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SENSITIVE PRIMARY CONDITIONS: BRAZILIAN PANORAMA IN 2013

CONDIÇÕES SENSÍVEIS À ATENÇÃO PRIMÁRIA: PANORAMA BRASILEIRO EM 2013

CONDICIONES SENSIBLES A LA ATENCIÓN PRIMARIA: PANORAMA BRASILEÑO EN 2013

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ABSTRACT

Objective: to describe and analyze the data records for Hospitalization due to Sensitive Conditions to Primary Care in Brazilian regions in 2013. ***Method:*** an exploratory study of an epidemiological, descriptive, ecological, quantitative nature, using secondary data from the Hospitalization Information System (HIS-UHS) of 299 Brazilian cities with population of over 100,000 inhabitants. ***Results:*** the occurrence of 1,146,735 admissions, especially pneumonia (23.30%), heart failure (9.43%) and cerebrovascular diseases (9.17%) was recorded. The average regions were similar ranging from 90.84 / 10,000 inhab. to 127.71 / 10,000 inhab., with greater representation in the North, then South, Midwest, Northeast and lowest in the Southeast. ***Conclusions:*** Despite the demographic and socioeconomic heterogeneity of Brazilian regions, with the occurrence of hospitalizations due to sensitive conditions to primary care, these values are approximate, differing only in groups that prevail in each territory. ***Descriptors*:** Primary Prevention; Primary Health Care; Quality Indicators; Health Care.

RESUMO

***Objetivo*:** descrever e analisar os dados de registros por Internações por Condições Sensíveis à Atenção Primária nas regiões brasileiras no ano de 2013. ***Método*:** estudo exploratório do tipo epidemiológico, descritivo, ecológico, de natureza quantitativa, utilizando dados secundários do Sistema de Informações sobre Internações Hospitalares (SIH-SUS) de 299 cidades brasileiras com população de mais de 100.000 habitantes. ***Resultados*:** registrou-se a ocorrência de 1.146.735 internações, com destaque para Pneumonias (23,30%), Insuficiência Cardíaca (9,43%) e Doenças Cerebrovasculares (9,17%). As médias por regiões apresentaram-se semelhantes, variando de 90,84/10,000 hab. a 127,71/10.000 hab., com maior representação na região Norte, seguida das regiões Sul, Centro-Oeste, Nordeste e a menor na região Sudeste. ***Conclusões*:** apesar da heterogeneidade demográfica e socioeconômica das regiões brasileiras, com relação à ocorrência de internações por condições sensíveis à atenção primária, esses valores são aproximativos, diferindo apenas os grupos que prevalecem em cada território. ***Descritores*:** Prevenção Primária; Atenção Primária à Saúde; Indicadores de Qualidade em Assistência à Saúde.

RESUMEN

Objetivo: describir y analizar los datos de registros por Internaciones por Condiciones Sensibles a la Atención Primaria en las regiones brasileñas en el ano de 2013. ***Método:*** estudio exploratorio del tipo epidemiológico, descriptivo, ecológico, de naturaliza cuantitativa utilizando datos secundarios del Sistema de Informaciones sobre Internaciones Hospitales (SIH-SUS) de 299 ciudades brasileñas con población con más de 100.000 habitantes. ***Resultados:*** Se ha registrado la ocurrencia de 1.146.735 internaciones, con destaque para neumonías (23,30%), Insuficiencia cardíaca (9,43%) y Enfermedades cerebrovasculares (9,17%). Las medias por regiones se han presentado semejantes variando de 90,84/10,00 habitantes a 127,71/10.000 habitantes, con mayor representación en la región Norte, seguida del Sur, Centro-Oeste, Nordeste y la más chica en la región Sudeste. ***Conclusiones:*** a pesar de la heterogeneidad demográfica y socioeconómica de las regiones brasileñas, con relación a la ocurrencia de internaciones por condiciones sensibles a la atención primaria, estos valores son aproximativos, diferendo solo a los grupos que prevalecen en cada territorio. ***Descriptores*:** Prevención Primaria; Atención Primaria de Salud; Indicadores de Calidad de la Aténcion de Salud.

