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INTERACTIONS THROUGH CONDITIONS SENSITIVE TO PRIMARY ATTENTION OF ELDERLY PERSONS IN BRAZIL, 2003 TO 2012

INTERAÇÕES POR CONDIÇÕES SENSÍVEIS À ATENÇÃO PRIMÁRIA DE IDOSOS NO BRASIL, 2003 A 2012

INTERNACIONES POR CONDICIONES SENSIBLES A LA ATENCIÓN PRIMARIA DE ANCIANOS EN EL BRASIL, 2003 A 2012

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ABSTRACT

Objective: to analyze the number, proportion, and percentage of reduction of hospitalizations due to sensitive primary care conditions of the elderly. **Method:** an ecological study, with secondary data from the Hospital Information System/SUS available on the website of the Department of Information Technology of SUS. The proportion per 1000 inhabitants and the percentage of reduction of the hospitalizations of the elderly of the Brazilian geographic regions, from 2003 to 2012 were calculated. **Results:** the Southeast region presented the highest number of hospitalizations of the elderly. The South region had the highest proportions from 2007 to 2012. The Southeast presented the smallest proportions. The Center-West showed a greater reduction (32.70%) in admissions. In the North, there was an increase of 20.21%, and in Brazil, a reduction of 17.64%. **Conclusion:** advances in Primary Care have influenced the reduction of hospitalizations due to sensitive conditions to primary care, and also the influence of socioeconomic aspects. **Descriptors:** Primary Care Sensitive Conditions; Aged; Hospitalization; Primary Health Care.

RESUMO

Objetivo: analisar o número, a proporção e a porcentagem de redução das internações por condições sensíveis à atenção primária de idosos. **Método:** estudo ecológico, com dados secundários do Sistema de Informações Hospitalares/SUS disponíveis no site do Departamento de Informática do SUS. Calculou-se a proporção por 1000/habitantes e a porcentagem de redução das internações de idosos das regiões geográficas brasileiras nos anos de 2003 a 2012. **Resultados:** a região Sudeste apresentou o maior número de internações de idosos, a Sul obteve as maiores proporções de 2007 a 2012, o Sudeste apresentou as menores proporções, o Centro-Oeste apresentou maior redução (32,70%) de internações, na Norte houve aumento de 20,21% e, no Brasil, redução de 17,64%. **Conclusão:** os avanços na Atenção Primária influenciaram a redução das internações por condições sensíveis à atenção primária, destacando-se também a influência dos aspectos socioeconômicos. **Descritores:** Condições Sensíveis a Atenção Primária; Idoso; Internação Hospitalar; Atenção Primária à Saúde.

RESUMEN

Objetivo: analizar el número, la proporción y el porcentaje de reducción de las internaciones por condiciones sensibles a la atención primaria de ancianos. **Método:** estudio ecológico, con datos secundarios del Sistema de Informaciones Hospitalarias/SUS disponibles en el site del Departamento de Informática del SUS. SE calcularon la proporción por 1000/habitantes y el porcentaje de reducción de las internaciones de ancianos de las regiones geográficas brasileras, de 2003 a 2012. **Resultados:** la región Sudeste presentó el mayor número de internaciones de ancianos. La región Sur obtuvo las mayores proporciones de 2007 a 2012. El Sudeste presentó las menores proporciones. El Centro-Oeste presentó mayor reducción (32,70%) de internaciones. En el Norte hubo aumento de 20,21%, y en Brasil, reducción de 17,64%. **Conclusión:** los avances en la Atención Primaria influyeron la reducción de las internaciones por condiciones sensibles a la atención primaria, destacándose también la influencia de los aspectos socioeconómicos. **Descriptors:** Condiciones Primarios Sensibles; Anciano; Hospitalización; Atención Primaria de Salud.

