Hospitalizations sensitive to primary health care at a regional hospital in the Federal District

Internações sensíveis à atenção primária à saúde em hospital regional do Distrito Federal

Internaciones sensibles a la atención primaria en salud en hospital regional del Distrito Federal

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ABSTRACT

Objective: to characterize hospitalizations for sensitive conditions to primary care of a regional hospital in the Federal District. **Method:** this is a descriptive study, such as case series that considered users admitted between 2008 and 2012 in the Regional Hospital of Ceilândia. The selection of hospitalizations was based on the Brazilian List, and the data were obtained from the Hospital information System. The descriptive statistics was used in the data processing and analysis. **Results:** ACSC (Ambulatory Care Sensitive Conditions) showed a growth tendency, mainly due to cerebrovascular diseases, lung diseases and infections in the kidney and urinary tract. Female and elderly patients showed a higher frequency of hospitalizations. **Conclusion:** the results may help managers and health professionals to implement actions that aim higher solvability of primary care, and contribute to the systematization of nursing care and improved health care.
Key words: Primary Health Care; Family Health; Hospitalization; Quality of Health Care; Evaluation.

RESUMO

Objetivo: caracterizar as internações por condições sensíveis à atenção primária em hospital regional do Distrito Federal. **Método**: estudo descritivo, tipo série de casos, que considerou usuários internados entre 2008 e 2012 no Hospital Regional de Ceilândia. A seleção das internações foi realizada com base na Lista Brasileira, e os dados obtidos no Sistema de Informações Hospitalares. Utilizou-se estatística descritiva no processamento e análise dos dados. **Resultados:** as ICSAP apresentaram tendência de crescimento, sobretudo em decorrência de doenças cerebrovasculares, doenças pulmonares e infecções no rim e trato urinário. Pacientes do sexo feminino e idosos apresentaram maior frequência de internações. **Conclusão:** os resultados poderão auxiliar gestores e profissionais de saúde na implementação de ações que objetivem maior resolubilidade da atenção primária, além de contribuir para a sistematização da assistência de enfermagem e melhoria do cuidado em saúde.
Descritores: Atenção Primária à Saúde; Saúde da Família; Hospitalização; Qualidade da Assistência à Saúde; Avaliação.

RESUMEN

Objetivo: caracterizar las internaciones por condiciones sensibles a la atención primaria en hospital regional del Distrito Federal. **Método:** estudio descriptivo, tipo serie de casos, que consideró usuarios internados entre 2008 y 2012 en el Hospital Regional de Ceilândia. La selección de las internaciones fue realizada en base a la Lista Brasilera, y los datos obtenidos en el Sistema de Informaciones Hospitalarias. Se utilizó estadística descriptiva en el procesamiento y análisis de los datos. **Resultados**: as ICSAP (Internaciones por Condiciones Sensibles a la Atención Primaria) presentaron tendencia de crecimiento, sobre todo en recurrencia de enfermedades cerebrovasculares, enfermedades pulmonares e infecciones en el riñón y tracto urinario. Pacientes del sexo femenino y ancianos presentaron mayor frecuencia de internaciones. **Conclusión:** los resultados podrán

auxiliar gestores y profesionales de salud en la implementación de acciones que objetiven mayor resolución de la atención primaria, además de contribuir para la sistematización de la asistencia de enfermería y mejoría del cuidado en salud.

Palabras clave: Atención Primaria en Salud; Salud de la Familia; Hospitalización; Calidad de la Asistencia a la Salud; Evaluación.

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INTRODUCTION

The Unified Health System (SUS), as integrated set of actions and health services on a regional and hierarchical form, was implemented in Brazil in the 1990s to ensure health for all individuals, through the fulfillment of principles and guidelines as universality, integrality, and decentralization[1]. One of the strategies for achieving these objectives is to consolidate a model of Primary Health Care (APS), effective and decisive, which effectively respond to the health needs of the population about a large group of diseases and risks[2].

From this perspective, in Brazil there are discussions about the establishment of health care networks (RAS), where APS, for being the communication center of this network, plays a key role in ordering care[2]. Several studies show that the more a health system is oriented to the APS, the better the health status of the population and user's satisfaction, and lower spending, which leads to more effective, equitable, efficient and higher quality systems[2].

