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Ciosak, Suely

O panorama das internações por condições sensíveis à Atenção Primária em um distrito de São Paulo

The panorama of ambulatory care sensitive conditions in district of São Paulo*, **

O PANORAMA DAS INTERNAÇÕES POR CONDIÇÕES SENSÍVEIS À ATENÇÃO PRIMÁRIA EM UM DISTRITO DE SÃO PAULO

PANORAMA DE LAS INTERNACIONES POR CONDICIONES SENSIBLES A LA ATENCIÓN BÁSICA EN UN DISTRITO DE SÃO PAULO

Renata Laszlo Torres[1], Tania Cristina Morais Santa Bárbara Rehem[2], Emiko Yoshikawa Egry[3], Suely Itsuko Ciosak[4]

ABSTRACT

The objectives of this study were to identify the main Ambulatory Care Sensitive Conditions (ACSC) of PedreiraGeneral Hospital and the Basic Health Units that demanded a higher number of hospitalizations. An exploratory, descriptive and quantitative study was performed using 2008 data obtained in the Hospital Information System of the National Health System and 816 records of patients from Pedreira General Hospital. A total of 10,616 hospitalizations occurred in the addressed period, 1,689 (15.9%) of which were due to ACSC. The main causes of ambulatory care sensitive conditions were: bacterial pneumonias(17.4%); kidney and urinary tract infections (13.6%), and arterial hypertension (11.1%). By analyzing the patient records, we found 122 ACSC, 73.7% of which were in the field of study (Pedreira, CidadeAdemarand Campo Grande). CidadeAdemargenerated more ACSC, 38.5%, however it is the city with the largest population and density. Further studies are necessary in order to know the motives that generate the hospitalizations to redirect prevention actions.

DESCRIPTORS
Primary Health Care
Hospitalization
Health evaluation

RESUMO

Os objetivos deste estudo foram identificar as principais Internações por Condições Sensíveis à Atenção Primária (ICSAP) do Hospital Geral de Pedreira (HGP) e as Unidades Básicas de Saúde que demandaram maior número destas internações. Uma pesquisa exploratória, descritiva e quantitativa foi realizada através de dados de 2008 obtidos no Sistema de Informações Hospitalares (SIH-SUS) e de 816 prontuários do HGP. Obtivemos no período 10.616 internações; dessas 1.689 (15,9%) foram por ICSAP. As principais causas das internações por condições sensíveis foram: pneumonias bacterianas (17,4%); infecções no rim e trato urinário (13,6%) e hipertensão arterial (11,1%). Da análise dos prontuários encontramos 122 ICSAP, sendo 73,7% na área de estudo (Pedreira, Cidade Ademar e Campo Grande). A Cidade Ademar gerou mais ICSAP, 38,5%, porém, é a que apresenta maior população e densidade demográfica. É necessário ampliar os estudos para conhecer os motivos que geraram as internações para redirecionar as ações de prevenção.

DESCRITORES
Atenção Primária à Saúde
Hospitalização
Avaliação em saúde

RESUMEN

El estudio objetivó identificar las principales Internaciones por Condiciones Sensibles a la Atención Básica (ICSAP) del Hospital General de Pedreira (HGP) y las Unidades Básicas de Salud que demandaron mayor número de tales internaciones. Se realizó investigación exploratoria, descriptiva, cuantitativa, con datos de 2008 obtenidos del Sistema de Informaciones Hospitalarias (SIH-SUS) y de 816 historias clínicas del HGP. Se obtuvieron 10.616 internaciones, de ellas, 1.689 (15,9%) fueron por ICSAP. Las principales causas de internación por condiciones sensibles fueron: neumonías bacterianas (17,4%); infecciones renales y urinarias (13,6%) e hipertensión arterial (11,1%). Del análisis de historias clínicas encontramos 122 ICSAP, 73,7% de ellas en el área de estudio (Pedreira, Ciudad Ademar y Campo Grande). La Ciudad Ademar generó más ICSAP (38,5%), aunque es la que presenta mayor población y densidad demográfica. Es necesario ampliar los estudios para conocer los motivos que generaron las internaciones para redireccionar acciones preventivas.

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INTRODUCTION

The Brazilian National Health System (*Sistema Único de Saúde* - SUS) instituted by Law No. 8.080, under the Federal Constitution of 1988,*defines health as a right to all and a duty of the State*[1], based on principles of universality, comprehensiveness and equity[2]. In order to achieve these objectives, organizational guidelines were established: regionalization, hierarchy organization, decentralization and social control[2].

According to these guidelines, services must be organized under growing levels of complexity, and population access should occur at the primary care level; in other words, through Primary Care (PC).

