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ORIGINAL ARTICLE

The prevalence of fibromyalgia in Brazil – a population-based study with secondary data of the study on chronic pain prevalence in Brazil

A prevalência da fibromialgia no Brasil – estudo de base populacional com dados secundários da pesquisa de prevalência de dor crônica brasileira

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ABSTRACT

BACKGROUND AND OBJECTIVES: The prevalence of the fibromyalgia syndrome has been estimated in some Brazilian cities and regions, and previous population-based studies investigating this prevalence, as well as the profile of medical consultations are unknown.
METHODS: This study used the database constructed by a previous study of authors to identify the prevalence of chronic pain in Brazil. The cases that reported pain for more than 6 months and with a diagnosis of fibromyalgia were selected. The studied descriptive variables were age, intensity and frequency of pain, pain interference in self-care, walking, working, social life, sexual life, sleep quality, if pain causes sadness or depression or influences the emotional aspects. The total sample was evaluated by rheumatologists and pain-expert doctors.
RESULTS: Thirteen cases from the initial database were selected since they reported the diagnosis of the prevalence of the fibromyalgia syndrome representing 2% of the initial study population, average age 35.8 years (9.8). The predominance of the fibromyalgia syndrome was in females (n=11). Pain intensity was 7.3 (2.4), the frequency and duration of pain were constant in the majority of the sample (n=9). Most of the cases report a serious pain interference with sleep (n=8), many said that pain interferes with the work (n=5), irritability (5) and finally, some report that pain has a moderate interference in self-care (n=5), walking (n=6), social life (n=6), sexual life (n=5) and causes moderate sadness or depression (n=5).
CONCLUSION: The prevalence of the fibromyalgia syndrome was estimated in 2% of the Brazilian population, based on secondary data of a study on chronic pain prevalence in Brazil. The data was collected in 2015-2016. The most reported complaints were intense and daily pain that interferes with sleep.

Keywords: Constant pain, Fibromyalgia syndrome, Intense pain, Prevalence, Sleep.

RESUMO

JUSTIFICATIVA E OBJETIVOS: A prevalência de síndrome de fibromialgia já foi estimada em cidades e regiões pontuais do Brasil, desconhece-se estudos anteriores de base populacional que investiguem a prevalência, assim como o perfil de consultas médicas.
MÉTODOS: Este estudo utilizou dados secundários ao banco de dados construído por uma pesquisa prévia para identificar a prevalência de dor crônica no Brasil. Foram selecionados os casos que responderam sentir dores há mais de 6 meses e com diagnóstico de fibromialgia. As variáveis analisadas de forma descritiva foram: idade, intensidade e frequência da dor, interferência da dor no autocuidado, na caminhada, no trabalho, na vida social, na vida sexual, na qualidade do sono, se dor causa tristeza ou deprime ou influencia os aspectos emocionais. A totalidade da amostra foi avaliada tanto por reumatologistas como por especialistas em dor.
RESULTADOS: Treze casos do banco de dados inicial foram selecionados por afirmarem ter recebido o diagnóstico de síndrome de fibromialgia, representando 2% da população do estudo inicial, idade média de 35,8 anos (9,8). A predominância de síndrome de fibromialgia foi no gênero feminino (n=11). Intensidade de dor de 7,3 (2,4), a frequência e duração da dor é constante na maioria da amostra (n=9). A maioria dos casos relata muita interferência da dor no sono (n=8), alguns classificam que a dor interfere muito no trabalho (n=5), irritabilidade (5) e finalmente, alguns relatam que a dor interfere moderadamente no autocuidado (n=5), caminhada (n=6), vida social (n=6), vida sexual (n=5) e causa moderamente tristeza ou deprime (n=5).
CONCLUSÃO: A prevalência da síndrome de fibromialgia foi estimada em 2% da população brasileira pelo viés de dados secundários de um estudo de prevalência de dor crônica no Brasil cujo dados foram coletados em 2015-2016. As queixas relatadas pela maioria dos casos foram de dor intensa e diária e com interferência da dor no sono.

Descritores: Dor constante, Dor intensa, Prevalência, Síndrome de fibromialgia, Sono.