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INTRODUCTION

The Brazilian Unified Health System (UHS) during its nearly three decades of existence is still continuously suffering remodeling to suit the demands of the population, however, we can't deny that much has improved since the movement governed by the Health Reform that culminated in approval of this project by the Federal Constitution in 1988 and the approval of the Organic Law of Health (Law 8.080 / 90 and Law 8,141 / 90) and the Basic Operational Norms (BON-SUS 01/91; BON -SUS 01/93 and BON -SUS 01/96).

One of the major challenges facing the UHS, at present, has been the consolidation of primary care. This terminology has been used in Brazil as a designation of Primary Health Care, a term that was created by White *et al* in 1961.[1] This level of attention's purpose is to ensure accessibility and population care quality in this gateway to the system, which is not directed exclusively to the poorest part of the population and not restricted to dispensing basic health care packages as it has been served.

Primary care is set by the National Primary Care Policy (NPCP) as a set of health actions at individual and collective levels covering health promotion and protection, disease prevention, diagnosis, treatment, rehabilitation and maintenance of health, providing full and continuous assistance and to a defined population in an organized and interconnected way with the other levels of care.[2] This concept strengthens local health systems and consolidates the principles and guidelines of the UHS.[3]

In the meantime, there are some conditions that should be prevented/remedied by the competence of Primary Care actions, but when gaps and/or failures occur at this level of attention, the population directly searches for other levels, causing, sometimes admissions called" Hospitalization due to Sensitive Conditions to Primary Care" (HSCPC) or "Primary Care" (PC). This term has been a free translation of the indicator of the hospital activities called *Ambulatory Care Sensitive Conditions*, worked on by Billings *et al* in the 1990s as an effective measure of primary care as it has been adapted to Brazilian conditions and regulated by the Ministry of Health through Ordinance No. 221 on 17 April 2008.[4,5]

Thus, high values for Hospitalization due to Sensitive Conditions to Primary Care may represent weaknesses and/or low resolution in the gateway to the health care system. Given the Brazilian territorial extension added to cultural, demographic and socio-economic diversity, the study is justified by the need to verify that such regional contrasts influence the rates of hospitalization for conditions sensitive to primary care in the five regions of the country.

Therefore, the objective becomes aimed at describing and analyzing the data records for Hospitalization due to Sensitive Conditions to Primary Care (HSCPC) in the five Brazilian regions in 2013.

METHOD

Article from the Thesis <<Acts and healthcare actions offered in the Units of the Family Health Strategy and Hospitalization due to Sensitive Conditions to Primary Care: a contribution to the study of reference and counter reference in Primary Care>> the Program of Post-graduate Health and Decision Models. Federal University of Paraíba (UFPB).

An exploratory study of an epidemiological, descriptive, ecological, quantitative nature HSCPC using data from 299 Brazilian cities with population of over 100,000 inhabitants according to the projection for 2013 of the 2010 Census demographic data from the Brazilian Institute of Geography and Statistics.[6]

The proposed scientific research followed the ethical guidelines required by the National Health Council in Resolution No. 196/96, repealed and replaced by Resolution No. 466 of 12/12/2012,[7] being submitted to the Ethics Committee and Health Sciences Research Centre, Federal University of Paraíba, under Protocol 696/13 and CAAE: 25550013.0.0000.5188, at its meeting on February 27, 2014, considering it as approved for implementation.

We used secondary data in the Hospitalization Information System (HIS-UHS), available at www2.datasus.gov.br collected through TabWin 32 software, which allows the tabulation of data according to the criteria for the study.

Data was tabulated by HSCPC group for each of the 299 cities selected for the study, grouped according to the regions where they are located; and analyzed descriptively through tables.

RESULTS

All Brazilian cities with more than 100,000 inhabitant were used for the study, resulting in 299 cities divided according to their respective regions and shown in Table 1.

Table 1. Population data of Brazilian cities over 100 thousand inhabitants according to IBGE Census 2013.

	Total Population (01.07.2013)	Nº of cities > 100.000 inhab	Population of the cities	% Population of Brazil
Northeast	55.794.707	61	22.738.972 (40,75%)	
North	16.983.484	26	8.301.148(48,88%)	
Southeast	84.465.570	141	58.461.493 (69,21%)	
South	28.795.762	52	13.965.462 (48,5%)	
Midwest	14.993.191	19	8.497.398 (56,67%)	
Brazil	201.032.714	299	111.964.473	55,69%

Source: IBGE Census 2013.