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INTRODUCTION

The elderly people have been highlighted over the decades due to their rapid population growth in the most diverse countries.¹ In Brazil, the elderly population is the fastest growing. In 2004, the elderly accounted for 9.6% of the total population. By 2013, the elderly people were already 12.5% of the total population, more than 26 million individuals.²

Together with the population increase of the elderly, there is a need for greater use of health services due to the epidemiological profile of this population, characterized by chronic diseases, functional decline, and increased morbidity.³ Besides being the age group with the greatest use of health services, the elderly people have a high rate of hospital morbidity, leading to recurrent hospitalizations and longer stay in hospital beds.^{1,4}

Given this reality, the Ministry of Health has prioritized and explained the concern for the health of the elderly population, defining Primary Health Care (APS) as a gateway to health care for the elderly and reference to specialized services of high and medium complexity.⁵

APS is a key component of the SUS. Its organization prioritizes actions for health promotion, protection, and recovery, in an integral and continuous way. Countries that adopt an APS-based health system have better and more equitable health outcomes compared to those who do not. Some of the benefits of APS are: greater efficiency in health services, reduction of health spending, reduction of emergency care, and more satisfaction for patients.⁶

The APS can address the health needs of the population, through actions within its competence. When it does not happen, service failures occur, and the conditions that are sensitive to this level of care are not cured, requiring more complex services.⁷

Sensitive conditions to primary care are a series of pathologies and deficiencies that would be avoided with the effective action of the primary system.⁸ Through the Administrative Rule of the Health Care Secretariat (SAS) N° 221, the Ministry of Health specified the conditions that are sensitive to primary care in Brazil, including 19 causes of hospitalization and 74 diagnoses according to the tenth review of the International Classification of Diseases and Causes of Death (ICD-10), grouped according to the possibilities of intervention and the magnitude of the diseases.⁹

As the timely interventions in APS can prevent the worsening of the condition and, consequently, hospitalization, the Hospitalizations for Primary Care Sensitive Conditions (ICSAP) are used as a tool to assess the APS's resolving capacity.¹⁰ Besides being an indicator in the APS assessment, the ICSAPs are also used to evaluate the performance of the health services system at the international and national levels, becoming a tool for managing APS care, provided that it is adapted to each reality, periodically reviewed and updated.^{8,11} High ICSAP index can be considered indicative of failures in access or performance of health services, and it has been associated with the socioeconomic pattern of the population assisted.¹²⁻³

Considering that in Brazil the growth of the elderly population is a reality and the country has different epidemiological, socioeconomic and cultural characteristics in each geographic region, it is necessary to periodically assess the accessibility and resilience of APS in all geographic regions, seeking an improvement in the quality of health services.²

The ICSAP indicator has already been used in surveys to describe the frequency and evolution of these hospitalizations in several cities.^{11-2,14} However, there are no studies that describe the panorama of ICSAP in the elderly in the geographical regions of Brazil. Therefore, this study aimed to analyze the number and proportion of ICSAP and the percentage of reduction in the population of elderly people of the Brazilian geographic regions from 2003 to 2012.

METHOD

This is an ecological, descriptive study with a quantitative approach based on secondary data. The data analyzed were related to the number of ICSAP of the elderly (60 years old and over) in the five Brazilian geographic regions assisted by the Unified Health System (SUS), from 2003 to 2012. Data collection was performed in October 2015.

The data used originated from the Hospital Information System of the SUS (SIH/SUS), a system that processes hospitalization authorizations (AIHs), and it was available on the website of the Department of Information Technology of the National Health System (DATASUS). Demographic information was obtained from the population estimating of the Brazilian Institute of Geography and Statistics (IBGE), available by DATASUS.

The data were generated in tables in the TabWin program and inserted in the statistical program Graph Pad Prism 6.0. The proportion of ICSAP per thousand inhabitants in each

geographic region (ICSAP number of elderly residents in the region divided by the total number of hospitalizations of elderly residents in the region) and the percentage of reduction of ICSAP from 2003 to 2012 in each Region and Brazil were calculated.

Because it is a secondary data from a public domain database (DATASUS), following the ethical principles contained in Resolution 466/2012 of the National Health Council (CNS), it was not necessary to submit the

research project to a Research Ethics Committee.

RESULTS

In the period 2003 to 2012, the Southeast region presented the highest absolute numbers of ICSAP of the elderly, followed by the Northeast region. The Northern region presented the smallest numbers over the ten years studied (Figure 1).