So, once recognized the importance of this level of attention, it is necessary to introduce the processes of evaluation and monitoring of the adopted strategies to produce information that characterize the performance of APS and subsidize the management of health services. In this sense, to assess access and effectiveness, there is the indicator composed Ambulatory Care Sensitive Conditions (ACSC). The ACSC, internationally known as *Ambulatory Care Sensitive Conditions,* emerged in 1980 in the United States, from the concept of potentially preventable hospitalizations or sensitive conditions to ambulatory care, developed to relate problems with access and effectiveness of primary care[3].

Such indicator considers the high-resolution capability of primary care should lead to a reduction of hospital admission, the increase of preventive measures and improvement of outpatient treatment[4].

The use of this indicator in Brazil, by the Ministry of Health (MH), began in 2007 with the formation of a technical group that conducted survey and review of existing lists, both national and international, of Care Sensitive Conditions (CSC). Some criteria guided the choice of diagnostic for the composition of the Brazilian list: should be easily diagnosed, have sensitive scientific evidence to APS and that this level of attention makes available means resolve the condition and/or preventing the factors that culminate in hospitalization. Furthermore, the groups of analyzed cause could not be considered rare neither induced for financial contributions. After analysis and discussion, the Brazilian list was made, considering the health context and epidemiological profile of the country[5].

Later, in 2008, by Ordinance No. 221, of April 17, 2008, the publication of the nineteen groups of diagnoses that make up this list, classified according to the Tenth International Classification of Diseases (ICD-10). Through that ordinance, MH

recommends that this indicator would be used as an evaluation tool for primary care and/or hospital care and can also be applied to assess health system performance at the national, state and municipal range[6]. In this sense, prudent use of this indicator can help to increase the resolution capability of the APS to identify clearly capable of improvement areas, highlighting health problems that require better monitoring and coordination between levels of care[7].

This, considering the adoption of the ACSC as APS evaluation indicator in Brazil, it justifies conducting behavioral research studies of these hospitalizations in a given territory. Given the above, this study aims to characterize the ACSC at the regional hospital in the satellite city of Ceilândia (Federal District), in the period between 2008-2012.

METHOD

It is a descriptive study, such as case series, and were considered users admitted for Care Sensitive Conditions (CSC) at the Regional Hospital of Ceilândia (RHC)/DF in the period between 2008-2012.

The choice of this hospital is justified by its location in Ceilândia, a greater administrative region of the Federal District regarding population, and the campus area of operation of the Faculty of Ceilândia/University of Brasilia. It was established the year 2012 as the limit for analysis in the time series due to the database lock on SIH/SUS at study baseline.

The selection of ACSC was based on the Brazilian List published by the Ministry of Health, composed of 19 groups of causes and 74 diagnoses according to ICD-10.

Data were obtained from the Hospital Information System of the Unified Health System. It is a national system, implemented by MH, which uses the Hospital Admission Authorization as a standard-register instrument.

For analysis of ACSC, it was decided to adopt the following variables: (1) diagnostics group (2) 34 age group (< 1 year, 1-4 years old, 5-14 years old, 15-24 years old, 25-34 years old, 35-44 years old, 45-54 years old, 55-64 years old and 65 years od and older), (3) gender (male or female), (4) the patient's home municipality, (5) deaths and (6) expenses related to general hospitalizations and for CSC.

To identify the ACSC in SIH/SUS was generated a definition file (DEF) for tabulation based on the causes of admissions through its codes. The variables were grouped to enable the analysis of the CSC from different perspectives: (1) general admissions per year of occurrence, (2) ACSC per year of occurrence, (3) diagnostic groups by ACSC, (4) diagnostic groups by ACSC by age group, (5) diagnostic groups by ACSC by gender, (6) deaths by CSC by year of occurrence, (7) deaths for CSC by diagnostic groups, (8) deaths for CSC by age group,

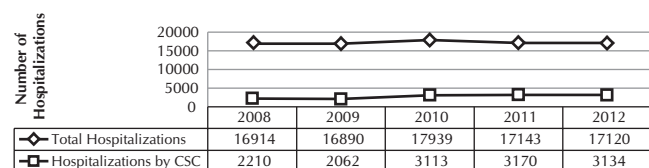(9) deaths CSC by gender, (10) total amount spent on general admissions, (11) total amount spent by ACSC.

