. 182 (25%) had their labor situation described as "not applicable" because of age or because they are described as "of the home", and in 23 (3.16%) records no records were found. Among the professions that appeared more were driver, appearing 17 times, which corresponds to 2.34%, all of which were men, traders, appearing 14 times and corresponding to 1.92% and autonomous, appearing 11 times and corresponding 1.51%. The profession that appeared more among women was described as "of the home", appearing 90 times, corresponding to 12.36% of the total sample.

There was no significance to cross the labor situation with gender (p = 0.031).

With regard to comorbidities, 506 (69.51%) had hypertension, 362 (49.73%) are sedentary, 345 (47.39%) have dyslipidemia, 232 (31.87%) Diabetes mellitus, 162 (22.25%) consider themselves stressed, 130 (17.86%) make use of tobacco, 95 (13.05%) are obese.

There was no difference in the occurrence of diabetes, hypertension, dyslipidemia, sedentary lifestyle and stress when correlated to gender. The comorbidity smoking, presented significance close to p = 0.013 being more prevalent in males. Since obesity is more prevalent in females with a significance level of p = 0.005. This data will be presented in table 3.

Table 3. Comorbidities according to gender. São Paulo, 2014.

Comorbidities	Female		Male		Level of significance
	n	%	n	%	p
Diabetes	90	40,5%	132	59,5%	0,620
Hipertension	189	37,4%	317	62,6%	0,132
Dyslipidemia	132	38,3%	213	61,7%	0,647
Smoking	38	29,2%	92	70,8%	0,013
Obesity	50	52,6%	45	47,4%	0,005
Sedentary lifestyle	139	38,4%	223	61,6%	0,703
Stress	63	38,9%	99	61,1%	1,000

♦ **Hospitalization data**

Of the 728 charts reviewed, 708 (97.3%) were financed by UHS hospitalizations, and 20 (2.7%) for the private health plan UNIMED.

In the first hospitalization of 728 users, the most common medical diagnoses for which patients were in need of hospitalization were: Treatment of Acute Coronary Syndrome - 100 (13.74%), Treatment of Heart Failure - 93 (12.77%), Treatment of Malformations of the Congenital Circulatory System - 64 (8.79%), Treatment of Arterial insufficiency with Critical Ischemia - 45 (6.18%), Cardiac Catheterization - 43 (5.91%), Myocardial revascularization - 39 (5.36%), treating arrhythmias - 35 (4.81%), Valvular Prosthesis Implantation - 29 (3.98%), Member arteriography - 27 (3.71%), treatment of Cardiomyopathy - 22 (3.02%) and Ablation of Atrial Flutter - 22 (3.02%).

When crossing medical diagnosis with gender, there was no significance (p = 0.484).

As for Nursing Diagnosis relating to the first admission, the most frequent were Infection Risk - 615 (84.5%) on admission and 532 (73.1%) on discharge, Risk for decreased cardiac output - 552 (75.8%) on admission and 464 (63.7%) on discharge, risk of sleep deprivation - 535 (73.5%) on admission and 398 (54.7%) on discharge, constipation risk - 507 (69.6%) on admission and 394 (54.1%) on discharge, fall risk - 444 (61%) on admission and 360 (49.5%) on discharge, impaired physical mobility - 376 (51.6%) on admission and 316 (43.4%) on discharge, self-care deficit in bathing / hygiene - 362 (49.7%) at admission and 280 (38.5%) on discharge, Risk for impaired skin integrity - 283 (38.9 %) at admission and 204 (28%) on discharge, unstable blood sugar risk - 248 (34.1%) on admission and 216 (29.7%) on discharge, Disruption in family ties - 222 (30.5%) on admission and 260 (35.7%) on discharge, ineffective protection - 186 (25.5%) on admission and 120 (16.5%) on discharge.

When crossing the nursing diagnoses (ND) with gender, in first admission no ND had a significant relationship. In the second admission, the risk for excessive volume of liquid had a nearby significance with p = 0.007, being more prevalent in males, and 77.6% of individuals who had this ND were men. In the second admission ND also had no significance when correlated with gender.

On discharge, when correlating the nursing diagnoses with gender, only in self-care deficit for bathing and hygiene was it more prevalent in females with 45.0% (p = 0.004). Other ND have not been significant when correlated with gender. This data will be presented in table 4.

Table 4. Nursing diagnoses on first discharge according to gender. São Paulo 2014.