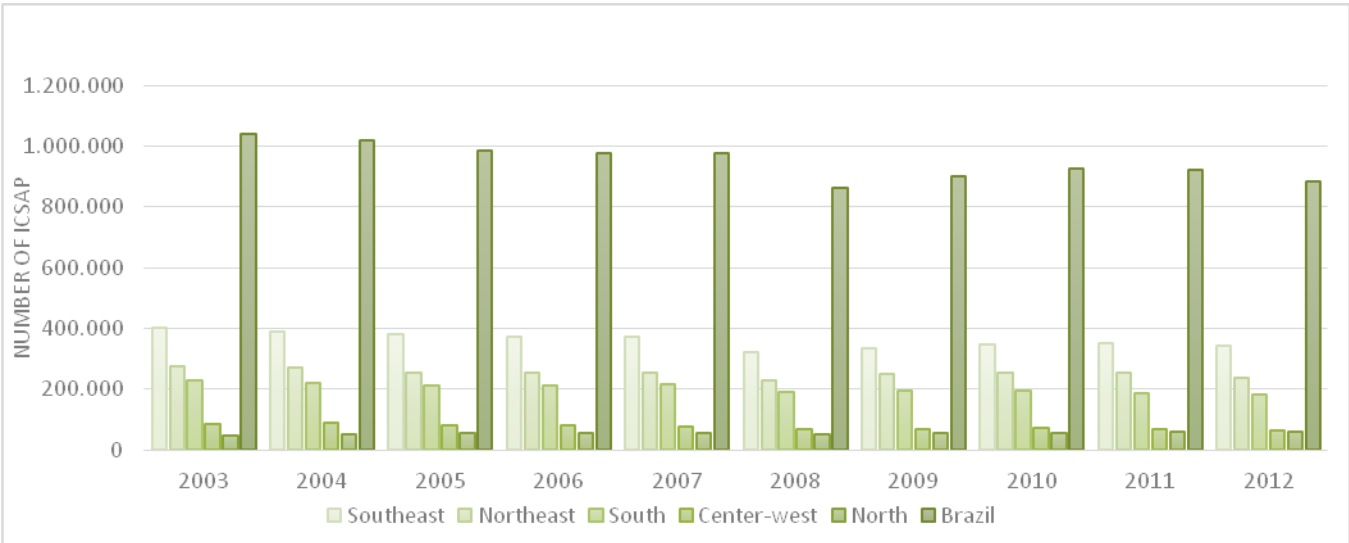


Figure 1. Absolute number of ICSAP of the elderly in the geographical regions of Brazil, 2003 to 2012. **Source:** DATASUS - SIH / SUS (2014). ICSAP = Hospitalizations for sensitive conditions to primary care. Brasília (DF), Brazil, 2015.

Considering the proportion of ICSAP per thousand inhabitants, the South region had the highest proportions in seven of the ten years studied, remaining with the highest proportions from 2007 (65.18/thousand) in

2012 (55.31/thousand). The Center-West was in second place from 2007 to 2011. The Southeast had the lowest rates from 2003 to 2012 (Table 1).

Table 1. Proportion of ICSAP of elderly per thousand inhabitants and variation (%) in the geographic regions of Brazil, 2003 to 2012.

Region	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	%
South	70,18	67,00	64,75	64,83	65,18	58,21	58,82	59,10	57,06	55,31	-26,90
North	43,43	46,61	50,23	51,78	51,89	47,02	51,76	51,96	54,40	54,43	20,21
Center-West	69,44	71,04	66,66	66,10	63,71	55,19	55,35	58,85	56,84	52,33	-32,70
Northeast	50,84	49,59	46,28	46,26	46,94	42,06	45,55	46,75	46,96	43,65	-16,48
Southeast	42,11	41,05	40,13	39,29	38,97	33,80	35,15	36,42	36,76	35,94	-17,18
Total	50,62	49,55	47,81	47,48	47,43	41,87	43,77	44,94	44,84	43,03	-17,64

ICSAP= Hospitalizations for sensitive conditions to primary care. Brasília (DF), Brazil, 2015.

