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ORIGINAL ARTICLE / *ARTIGO ORIGINAL*

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

Prevalência de dor crônica e sua associação com a situação sociodemográfica e atividade física no lazer em idosos de Florianópolis, Santa Catarina: estudo de base populacional

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ABSTRACT: ***Objective:*** To estimate the prevalence of chronic pain and its association with socioeconomic and demographic status, and leisure physical activity in the elderly population. ***Methods:*** This study is part of an epidemiological cross-sectional population-based household survey called EpiFloripa Elderly 2009–2010, which was conducted with 1,705 elderly individuals (≥ 60 years) residents of Florianópolis, Santa Catarina. From the positive response to chronic pain, the associations with the variables were investigated through a structured interview. Descriptive statistics were conducted, including ratio calculation and 95% confidence intervals. In crude and adjusted analysis, Poisson regression was utilized, estimating prevalence ratios, with 95% confidence intervals and ≤ 0.05 p-values. ***Results:*** Among the subjects, 29.3% (IC95% 26.5 – 32.2) reported chronic pain. Adjusted analysis showed that being female, having less years of schooling, and being in worse economic situation were significantly associated with a higher prevalence of chronic pain. Being physically active during leisure time was significantly associated with lower prevalence of the outcome. ***Conclusions:*** Therefore, it is clear that chronic pain affects a considerable amount of elderly individuals. Social inequalities are a harmful influence in these individuals' quality of life, inasmuch as those inequalities increase the frequency with which chronic pain afflicts them. At the same time, physical activity during leisure time decreases chronic pain frequency. It is fundamental that public health policies subsidize multidisciplinary pain management programs, which should include health targeted physical activity for the elderly, thus preventing the decrease in quality of life that chronic pain brings to this population.

Keywords: Prevalence. Chronic pain. Socioeconomic factors. Motor activity. Aged. Cross-sectional studies.

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RESUMO: ***Objetivo:*** Estimar a prevalência de dor crônica e sua associação com a situação socioeconômica, demográfica e atividade física no lazer em idosos. ***Métodos:*** Este estudo é parte do inquérito epidemiológico e transversal de base populacional e domiciliar EpiFloripa Idoso 2009–2010 realizado com 1.705 idosos (≥ 60 anos), residentes em Florianópolis, Santa Catarina. A partir da resposta afirmativa de dor crônica, foram investigadas as associações com as variáveis obtidas por meio de entrevista estruturada. Realizou-se a estatística descritiva, incluindo cálculos de proporções e intervalos de confiança 95% (IC95%). Na análise bruta e ajustada, empregou-se regressão de Poisson, estimando-se as razões de prevalência, com intervalos de confiança de 95% e valores p ≤ 0,05. ***Resultados:*** Dentre os idosos investigados, 29,3% (IC95% 26,5 – 32,2) relataram dor crônica. Na análise ajustada, observou-se que as variáveis sexo feminino, menor escolaridade e pior situação econômica ficaram associadas significativamente com maior prevalência de dor crônica; ser fisicamente ativo no lazer ficou associado significativamente com menor prevalência do desfecho. ***Conclusões:*** Percebe-se que a dor crônica é um agravo que acomete considerável parcela de idosos, havendo desigualdades sociais na sua frequência e sendo beneficamente afetada pela atividade física no lazer. É necessário que políticas públicas de saúde subsidiem programas multidisciplinares de controle da dor incluindo a prática regular de atividade física, voltada especificamente à promoção da saúde do idoso, evitando assim que a dor crônica comprometa a qualidade de vida desta população.

Palavras-chave: Prevalência. Dor crônica. Fatores socioeconômicos. Atividade motora. Idoso. Estudos transversais.

INTRODUCTION

The world population has been going through a fast and gradual aging process[1]. According to this tendency, population aging is a reality in Brazil. According to data from the last demographic census conducted by the Brazilian Institute of Geography and Statistics (IBGE) in 2010, the number of elderly people (60 years old or more) represented 11.3% of the Brazilian population[2].