In Table 2, the gross amounts of HSCPC are displayed according to the groups in the five Brazilian regions.

Table 2. Condensates raw data of hospitalizations for HSCPC groups in the Brazilian regions in 2013.

Groups/Regions	North	Northeast	Southeast	South	Midwest	Total	%
G1 - Preventable by Imunization	457	929	1.661	737	333	4.117	0,36
G2 - Avoidable Conditions	1.535	4.895	7.875	2.098	926	17.329	1,51
G3 – Gastroenteritis	17.410	26.985	22.077	7.273	8.036	81.781	7,13
G4 – Anemia	210	1.137	1.294	547	350	3.538	0,31
G5 - Nutritional Deficiencies	1.040	3.256	5.133	1.444	831	11.704	1,02
G6 - VAS Infections	1.662	1.607	5.423	2.029	1.504	12.225	1,07
G7 – Pneumonias	23.823	49.194	128.407	38.802	26.937	267.163	23,30
G8 – Asthma	6.753	13.043	19.224	5.403	4.096	48.519	4,23
G9 - Lung Diseases	5.836	14.000	37.927	16.709	6.187	80.659	7,03
G10 – Hipertension	2.480	5.457	15.714	2.424	2.603	28.678	2,50
G11 – Angina	2.011	10.220	28.949	18.300	6.128	65.608	5,72
G12 - Cardiac Insuficiency	6.247	21.727	53.586	17.001	9.566	108.127	9,43
G13 - Cerebrovascular Diseases	6.092	23.955	52.204	15.792	7.121	105.164	9,17
G14 - Diabetes Mellitus	5.294	11.763	24.035	7.358	4.979	53.429	4,66
G15 – Epilepsy	1.214	4.466	15.070	5.277	2.414	28.441	2,48
G16 - Urinary Tract Infections	8.996	14.986	45.933	15.552	10.680	96.147	8,38
G17 - Skin and Subcutaneous Infections	7.805	10.196	27.545	5.582	4.486	55.614	4,85
G18 - Inflammation of Pelvic Organs	1.818	2.870	5.950	1.649	976	13.263	1,16
G19 - Gastrointestinal Ulcers	2.954	7.109	21.750	6.616	3.070	41.499	3,62
G20 - Related to prenatal and childbirth	2.380	4.565	11.326	3.021	2.438	23.730	2,07
Total	106.017	232.360	531.083	173.614	103.661	1.146.735	100

Source: Hospital Information Systems (HIS-UHS) 2013.

From the raw data from 296 cities, the rate was by the HSCPC group for each city in each region, according to the following formula:

$$\mathrm{Tx}_{v} = \frac{\text{Raw data from the HSCPC by region}}{\text{Population of the cities > 100 thousand inhabitants in the region "}v\text{"}} \; x\; 10.000\,.$$

The conversion rate was carried out with the purpose of entering comparability between these cities standardizing conditions for every 10,000 inhabitants. In order to obtain the condensate by regions and compare them with each other, there was an average of HSCPC between the towns of each region, resulting in Table 3.

Table 3. Condensate of average rates (per 10,000 inhabitants) per group HSCPC in Brazilian regions. 2013.

Groups/Regions	North	Northeast	Southeast	South	Midwest	Brazil
G1 - Preventable by Imunization	0,55	0,41	0,28	0,53	0,39	0,37
G2 - Avoidable Conditions	1,85	2,15	1,35	1,50	1,09	1,55
G3 – Gastroenteritis	20,97	11,87	3,78	5,21	9,46	7,30
G4 – Anemia	0,25	0,50	0,22	0,39	0,41	0,32
G5 - Nutritional Deficiencies	1,25	1,43	0,88	1,03	0,98	1,05
G6 - VAS Infections	2,00	0,71	0,93	1,45	1,77	1,09
G7 – Pneumonias	28,70	21,63	21,96	27,78	31,70	23,86
G8 – Asthma	8,14	5,74	3,29	3,87	4,82	4,33
G9 - Lung Diseases	7,03	6,16	6,49	11,96	7,28	7,20
G10 – Hipertension	2,99	2,40	2,69	1,74	3,06	2,56
G11 – Angina	2,42	4,49	4,95	13,10	7,21	5,86
G12 - Cardiac Insuficiency	7,53	9,55	9,17	12,17	11,26	9,66
G13 - Cerebrovascular Diseases	7,34	10,53	8,93	11,31	8,38	9,39
G14 - Diabetes Mellitus	6,38	5,17	4,11	5,27	5,86	4,77
G15 – Epilepsy	1,46	1,96	2,58	3,78	2,84	2,54
G16 - Urinary Tract Infections	10,84	6,59	7,86	11,14	12,57	8,59
G17 - Skin and Subcutaneous Infections	9,40	4,48	4,71	4,00	5,28	4,97
G18 - Inflammation of Pelvic Organs	2,19	1,26	1,02	1,18	1,15	1,18
G19 - Gastrointestinal Ulcers	3,56	3,13	3,72	4,74	3,61	3,71
G20 - Related to prenatal and childbirth	2,87	2,01	1,94	2,16	2,87	2,12
G1 - Preventable by Imunization	127,71	102,19	90,84	124,32	121,99	102,42