There was a reduction in the proportion of ICSAP in Brazil (Figure 2), except the North region, where there was an increase of 20.21% (Table 2). The Center-West showed the largest reduction in the hospitalization rate

(32.70%) and the lowest in the Northeast (16, 48%). In Brazil, the proportion of elderly ICSAP patients decreased by 17.64% during the years studied.

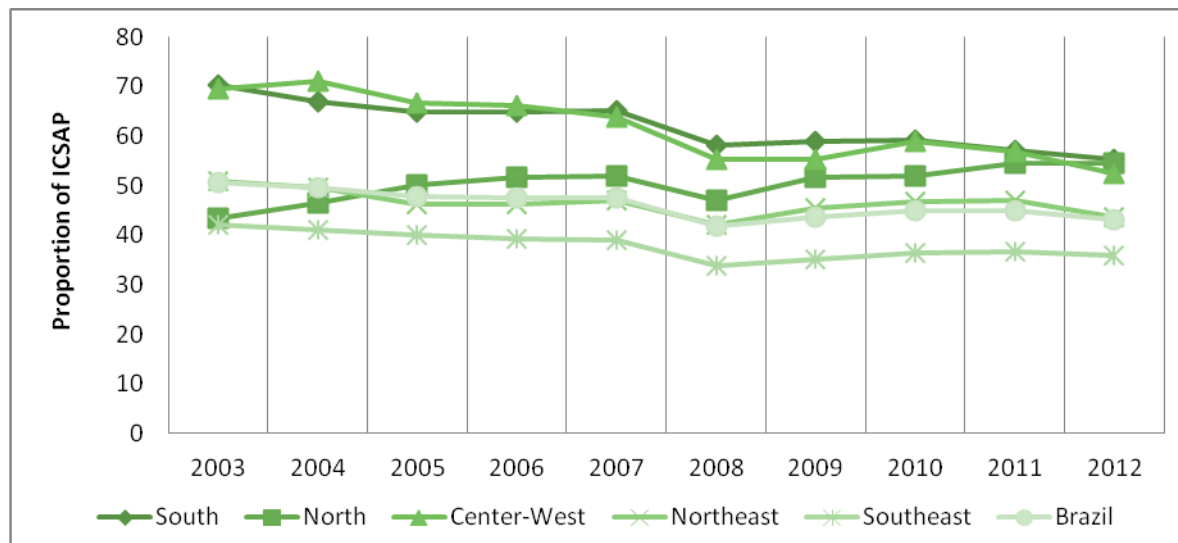


Figure 2. Variation of the ICSAP of the elderly in the geographical regions of Brazil, 2003 to 2012. ICSAP = Hospitalizations due to conditions sensitive to primary care. Brasília (DF), Brazil, 2015.

DISCUSSION

The elderly population is the fastest growing in Brazil. From 2003 to 2012, the number of older people has grown from approximately 16 million to 21 million. During this period, the Southeast region had the highest number of elderly and ICSAP in this population, while the North region had the smallest population of elderly people and the lowest number of ICSAP.¹⁵ These results indicate a trend of proportionality among the elderly and the number of ICSAP. Corroborating with these findings, a study carried out in Brazilian cities pointed out the elderly as the population group with the highest percentage of ICSAP.¹²

Despite presenting the highest number of ICSAP, the Southeast region was the region with the lowest proportion of ICSAP in the elderly per thousand inhabitants during the 10 years analyzed. Previous studies confirm this finding, pointing to a reduction of ICSAP in the four states of the Southeast region. In the state of Rio de Janeiro, ICSAP accounted for 42.1% of the total number of elderly hospitalizations in 2000. In 2010, this rate decreased to 31.7%.¹⁶ In São Paulo, there was a reduction in the frequency of ICSAP from 12.0 to 10.8 per thousand inhabitants, comparing SUS/SP data for 2000 and 2007.¹⁷ In Espírito Santo, there was a 9.6% reduction in the ICSAP of the elderly from 2005 to 2009.¹² In the state of Minas Gerais and the same period that the population increased 9.5%, ICSAP rates decreased from 20.75 to 14.92 per thousand inhabitants.¹⁸