Then the Tabwin application (Version 3.5), developed by MH DATASUS, and *Microsof Excel*® were used for data tabulation.

Processing and analysis of data, descriptive statistics was used, and the percentage variations were calculated as follows: primarily it was obtained the difference between the amounts recorded in the last (2012) and first year (2008), then divided this result by the amount recorded in the first year (2008) and finally multiplied the result by 100.

As for the ethical aspects, the study was conducted with data from a non-nominal basis of health and public domain, available in DATASUS site and not involving, therefore, any risk to the studied population.

RESULTS

In the period between 2008-2012, there was a total of 86,006 hospitalizations in the RHC. Between the years, 2008-2010 was observed a 6.1% increase in this admissions and then reduction of 4.5% in the period 2010 to 2012. Considering the data of the five years, there is increasing 1.2% in the recorded admissions. Of the total hospital admissions, 15.9% were ACSC and 84% no ACSC. Observing the trajectory of ACSC in the period, a 6.7% reduction is identified in its frequency in the first two years. In the years 2010-2011 there was an increase of 1.8% in sensitive admissions, which showed a further decline of 1.0% in the following year. Thus, considering only the ACSC recorded from 2008 to 2012, there is a total increase of 41.8% on its records (Figure 1).

	2008	2009	2010	2011	2012
Total Hospitalizations	16914	16890	17939	17143	17120
Hospitalizations by CSC	2210	2062	3113	3170	3134

Source: SIH/SUS

Figure 1 - Variation in the Total number of Hospitalizations and Hospitalizations for Care Sensitive Conditions in the Regional Hospital of Ceilândia, Federal District, Brazil, 2008-2012

In the period of the five studied years, 98.6% of admissions for CSC were individuals resident in the administrative region of Brasilia (DF), followed by the municipalities of Águas Lindas de Goias (GO) and Santo Antônio do Descoberto (GO).

Considering the proportionate participation of the nineteen ACSC groups and comparing to 2008 and 2012 years, the groups that showed greater increase in its participation in the hospitalizations were: angina *pectoris* (566%), lung diseases (421%), asthma (191%), cerebrovascular diseases (147%), epilepsy (137.7%), immunological diseases/preventable conditions (120%), nutritional deficiencies (100%), hypertension (87.4%), anemia (66.6%) and ear, nose, and throat infections (34.3%) (Table 1).

On the other hand, the seven groups that reduced their participation were: gastrointestinal ulcer (-73%), skin and subcutaneous tissue infection (-38%), diseases related to prenatal and childbirth (-36.6%), *mellitus* diabetes (-27.1%), inflammatory disease of female pelvic organs (-17.5%), kidney infection and urinary tract (-11.3%) and gastroenteritis (-5.4%) (Table 1).

In the analysis of ACSC as for the age group, there are a larger number of patients admitted aged ≥65 years old (32.5%), followed by range ≥1 to ≤ 4 (10.1%), ≥55 to ≤64 (9.5%) and <1 year (8.5%). The range of ≥15 to ≤24 years old obtained the lowest participation among the others, with records of 852 (6.2%) hospitalizations in the five analyzed years.

With regard to the particular analysis of ACSC according to cause and age groups, it is observed that in the five years analyzed, elderly aged ≥65 years old they had as the main causes of hospitalization, cerebrovascular disease 32.7% (n=1456), lung diseases 22.8% (n=1015) and cardiac insufficiency 10% (n=447). Lung disease, angina, and epilepsy had higher percentage increase. Groups of gastrointestinal ulcers and *mellitus* diabetes had a higher reduction in the analyzed years.

In the age group ≥1 to ≤ 4 years old, the most frequent causes of hospitalization groups were: bacterial pneumonia 24.8% (n= 343), infectious gastroenteritis 24% (n=333) and asthma 14.2% (n=196). But there were higher percentage increases in the groups of lung disease, asthma, and cerebrovascular diseases. There was reduction only in the group ear, nose, and throat infections.