Source: Hospital Information Systems (HIS-UHS) 2013.

DISCUSSION

The study was shown to be representative of 55.69% of the population, with the largest number of cities with over 100,000 inhabitants located in the Southeast region (141) and the lowest in the Midwest (19). The first is composed of three states and despite covering only 11% of Brazil's territory, holds 43% of the population, and therefore the most populous regions, as well as having the highest value of Gross Domestic Product (GDP) (56%)[8]. Already the Midwest region, formed by the states of Goiás, Mato Grosso, Mato Grosso do Sul and the Federal District, in 2009, had only 9.6% of GDP and computed 7.2% of the population, although the Federal District presents the highest Brazilian GDP per capita.[9]

Regarding the gross amounts of HSCPC totaled up, in 2013, the occurrence of 1,146,735 hospitalizations for these causes, among them the group of pneumonias has featured more quantitative (267,163 admissions) representing 23.30% of the registered HSCPC followed by heart failure (9.43%) and cerebrovascular diseases (9.17%) and lower values, anemia (3,538) and diseases preventable by immunization (4,117), amounting respectively, 0.31% and 0.36% records.

The group of infectious gastroenteritis and complications between the years 2000 and 2006 accounted for 20% of HSCPC, followed by heart failure (12%), asthma (11%) and diseases of the lower airways (8%). The group of pneumonias, the Kidney and Urinary Tract Infections and Gastroenteritis showed an increase compared to the year 2000. On the other hand there was a reduction in the proportional participation of Diseases Inferior Airways (-28.6%), asthma (- 26%) and heart failure (19%), from 2000 to 2006.[10]

In the age group of 20-59 years, gastroenteritis is still the leading cause of hospitalization (15%), followed by heart failure (11%) and asthma. The Infection in the Kidney and Urinary Tract appears as 4th most frequent in the group, with increasing importance. The main cause of HSCPC in elderly Brazilians in 2000 was the Congestive Heart Failure (22.3%), followed by diseases of the lower airways (13.3%), cerebrovascular disease (12.9%), infectious gastroenteritis and complications (10.2%).[10]

It is noteworthy that the preventable diseases by immunization sum up to one of the lowest percentages of HSCPC records, revealing the effectiveness of the National Immunization Program (NIP) and the evolution of the Brazilian health system over the past decades, where most of the population died for reasons of that nature. The role of nursing staff in the operational accountability of vaccine rooms is also noteworthy, ensuring a preventive resource of high effectiveness for the population of his actions as a subject of PHC.[11]

It is also noted that the 10 most frequent diagnoses groups represent 83.91% of HSCPC and 10 less frequent only 16.19%, similar to the data of HSCPC in the period between the years 2000 and 2006 that were respectively

85% and 15%.[10] Thus, accurate health actions directed to the 10 most frequent groups (50%) of diseases sensitive to primary care would solve more than 80% of hospitalizations for these causes.

Regarding the average regions, it is observed that they presented a very similar range of 90.84/10,000 inhabitants to 127.71/10,000 inhabitants, with greater representation in the North, then South, Midwest, Northeast and lowest in the Southeast. In a study conducted between 1999 and 2007, the South East also recorded the lowest rates of HSCPC and the North the highest.[12]

As for the groups, the three largest national averages are recorded by pneumonias (23.86/10,000 inhabitants), heart failure (9.66/10,000 inhabitants) and cerebrovascular disease (9.39/10,000 inhabitants). These three groups also showed prevalece in the state of Espírito Santo between the years 2005 and 2009, but with Gastroenteritis first, followed by pneumonia and heart failure; cerebrovascular diseases were the fifth representation[13]. One of these three groups (Heart Failure) was also among the highest numbers in a study conducted between 1998 and 2009 in the different Federal Units of Brazil.[14] pneumonias were also prevalent in minors under 20 years between 1999 and 2006.[15]

Smaller national averages are recorded by the diseases preventable by immunization (0.37/10,000 inhabitants) and anemia (0.32/10,000 inhabitants).