The Southeast Region concentrates the highest percentage of elderly people covered by health care plans in supplementary health, with 39% of the Brazilian beneficiaries aged 60 years old and over only in the state of São Paulo.¹⁹ This high coverage implies less utilization or even utilization of the health

service by the elderly, generating less ICSAP by the SUS. For some authors, the socioeconomic aspect is also determinant for the maintenance of lower rates of ICSAP, since access to social determinants such as health, education, income and housing conditions act as external factors constituting a network of services for the provision of Primary care.¹⁴ Accordingly, in the 2010 Index of Human Development ranking (considering income, longevity and education), only three of the first 20 cities were not in the Southeast region.²⁰

The maintenance of the highest proportions of ICSAP of the elderly by the South region from 2007 to 2012 may be related to the fact that since 2006 this region has the highest proportion of elderly people and, since 2007, the highest index of aging in the country.¹⁵ Aging within the population group of the elderly, with an accelerated growth of the elderly with 80 years old and older, seems to favor the increase of the ICSAP.⁵ Accordingly, a previous study on the distribution of ICSAP in the Brazilian population between 2000 and 2006 observed a marked increase in the rates of ICSAP with advancing age, while in the age group 20 to 29 years old, the rates were less than 70/10 thousand inhabitants, and in those over 80 years old, they were higher than 1.000/10 thousand inhabitants.²¹

A marked aging in the southern region converges with data from the IBGE that point to this region as the first place in the chronic noncommunicable diseases (CDNT), ratifying authors who affirm that these diseases become more common and contribute to the increase of hospitalizations with the advancing age.^{1,22} The Brazilian list of Primary Care Conditions shows some groups of diagnoses and diseases that are considered NCDs, such as hypertension and diabetes mellitus. Therefore, the increase in

hospitalizations for these NCDs also implies an increase in ICSAP.⁸

A decrease of 17.64% in the proportion of ICSAP in Brazil was observed even in the face of the population growth of the elderly, the age group with the highest frequency of hospital admission.¹ Other authors found similar results in the study on the trend of ICSAP in the 27 federal units of Brazil, from 1998 to 2009, there was an average annual reduction of ICSAP of 3.7%, considering all age groups.²³ A previous study also observed a reduction of 22.3% of ICSAP in the elderly from 60 to 69 years old and 14.9% among the elderly from 70 to 79 years old.²¹

The reduction of the ICSAP was also observed in Canada, considering the total population, where the ICSAP rate fell by 22% between 2001 and 2007.²⁴ In Italy, there was an increase in the proportion of patients with a mean age of 75 years old who were hospitalized for sensitive conditions to primary care, compared to the previous year.²⁵ ICSAP were still positively associated with age, being more frequent in older patients.

The highest rate of ICSAP reduction was found in the Center-West region. This significant reduction in ICSAP rates may reflect the great socioeconomic growth that the Center-West has experienced in recent years, bringing development to many remote regions, having a positive impact in all areas, including population health.

The findings of this study, of non-reduction of ICSAP in the North region, are in agreement with previous studies, such as the study of the Nucleus of Education in Collective Health (NESCON), which found a reduction of more than 20% in ICSAP of adults and elderly from 2007 to 2010 in all regions of Brazil, with the exception of the North region that had only a 15% reduction.²¹

Another study showed that only six Brazilian states did not present a reduction in ICSAP rates, between 1998 and 2009, of which four are from the Northern region. According to the authors, the expansion of the Family Health Strategy (ESF) as the main instrument of action of the APS, as well as the levels of its implementation occur in an unequal way between the regions of the country and they can modulate the differences in the reductions of the ICSAP between the regions and federative units.²³

Accordingly, health indicators show the poor performance of the North region.²² For some authors, despite the reduction of inequalities in access to health services in recent years and between regions, there is

still evidence in the literature of this inequality in the country, implying in less preventive care, aggravation of health status and greater need for hospitalization.²⁷ On the other hand, the temporary increase in hospitalizations in areas where, historically, access to health services was limited, may be a result of improved access to the population to these services.²⁸ However, it is expected a decrease in ICSAP after this initial increase.⁸