INTRODUCTION

Chronic pain is recognized as a public health problem. The high prevalence and indicators of an increase in the incidence of chronic pain, such as fibromyalgia syndrome (FMS)[1], generate

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questions about diagnosis, therapeutic approach, and intensity of symptoms reported by patients[2]. The economic cost and the social wasting added to the needs of the people suffering from chronic generalized painful condition, such as FMS, has a negative impact in several countries around the world, as well as in Brazil. It is estimated that the physical and emotional incapacity generated by pain is among the 10 causes of greater socioeconomic impact in developed and developing countries[3].

The prevalence of FMS is estimated at around 2.5% of the population[4], although recent studies have shown an increase in this prevalence for 5% of women in the United States[5] and 4.7% of the population of some European countries[6]. FMS is not the most prevalent chronic pain worldwide or in Brazil. However, it is the focus of much research and study because of the complex clinical picture and because it is costly to the health system. It is estimated that a patient with FMS generates direct costs 2 to 3 times more than other patients with chronic pain in Canada[7] and the United States[8], respectively. Direct health cost involves the number of medical consultations, laboratory examinations, and imaging; drugs and other treatments. Indirect costs are also representative of the socioeconomic burden and are measured by days of work withdrawal, loss of productivity, disability pensions, among others.

In Brazil, in addition to the variability in the clinical manifestation of FMS, great geographic distances, different historical heritages, and distinct social realities between the states and regions of the country are faced[9]. In addition, social inequality has repercussions on access to health, whether regarding diagnosis or treatment.

Investments for the elaboration of public policies are based on the population needs identified by epidemiological studies. And, on the other hand, the implementation of health programs is planned according to the characteristics of the population suffering from FMS. Basic or experimental research is also guided by these characteristics of population studies; either for the elaboration or validation of pharmacological treatments, exercise protocols, application of techniques and specific methods of different health areas. The complexity of the studies with the population suffering from FMS is due to both variability of its clinical manifestation (intense diffuse pain, deficits in mechanisms of pain modulation, mood and sleep disorders, digestive alterations, cognitive symptoms, fatigue among others) and the difficulty of access to the diagnosis and the variability of the population's needs. Brazilian studies estimate the prevalence of FMS around 2.5%[4]. Previous, population-based studies that investigate the prevalence, and which medical specialties patients refer to, and which symptoms of major complaints, are unknown. In a previous study, it was observed the prevalence of chronic pain in the Brazilian population[10].

This study aimed to describe the profile of the Brazilian population with FMS.

METHODS

Secondary data from a previous study were used to identify the prevalence of chronic pain in Brazil[10]. The sample calculation for the chronic pain prevalence study database used the following parameters: adult population (18 years old or more) estimated at 143 million, the prevalence of the outcome (20%), sampling error of 4 percentage points and interval of 95% confidence interval (n=385). The sample size obtained was multiplied by two because of the study design, plus 30% predicted losses. The sample was estimated at 1000 people, extended to 1011 and distributed by the demographic density of each state of the federation and the Federal District. The sample was randomized from a private database with more than one million cell phone numbers. According to the Brazilian Institute of Geography and Statistics, 73% of the Brazilian population has a cell phone number[10]. The database was constructed from November 2015 to February 2016, by telephone interview, using the questionnaire validated in Portuguese[10]. The secondary data used were the cases that stated chronic pain for more than six months and that they had been diagnosed by one (or more) doctors with the diagnosis of FMS. The independent variables for the description of the epidemiological profile and the use of health services were sociodemographic characteristics (age, gender), characterization of pain by frequency, intensity, acute pain crises, pain localization, pain interference in self-care, walking, work, social life, sexual life, sleep quality, if the pain causes sadness or depresses or influences the emotional aspects. Which doctors consulted patients with pain were also evaluated.

Statistical analysis

The data analysis was descriptive, mean and standard deviation for the continuous variables, number of cases and percentage according to gender for the discrete and categorical variables. The data were analyzed in SPSS version 20.0 for Windows.