This change in the Brazilian age structure is directly related to the epidemiological transition, because the older the population gets, the higher the prevalence of chronic health problems. Among the consequences that demographic transition and longevity bring to society, pain is one of the most significant ones; in many cases, chronic pain is a major complaint of individuals, and considerably interferes in the quality of life of the elderly[3].

In a temporal context, pain can be classified as acute or chronic. Acute pain is associated with body injury; it lasts little and disappears when the injury is healed. Chronic pain, on the other hand, is persistent and recurrent, and is not necessarily

associated with body injury[4]. It is considered to be a complex and biopsychosocial event, configured as a public health problem. It demands a multidisciplinary approach[5].

The prevalence of chronic pain in studies involving the elderly is very diverse, depending on the characteristics of the study population and the used methodology. In international studies, the prevalence of chronic pain ranges from 28.9 to 59.3%[6-8], while in Brazil this prevalence ranges from 29.7 to 62.2%[3,9-10]. A cross-sectional study suggests that increasing chronic pain is mainly associated with the female gender, older age and low socioeconomic status[11]. Lower prevalence of chronic pain has been associated with having a paid job[3], high schooling levels and socioeconomic conditions, as well as the regular practice of exercises[12].

Despite the considerable negative influence of chronic pain on the quality of life of the elderly, which configures a public health problem, in our country only a few population-based epidemiological studies have addressed this subject. In Santa Catarina, this is the first analysis about this theme, and can be a base for other studies to emerge, thus contributing with the diffusion of such knowledge. Therefore, the objective of this study was to estimate the prevalence of chronic pain and its association with the socioeconomic and demographic situation, as well as the level of physical activities during leisure time in the elderly population of Florianópolis, Santa Catarina.

METHODS

This is a cross-sectional epidemiological study conducted with the data from the project *"Condições de Saúde da População Idosa do Município de Florianópolis, Santa Catarina: Estudo de Base Populacional"* (EpiFloripa Idoso 2009–2010).

The study was carried out in the urban zone of the city of Florianópolis, capital of the state of Santa Catarina. Florianópolis is located in the center-east region of the state, and most of the city (97.23%) is located in the island of Santa Catarina. According to the United Nations, the city presented municipal Human Development Index (M-HDI) of 0.847, in 2010, thus holding the third position among all Brazilian cities[1].

According to the data from the last demographic census conducted by IBGE, the city's life expectancy at birth is 79.1 years old, and total fertility rate is 1.4 children per woman[2]. The estimated population in Florianópolis in 2009 was of 408,163 inhabitants, and 44,460 were aged 60 years old or more (18,844 male and 25,616 female participants), thus representing 10.9% of the total population[13]. The study population was constituted by male and female elderly people, aged 60 years old or more, living in the urban zone of Florianópolis, Santa Catarina. For sample calculation, the following parameters were used: the population was comprised of

44,460 elderly people, prevalence for the unknown outcome (50%), sampling error 4 percentage points and 95% confidence interval (95%CI). The sample was multiplied by 2 because of the design effect of the study (deff), plus 20% of predicted loss and 15% for studies of association, accounting for 1,599 individuals.

For this investigation, the sample calculation was conducted afterwards, by considering the 51.4%[3] prevalence of chronic pain among the elderly, with 4 percentage points as margin of error, 95%CI and design effect of 2, plus 20% for eventual loss and 15% for studies of association, resulting in a minimum sample of 1,029 individuals. Since this study was part of the EpiFloripa Idoso, the highest calculated sample was used. A two-stage cluster sampling was adopted for this study. In the first stage, the 420 urban census sectors of the city were placed in increasing order according to monthly average income of the head of the family, by systematically raffling 80 of these sectors (8 sectors in each income decile).

