

Prevalence of the use of physical therapy services among the urban adult population of Lages, Santa Catarina

Prevalência da utilização de serviços de fisioterapia entre a população adulta urbana de Lages, Santa Catarina

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Abstract

Objective: To describe the prevalence of physical therapy service use among the urban adult population of Lages (Santa Catarina), according to demographic and socioeconomic variables. **Methods:** A population-based cross-sectional study with multiple-stage sampling was carried out among adults aged 20 to 59 years (n=2051). Data were gathered by means of interviews at the participants' home, in which they provided information on the use of physical therapy services over their lifetime. The prevalence of this outcome was estimated for the entire population according to sex, age, educational level, self-evaluation of health, and income. **Results:** The prevalence of physical therapy service use was 33.5% (95% CI: 33.0%-39.8%) among men and 31.5% (95% CI: 28.9%-34.1%) among women. Regarding the other demographic variables investigated, the prevalence of physical therapy use increased with age and was highest among the 50 to 59 year-old group (47.2%; 95% CI: 42.4%-52.0%). The prevalence was also higher among participants of self-reported Asian background (45.9%; 95% CI: 29.1%-62.7%). Regarding socioeconomic variables, it was observed that groups with better indicators reported greater service use: 46.9% (95% CI: 42.3%-51.5%) in the highest income range and 37.5% (95% CI: 34.4%-40.7%) in the range of 12 to 15 years of education. **Conclusion:** The present study found that physical therapy service use varied among this population according to the participants' socioeconomic and demographic characteristics.

Key words: physical therapy; prevalence; health services; epidemiology.

Resumo

Objetivo: Descrever a prevalência da utilização de serviços de fisioterapia entre a população adulta urbana de Lages (Santa Catarina) segundo variáveis demográficas e socioeconômicas. **Métodos:** Realizou-se um estudo transversal de base populacional com amostra obtida em múltiplos estágios e composta por adultos entre 20 e 59 anos (n=2.051). Os dados foram coletados por meio de entrevistas domiciliares em que se obteve a informação por parte dos sujeitos de pesquisa sobre o uso, em algum momento da vida, de serviços de fisioterapia. Foi calculada a prevalência desse desfecho para a população global segundo sexo, idade, escolaridade, autoavaliação em saúde e renda. **Resultados:** Observou-se que a prevalência da utilização de serviços de fisioterapia foi de 33,5% (IC_{95%} 33,0%-39,8%) entre os homens e de 31,5% (IC_{95%} 28,9%-34,1%) entre as mulheres. Quanto às demais variáveis demográficas investigadas, verificou-se que a prevalência do uso da Fisioterapia aumentou de acordo com a idade dos indivíduos, sendo o maior valor relatado no grupo de 50 a 59 anos (47,2%; IC_{95%} 42,4%-52,0%) e foi maior entre as pessoas que referiram cor amarela (45,9%; IC_{95%} 29,1%-62,7%). Em relação às variáveis socioeconômicas, constatou-se que grupos com melhores indicadores reportaram maior uso do serviço, sendo esse valor equivalente a 46,9% (IC_{95%} 42,3%-51,5%) no estrato de maior renda e a 37,5% (IC_{95%} 34,4%-40,7%) entre aqueles de 12 a 15 anos de estudo. **Conclusão:** Observou-se, no presente estudo, que o uso de serviços de fisioterapia variou na população de acordo com as características socioeconômicas e demográficas das pessoas investigadas.

Palavras-chave: fisioterapia; prevalência; serviços de saúde; epidemiologia.

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Introduction

The changes in the age distribution and in the epidemiologic profile of the Brazilian population in the past few decades have posed new challenges to managers, service providers and professionals in the areas of healthcare and health promotion. Among the elements that triggered these changes are the ageing of the population and the increase in chronic diseases, with special emphasis on the magnitude of injuries in the morbidity and mortality profile of the beginning of the 21st century¹⁻³. This demographic and epidemiologic scenario, i.e. this context of a growing older population and an increasing rate of injuries, highlights the relevance of the incorporation of physical therapy into health practices, both in its conceptual dimension which involves principles that support the discourse on health promotion and in its methodological aspect related to the practices, strategies and interventions⁴.

As a health science that studies, prevents and treats movement disorders caused by genetic changes, traumas, acquired diseases, pathological changes and their psychological and organic repercussions, physical therapy aims at conserving, developing or restoring the integrity of organs, systems, or functions⁵. It is also capable of reducing the need for more costly or traumatic treatments, preventing diseases and promoting health. In spite of that, there is a wide gap in the scientific literature regarding the prevalence of its use by the population.