RESULTS

In the database of the original study, 723 participants were interviewed of the 1101 phone calls made, 304 responded to have chronic pain, and 13 reported having a diagnosis of FMS. These correspond to 2% of the total sample, being 2 cases of males and 11 of females, establishing a gender ratio of 1 man to 5.6 women (1:5.6). Sixty-nine percent (n=9) of the participants responded to consult with a rheumatologist, followed by 23% who see a pain specialist physician. Only one participant reported being accompanied by more than one doctor. Fifteen percent of participants (one female and one male) treated as a strategy for pain management, while 69% (n=9) emphasized pharmacological treatment as a strategy. One patient reported not following any treatment, and another responded to perform other strategies (among physical therapy, Pilates, use of orthoses, etc.). Table 1 presents the characteristics of pain and the interference of pain in activities of daily life. Most of the cases reported a great deal of pain interference with sleep (n=8), some classified pain greatly interferes with work (n=5), irritability (5) and finally some reported that pain moderately interferes with self-care (n=5), walking (n=6), social life (n=6), sexual life (n=5) and causes moderately sadness or depression(n=5).

Table 1. Characteristics of cases with fibromyalgia syndrome - Study database with the populational database - Brazil (2015-2016)[10]

	Male (n=2)	Female (n=11)	Total
Mean age (SD)	34.5±10.6	36.1±10.1	35.8±9.8
Intensity of pain (SD)	7.5±0.7	7.3±2.6	7.3±2.4
Pain frequency/weekly (days) (% and n)			
Less than a day	0 (0)	0 (0)	0 (0)
1-2	0 (0)	18 (2)	15 (2)
3-4	50 (1)	9 (1)	15 (2)
5-7	50 (1)	72 (8)	69% (9)
Duration of pain crises* (n-12) (% and n)			
Brief	0 (0)	0 (0)	0 (0)
Few hours	50 (1)	18 (2)	23 (3)
One day	0 (0)	0 (0)	0 (0)
Constant	50 (1)	72 (8)	69 (9)
Interference of pain in self-care (% and n)			
None	50 (1)	9 (1)	15 (2)
Little	0 (0)	27 (3)	23 (3)
Moderate	50 (1)	36 (4)	38 (5)
Much	0 (0)	18 (2)	15 (2)
Interference of pain with walking* (% and n)			
None	0 (0)	9 (1)	7 (1)
Little	0 (0)	0 (0)	0 (0)
Moderate	50 (1)	45 (5)	46 (6)
Much	0 (0)	27 (3)	23 (3)
Interference of pain with work (% and n)			
None	0 (0)	0 (0)	0 (0)
Little	0 (0)	9 (1)	7 (1)
Moderate	50 (1)	27 (3)	31 (4)
Much	0 (0)	45 (5)	38 (5)
Interference of pain with social life (% and n)			
None	0 (0)	0 (0)	0 (0)
Little	50 (1)	18 (2)	23 (3)
Moderate	0 (0)	45 (5)	38 (5)
Much	0 (0)	18 (2)	15 (2)
Pain causes irritability (% and n)			
No	50 (1)	9 (1)	15 (2)
Little	0 (0)	0 (0)	0 (0)
Moderate	0 (0)	36 (4)	31 (4)
Much	0 (0)	45 (5)	38 (5)
Pain causes sadness or depression (% and n)			
No	50 (1)	9 (1)	15 (2)
Little	0 (0)	9 (1)	7 (1)
Moderate	0 (0)	45 (5)	38 (5)
Much	0 (0)	27 (3)	23 (3)
Pain affects sexual life (% and n)			
No	50 (1)	18 (2)	23 (3)
Little	50 (1)	9 (1)	15 (2)
Moderate	0 (0)	45 (5)	38 (5)
Much	0 (0)	18 (2)	15 (2)
Pain disrupts sleep (% and n)			
No	0 (0)	0 (0)	0 (0)
Little	0 (0)	27 (3)	23 (3)
Moderate	0 (0)	9 (1)	7 (1)
Much	50 (1)	54 (6)	62 (8)

* Approximate duration of pain crises.