Nursing Diagnoses	First Discharge				
	Female		Male		p
	n	%	n	%	
Poor knowledge of the procedure	10	37,2	17	63,0	1,000
Decreased cardiac output	0	0,0	3	100,0	0,289
Self-care deficit for food	30	48,4	32	51,6	0,102
Self-care deficit for bathing / hygiene	126	45,0	154	55,0	0,004
Deficit in knowledge of the pathology	7	38,9	11	61,1	1,000
Acute pain	17	41,5	24	58,5	0,741
Chest pain	12	41,4	17	58,6	0,846
Arterial Unsaturation	4	28,6	10	71,4	0,583
Impaired skin integrity	29	41,4	41	58,6	0,606
Impaired tissue integrity	70	34,1	135	65,9	0,147
Activity intolerance	35	47,9	38	52,1	0,098
Impaired physical mobility	136	43,0	180	57,0	0,024
Ineffective renal perfusion	1	12,5	7	87,5	0,162
Ineffective peripheral tissue perfusion	1	100,0	0	0,0	0,384
Sleep Deprivation	4	50,0	4	50,0	0,492
Interrupted family processes	1	50,0	1	50,0	1,000
Ineffective protection	50	41,7	70	58,3	0,471
Risk for decreased cardiac output	175	37,7	289	62,3	0,624
Constipation risk	151	38,3	243	61,7	1,000
Risk of Diarrhea	1	100,0	0	0,0	0,384
Unstable blood sugar risk	82	38,0	134	62,0	0,933
Risk of infection	204	38,3	328	61,7	0,929
Risk of falling	144	40,0	216	60,0	0,395
Risk for impaired skin integrity	85	41,7	119	58,3	0,269
Risk of ineffective renal perfusion	21	44,7	26	55,3	0,357
Risk for peripheral ineffective tissue perfusion	20	42,6	27	57,4	0,539
Risk for sleep deprivation	155	38,9	243	61,1	0,815
Risk for excessive volume of liquids	28	36,8	48	63,2	0,804
Disruption in family ties	89	34,2	171	65,8	0,092
Ineffective spontaneous ventilation	0	0,0	1	100,0	1,000
Excessive liquid volume	16	44,4	20	55,6	0,484

The minimum number of days that the patient was hospitalized was 0, indicating that they remained less than 24 hours in hospital, and the maximum was 118 days, the average number of days equal to the first admission 10.44 days.

In the following admissions and the total maximum of 7 readmissions, medical diagnosis and more frequent nursing are repeated, thus delineating the profile of comorbidities and needs of users of this establishment specialized in cardiovascular health.

In relation to the average number of days in which the patient was hospitalized in the institution, the second hospitalization had an average of 11.43 days, with minimum of 0 and a maximum of 310 days of stay in the institution; the third hospitalization averaged 10.82 days, with a minimum stay of 0 and a maximum of 115 days; the fourth hospitalization averaged 11.28 days staying in the institution a minimum 0 days and a maximum of 62 days; in the fifth hospitalization the average stay in the institution was 11.61 days, with a minimum of 0 days up to 15 days, on the sixth hospitalization the average hospital stay was 6.66 days with a minimum stay of 0 days and a maximum of 15 days and in the seventh hospitalization, average stay in the institution was 1.00 day with minimum of 0 days and a maximum of four days of hospitalization.

Between the first and second hospitalization a minimum of 0 days and a maximum of 148 days passed with an average of 61.33 days; between the second and third hospitalization a minimum of 1 day and a maximum of 288 days passed with an average of 57.34 days; between the third and fourth hospitalization a minimum of 2 days and a maximum of 255 days passed with an average of 28.90 days; between the fourth and fifth hospitalization the minimum number of days that passed was 5 days and maximum of 67, with an average of 23.92 days; between the fifth and sixth hospital, it took a minimum of 1 day and a maximum of 21 days with an average of 5.33 days, and between the sixth and seventh hospitalization, the minimum was 17 days elapsed and the maximum was 92, with an average of 30.75 days.

Throughout the analyzed period, there was the occurrence of 70 deaths, with no significance when comparing females and males (p = 0.156).

DISCUSSION

Of the 728 records collected, 445 (61%) refer to male users and 283 (39%) female.

Although there is no data in the literature that supports the fact that there are more incidences of readmission in men than in women, we can base the results of this study taking into account that men seek health services less for reasons of masculinity or fear, which may explain the worsening of the disease by lack of preventive measures, leading to hospitalization and hence hospital readmission.[10]

In a study conducted in a general hospital in Marília-SP from January 1996 to December 1997, 62.2% of patients that were readmitted were female.[11] However in a more recent study from January to March 2007 54, 15% of patients that were readmitted were male.[12] In a study conducted in São Paulo in 2003, it was observed that 44.35% of readmitted patients were female and 55.65% were male.[4] We observed that only in the Marilia study 1996 the female population exceeded the male.

The vast majority (63.32%) of the readmitted population is between the age group 50-80 years, showing that age is directly related to hospitalization for cardiovascular disease, since the risk is increased in this population. A study that characterized the hospital admissions in the elderly showed that the age group of 60 and over is 36.8% of the events.[11] In Brazil, it has been found that the hospitalization coefficient, the hospitalization rates and cost of the Unified Health System (UHS) are higher for people of 60 years or more, and there, among them, the largest number of repeated hospitalizations.[12]

As for education, in this study 34.34% had not completed elementary school, which is the majority of the population, and 8.10% are illiterate. As for the marital status 55.63% are married and the most prevalent profession was "of the home."