The search carried out in LILACS (Latin-American and Caribbean Literature on Health Sciences), Medline (Medical Literature Analysis and Retrieval System Online) and SciELO (Scientific Electronic Library Online), using the descriptor "physical therapy" associated with terms such as "epidemiology", "services", "Public Health System (SUS)", "public service", "Family Health Program (PSF)" and "health centers", resulted in a single population-based study carried out in Pelotas, Rio Grande do Sul, in 2003⁶. The remainder of the articles referred to the use of physical therapy in the treatment and rehabilitation of patients or to the qualifications of physical therapists. The research developed by Siqueira, Facchini and Hallal⁶ in Pelotas showed that the prevalence of the use of physical therapy services in the Brazilian sample was lower than in some developed countries and in other developing countries. These findings are relevant because they indicate the need for new studies that describe the prevalence of the use of physical therapy services in Brazil and that test its distribution according to demographic and socioeconomic characteristics. Therefore, this study intends to partly fill out this gap by analyzing and describing the data obtained in a population-based study carried out in a medium-sized city in southern Brazil.

Methods

A cross-sectional, population-based study was carried out in the city of Lages, Santa Catarina, located in the mountain region and 176.5 km from the state capital. In 2004, Lages had an infant mortality rate of 22.8 deaths per 1000 live births, a life expectancy of 71.9 years, and, in the year 2000, scored 0.813 in the Municipal Human Development Index^{7,8}.

The reference population for the study consisted of male and female adults aged 20 to 59 years at the time of the study and living in the city's urban area. This age group represented approximately 52% of the population of Lages, which totaled 168382 people in 2006⁹. To determine the sample size, we used the formula for prevalence estimation based on a reference population of 86998 people, confidence level of 95%, unknown expected prevalence of the phenomenon (50%), sampling error of 3.5%, and effect of study design (cluster sampling) estimated at two. Ten percent were added in order to make up for the refusals and losses, and 20% considering the existence of confounding variables. The calculation of the sample size was carried out in the Epi Info application¹⁰.

The final sample consisted of 2051 adults. A prevalence of 50% was used because the present study is part of a broader research project that analyzed other outcomes and associated factors with unknown prevalence, such as: self-referred diseases, life habits, blood pressure, physical activity, oral health, educational level, income, demographic factors, etc.

Through cluster sampling, 60 census areas were randomly selected by draw from the 186 census areas of the municipal district by means of a simple random sampling without replacement using tables of random numbers. A city block from each area was selected by draw, and a corner from each block was selected to begin the data collection in the homes. In each one of the selected homes, all residents aged 20 to 59 were potentially eligible to take part in the study.

The dependent variable of the present research was the use of physical therapy services at any point in life. This was determined by the answer to the following questions: "Have you ever used any physical therapy services? If so, for what purpose?". The subjects of the research were also asked about the type of physical therapy service (private health plan or SUS) and the reason(s) for using it. The independent variables were sex, age (20-29, 30-39, 40-49, and 50-59 years), skin color/race (self-referred from standard categories defined by the Brazilian Institute of Geography and Statistics: Asian, white, indigenous, lighter-skinned black and dark-skinned black), *per capita* monthly income times the minimum wage by quartiles (in R\$: 0.026 to 0.500; 0.510 to 0.880; 0.890 to 1.580; 1.590 to 19.740), educational level in years of study (0 to 4, 5 to 8, 9 to 11 and 12 or more), and self-rated health (the subject classified their general health condition as "good", "regular" or "poor").

The information was processed in the Epi Info 6.04 application, and two databases were created with the data entered by two professionals trained for this task. The consistency of the databases was verified. In the data analyses, the composition of the sample was described according to the population groups. Next, the prevalence of the use of physical therapy services in the global population and according to each independent variable was displayed, and the chi-square test was used to verify whether the differences were statistically significant. A $p < 0.05$ value was adopted as the cutoff value to reject the null hypothesis. The statistical package Stata 9 was used for the analyses, and the research was approved by the Research Ethics Committee of Universidade do Planalto Catarinense, under protocol number 01/2007. All of the patients read and signed a consent form, according to the requirements of Resolution 196/96 of the National Health Council.

Results

The final sample consisted of 2,022 individuals, including 779 men and 1,243 women, with a loss rate of 1.4%. As shown in

Table 1. Sample distribution. Lages, Santa Catarina, 2007.