According to another study[3], PC must be the first contact within the health system, promoting care continuity and integration; care coordination within the system; community participation and orientation; health education and guidelines within the community's life and work context; family orientation and forwarding patients to specialized services of medium and high complexity only when necessary. Therefore, PC has the opportunity and the ability to solve approximately 85% of the population's health needs[4-5].

When PC services are of poor quality, are not effective and accessible or when they fail in the performance of their activities, an excessive number of patients are forced to seek medium and high complexity care, both in clinics and hospitals, Hospital Admission for Primary Care Sensitive Conditions (HPCSC)[1,6].

The concept of HPCSC, denominated primary *care sensitive conditions*, was developed initially in the United States in the late 1980s[7].

In Brazil, the Health Care Secretary of the Department of Health (HCS/DH) published, after reviewing many international and national researches and meetings with researchers, managers, specialists and the public, the final version of the list (Chart 1) establishing hospital admission causes and diagnosis groups according to the Tenth Review of the International Classification of Diseases (ICD-10). This list can be used as an instrument for the evaluation of PC and/or use of hospital care as an appendix to Ordinance 221, of April 17th of 2008[7-8].

The primary care sensitive diseases hospital admission must be analyzed with the purpose of: 1) identifying access and quality problems in PC; 2) evaluating policies and reformulations in the health system, such as the Family Health Strategy; 3) serving as a generic indicator to evaluate PC effectiveness (although there are limitations since it will take years to identify problems in small

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areas or areas with little changes)[1]; and 4) determining factors for hospital admission that are beyond health professionals' control[7].

For this reason, considering the publication of the primary care sensitive diseases hospital admission Brazilian list and the need for a systematic evaluation of results achieved by PC as part of the interventions and planning process[9], the purpose of the present study is to learn about the profile of the main primary care sensitive diseases hospital admission and identify the Primary Health Units (PHU) which demanded the highest number of hospital admissions in the General Hospital of Pedreira (HGP in Brazilian acronyms), in the year 2008.

METHOD

This study is an explanatory, descriptive and quantitative research performed with the approval of the School of Nursing Ethics Committee (No. 860/2009) of the Municipal Secretary of Health of São Paulo (No. 144/10), and also with the acknowledgement of the Health Social Organization (OSS in Brazilian acronyms) - Congregation Association of Santa Catarina. Quantitative data analysis and processing were performed using descriptive statistics.

The study was performed in the administrative district of Pedreira, in the South region of the City of São Paulo, which, along with the district of Cidade Ademar, composes the Cidade Ademar borough, under the Southern Coordination, with a population of 486,611 inhabitants, distributed within three districts, Pedreira, Cidade Ademar and Campo Grande. Among them, the larger population and demographic density is Cidade Ademar, with 244,922 inhabitants and 20,410.2 inhabitants/km². The region that proportionally demonstrates the highest number of senior citizens is Campo Grande (Table 1).

The organization proposal of a local health system integrated with PC services such as those of medium complexity, a fundamental aspect for analyzing primary care sensitive diseases hospital admissions, was the motivation for choosing this region as a research field.

The health care system of the administrative district considered in this study has two ambulatory specialties, 19 PCUs, a specialized dental clinic and six ambulatory medical care units, in addition to the General Hospital of Pedreira.

Data were collected using the Hospital Information System (SIH-SUS in Brazilian acronyms) based on the year 2008. From the selection of the codes listed in the primary care sensitive diseases hospital admission, a defining file (DEF) was generated for tabulation using the Tabwin

Chart 1 - List of Primary Care Sensitive Conditions

ICD 10 Diagnosis	Selected Codes
1. Allergic reactions and communicable diseases	A37; A36; A33 to A35; B26; B06; B05; A95; B16; G00.0; A17.0 A19; A15.0 to A15.3; A16.0 to A16.2, A15.4 to A15.9, A16.3 to A16.9, A17.1 to A17.9; A18; I00 to I02; A51 to A53; B50 to B54
2. Infectious gastroenteritis and complications	E86; A00 to A09
3. Anemia	D50
4. Nutritional deficiencies	E40 to E46; E50 to E64
5. Ear, nose and throat infections	H66; J00; J01; J02; J03; J06; J31
6. Bacterial pneumonias	J13; J14; J15.3, J15.4; J15.8, J15.9; J18.1
7. Asthma	J45, J46
8. Pulmonary diseases	J20, J21; J40; J41; J42; J43; J47; J44;
9. High blood pressure	I10; I11
10. Angina	I20
11. Heart failure	I50; J81
12. Brain/vascular diseases	I63 to I67; I69, G45 to G46
13. Diabetes mellitus	E10.0, E10.1, E11.0, E11.1, E12.0, E12.1;E13.0, E13.1; E14.0, E14.1; E10.2 to E10.8, E11.2 to E11.8; E12.2 to E12.8;E13.2 to E13.8; E14.2 to E14.8; E10.9, E11.9, E12.9, E13.9; E14.9
14. Epilepsy	G40, G41
15. Urinary tract and kidney infections	N10; N11; N12; N30; N34; N39.0
16. Skin and subcutaneous tissue infections	A46; L01; L02; L03; L04; L08
17. Inflammatory diseases of female pelvic organs	N70; N71; N72; N73; N75; N76
18. Gastrointestinal ulcer	K25 to K28, K92.0, K92.1, K92.2
19. Labor and prenatal-related diseases	O23; A50; P35.