Observing the rates of the three most prevalent groups individually in different regions we have: Northern Region - pneumonia, gastroenteritis and urinary tract infection; Northeast - pneumonia, gastroenteritis and Cerebrovascular Diseases/Heart Failure; Southeast Region - Pneumonia, heart failure and Cerebrovascular Diseases; South Region - pneumonia, angina and heart failure / Cerebrovascular diseases and; Midwest - pneumonias, urinary tract infection and heart failure.

The pneumonias were present in all regions and recording the highest number of admissions. The Gastroenteritis presented itself in three of the five regions and occupying the second highest number of cases. Observing their values in each region rising rates are perceived among them: Southeast (3.78/10,000 inhabitants), South (5.21/10,000 inhabitants), Midwest (9.46/10,000 inhabitants), Northeast (11,87/10,000 inhabitants) and North (20.97/10,000 inhabitants) similar to the pattern shown between the years 1999 and 2006 among children under 20 years with emphasis on higher rates of gastroenteritis in the North and Nordeste.[15]

Cardiovascular disease (CVD) such as heart failure, cerebrovascular disease and angina were among the top three average admissions in the Northeast, Southeast, South and Midwest, corroborating several national and international studies that show cardiovascular diseases as the leading cause of death in both developed and developing countries. In Brazil, these diseases represent high costs to the economic sector due to high rates of hospitalization and medicines used in addition to the main causes of death complications that impact on morbidity of the populations.[16]

These pathology groups are noteworthy because they are characterized worldwide, the major causes of morbidity and mortality and disability, and besides they involve a large number of people and also represent high social and economic costs. Spending on medicines, hospital admissions and high-complexity care has significant impact on the budget of the financing of health agencies. In 2007, there were 1,157,509 hospitalizations for CVD in the UHS (10.22% of the country) with heart failure as the main cause. Compared to the costs, in November 2009, 91,970 admissions were recorded, for a total cost of R$165,461,644.33, according to the Ministry of Health (DATASUS). Another problem related to CVD is also noteworthy: the ESRD caused the inclusion of 94,282 individuals undergoing dialysis in the UHS and accounted for 9,486 deaths in 2007.[17,18]

From these aspects, the Hospitalization indicator for Sensitive Conditions to Primary Care has great potential in assessing the effectiveness of primary health care through the Family Health Strategy, it points indirectly to failure to perform actions that should be a priority in different regions, and underlies the development of actions and public policies for effective health needs for the population.[19]

Limitations of this study lie in the use of secondary data, which is subject to typing errors and/or underreporting, but its national coverage allows the visualization of a broad overview of health conditions. However, the continued use of these tools with anchoring purposes of research subsidizes alert managers of information systems in the collection of trust in the power of the banks, since from them national and international publications on the Brazilian health system will be generated.

CONCLUSION

The Hospitalization due to Sensitive Conditions to Primary Care (HSCPC) were present in Brazil in 2013, accounting for more than one million hospitalizations for these causes presenting on average, approximate values between the different Brazilian regions, leading to the conclusion that despite the heterogeneity demographic and socioeconomic existing among the five regions, this scenario does not show quantitative differences between them.

However with regard to the prevalent HSCPC groups, despite the emphasis achieved by pneumonias, which occupies first place in all regions, it is possible to observe patterns of different pathologies occupying second and third places ranging from gastroenteritis, urinary tract infection, heart failure, Cerebrovascular Disease and Angina.

Besides serving as a foundation for managers to subsidize health actions proposed in their locality to reduce the rates of these diseases, this scenario also provides researchers in this area, with an outlook for deepening the problems that prompt the occurrence of HSCPC.

On the contribution of the authors, the effective collaboration of all of them in the conception, design, methodology, data interpretation, writing and critical review of this manuscript is emphasized.

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