The units of the second stage were the households. One stage was necessary to update the number of households in each sector (listing), once the most recent census had been conducted in 2000. The study supervisors visited the raffled census sectors and started counting the inhabited households, by following the guidelines of IBGE. The number of households ranged from 61 to 725. In order to decrease the coefficient of variation in the number of households per sector, sectors with less than 150 households were clustered, and sectors with more than 500 households were divided, by respecting the corresponding income decile, which resulted in 83 census sectors. The initial coefficient of variation was 52.7% (n = 80 sectors), and the final one was 35.5% (n = 83 sectors).

According to data from IBGE[14], the estimation was that 60 households should be visited per sector to find 20 elderly people. Households were raffled systematically, and all elderly people living in these places were invited to participate in the study. Due to the availability of financial resources, the estimation involved 23 interviews per census sectors, thus enabling the variability of the sample; therefore, 1,911 elderly people were eligible for the study. The non-response rate was of 10.9%, which led to a final sample of 1,705 elders who were effectively interviewed. Institutionalized elderly people were excluded from this study.

Loss was considered when interviews were not conducted after four attempts (at least on in the evening and one on the weekend). Refusals involved subjects refusing to answer the questionnaire, and replacements were not admitted. Data collection was conducted by properly trained female interviewers, by means of a structured questionnaire with pre-codified questions applied in a face-to-face interview, by using the Personal Digital Assistants (PDA), after the conduction of a pre-test and a pilot-study in sectors that were not part of the study. The consistency of data and quality control were verified every week by a telephone survey reduced in 10% of the randomly selected interviews.

The outcome or dependent variable of this study was the prevalence of chronic pain in the elderly population of Florianópolis, Santa Catarina. Therefore, a structured questionnaire about chronic pain was applied with five questions[15], and chronic pain was considered when it lasted six months or more, being continuous or recurrent, as established by the International Association for the Study of Pain (IASP)[16]. The elderly people were asked about the sensation of pain on most days (yes/no); for how long (< 3 months, between 3 and 6 months and > 6 months); feeling pain in several parts of the body in the past month, for instance, back, legs, arms, neck or head (yes/no); if the pain lasted for more than 15 days (yes/no); and, also, in a pain scale, in which zero represented absence of pain, and one hundred, maximum bearable pain, how the person assessed pain in the past week. Considering the subjective aspect of the question about chronic pain, all of the interviews answered by an informer or a caretaker were excluded from the analysis.

The control or independent variables were: sex, age group (60 – 69; 70 – 79; 80 years old or more); marital status (married/with a partner, single/divorced, widower); schooling (0 – 4; 5–8; 9 – 11; 12 years or more); family income in quartiles (1st quartile: ≤ R$ 327.50, 2nd quartile: R$ 327.50 to R$ 700.00, 3rd quartile: R$ 700.00 to R$ 1,500.00, 4th quartile: > R$ 1,500.00); having a paid job (yes/no); worse, similar or improved economic status in comparison to the time they were 50 years old. The level of physical activity during leisure time was measured by the long version of the International Physical Activity Questionnaire (IPAQ), adapted and validated for the elderly people in Brazil[17]. Elderly people who practiced at least 150 minutes a week of physical activity during leisure time were classified as being physically active; those who practiced less than 150 minutes of physical activity during leisure time were classified as insufficiently active in this domain[18].

All of the study variables were descriptively analyzed by means of absolute and relative frequency. Descriptive statistics included calculations of proportions and 95% confidence intervals for categorical variables. In order to test the association between the outcome (prevalence of chronic pain) and control variables (socioeconomic and demographic aspects and physical activity during leisure time), crude and adjusted analyses were conducted by the Poisson regression method, by estimating the crude and adjusted prevalence ratios with 95% confidence intervals and p-value (obtained by the Wald's test)[19]. Variables presenting $p \leq 0.05$ in the crude analysis were selected to enter the adjusted model, and they remained in the model in case they reached p values ≤ 0.05 and/or were adjusted to the model. The statistical package Stata 9.0 (Stata Corp., College Station, the United States) was used, and for all of the analyses the effect of the sample design was considered by the svy command, designed to analyze data from complex samples.

