

Prevalence of chronic pain in Brazil: a descriptive study

Prevalência de dor crônica no Brasil: estudo descritivo

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ABSTRACT

BACKGROUND AND OBJECTIVES: Very little is known about the epidemiology of chronic pain in Brazil; especially in the case of multiple pain prevalence surveys. Knowing about the prevalence of chronic pain in the Brazilian population is an important step in revealing the scope and magnitude of its effects, providing a guide to preventive and intervention strategies, mainly public policies. The objective is to review descriptively the publications made in Brazil to estimate the prevalence of chronic pain in the Brazilian population.

CONTENTS: The search in the indexed database of the Portal of Periodicals of CAPES with the Descriptors in Health Sciences: "Prevalence" and "Chronic Pain" returned, after the screening, a total of 10 articles. The prevalence of chronic pain varied from 29.3 to 73.3%, affecting more women than men and the most prevalent site was the dorsal/lumbar region. Most of the studies showed percentage higher than the estimated for the world population. However, we cannot say that the prevalence of chronic pain in the Brazilian population is higher since the values of the surveys reflect only regional data.

CONCLUSION: The studies found in this review showed a recent interest in the epidemiology of chronic pain in the country, all in the last decade. However, they do not allow an accurate estimate, and more studies are needed to obtain a representative prevalence of the Brazilian population.

Keywords: Chronic Pain, Prevalence, Review.

RESUMO

JUSTIFICATIVA E OBJETIVOS: Muito pouco se conhece sobre a epidemiologia da dor crônica no Brasil; principalmente, tratando-se de pesquisas de prevalência de dores múltiplas. Conhecer sobre a prevalência da dor crônica na população brasileira é um passo importante no sentido de revelar a abrangência e magnitude de seus efeitos, proporcionando um direcionamento para as estratégias preventivas e de intervenção, principalmente políticas públicas. O objetivo deste estudo foi revisar descriptivamente as publicações realizadas no Brasil para estimar a prevalência de dor crônica na população brasileira.

CONTEÚDO: A busca se deu na base de dados indexadas do Portal de Periódicos da CAPES com os Descritores em Ciências da Saúde: "Prevalência" e «Dor crônica» retornou, após a triagem, um total de 10 artigos. A prevalência de dor crônica dos trabalhos variou de 29,3 a 73,3%, tendo afetado mais mulheres que homens e o local mais prevalente foi a região dorsal/lombar. A grande parte dos estudos encontrou uma percentagem maior que a estimada na população mundial, no entanto não se pode afirmar que a prevalência de dor crônica da população brasileira seja de fato maior, uma vez que os valores das pesquisas refletem apenas dados regionais.

CONCLUSÃO: Os estudos encontrados demonstraram um recente interesse sobre a epidemiologia da dor crônica no país, todos da última década; porém, não permitem uma estimativa precisa, sendo necessário mais estudos para se obter uma prevalência representativa da população do Brasil.

Descritores: Dor crônica, Prevalência, Revisão.

INTRODUCTION

Pain is a multifactorial condition, difficult to understand, defined by the International Association for Study of Pain (IASP) as an "unpleasant sensorial and emotional experience associated to a real injury or described in such terms¹. When acute, it has an important biological value in preserving the individual's integrity since it is a symptom that alerts for occurrences of injuries in the body, but the chronic pain does not have this characteristic². Since it causes absenteeism, temporary or permanent disability, morbidity and high costs to the health system, pain has been considered a public health problem³.

IASP clarifies that best starting point in the differentiation between chronic and acute pain is three months of its occurrence, but for research purposes, it suggests a period of six months⁴. The prevalence of chronic pain in the world is estimated around 10.1 to 55.5%, with a 35.5% average⁵. In Brazil, although there are not many epidemiological studies, the

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incidence is similar to that estimated by IASP⁶. In Spain, research by telephone with 5,000 houses found a prevalence of chronic pain of 23.4% in the general population⁷. In Norway, 24.4% of 4,000 Norwegian respondents stated that they had chronic pain, and 65% of them reported the pain experience for over 5 years⁸.

Very little is known about the epidemiology of chronic pain in Brazil, mainly regarding the research on the prevalence of multiple pains. Studies like these that assess pain in several areas of the body are important because they contribute to the identification of susceptibility to pain, they can demonstrate the occurrence of associated pain, allowing a broader view of the phenomenon in the population and providing input to preventive actions plans and organization of the health service⁹. Studies about the prevalence of specific pain related to the clinic are important to provide new technologies in the management and assessment of pain, but they do not show representativeness of the population for presenting characteristics that make generalization impracticable. Studies with the general population are very valuable. However, it is lack of publications addressing the Brazilian population⁹.