Based on the reduction of ICSAP rates, this study suggests an improvement in APS performance in the country, considering that the ICSAP indicator has the potential to evaluate the effectiveness of Primary Care services.¹⁰ The APS model has also been associated with less ICSAP rates in other countries, such as Spain and Italy, where the increase in the proportion of ICSAP was related to lower access to APS.^{25,29}

However, quality and access to APS are not the only influences on ICSAP rates. Although the Southeast has the lowest proportions of ICSAP, it is the region that has the lowest proportion of houses registered in ESF units, making it the only region in the country with less than half the registered population. On the other hand, , even though it is the second in terms of coverage of the ESF, the North region did not present a reduction in the ICSAP.²² This fact confirms the influence of the socioeconomic factors on the ICSAP that, according to some studies, are also associated with other aspects such as the rate of urbanization, the distance to the hospital, the number of previous hospitalizations and the self-perception of health.^{13,25,27,29-30}

ICSAP allows comparing the performance of different health services, as well as investigating inequity of access between regions and communities, helping to strengthen the APS.¹⁰ APS plays an important role in reducing ICSAP, but there are other determinants that are outside of its scope of action. Thus, the ICSAP indicator should be complemented with several others in assessing access and quality of APS. Thus, a reduction in ICSAP only suggests possible improvements in APS.⁸

CONCLUSION

This study presented an overview of the trend of ICSAP in the elderly from 2003 to 2012, considering their geographical regions, suggesting an improvement in the APS, following the ICSAP indicator. It also highlighted the importance of constant APS evaluations to assure elderly quality services that meet their health needs.

The limitations highlighted in this study are the use of secondary source data, which are subject to human errors during the feeding of the information system and to the restriction of the ICSAP data in SUS patients, hindering to generalize data for the elderly who are part of the supplementary health system.

Further research is suggested in the North region, to follow the ICSAP indexes in the region by the managers, ensuring the theoretical basis for planning the actions. It is also suggested studies of analysis of ICSAP data in individuals covered by the plans of the supplementary health system, expanding the analysis and knowledge about the ICSAP in the elderly.