The project was approved by the Research Ethics Committee of Universidade Federal de Santa Catarina, protocol n. 352/2008, on December 23, 2008. Participants were informed about the objectives of the study, and signed the informed consent form.

RESULTS

From the original sample of 1,911 elderly people eligible for the study, 1,705 individuals (89.2%) were interviewed, which corresponded to a 10.8% non-response rate (n = 206), ranging from 8.5% in the first income decile and 22.0% in the highest decile. The main reasons for losses (n = 206) were: "there was nobody home", "the elder was travelling", "scheduled with the interviewer and did not show up", "was on vacation", "was very ill", "there was an angry dog in the yard". There were 3 losses caused by hospitalization at the time of the interview, which did not affect the results. The main reasons for refusal were: "did not want to give interviews", "very long interview", "no time to answer the interview", "thinks it is a waste of time to answer interviews", "does not believe in research".

Among the 1,705 investigated elderly people, 59 interviews were excluded from the analyses for being answered by informers/caretakers, therefore accounting for 1,656 elders, out of whom 29.3% (95%CI 26.5 – 32.2) presented with chronic pain. In the study sample, women were prevalent (62.5%), as well as elderly people aged from 60 to 69 years old (51.7%), married people or those living with partners (58.9%) and with low schooling (40.0%). Most elderly people did not work (86.5%) and 48.6% mentioned that the economic status improved in comparison to when they were 50 years old. With regard to physical activities during leisure time, 68.5% of the elderly people were classified as being insufficiently active during leisure time (Table 1).

In the crude analysis, being female, with income ranging from 700 to 1,500 reais, lower schooling, having a paid job, mentioning worse economic status in comparison to the age of 50 and being physically active during leisure time were associated to the outcome. The variables age group and marital status (Table 2) were not significantly associated with chronic pain. Even though the age group variable was not significantly associated with the outcome in the crude analysis, it was maintained in the final model of the analysis because it was an important confounding variable.

In the adjusted analysis, only the variable sex, schooling, economic status and physical activity during leisure time remained associated with the outcome until the end of the analysis.

Women presented 82% more prevalence of chronic pain in relation to men (PR = 1.82; 95%CI 1.45 – 2.29), and elderly people with 0 to 4 schooling years present more prevalence of the outcome in comparison to elderly people with 12 or more schooling years (PR = 1.43; 95%CI 1.10 – 1.85). Individuals who reported

Table 1. Description of socioeconomic and demographic variables, physical activity at leisure and chronic pain. Florianópolis, SC. EpiFloripa Idoso 2009 – 2010.

Variables	n	%	95%CI
Sex (n = 1,656)			
Male	598	37.5	34.7 – 40.3
Female	1,058	62.5	59.7 – 65.3
Age group (years) (n = 1,656)			
60 to 69	846	51.7	48.8 – 54.7
70 to 79	596	35.5	32.5 – 38.4
≥ 80	214	12.8	10.3 – 15.3
Marital status (n = 1,656)			
Married/with a partner	974	58.9	55.5 – 62.4
Single/divorced	225	13.7	11.7 – 15.7
Widower	457	27.4	24.5 – 30.3
Income in quartiles (n = 1,656)			
> R$ 1,500,00	410	26.8	21.7 – 32.0
R$ 700.00 to R$ 1,500,00	414	25.4	22.4 – 28.4
R$ 327.50 to R$ 700.00	418	25.2	21.7 – 28.8
≤ R$ 327.50	414	22.6	18.6 – 26.4
Schooling (years) (n = 1,648)			
≥ 12	386	25.2	20.6 – 29.8
9 to 11	231	16.2	12.6 – 19.8
5 to 8	315	18.6	16.0 – 21.3
0 to 4	716	40.0	33.9 – 46.0
Paid job (n = 1,656)			
No	1,429	86.5	84.1 – 88.8
Yes	227	13.5	11.2 – 15.8
Economic status in comparison to the age of 50 (n = 1,654)			
Better	775	48.6	44.3 – 53.0
Similar	460	25.9	22.5 – 29.1
Worse	419	25.5	22.5 – 28.5
Physical activity at leisure (n = 1,656)			
Insufficiently active	1,165	68.5	63.5 – 73.6
Physically active	491	31.5	26.4 – 36.5
Chronic pain (n = 1,656)			
Yes	497	29.3	26.5 – 32.2
No	1,159	70.7	67.8 – 73.5