Knowing the prevalence of chronic pain in the Brazilian population is an important step to unveil the breadth and magnitude of its effect, providing a guide for preventive and intervention strategies, mainly for public policies.

The objective of this study was to carry a descriptive review of publications in Brazil to estimate the prevalence of chronic pain in the Brazilian population.

CONTENTS

All indexed articles, written in any language, which reported data on the prevalence of chronic pain in the general Brazilian population or its specific classes, such as students, workers, the elderly etc., were included, regardless the concept of chronic pain established in the study, age or gender, the data collection instruments and the date of publication. Duplicate papers published in different journals were excluded.

The search was on the database indexed in the CAPES Journals Portal using the Health Science Keywords (DeCS): "Prevalence" and "chronic pain" in October 2016. The articles were selected based on the reading of the title or abstract. Those potentially eligible were read in full.

The search found a total of 91 articles. Of these, after the screening, 11 studies were included. One article was excluded because it was published in two different journals, totaling a sample of 10 papers⁹⁻¹⁸. The total population of the selected studies was 8,508 individuals, of which the samples ranged from 60¹⁵ to 2,297¹² participants.

The variables of interest were the first author, year of publication, type of study, data collection instrument, sample size, population, age, gender, concept of chronic pain, percentage of prevalence and the most prevalent pain location, that were transferred by one of the authors to the Microsoft® spreadsheet (Table 1). It was not possible to perform the meta-analysis due to the heterogeneity of the papers. All data of interest were analyzed using descriptive statistics.

Table 1. The prevalence rate of chronic pain in the Brazilian population

Authors	Types of Studies	Types of collection	Sample size (n)	Gender	Population	Average age (years)	Concept of chronic pain	Prevalence of chronic pain	Pain site of the highest prevalence	Higher prevalence between genders
Krelling, da Cruz and Pimenta ⁹	Cross-sectional	Interview	539	54.1% Female	Working at State University of Londrina	40.5	Lasting for more than 6 months.	61.4%	Head, face and mouth 26.7%	69.2% Female
Dellaroza, Pimenta and Matsuo ¹⁰	Cross-sectional	Home interview	451	64.7% Male	Aged civil servants of Londrina-PR	68.6	Lasting for 6 months or more	51.4%	Back region 21.7%	31.9% Male
Silva et al. ¹¹	Cross-sectional	Interview	211	Not informed	Nursing students of the Federal University of Goiás	21.1	Felt for 6 months or more in the same place	59.7%	Head 28%	97.6% Female
Sá et al. ¹²	Cross-sectional	Home interview	2.297	55.5% Female	Adults living in Salvador, BA	40.9	More than 6 months.	41.4%	Lumbar region 16.3%	48.4% Female
Almeida et al. ¹³	Population-based cross-sectional	Interview	205	64.9% Male	Adults diagnosed with schizophrenia attended at a public hospital in the city of São Paulo	37	Not informed	36.6%	Abdomen 30.7%	57.3% Male
Vieira et al. ¹⁴	Population-based cross-sectional	Home interview	1.597	66.4% Female	Adults living in the city of São Luís, MA	37.6	Lasting for at least 6 months.	42.3%	Women - head 40.46% Men - lumbar 39.47%	45.4% Female

Continue...

Table 1. The prevalence rate of chronic pain in the Brazilian population – continuation

Authors	Types of Studies	Types of collection	Sample size (n)	Gender	Population	Average age (years)	Concept of chronic pain	Prevalence of chronic pain	Pain site of the highest prevalence	Higher prevalence between genders
Reis, Torres and Reis ¹⁵	Cross-sectional	Interview	60	50% Male	Aged of the Leur Britto Foundation - Jequié. BA	77.6	Not informed	73.3%	Back 31%	58.4% Male
Dellaroza et al. ¹⁶	Cross-sectional	Home interview	172	40.7% Female	Aged in the North region of Londrina. PR	68.9	Lasting for more than 6 months.	62.2%	Lower limbs 31.4%	65.4% Female
Dellaroza et al. ¹⁷	Cross-sectional	Home interview	1.271	59.6% Female	Aged living in São Paulo participants of the Health, Well-being and Aging (SABE) project	69.5	Lasting for 6 months or more	29.7%	Lumbar region 25.4%	Not informed
dos Santos et al. ¹⁸	Cross-sectional	Home interview	1.705	62.5% Female	Aged living in Florianópolis	70.7	Lasting for six months or more. of continuous character or recurrent.	29.3%	Not informed	62.5% Female