Variables	n	%
Gender		
Male	779	38.5
Female	1,243	61.5
Age (years)		
20 to 29	623	30.9
30 to 39	444	22.0
40 to 49	528	26.1
50 to 59	423	21.0
Self-rated health		
Good	1,472	72.8
Regular	468	23.1
Poor	82	4.1
Skin color/race		
White	1,237	61.3
Lighter-skinned black	595	29.5
Dark-skinned black	125	6.2
Asian	37	1.8
Indigenous	23	1.2
Per capita income (times the minimum wage)		
0.026 to 0.500	502	23.5
0.600 to 0.880	500	26.0
0.890 to 1.580	515	25.2
1.590 to 19.740	467	25.3
Educational level (years)		
0 to 4	357	17.9
5 to 8	571	28.6
9 to 11	611	30.6
12 to 15	456	22.9
Overall sample	2,021	100.0

Table 1, most interviewees were 20 to 29 years old, white, with a *per capita* income between 1.59 and 19.8 times the minimum wage and 12 to 15 years of education.

The prevalence of the use of physical therapy services among the adult population of Lages was 33.2% (IC95% 31.0%-35.3%) with a higher rate among men (36.4%; IC95% 33.0%-39.9%) than among women (31.5%; IC95% 28.9%-34.1%) (Table 2). This phenomenon occurred in all age groups except for the older adult group (50 to 59 years old), in which the prevalence was greater among women. In the other demographic variables, the prevalence of the use of physical therapy increased with age ($p < 0.001$). The greatest value was reported in the 50 to 59 year-old individuals (47.2%; IC95% 42.4%-52.1%) and was twice the value of the 20-29 year old group (21.1%; IC95% 17.9%-24.4%). With regard to skin color/race, Asian descendants had the greatest prevalence of the use of physical therapy services (45.9%; IC95% 29.1%-62.8%), while indigenous individuals had the lowest (26.1%; IC95% 6.7%-45.6%); however, there was no statistically significant association between this variable and the use of physical therapy. Groups with better socioeconomic indicators also reported a more frequent use of physical therapy services ($p < 0.001$), and this prevalence reached 47.0% (IC95% 42.4%-51.5%) in the highest income group and 41.4% (IC95% 36.8%-45.9%) among those with 12 to 15 years of education.

The most common reasons for the use of physical therapy were back problems, comprising almost a third of the total sample (Table 3). Next came the external causes and knee problems. These three reasons accounted for 57.1% of all reasons given. Among the people who referred to the use of physical therapy services, there was a similar proportion of public health users (49.6%) in comparison with private health users (50.4%). Among the social levels, however, there was a sharp contrast. In the lowest income quartile, only 20% of the people used private physical therapy services; among high income users, this proportion reached 54%.

Discussion

The importance of adopting epidemiology tools in physical therapy practice has been highlighted in the literature. Identifying the population's physical therapy use and needs and creating information subsystems to evaluate actions and strategies in this area should be emphasized for health inspection and public policy planning¹¹. Yet, the population-based studies that investigate the use of physical therapy are still scarce. The only published study based on a Brazilian sample⁶ and conducted in the city of Pelotas, Rio Grande do Sul, reported a 30.2% prevalence of physical therapy use at some point in life, just below the value reported in the present study.

The proportion of people who had used physical therapy services in the 12 months prior to the research was also reported. In this case, the prevalence was 4.9%, a lower value compared to the Netherlands (23.7%)¹² and to Curaçao (Dutch Antilles) (8.8%)¹³. The present study did not collect data related to the use of physical therapy in the past year, which prevents comparison with the aforementioned international studies. In 2007, there were 91 physical therapists registered in the Regional Council of Physical Therapy and Occupational Therapy in the city of Lages. This represents a ratio of one professional for every 1,850 inhabitants. Furthermore, Lages is a regional reference in health services, attracting a considerable part of the population from the neighboring cities who seek treatment, physical therapy included. There are also 14 physical therapy clinics, out of which only five are accredited by SUS. These factors may explain the low use of physical therapy services; however, this was not the main concern of the present study. New research must be carried out to verify this hypothesis.