Table 2. Crude analysis of the prevalence of chronic pain associated with socioeconomic and demographic variables and physical activity during leisure. Florianópolis, SC. EpiFloripa Idoso 2009 – 2010.

Variables	n (%)	Crude PR (95%CI)	p-value
Sex (n = 1,656)			< 0.001*
Male	106 (17.7)	1.00	
Female	391 (37.0)	1.99 (1.59 – 2.48)	
Age group (years) (n = 1,656)			0.212
60 to 69	243 (28.7)	1.00	
70 to 79	188 (31.5)	1.19 (0.99 – 1.44)	
≥ 80	66 (30.8)	1.07 (0.82 – 1.40)	
Marital status (n = 1,656)			0.816
Married/with a partner	291 (29.9)	1.00	
Single/divorced	61 (27.1)	0.90 (0.71 – 1.15)	
Widower	145 (31.7)	1.04 (0.83 – 1.30)	
Income in quartiles (n = 1,656)			0.001*
> R$ 1,500,00	137 (33.1)	1.00	
R$ 700.00 to R$ 1,500,00	145 (34.7)	0.64 (0.48 – 0.85)	
R$ 327.50 to R$ 700.00	125 (30.2)	0.88 (0.70 – 1.11)	
≤ R$ 327.50	90 (21.9)	1.13 (0.89 – 1.43)	
Schooling (years) (n = 1,648)			< 0.001*
≥ 12	82 (21.2)	1.00	
9 to 11	58 (25.1)	1.16 (0.80 – 1.69)	
5 to 8	91 (28.9)	1.37 (1.01 – 1.86)	
0 to 4	264 (36.9)	1.83 (1.40 – 2.38)	
Paid job (n = 1,656)			0.040*
No	444 (31.1)	1.00	
Yes	53 (23.3)	0.74 (0.56 – 0.99)	
Economic status in comparison to the age of 50 (n = 1,654)			0.039*
Better	227 (29.3)	1.00	
Similar	125 (27.2)	0.92 (0.74 – 1.14)	
Worse	144 (34.4)	1.21 (1.03 – 1.42)	
Physical activity at leisure (n = 1,656)			< 0.001*
Insufficiently active	386 (33.1)	1.00	
Physically active	111 (22.6)	0.69 (0.55 – 0.85)	

*Statistically significant values (p ≤ 0.05); PR: Prevalence ratio.

worse economic status in comparison to when they were 50 years old presented 26% more prevalence of pain in comparison to those who improved their economic status (PR = 1.26; 95%CI 1.08 – 1.49). Being physically active during leisure time presented lower prevalence of chronic pain when compared to elderly who were insufficiently active (PR = 0.80; 95%CI 0.65 – 0.99) (Table 3).

Table 3. Adjusted analysis of the prevalence of chronic pain associated with socioeconomic and demographic variables and physical activity during leisure. Florianópolis, SC. EpiFloripa Idoso 2009–2010.