From the eligible studies, it was observed that the prevalence of chronic pain is a recent concern since the publications refer to the 2006-2015 period. The average age of the population in the studies varied between 21.1¹¹ and 77.6 years¹⁵. Five of them had conducted exclusively with the senior subjects^{10,15-18}, four with adults also including senior people^{9,12-14} and one with younger individuals, Nursing students¹¹. None included children. The fact that all the studies included or had aged subjects in the studied population returned relatively high prevalence values since the occurrence of pain increases with age¹⁹.

The current results show the heterogeneity in the methods, types of studied population and results, preventing any significant data grouping. The preference for classes linked to projects or institutions may have occurred due to the easiness to obtain these samples.

The research method used in all studies was the cross-sectional. The data collection of the majority of the studies was a home interview with the subjects. Only 4 were carried out in institutions^{9,11,13,15}. The most interesting result that can be observed in this review is that the prevalence of chronic pain was significant in all studies. The lowest prevalence was in Florianópolis (Santa Catarina) of 29.3%¹⁸, and the highest in Jequié (Bahia) of 73.3%¹⁵. Although most of the studies^{9,10-16} present a percentage higher than the estimated for the world's population⁵, one cannot say that the prevalence of chronic pain in the Brazilian population is larger, since the values only reflect regional data. A literature review on the prevalence of chronic pain in Holland found a variation of prevalence between 2 and 40% in the population²⁰, divergent from the values found in this paper. In the United Kingdom, 46.5% of the general population of the country also experience chronic pain²¹.

The definition of chronic pain as an independent variable was not presented in 2 papers^{13,15}. In the others, the definition was equivalent to the IASP⁴. The most prevalent site of chronic pain was the lumbar/back region^{10,12,14,15,17}, followed by the head^{9,11,14}. Only one of the studies informed the site of pain by gender¹⁴, and one study did not present the site of pain¹⁸. In a survey

conducted with a representative sample in the United States²² showed that the most prevalent site of pain was also the back (10.1%), followed by legs/feet (7.1%), arms/hands (4.1%) and head (3.5%).

All the studies included men and women. Females had a higher presence in most samples^{9,12,14,16-18}. Only in two studies, males prevailed^{10,13}. One study failed to present the quantity of the sample distributed by gender¹¹, and one of the samples had an equitable representation among peers¹⁵. Those who had a higher number of men in the sample had a higher prevalence of chronic pain in males and those who had a higher number of women, a higher prevalence in females. Only one of the studies did not present the prevalence by gender¹⁷. Therefore, the prevalence of the chronic pain in the studies was higher in women than in men. This prevalence in females is also shown in other studies^{7,8,22-27}.

CONCLUSION

The studies found showed recent interest in the epidemiology of chronic pain in the country, all of them in the last decade, but there is still the need for further studies to obtain a representative prevalence in the Brazilian population. It was not possible to state that the prevalence of chronic pain in the Brazilian population is in the interval found in the studies due to the heterogeneity and regionality of the studies.

REFERENCES

1. Witte W, Stein C. History, Definitions and Contemporary Viewpoints. In: Kopf A, Patel NB, editors. Guide to pain Management in Low-Resource Settings. Seattle: IASP; 2010. 3-8p.
2. Teixeira MJ. Fisiopatologia da nocicepção e da supressão da dor. *Jornal Brasileiro de Oclusão, ATM e Dor Orofacial*. 2001;1(4):329-34.
3. Picavet HS, Schouten JS. Musculoskeletal pain in the Netherlands, prevalences, consequences and risk groups, the DMC(3)-study. *Pain*. 2003;102(1-2):167-78.
4. Merskey H, Bogduk N. Classification of chronic pain – descriptions of chronic pain syndromes and definitions of pain terms. 2nd ed. Seattle: IASP Press; 1994.
5. Harstall C, Ospina M. How prevalent is chronic pain? *Pain: Clinical Updates*. 2003;11(2):1-4.