The age group between 55 years old to ≤64 presented as main causes cerebrovascular disease 21.9% (n=287), *mellitus* diabetes 14.2% (n=186) and cardiac insufficiency 11.2% (n=147). The largest percentage increases were recorded in angina, hypertension and nutritional deficiencies groups, and the largest decreases in skin infections and subcutaneous tissue, gastrointestinal ulcer and *mellitus* diabetes.

Children under one year were more hospitalized by bacterial pneumonia 23.65% (n=276), lung disease 19.4% (n=227) and infectious gastroenteritis 12.9% (n=151). However, the groups that had higher positive percentage variation were cerebrovascular diseases, asthma and ear, nose, and throat infections. Nutritional deficiencies were the group of causes with the highest decrease (-66.6%).

The age group from 15 to 24 years old was more admitted by diseases related to prenatal or childbirth 35.3% (n=301), kidney infection and urinary tract 17.2% (n=147) and cerebrovascular diseases 11.8 % (n=101). Groups of bacterial pneumonia, nutritional deficiencies and asthma showed a higher percentage increase. Infectious gastroenteritis and its complications showed a reduction in the analyzed period.

In all the analyzed years predominated ACSC of female patients (55.4%) compared to males (44.6%). The frequency of female admissions represented 53.4% in 2008, 52.9% in 2012 and showed a percentage increase of 40.3% between 2008 and 2012. The male admissions, in turn, obtained representing 46.6% in 2008, 47.1% in 2012 and showed a percentage increase of 43.5% from 2008 to 2012.

By analyzing the diagnostic groups by ACSC according to gender, it is observed that the three that caused more

Table 1 - Number and percentage distribution of Ambulatory Care Sensitive Conditions, according to groups of causes in the Regional Hospital of Ceilândia, Federal District, Brazil, 2008-2012

| Care Sensitive Conditions Groups (CSC) | Admission Year | | | | Variation |
| | 2008 | | 2012 | | 2012/2008 |
	n	%	n	%	%
Angina pectoris	3	0.1	20	0.6	566
Lung diseases	112	5.1	584	18.6	421
Asthma	99	4.5	289	9.2	191
Cerebrovascular diseases	207	9.4	513	16.4	147
Epilepsy	61	2.8	145	4.6	137.7
Immunological diseases/Preventable conditions	5	0.2	11	0.3	120
Nutritional deficiencies	61	2.8	122	3.9	100
Hypertension	95	4.3	178	5.7	87.4
Anemia	3	0.1	5	0.1	66.6
Ear, nose, and throat infections	35	1.6	47	1.5	34.3
Cardiac insufficiency	137	6.2	138	4.4	0.7
Bacterial pneumonia	171	7.7	172	5.5	0.6
Infectious gastroenteritis and complications	260	11.8	246	7.8	-5.4
Kidney infections and urinary tract	257	11.6	228	7.3	-11.3
Inflammatory disease of female pelvic organs	63	2.8	52	1.6	-17.5
Mellitus diabetes	232	10.5	169	5.4	-27.1
Diseases related to prenatal and childbirth	123	5.6	78	2.5	-36.6
Skin and subcutaneous tissue infection	171	7.7	106	3.4	-38
Gastrointestinal ulcer	115	5.2	31	1.0	-73
Total	**2.210**	**100**	**3.134**	**100**	**41.8**

Source: SIH/SUS

hospitalizations among women were cerebrovascular diseases 17.4% (n = 1,318), lung disease 12% (n = 915) and kidney infection and urinary tract 11.1% (n = 845). Groups of lung disease, angina *pectoris*, anemia and asthma had higher percentage increases. Gastrointestinal ulcers, diseases related to prenatal and childbirth, and infection of the skin and subcutaneous tissue achieved the largest reductions (Table 2).

Among males, the main diagnoses related to ACSC were cerebrovascular disease 20.2% (n = 1,232), lung disease 12.4% (n = 755) and bacterial pneumonia 8.9% (n = 541). The causes groups with the highest percentage increase were angina *pectoris*, lung disease, and asthma. And with the greatest reduction: gastrointestinal ulcer, anemia, and infection of the skin and subcutaneous tissue (Table 2).