REFERENCES

- 1- Góis AL, Veras RP. Informações sobre a morbidade hospitalar em idosos nas internações do Sistema Único de Saúde do Brasil. Ciênc saúde coletiva [Internet]. 2010 Sept [cited 2016 Feb 10];15(6):2859-69. Available from: <http://www.scielo.br/pdf/csc/v15n6/a23v15n6.pdf>.
- 2- Brasil. Ministério do Planejamento, Orçamento e Gestão [Internet]. Fundação Instituto Brasileiro de Geografia e Estatística; 2014 [cited 2016 Feb 10]. Available from: <http://biblioteca.ibge.gov.br/visualizacao/livros/liv94414.pdf>.
- 3- Alves LC, Leimann BCQ, Vasconcelos MEL, Carvalho MS, Vasconcelos AGG, Fonseca TCO, et al. A influência das doenças crônicas na capacidade funcional dos idosos do Município de São Paulo, Brasil. Cad Saúde Pública [Internet]. 2007 Aug [cited 2016 Feb 10];23(8):1924-30. Available from: <http://www.scielo.org/pdf/csp/v23n8/19.pdf>.
- 4- Pilger C, Menon MU, Mathias TAF. Utilização de serviços de saúde por idosos vivendo na comunidade. Rev Esc Enferm USP [Internet]. 2013 Feb [cited 2016 Feb 10];47(1):213-20. Available from: <http://www.scielo.br/pdf/reeusp/v47n1/a27v47n1.pdf>.
- 5- Brasil. Ministério da Saúde. Secretaria de Atenção à Saúde. Atenção à saúde da Pessoa Idosa e Envelhecimento. Brasília; 2010.
- 6- Organização Panamericana da Saúde. A atenção à saúde coordenada pela APS: construindo as redes de atenção no SUS. Brasília; 2011.
- 7- Deininger LSC, Silva CC da, Lima Neto EA. Internações por condições sensíveis à atenção primária no período de 2008 a 2013. J Nurs UFPE on line [Internet]. 2015 Dec [cited 2016 Feb 13]; 9(12):1127-36. Available from: http://www.revista.ufpe.br/revistaenfermagem/index.php/revista/article/view/8442/pdf_9032.
- 8- Alfradique ME, Bonolo PF, Dourado I, Lima-Costa MF, Macinko J, Mendonça SC, et al. Internações por condições sensíveis à atenção primária: a construção da lista brasileira como ferramenta para medir o desempenho do sistema de saúde (Projeto ICSAP - Brasil). Cad Saúde Pública [Internet]. 2009 June [cited 2016 Feb 13];25(6):1337-49. Available from: <http://www.scielo.br/pdf/csp/v25n6/16.pdf>.
- 9- Brasil. Ministério da Saúde. Secretaria de Atenção à Saúde. Portaria nº221 de 17 de abril de 2008. Brasília: Ministério da Saúde; 2008.
- 10- Deininger LSC, Silva CC, Lucena KDT, Pereira FJR, Lima Neto EA. Internações por condições sensíveis à atenção primária: revisão integrativa. J Nurs UFPE on line [Internet]. 2015 Jan [cited 2016 Feb 13];9(1):228-36. Available from: http://www.revista.ufpe.br/revistaenfermagem/index.php/revista/article/view/7142/pdf_6943.
- 11- Ferreira JBB, Borges MJG, Santos LL, Forster AC. Internações por condições sensíveis à atenção primária à saúde em uma região de saúde paulista, 2008 a 2010. Epidemiol Serv Saúde [Internet]. 2014 Mar [cited 2016 Feb 13];23(1):45-56. Available from: <http://scielo.iec.pa.gov.br/pdf/ess/v23n1/v23n1a05.pdf>.
- 12- Pazó RG, Frauches DO, Galvêas DP, Stefenoni AV, Cavalcante ELB, Pereira-Silva FH. Internações por condições sensíveis à atenção primária no Espírito Santo: estudo ecológico descritivo no período 2005-2009. Epidemiol Serv Saúde [Internet]. 2012 June [cited 2016 Feb 13];21(2):275-82. Available from: <http://scielo.iec.pa.gov.br/pdf/ess/v21n2/v21n2a10.pdf>.
- 13- Pitilin EB, Gutubir D, Molena-Fernandes CA, Pelloso SM. Internações sensíveis à atenção primária específicas de mulheres. Ciênc saúde coletiva [Internet]. 2015 [cited 2016 Feb 13];20(2):441-48. Available from: <http://www.scielo.br/pdf/csc/v20n2/1413-8123-csc-20-02-0441.pdf>.
- 14- Rehen TCMSB, Oliveira MRS, Amaral TCL, Ciosak SI, Egry EY. Internações por Condições Sensíveis à Atenção Primária em uma metrópole brasileira. Rev esc enferm USP [Internet]. 2013 Aug [cited 2016 Feb 13];47(4):884-90. Available from:

<http://www.scielo.br/pdf/reeusp/v47n4/0080-6234-reeusp-47-4-0884.pdf>.

15- Brasil. Ministério da Saúde. Departamento de Informática do Sistema Único de Saúde; 2008 [cited 2015 Oct 02]. Available from: <http://www2.datasus.gov.br>.

16- Marques AP, Montilla DER, Almeida WS, Andrade CLT, Silva W. Internações de idosos por condições sensíveis à atenção primária à saúde. Rev Saúde Pública [Internet]. 2014 Oct [cited 2016 Feb 14];48:817-26. Available from: http://www.scielo.br/pdf/rsp/v48n5/pt_0034-8910-rsp-48-5-0817.pdf.

17- Rehem TCMSB, Egry EY. Internações por condições sensíveis à atenção primária no estado de São Paulo. Ciênc saúde coletiva [Internet]. 2011 Dec [cited 2016 Feb 14];16:4755-66. Available from: <http://www.scielo.br/pdf/csc/v16n12/24.pdf>.

18- Rodrigues-Bastos RM, Campos SEM, Ribeiro LC, Bastos-Filho MG, Bustamente-Teixeira MT. Internações por condições sensíveis à atenção primária, Minas Gerais, 2000 e 2010. Rev Saúde Pública [Internet]. 2014 Dec [cited 2016 Feb 14];48(6):958-67. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0034-89102014000600958.