6. Cipriano A, Almeida DB, Vall J. Perfil do paciente com dor crônica atendido em um ambulatório de dor de uma grande cidade do sul do Brasil. *Rev Dor*. 2011;12(4):297-300.
7. Català E, Reig E, Artés M, Aliaga L, López JS, Segú JL. Prevalence of pain in the Spanish population: telephone survey in 5000 homes. *Eur J Pain*. 2002;6(2):133-40.
8. Rustøen T, Wahl AK, Hanestad BR, Lerdal A, Paul S, Miaskowski C. Prevalence and characteristics of chronic pain in the general Norwegian population. *Eur J Pain*. 2004;8(6):555-65.
9. Krelling MC, da Cruz DA, Pimenta CA. [Prevalence of chronic pain in adult workers]. *Rev Bras Enferm*. 2006;59(4):509-13. Portuguese.
10. Dellaroza MS, Pimenta CA, Matsuo T. [Prevalence and characterization of chronic pain among the elderly living in the community]. *Cad Saude Publica*. 2007;23(5):1151-60. Portuguese.
11. Silva DS, Ferraz CG, Souza LA, Cruz LV, Stival MM, Pereira LV. Prevalência de dor crônica em estudantes universitários de enfermagem. *Texto Contexto Enferm*. 2011;20(3):519-25.
12. Sá K, Baptista AF, Matos MA, Lessa I. [Prevalence of chronic pain and associated factors in the population of Salvador, Bahia]. *Rev Saude Publica*. 2009;43(4):622-30. Portuguese.
13. Almeida JG, Kurita GP, Braga PE, Pimenta CA. [Chronic pain in schizophrenic patients: prevalence and characteristics]. *Cad Saude Publica*. 2010;26(3):591-602. Portuguese.
14. Vieira EB, Garcia JB, Silva AA, Araújo RL, Jansen RC, Bertrand AL. Chronic pain, associated factors, and impact on daily life: are there differences between the sexes? *Cad Saude Publica*. 2012;28(8):1459-67.
15. Reis LA, Torres Gde V, Reis LA. Pain characterization in institutionalized elderly patients. *Arq Neuropsiquiatr*. 2008;66(2-B):331-5.
16. Dellaroza MS, Furuya RK, Cabrera MA, Matsuo T, Trelha C, Yamada KN, et al. [Characterization of chronic pain and analgesic approaches among community-dwelling elderly]. *Rev Assoc Med Bras*. 2008;54(1):36-41. Portuguese.
17. Dellaroza MS, Pimenta CA, Duarte YA, Lebrão ML. [Chronic pain among elderly residents in São Paulo: prevalence, characteristics, and association with functional capacity and mobility (SABE Study)]. *Cad Saude Publica*. 2013;29(2):325-34. Portuguese.
18. dos Santos FA, de Souza JB, Antes DL, d'Orsi E. Prevalence of chronic pain and its Association with the sociodemographic situation and physical activity in leisure of elderly in Florianópolis, Santa Catarina: population-based study. *Rev Bras Epidemiol*. 2015;18(1):234-47. English, Portuguese.
19. Eriksen J, Jensen MK, Sjogren P, Ekholm O, Rasmussen NK. Epidemiology of chronic non-malignant pain in Denmark. *Pain*. 2003;106(3):221-8.
20. Verhaaka PF, Kerssensa JJ, Dekkera J, Sorbib MJ, Bensinga JM. Prevalence of chronic benign pain disorder among adults: a review of the literature. *Pain*. 1998;77(3):231-9.
21. Elliott AM, Smith BH, Penny KI, Smith WC, Chambers WA. The epidemiology of chronic pain in the community. *Lancet*. 1999;354(9186):1248-52.
22. Hardt J, Jacobsen C, Goldberg J, Nickel R, Buchwald D. Prevalence of chronic pain in a representative sample in the United States. *Pain Med*. 2008;9(7):803-11.
23. Crook J, Rideout E, Browne G. The prevalence of pain complaints in a general population. *Pain*. 1984;18(3):299-314.
24. Buskila D, Abramov G, Biton A, Neumann L. The prevalence of pain complaints in a general population in Israel and its implications for utilization of health services. *J Rheumatol*. 2000;27(6):1521-5.
25. Montini FT, Neman FA. Prevalência e avaliação da dor crônica nos cadastrados da unidade básica de saúde Jardim Palmira, Guarulhos/SP. *Science in Health*. 2012;3(2):74-86.
26. Ruviaro LF, Filippin LI. Prevalência de dor crônica em uma Unidade Básica de Saúde de cidade de médio porte. *Rev Dor*. 2012;13(2):128-31.
27. Leite F, Gomes JO. Dor crônica em um ambulatório universitário de fisioterapia. *Rev Ciênc Méd*. 2006;15(3):211-21.