By analyzing the deaths, there is a total of 568 in the studied period (2008-2012). Of these, 5.4% (n = 31) occurred in 2008; 15.7% (n = 81) in 2009; 26.9% (n = 153) in 2010; 25% (n = 142) in 2011 and 27.1% (n = 154) in 2012.

Cerebrovascular diseases were the main group of cause of death, especially in 2008 (35.5%; n = 11), 2009 (40.4%; n = 36) and 2011 (26.8%; n = 38) followed by *mellitus* diabetes (22.6%, n = 7) and gastrointestinal ulcers (9.7%; n = 3) in 2008, cardiac insufficiency (28.1%, n = 25) and lung disease (10.1 %, n = 9) in 2009 and for cardiac insufficiency (17.6%; n = 25) and nutritional deficiency (11.3%; n = 16) in 2011.

But in 2010, the group of nutritional deficiencies, representing 25.5% (n = 39) of deaths surpassed the records for cerebrovascular diseases (24.8%; n = 38) and cardiac

Table 2 - Percentage variation of Ambulatory Care Sensitive Conditions according to gender at the Regional Hospital of Ceilândia, Federal District, Brazil, 2008-2012

Care Sensitive Conditions Groups (CSC)	Male			Female		
	2008	2012	Variation % 2012/2008	2008	2012	Variation % 2012/2008
Angina pectoris	1	12	1100.0	2	8	300.0
Lung diseases	65	269	313.0	47	315	570.2
Asthma	45	156	246.6	54	133	179.6
Cerebrovascular diseases	111	260	134.2	96	253	163.5
Epilepsy	37	90	143.2	24	55	129.1
Immunological disease/preventable conditions	3	6	100	2	5	150.0
Nutritional deficiencies	40	85	112.5	21	37	76.1
Hypertension	40	76	90.0	55	102	85.4
Anemia	2	1	-50.0	1	4	300.0
Ear, nose and throat infections	18	30	66.6	17	17	0
Cardiac Insufficiency	71	62	-12.6	66	76	15.1
Bacterial pneumonia	90	95	5.5	81	77	- 4.9
Infectious gastroenteritis and complications	143	115	-19.5	117	131	11.9
Kidney infections and urinary tract	81	79	-2.4	176	149	-15.3
Inflammatory disease of female pelvic organs	-	-	-	63	52	-17.4
Mellitus diabetes	102	66	-35.2	130	103	-20.7
Diseases related to prenatal and childbirth	7	5	-28.5	116	73	-37.0
Skin and subcutaneous tissue infection	97	52	-46.3	74	54	-27.0
Gastrointestinal ulcer	76	18	-76.3	39	13	-66.6
Total	**1029**	**1477**	**43.5**	**1181**	**1657**	**40.3**

Source: SIH/SUS

insufficiency (12.4%; n = 19). In 2012, deaths related to cardiac insufficiency obtained more expressive representation, with 18.8% (n = 29), followed by those related to nutritional deficiencies (15.6%; n = 24) and cerebrovascular disease (13.6%; n = 21)

Regarding age, in the five studied years, 60.7% (n = 345) of the deaths were of people aged 65 years old or more; 13.7% (n = 78) among subjects from 55-64 years old and 11.1% (n = 63) among those aged between 45 and 54 years old. In the first age group (65 years old or more), deaths are primarily due to cerebrovascular disease (29.3%, n = 101), cardiac insufficiency (18.8%, n = 65) and lung diseases (9.6%; n = 36). The groups with the highest percentage increase between 2008 and 2012 were cardiac insufficiency (1800%), bacterial pneumonia (600%) and nutritional deficiencies (300%).

In the second age group (55 to 64 years old) constituted the major causes of death: cardiac insufficiency (25.6%, n = 20), nutritional deficiencies/cerebrovascular disease (17.9%, n = 4) and hypertension (7, 7%, n = 6). In the third (45-54 years old), the deaths were the result of nutritional deficiencies (30.1%;

n = 19), cerebrovascular disease (28.6%; n = 18) and *mellitus* diabetes (11.4%; n = 5).