In a study of the cardiac patient population, the majority (54.5%) also has incomplete primary education and 4.5% are illiterate. As for the marital status 63.6% are married and the most common profession was "of the home" with 36.4%.[13] All data is prevalent in this study, thus delineating the profile of the cardiac patient population, which is characterized by elderly, married, with incomplete primary education, most retired or performing domestic activity in the case of women.

It is emphasized in this study that there are more single women than widows, while there are more married and separated or divorced men. Other studies show that due to the fact that women live longer than men, they end up becoming widowed or become more alone sozinhas.[14]

It is observed in the literature that women have a lesser degree of schooling, while men have a higher degree,[14] which was also demonstrated in this study.

While men smoke more, women are more obese. In a study conducted in Porto Alegre in 1993, they also found that men smoke more, with 52% of the total of 437 men against 33% of the total of 700 women, and 24% of women were obese compared to 16% of the total of men.[15]

Despite medical diagnoses not having had significance with regard to gender, it can be seen that many of the individuals, regardless of gender, have the considered risk factors for coronary artery disease and also of Member Ischemia such as hypertension, diabetes, dyslipidemia, stress, physical inactivity and obesity. It can thus be seen that these risk factors are mirrored in the most frequent medical diagnoses, such as Acute Coronary Syndrome, cardiac catheterization and revascularization in addition to cardiomyopathy and heart failure, arterial insufficiency with critical limb ischemia and limb arteriography. It is known from the literature that all risk factors previously mentioned increase the risk of developing cardiovascular diseases.[16]

As for nursing diagnoses, only due to the fact of hospitalization, it is known that the patient has an increased risk of infection, which would explain the fact that this ND has appeared as the most prevalent. Hospitalization predisposes to cross-infection and can expose the patient to invasive procedures such as venopunctures and surveys, for example, increasing the risk of acquiring an infection.[17]

Just as the ND infection risk, disruption in family ties, also happens due to hospitalization, especially when this occurs in the hospital emergency room or intensive care unit, where an escort is not allowed to stay.

The ND risk for sleep deprivation may appear due to hospital routines. The ambient lighting, concern for health, environment change, the habit of sleep and position are related to the diagnostic.[18]

The ND risk for decreased cardiac output highlights the need for monitoring of nursing staff due to disease and the drugs used by the patient, often made up of anti-hypertensives and vasoactive drugs.

As stated earlier, most of the users who were readmitted constitute a population over 50, who may suffer blood pressure changes and still have some vascular problem, justifying impaired physical mobility and the

self-care deficit of bathing / hygiene. This inability or dependence implies directly in generating costs to the health system, and it is more associated with older age groups because of the average duration of hospitalizations and frequency of readmissions.[17]

Patients who have the impaired physical mobility can still be bedridden, which would justify the risk of impaired skin integrity. In a study, 41.7% of patients had this diagnosis because of impaired mobility factors, nutrition, sensory perception and humidity.[17]

This functional decline in elderly patients due to aging, correlated with environmental factors lead to ND Fall Hazard,[19] which also appears among the most frequent Nursing Diagnoses.

The fact that the RISK for excessive liquid volume is prevalent in males is not explained in the literature, however, although it has not had significant correlation between medical diagnosis and gender, it appears that 63.4% of patients which were hospitalized with a diagnosis of treatment of heart failure were men, against 36.6% of women, which may explain the significant prevalence in ND in male individuals.

The average stay in hospital was 8.8 days, with a minimum of 0 and a maximum of 310 days. In a study conducted in Marilia, the average was 5.71 days, with a minimum duration of 0 and a maximum of 23 days.[11]

CONCLUSION

The hospital readmission due to cardiovascular disease is high, causing costs to the hospital and may be a reflection of the care provided to patients during hospitalization, the guidance provided upon discharge and the level of understanding and follow-up guidance material.

The profile of the readmitted patients revolves around males, the elderly, mostly married, with incomplete primary education, retired or performing domestic activities.

There are significant differences when comparing men and women in the categories of education, showing that men have more education opportunities than women, in smoking, where men smoke more than women, obesity, where women are more obese, and the Nursing Diagnoses of risk for excessive liquid volume, more prevalent in men, and may be correlated with the highest rate of hospitalization for heart failure occurring in this study.

There was no relationship between medical diagnosis and nursing with gender, but the most common medical diagnoses were linked to coronary artery disease, cardiomyopathy, peripheral ischemic disease, cardiac arrhythmias and congenital malformations, taking the needs of patients expressed through the related nursing diagnoses protection, mobility, tissue integrity, supply and demand of oxygen, changes in sleep and family life.

This data is important for the design profile of patients readmitted in a cardiology service, helping professionals to identify possible weak spots and possible improvements, reducing the length of stay and avoiding readmissions.

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