19- Veras RP, Caldas CP, Araújo DV, Kuschnir R, Mendes W. Características demográficas dos idosos vinculados ao sistema suplementar de saúde no Brasil. Rev Saúde Pública [Internet]. 2008 Apr [cited 2016 Feb 14];42(3):497-502. Available from: <http://www.scielo.br/pdf/rsp/v42n3/7026.pdf>.

20- Programa das Nações Unidas para o Desenvolvimento-PNUD. Atlas do desenvolvimento humano; 2012 [cited 2016 Feb 14]. Available from: <http://www.atlasbrasil.org.br/2013/pt/ranking/>.

21- Núcleo de Educação em Saúde Coletiva-NESCON. Avaliação do impacto das ações do programa de saúde da família na redução das internações hospitalares por condições sensíveis à atenção básica em adultos e idosos. Belo Horizonte; 2012.

22- Brasil. Ministério do Planejamento, Orçamento e Gestão [Internet]. Fundação Instituto Brasileiro de Geografia e Estatística; 2010 [cited 2016 Feb 14]. Available from: <http://www.ibge.gov.br>.

23- Boing AF, Vicenzi RB, Magajewski F, Boing AC, Moretti-Pires RO, Perez KG et al. Redução das internações por condições sensíveis à atenção primária no Brasil entre 1998-2009. Rev Saúde Pública [Internet]. 2012 Feb [cited 2016 Feb 14];46:359-66. Available

from:

<http://www.scielo.br/pdf/rsp/v46n2/3709.pdf>.

24- Sanchez M, Vellanky S, Herring J, Liang J, Jia H. CIHI Survey: Variations in Canadian Rates of Hospitalization for Ambulatory Care Sensitive Conditions. Healthc Q [Internet]. 2008 [cited 2016 Feb 14]; 11: 20-2. Available from:

<http://www.longwoods.com/content/20087>.

25- Rizza P, Bianco A, Pavia M, Angelillo I. Preventable hospitalization and access to primary health care in an area of Southern Italy. BMC Health Serv Res [Internet]. 2007 Aug [cited 2016 Feb 14];7(134):1-8. Available from:

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2045098/>.

26- Macedo FC. Transformação econômica, inserção externa e dinâmica territorial no Centro-Oeste Brasileiro: o caso de Rio Verde. Soc Nat [Internet]. 2013 Jan/Apr [cited 2016 Feb 14];25:35-50. Available from: <http://www.scielo.br/pdf/sn/v25n1/04.pdf>.

27- Andrade MV, Noronha KVMS, Menezes RM, Souza MN, Reis CB, Martins DR, et al. Desigualdade socioeconômica no acesso aos serviços de saúde no Brasil: um estudo comparativo entre as regiões brasileiras em 1998 e 2008. Econ Apl [Internet]. 2013 Oct/Dec [cited 2016 Feb 14];17(4):623-45. Available from:

<http://www.scielo.br/pdf/ecoa/v17n4/05.pdf>

28- Saha S, Solotaroff S, Oster A, Bindman AB. Are preventable hospitalizations sensitive to changes in access to primary care? The case of the Oregon Health Plan. Med Care [Internet]. 2007 Aug [cited 2016 Feb 14]; 45(8):712-719. Available from:

<http://www.ncbi.nlm.nih.gov/pubmed/17667304>.

29- Bermúdez-Tamayo C, Márquez-Calderón S, Del Águila MMR, López EPM, Espinosa JO. Características organizativas de la atención primaria y hospitalización por los principales ambulatory care sensitive conditions. Aten Primaria [Internet]. 2004 Dec [cited 2016 Feb 14]; 33(6):305-11. Available from: <http://www.sciencedirect.com/science/article/pii/S0212656704707982>.

30- Pazó RG, Frauches DO, Molina MCB, Cade NV. Modelagem hierárquica de determinantes associados a internações por condições sensíveis à atenção primária no Espírito Santo, Brasil. Cad Saúde Pública [Internet]. 2014 Sept [cited 2016 Feb 14];30(9):1891-902. Available from:

<http://www.scielo.br/pdf/csp/v30n9/0102-311X-csp-30-9-1891.pdf>.

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