Regarding gender, between 2008 and 2012, 52.6% (n = 252) of deaths occurred in females and 47.4% (n = 227) in male. The most frequent diagnoses among women were cerebrovascular diseases (14%; n = 67), cardiac insufficiency (8.8%, n = 42), nutritional deficiency (6.9%, n = 33) and hypertension (5.0 %, n = 24). Among men, cerebrovascular disease remained in a prominent position, with 12.9% (n = 62) of all deaths, followed by nutritional deficiencies groups (8.5%; n = 41), cardiac insufficiency (7.7 %, n = 37) and *mellitus* diabetes (4.4%, n = 21).

Between 2008 and 2012, in the Regional Hospital of Ceilândia, the ACSC cost to SUS, adopting as the basis for calculating compensation values of AIH (Hospital Admission Authorization), 6.622 million reais (Brazilian currency). This value corresponds to 13% of total spending in registered hospital admissions, which make up the value of 50.982 million reais (Brazilian currency). During the study period, there was a growth of 81.6% compared to spending on ACSC, which increased from R$ 913,413.59 in 2008 to R$ 1,659,189.61 in 2012.

DISCUSSION

It is observed during the study period, increasing the number of ACSC in the RHC; a fact also observed in some states, such as Minas Gerais[8], São Paulo[9] and Espírito Santo[10]. Investigations also pointed to the trend of reduction or stabilization in ACSC. Alfradique *et al.* (2009), Brazil using data from 2000 to 2006, marked a decrease of 15.8% in SUS hospitalization rates by ACSC[5]. Other studies found similar results[9-10].

Survey of the DF data, using the same methodology, said the ACSC accounted for 19.5% of hospitalizations[11]. The result showed that ACSC rates in DF were lower when compared to Brazil, although studies have been conducted in different periods. This trend of reduction or stabilization of hospital admissions can be explained by the transfer procedures previously performed only in hospital scheme for ambulatory care and day-hospital. On the other hand, can mean improved access and effectiveness of APS.

Observing the causes of ACSC, it was found that groups were awarded related to chronic non-communicable diseases (NCDs) such as cerebrovascular who also were among the main causes of death during the study period and the presence of infectious diseases. This expresses the current and complex Brazilian epidemiological situation, permeated by the persistence of infectious diseases typical of developing countries, and the growth of NCDs related to population aging. These findings converge with results of other studies in which infectious gastroenteritis[5,11-12], bacterial pneumonia[13], angina, cardiac insufficiency and cerebrovascular disease[14-15] were constituted as the main causes of hospitalization for CSC.

Because of the magnitude of NCDs, which account for about 70% of the causes of deaths, Brazil elaborated the Strategic Action Plan for the period 2011 to 2022, which were highlighted health promotion actions and strengthening of APS[16]. Also about the Brazilian epidemiological situation, the position of infectious diseases requires attention, such as this admissions may be related to poor living conditions, which in turn can be explained by the theory of social determination. Homar and Casanova (2003) reinforced the importance of these factors and related to higher rates of ACSC[4].

The female was found as the most representative, considering the sensitive admissions in the total of analyzed years, keeping a resemblance to studies conducted in other regions[8,14]. The greater female participation in admissions may be related to the inefficiency of the APS with the problems they present, a fact that causes complications in health status and the potential hospitalizations[14]. Another factor that may be related to this scenario is the organization of the health system that, over the years, prioritized health policies and services aimed at women and children[17]. Thus, women traditionally seek more health services than men, who associate this demand to feelings of weakness[17].

It is noted that the diagnoses of congenital syphilis and congenital rubella syndrome, part of ACSC group of diseases related to childbirth and prenatal. Thus, considering that in the obstetric hospitalizations there are two admitted to the same AIH (Hospital Admission Authorization), the mother and the newborn, it is possible that males are considered in this diagnostic group. However, if the baby is still in hospital for longer than 72 hours, the hospital generates a specific AIH for the same[18].

In this study, the elderly (over 65 years old) occupied a highlighted place among the ACSC, being cerebrovascular disease, lung disease and cardiac insufficiency the main diagnoses. This situation may be due to increased life expectancy and active aging, with a consequent variation of illness pattern of the population[16,19]. Also, the difficult access to APS services, possibly related to transport difficulties and the high degree of dependence, generates potential complications in health status, resulting in hospital care.