Variables	Adjusted PR (95%CI)	p-value
Sex (n = 1,656)		< 0.001*
Male	1.00	
Female	1.82 (1.45 – 2.29)	
Age group (years) (n = 1,656)		0.947
60 to 69	1.00	
70 to 79	1.10 (0.90 – 1.34)	
≥ 80	0.95 (0.72 – 1.25)	
Income in quartiles (n = 1,656)		0.412
> R$ 1,500,00	1.00	
R$ 700.00 to R$ 1,500,00	0.90 (0.67 – 1.20)	
R$ 327.50 to R$ 700.00	1.08 (0.84 – 1.40)	
≤ R$ 327.50	1.19 (0.93 – 1.52)	
Schooling (years) (n = 1,648)		0.001*
≥ 12	1.00	
9 to 11	0.95 (0.67 – 1.36)	
5 to 8	1.08 (0.80 – 1.45)	
0 to 4	1.43 (1.10 – 1.85)	
Paid job (n = 1,656)		0.546
No	1.00	
Yes	0.92 (069 – 1.21)	
Economic status in comparison to the age of 50 (n = 1,654)		0.012*
Better	1.00	
Similar	0.95 (0.77 – 1.18)	
Worse	1.26 (1.08 – 1.49)	
Physical activity at leisure (n = 1,656)		0.047*
Insufficiently active	1.00	
Physically active	0.80 (0.65 – 0.99)	

*Statistically significant values (p ≤ 0.05); Wald test p < 0.001. PR: Prevalence ratio.

DISCUSSION

The main findings of this study show important associations between the prevalence of chronic pain and socioeconomic and demographic status with physical activity during leisure time in the elderly population of the city of Florianópolis. The highest prevalence of chronic pain was significantly associated with being female, having lower schooling and worse economic status. On the other hand, being physically active during leisure time was associated with the lower prevalence of the outcome.

In this investigation, the prevalence of chronic pain in the elderly population of the city of Florianópolis was of 29.3%. Dellaroza et al.[3] analyzed 529 elderly people who were retired and active municipal servants in Londrina, Paraná, who reported feeling pain for at least six months, and observed prevalence of chronic pain in 51.4% of the studied population. The fact that this study was conducted with a convenience sample, that is, only municipal servants, may have contributed with the result of observing higher prevalence of chronic pain than what was found in this study.

In a cross-sectional study conducted with 219 elderly people in the city of Taipei, Taiwan, Yu et al.[7] found a 42.0% prevalence of chronic pain. In another cross-sectional population-based study conducted in Colombia with the general population, the prevalence of chronic pain found among individuals aged more than 65 years old was of 43.8%[20]. Dellaroza et al.[9] interviewed 172 elderly people living in the region of a Basic Health Union in the north zone of Londrina, Paraná, who had felt pain for at least six months and frequent complaints of pain; the prevalence of chronic pain found in that study was of 62.2%. In this study, it is possible to observe that the sample (n = 172) was very small and not so representative, once these elderly people only correspond to people using one basic health unit of a specific location in the city of Londrina. Therefore, it does not represent the entire population of the city. It is also worth to mention that the elderly people selected for the study already complained of pain, which may have also contributed with the high percentage of chronic pain.

Dellaroza et al.[10] conducted a cross-sectional population-based study with 1,271 elderly people in the city of São Paulo and observed prevalence of chronic pain in 29.7% of the studied population; such prevalence is close to 29.3%, which corroborates the findings in this study.

In this study, it was possible to observe that the female gender was significantly associated with the higher prevalence of chronic pain, which is in accordance with findings in literature. The prevalence of chronic pain in the general population has been higher among women, in comparison to men[21-24]. In international studies conducted in Spain, France and Colombia[8,20,25], the prevalence of chronic pain was equally higher among women. In the study by Dellaroza et al.[3], from the analyzed

sociodemographic variables, only sex was associated with the presence of chronic pain, mostly among women. In a study conducted by Leveille et al.[26], the authors found higher prevalence of musculoskeletal pain among women. In general, elderly women have more prevalence of chronic pain in comparison to elderly men[7], which is in accordance with the findings in this study.