Source: Ordinance HCS/DH No. 221, of April 17th of 2008.

Table 1 - Population distribution per administrative district according to demographic information, area (km²), demographic density (inhabitants/km²) and age - Cidade Ademar, Pedreira and Campo Grande, 2008

Administrative District	Population	Area (km²)	Demographic Density (Inhabit/km²)	60 years and older	
Pedreira	140.822	18,7	7.530,6	9.364	6,6%
Cidade Ademar	262.091	12,0	21.840,9	23.271	8,8%
Campo Grande	98.918	13,1	7.550,9	12.658	12,8%
Total	**501.831**	**43,8**	**11.457,3**	**45.293**	**9,02%**
Municipality of S. Paulo	**11.093.746**	**1.509,0**	**7.351,7**	**1.256.413**	**11,3%**

Source: Population in 2008 - SEADE and CEINFO, Department of Health

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software (Version 3.5), developed by the Computer Department of SUS (DATASUS in Brazilian acronyms) of the Department of Health. Afterwards, medical files from the General Hospital of Pedreira were randomly selected, using the SPSS software. The information collected included: name, age, date of birth, gender, address and ambulatory sensitive diseases hospital admission.

Information for elaborating the ambulatory sensitive diseases hospital admissions profile was obtained based on the ambulatory sensitive diseases hospital admissions Brazilian List (Chart 1). By using the site of the Mayor's office of São Paulo (www.prefeitura.sp.gov.br/cidade/secretarias/saude), patients' addresses were correlated with the nearest Primary Care Unit where the patients should have been treated. In this way, the authors were able to determine which Primary Health Care Unit demanded the highest number of hospital admissions.

RESULTS

In 2008, in the General Hospital of Pedreira, there were 10,616 hospital admissions, of which 1,689 (15.9%) were a result of primary care sensitive diseases and 8,927 (84.1%) were due to other causes that could not be resolved by Primary Care.

Among primary care sensitive diseases, the highest frequency causes were: bacterial pneumonia (17.4%), followed by kidney and urinary tract infection (13.6%); the third highest cause was high blood pressure (11.1%).

Admissions due to bacterial pneumonia occurred mainly within the infancy phase, totaling 155 (52.5%), with the numbers staying elevated up to the pre-school phase, with 110 (37.2%) hospital admissions in this age group.

The second highest cause of primary care sensitive diseases was infection of the kidney and/or urinary tract, with 230 (13.6%) hospital admissions; among these, females (150 (65.2%)) almost doubled males (80 (34.8%)) in admissions. These admissions occurred, most frequently, in people above 65 years of age, totaling 64 cases (27.8%).

High blood pressure was the third highest cause of primary care sensitive diseases, with 189 (11.1%) admissions, affecting more women – 107 (56.6%) cases – than men – 82 (43.4%) cases. Within this group, the population above age 65 was also expressive, with 98 (51.8%) admissions.

A higher number of admissions was observed for individuals above 65 years of age, with 478 (28.3%) of the total cases of primary care sensitive diseases, and the most common causes were: high blood pressure (20.5%), followed by heart failure (19%) and urinary tract and kidney infection (13.3%) in third place. No records of admissions due to *allergic reactions and communicable diseases* were found for either gender.

Regarding gender, 776 (45.9%) admissions were males, while 913 (54.1%) were females. The lowest number of primary care sensitive diseases was found in young adults, but this group had the highest number of admissions from other causes; in this case, external causes such as violence, accidents and alcohol and illegal drug abuse can be considered as important factors leading to hospital admissions[10].

Through the statistics sampling selection of 816 medical files, the Primary Care Unit responsible for the highest number of admissions was identified. From the sample, 127 (15%) admissions due to primary care sensitive diseases were found. Five addresses were not found, reducing the analysis number to 122 medical files.

Among users, 90 (73.7%) were in the proximity area of the study (Pedreira, Cidade Ademar and Campo Grande) and the remaining 32 (26.3%) were spread among 10 other administrative districts.

Considering the proximity area of the study, Cidade Ademar represented 47 (52.2%) admissions. This district has nine (50%) PCUs, the highest number among the three districts. Campo Grande has only two PCUs. The single PCU in Vila Arriete was the one that generated the most primary care sensitive diseases admissions (21.2% of admissions in the area of the study). Campo Grande and Cidade Ademar generated the highest number of primary care sensitive diseases admissions in senior citizens (52.1% and 34%, respectively) and comorbidities occurred due to the profile of this age group: high blood pressure, heart disease and stroke.