Also about age and frequency of ACSC, infectious gastroenteritis was the most frequent complication in children 1-4 years old. This profile may result from the fact that the administrative region of Ceilândia still has 16.3% of its population using septic tanks or rudimental, 20% without access to rainwater network and 7.5% of households with open sewage in their surroundings[20]. In this sense, research has shown that reductions occurred in ACSC may be related to improvements in access and quality of care in the APS[6,9,12-13]. Reinforcing this issue, the study points out the relation between the increase of these hospitalizations and low coverage of ESF (Family Heath Strategy)[8].

Compared to decreases in the percentage presented variations, there is a presence of causes groups who received incentives from the Ministry of Health, with consequent reduction in hospital admissions, such as the Rede Cegonha (challenge of a new model of care), the updates for the management of *Mellitus* diabetes and improving prenatal low risk. The other causes may be related to many factors, including social factors, the frequency of hospitalizations, remain hidden and may reflect a limitation of ACSC as the APS evaluation indicator.

It is noteworthy also that the Federal District has low population coverage to the ESF (Family Health Strategy). In 2008, only 5.53% of the population had coverage of this health service, rising to 17.85% in 2012 and to 28.9% in 2014[21]. Data from the Sample Survey of Households (2013) revealed that 83% of the population of Ceilândia (DF), an administrative region where the RHC is located, did not have health insurance, 88.55% used the public hospital and of these, 87 55% sought care in the hospital's administrative region. By contrast, about 91.13% of the population used the services of health centers and among them, 98.6% also resorted to the centers of their own administrative region[20].

This data refers to some reflections, because the fact that the majority (91.13%) of the population of the administrative region of Ceilândia use of APS services, with great attention to the increase (41.8%) of ACSC in the study period, index that proportionally not kept pace with population growth of 5.45% recorded a year[20].

Additionally, one can consider the possibility that, although the population has access to these primary services, they do not show effective. In addition to access, the variations presented in ACSC panorama may be related to the work process of health and social determinants teams, since the conditions

of life and work directly affect the population's health-disease process, in addition to possible problems related the quality of information, which can generate underestimations or over-estimations of hospitalizations[22]. The depth of each factor becomes fertile ground for new studies, conducted according to quantitative and qualitative approach, aiming to not only blame the APS by the occurrence of these hospitalizations.

By analyzing the hospital production, the data of this article reveal the involvement of ACSC with 13% of total spending on admissions. Other research examined the magnitude of these spending: study on the macro-region of Juazeiro (BA) and Petrolina (PE) indicated that in 2009, when ACSC represented 20.8% of admissions in the first locality and 28.1% in the second, the amount was of R$ 5,046,548.54 in Juazeiro and R$ 7,374,369.06 in Petrolina[23]. These data show the amount of resources used to finance potentially preventable hospitalizations by an affordable and resolute APS.

CONCLUSION

This study allowed to know the behavior of general admissions and by ACSC the RHC, as well as compare them during the study period. The results recommend special attention to the elderly population, especially in the prevention of chronic non-communicable diseases by implementing strategies to meet the health needs of this population, such as home care, as well as greater attention to the control of bacterial pneumonia, infectious gastroenteritis, and complications in children.

For being based on secondary data, this study was subject to limitations related to records in the databases[22]. Also, although the SIH/SUS present as a large database, it is recorded only the hospitalizations in the SUS, which, although the majority, express only part of the national reality.

As for nursing, although the work in APS assumed interdisciplinary action and team for completeness of the actions, all these professionals can play a key role in reducing ACSC. This possibility arises both quantitative nursing staff, including ACS, as the systematization of its assistance, which should prioritize health promotion, disease prevention and control of diseases that are part of the Brazilian List of ACSC.

Thus, the results may assist managers in implementing actions that aim higher solvability of primary care, with consequent reduction of spending of medium and high complexity and greater effectiveness in the management of health services. Also, the use of ACSC as an indicator has great potential to contribute to the discussion of the realization of the principles and guidelines of SUS, including, universality, comprehensiveness, and equity.

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