The present study confirmed other findings in the literature, according to which the highest prevalence of physical therapy use is found in the older and more privileged segments of the population⁶. Regarding age, data from the 2003 National Research by Home Sample (PNAD) indicate a positive gradient between the presence of chronic morbidities and higher age brackets¹⁴. Many chronic diseases require the use of physical therapy for the maintenance and rehabilitation of the patients' health. This fact may be modulating the uneven distribution of the use of this service among age groups. Another important factor is that the study focuses on the use of this service at any point in life. Having lived longer, older individuals are more likely to have had physical therapy treatment. As for the socioeconomic level, national and international studies point out that, proportionally, the more educated, high income individuals make use of health services on a more regular basis¹⁵⁻¹⁷. The same applies to physical therapy. This is a worrying trend because the underprivileged have the highest rate of disease^{18,19}. The combination of higher morbidity and less use of health services, especially physical therapy, causes a great loss for this segment of society and calls for special attention on the part of health policy makers at federal and particularly municipal level.

Contrary to what has been observed in the health services in general¹⁶, the men in the present study had a higher rate of physical therapy use. Nevertheless, in the older age group (50-59 years), this rate was higher among the women. A possible explanation for the greater prevalence among men is that young male adults have a high rate of injuries due to external causes (violence, traffic accidents, sports) which later require physical therapy. The greater prevalence of chronic diseases among older women¹⁴ may have

Table 2. Prevalence of the use of physical therapy services (CI 95%). Lages, Santa Catarina, 2007.

Variables	Prevalence	CI 95%	p-value*
Gender			0.023
Male	36.4	33.0-39.9	
Female	31.5	28.9-34.1	
Age (years)			<0.001
20 to 29	21.1	17.9-24.4	
30 to 39	30.6	26.3-34.9	
40 to 49	39.1	34.9-43.3	
50 to 59	47.2	42.4-52.1	
Self-rated health			<0.001
Good	30.5	28.1-32.9	
Regular	39.6	35.1-44.1	
Poor	50.0	38.8-61.2	
Skin color/race			0.014
White	35.4	32.7-38.1	
Lighter-skinned black	28.3	24.6-32.0	
Dark-skinned black	35.8	27.2-44.4	
Asian	45.9	29.1-62.8	
Indigenous	26.1	6.7-45.6	
Per capita income (times the minimum wage)			<0.001
1.59 to 19.80	47.0	42.4-51.5	
0.88 to 1.58	32.6	28.5-36.7	
0.51 to 0.87	31.5	27.4-35.6	
0.02 to 0.50	23.7	19.9-27.5	
Educational level (years)			0.001
12 to 15	41.4	36.8-45.9	
9 to 11	32.6	28.9-36.4	
5 to 8	29.4	25.6-33.1	
0 to 4	32.3	27.3-37.2	
Overall sample	33.2	31.0-35.3	

*: chi-square test.

Table 3. Reasons for the use of physical therapy. Lages, Santa Catarina, 2007.

Reason	n	%
Back problems	240	32.4
External causes (accidents, sprains, fractures, trauma and muscle injuries)	96	12.9
Knee problems	87	11.7
Upper limb problems	80	10.8
Lower limb problems	61	8.2
Tendonitis	42	5.7
Shoulder problems	25	3.4
Rheumatism (arthritis, osteoarthritis and fibromyalgia)	19	2.6
Neurological problems (paralysis, polyneuritis and stroke)	17	2.3
Postoperative recovery	14	1.9
Bursitis	11	1.5
Respiratory problems	9	1.2
Others	40	5.4
Total	741	100.0

contributed to the change in the profile of physical therapy use in the 50-59 age group.

There was a greater prevalence in the use of physical therapy services among people who rated their health as "regular" or "poor" compared to those who rated it as "good". This may be due to the association between the presence of chronic diseases and a poor assessment of their health conditions. People who suffer more from chronic diseases also seek health services more often²⁰. Regarding the reasons for seeking physical therapy services, the greater proportion of back problems and external causes is similar to what has been reported in the national literature⁶. Currently, both types of injury are of great epidemiological relevance in Brazil, with back problems as the most referred chronic disease in the PNAD-2003¹⁴ and external

causes as one of the main reasons for morbidity, hospitalization, and mortality in the country²¹.

The various health occupations usually focus on the clinical treatment of the disease, even more so in physical therapy. The physical therapist is commonly referred to as the rehabilitation professional who only acts when the disease, injury or disorder is already established²². The reversal of this narrow-minded concept is vital to popularize the use of the physical therapy, and it could improve the quality of life of the population, encompassing not only rehabilitation but also health promotion and the prevention of diseases. As pointed out by Silva e da Ros²⁵, it is essential that the professional training received by the physical therapists prepare them for teamwork and to provide total care.

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