DISCUSSION

The main causes found primary care sensitive diseases admissions in this study were: bacterial pneumonia, urinary tract and kidney infection and high blood pressure.

Despite the conditions, many hypotheses may be generated considering the occurrence of flaws in Primary Care, such as: lack of access to health services; too few professionals and/or demand excess; poor treatment; lack of prevention information/education; professionals' knowledge regarding anatomy, gender or age-associated risk factors; lack of information regarding the appearance and presentation of certain conditions; ineffective Home Care strategies or coverage; lack of consideration for the patients' life context and their way of life and work, which potentially affect condition and strength; and lack of consideration regarding education and level of understanding, so that teaching can be understood and followed effectively (for instance, diet and medication information)[11].

Regarding the high blood pressure group, the effectiveness of the HYPERDIA program can also be evaluated,

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which is a program developed by the Department of Health for caring for patients with diabetes and high blood pressure[12].

The elevated occurrence of ambulatory sensitive diseases admissions in senior citizens, numbering 478 (28.3%), probably occurred due to the high concentration of elderly persons in the studied region, especially in the Campo Grande district (Table 1). The three highest causes were high blood pressure (20.5% of admissions), heart failure (19%) and urinary tract and kidney infection (13.3%). These two first causes were targeted by Primary Care programs; therefore, more studies must be performed with the objective of verifying the contributing factors for the elevated number of admissions.

These conditions represented more than half (52.8%) of admissions for this age group, suggesting (aside from the hypotheses mentioned in this study regarding Primary Care flaws) a higher vulnerability of senior citizens to these conditions or, possibly, related factors that are beyond the control of Primary Care.

The small difference in ambulatory sensitive diseases admissions between males (45.9%) and females (54.1%) could reflect a demand issue, involving a higher search for health services diagnosis and treatment, especially through preventive measures, by females[13].

The region of Cidade Ademar generated more primary care sensitive diseases admissions and was the region with the most Primary Care Units; however, it also has a larger number of inhabitants (Table 1). The analysis of this demand can only be overcome by qualitative studies that will allow for learning more about the origin of these primary care sensitive diseases admissions, including the social determining factors involved in the process.

As previously mentioned, there are only two PCUs in the region of Campo Grande, and the Primary Health Unit of Vila Arriete was the one that generated the most primary care sensitive diseases admissions, perhaps due to overload, and responding to an excessive demand caused the generation of a high number of admissions.

Campo Grande was the district that generated the most ambulatory sensitive diseases admissions in senior citizens, probably because of its high concentration of patients in this age group (15%), which is almost double that of Cidade Ademar (8%) and triple that of Pedreira (5.6%) (Table 1).

No records of admissions due to *communicable diseases and allergic reactions* were found for either gender, demonstrating the effectiveness of the prevention by immunizations, a procedure performed historically by primary health care.

Although the hypotheses survey based on the analysis of flaws in Primary Health care was considered, there are other factors that are beyond Primary Care control and which determine hospital admissions, which include: patients' features (demographic, socioeconomic, educational, cultural factors and attitudes in light of treatment alternatives) and hospital characteristics (bed availability, access to facilities, low or absent coordination with the first level of care)[14].

CONCLUSION

This study demonstrated that the main causes for primary care sensitive diseases admissions in the General Hospital of Pedreira were: bacterial pneumonia, urinary tract and kidney infection and high blood pressure. No records of admissions due to diseases prevented by immunization and allergic conditions were found for either gender, demonstrating the effectiveness of Primary Health Care in this segment.

The highest number of admissions in individuals above 65 years old was due to the following causes: high blood pressure, heart failure and urinary tract and kidney infection.

Of all 122 primary care sensitive diseases admissions located in the General Hospital of Pedreira, 90(73.7%) corresponded to the study area, and Cidade Ademar was the district that generated the most ambulatory sensitive diseases admissions. Campo Grande and Cidade Ademar were the districts that generated the most primary care sensitive diseases admissions in senior citizens, corresponding to the demographic profile of the region.

Although the data analyzed have been relevant to understand the primary care sensitive diseases admissions reality in the General Hospital of Pedreira, it is extremely important to enhance this study, attempting to determine the reasons behind these admissions, in order to redirect educational and preventive actions within the community.

It is important to emphasize these types of studies that provide managers of Primary Care with a greater understanding of health issues and problems in their acting area, enabling managers to evaluate the effectiveness of the implemented actions and dispense information for future planning activities.

Considering that in Brazil the publication of the primary care sensitive diseases admissions list was only published in 2008 and studies are still incipient, studies must be performed with the purpose of determining the sensitivity of this list as indirect access and effectiveness indicators for Primary Care.

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