Women may take the event of pain more seriously, since the multiple responsibilities and roles resulting from taking care of relatives and managing the household are reasons for them to think of pain as a threat. Besides, the meaning of pain for men and women may be influenced by social and cultural rules, which allow women to express or manifest pain, while encouraging men not to consider it. These factors should contribute with the higher number of complaints related to pain among women[21].

In this study, elderly people with lower schooling presented higher percentages of chronic pain when compared to other levels. In a study conducted by Dellaroza et al.[3], the authors found that elderly people who had from two to four schooling years presented higher percentage of chronic pain. In another study about the prevalence of chronic pain in the population of Salvador, individuals with lower schooling presented higher percentage of chronic pain in comparison to those with medium and high schooling[22]. Therefore, the low schooling is probably related to high percentages of chronic pain among the individuals.

This is an expressive result, since it reflects the social conditions of the beginning of last century, demonstrating that access to education was restricted. The educational possibilities more than half a century ago were little, and people needed to work in order to provide for their families. Considering that the schooling level has an important influence on the access to information, it can be determinant for the search for treatments, and also for self-care, since elderly people should be able to look after themselves, and knowing how to read is a contributive factor[27].

In this investigation, elderly people who reported that their economic situation became worse when compared to when they were 50 years old presented higher percentages of chronic pain. Even though some investigations[9,12] mention that the percentage of chronic pain is higher among individuals from lower social classes, no studies were found that analyzed the relationship between chronic pain and economic situation at the age of 50 when compared to the current time, which shows the need for further investigations.

In this study, it was observed that being physically active during leisure time was significantly associated with lower prevalence of chronic pain. The practice of physical activities by the elderly, especially during leisure time, provides opportunities for a more active, healthy and independent life, thus contributing with the maintenance of autonomy and improved quality of life[28]. In a cross-sectional

study conducted with the population of Norway, the authors found 10 to 12% lower prevalence of chronic pain among individuals aged 20 – 64 years old who practiced moderate physical activities three times a week; among the older ones, depending on the intensity of the exercise, there was a 21 – 38% reduction in the prevalence of chronic pain[29].

Among the strategies employed by multidisciplinar programs addressed to treating chronic pain, physical activity is one of the most used ones[30-31]. One of the mostly accepted hypotheses about the benefits of exercises for managing chronic pain is owed to the fact that its influence is related to endogenous pain control mechanisms[32].

Some limitations of this study should be considered, especially the cross-sectional design, which does not enable causality relations between the prevalence of chronic pain and the other investigated variables with the self-reported measurements of the studied variables. However, it is not relevant to know, in this case, if the elderly presented lower prevalence for the outcome because they were physically active, or if the fact of being physically active led to lower prevalence for the outcome, because being physically active may have been beneficial both for maintaining health, thus avoiding the onset of chronic pain, and for reducing the intensity and duration of pain among the elderly who already presented with chronic pain. Among the positive aspects, the study stands out for the relevance and originality of the theme, which can be the base for other investigations, and for the fact that the sample is large and represents the elderly people of the city of Florianópolis. It is also worth to mention that the high response rate of the study contributed with its internal validity and reduced the chances of systematic errors.

CONCLUSION

The fact that women, individuals with low schooling, the ones with worse economic status and those who were insufficiently active presented higher prevalence of chronic pain among the elderly represents an important finding, which can subsidize public health policies focused on assistance for this population.

Therefore, the results suggest that campaigns addressed to preventing chronic pai should mostly be aimed at women, with low income and insufficiently active during leisure time. It is also necessary to create multidisciplinary management programs and chronic pain control, including guidance to health professionals so that they can work on preventing chronic pain and physical activities specifically addressed to the elderly population, with the objective of preventing chronic pain from being responsible for problems in the quality of life of the elderly.

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