DISCUSSION

The prevalence of FMS in the Brazilian population was 2% with a proportion of 1 man for every 5.5 women. These results are equivalent to previous studies performed in specific regions of Brazil, such as São Paulo[4]. However, when compared to more recent studies, they present a lower prevalence value than the United States and European countries[6,7]. It is estimated that updating the FMS classification criteria, as well as the increased acceptance of the diagnosis, may directly influence the increase in the indicated values of prevalence. FMS has its classification criteria established by American College of Rheumatology[11] and these are widely discussed in Brazil in groups of rheumatologists[12] and groups of studies of pain[13]. Most of the cases in this study reported consulting - mainly - rheumatologists, followed by pain specialists. In this case, the information bias and the social and geographical condition for access to the health service and diagnosis are also applicable. In Brazil, access to health services is sometimes scarce in some regions of the country, as well as the outdating of some professionals in regions away from large centers, since the FMS diagnostic criteria are updated[11,14,15] and generate many discussions among clinicians and researchers[12]. As well as the limitation for access to diagnosis, the treatment plan and access to medication also make the prognosis of this population difficult. In order to optimize the planning of new treatment practices for this population, it was found that constant pain, high intensity, and sleep disorders are the main complaints of most of the cases investigated. The presence of constant pain is redundant to the diagnostic criteria. Although the vast majority of cases report consulting doctors, the data contradict expectations of pain at lower intensities or less frequent when treated. It is recognized that the success of the treatment depends on several factors. In addition to access to the specialist doctor, there are: (a) access to the drug, (b) access to the physical therapist, psychologist and other health professionals, (c) management of pain by unimodal versus multimodal treatment, (d) communication between patient, doctor and other health professionals who accompany the patient with FMS, (e) patient's financial resources to access drugs, and consultations with the professionals who attend him/her, (f) availability of drugs and health professionals specialized in the treatment of pain, (g) compliance with pharmacological treatment, therapeutic process and rehabilitation[16-19].

Sleep disorders are another recurring symptom among those interviewed in this study, most of whom describe that pain greatly interferes with sleep quality. Sleep disorders are directly related to the patients' sensitivity to pain[20], whether due to disturbances in the neuroendocrine metabolism provided at each stage of the sleep cycle or to sleep disruptions caused by the presence of body pain, or by emotional and cognitive symptoms that make it difficult to initiate sleep. For the treatment of FMS, the guidelines[18,19] recommend changing habits (sleep hygiene, regular practice of physical exercise, breathing and relaxation techniques), sleep-inducing drugs, muscle relaxant, among others. Pain and sleep should follow a multidisciplinary approach, from the evaluation of sleep quality (e.g., polysomnography, validated questionnaires, patient speech, breathing, apnea, snoring), the sleeping environment (e.g., lightness, noise, mattress). The practice of regular and guided physical exercise is included in the guidelines for treatment of FMS both for its effect on sleep, as well as pain and mood[17,21]. The aspects of the relational and affective sphere to the interference of pain and aspects of work and social life tend to present greater impact for the female population in this study. Pain causes feelings of depression causes irritation and affects the sexual life, which seems compatible with what studies[17] have been recommending, that is, that more there is interference of the pain in different aspects of the life more accentuated will be the complaints related to mentioned areas.

Social participation is a variable that gains prominence in research, especially after the publication of the International Classification of Functioning and Disability in 2001 by the World Health Organization[22]. Qualitative studies and multi or interdisciplinary treatment programs support the negative impact of pain on social participation in the population with FMS[17,23]. Social participation is considered to be the possibility of organizing parties, receiving friends or family, going out at night to meet people or going to the theater/cinema/leisure, practicing leisure activities, concentrating on work and other activities, developing activities that require physical strength or logical reasoning, to be able to balance domestic, work and leisure activities among others[24]. Although in the results of this study there is no tendency to compromise social and labor participation, it is considered necessary to evaluate each case to adjust the treatment plan to the patient.

The interference of pain in sexual life also presents a similar distribution among the categories evaluated. However, previous studies[25,26] performed mainly with the female population show an impact of FM with sexual activity when compared to an equivalent age/gender population. In addition to diffuse pain, sleep disorders, low level of physical activity, fatigue, depression, and anxiety would also be related to sexual dysfunction in people with FMS[25]. It is estimated that more than three-quarters of women with FMS have some sexual problem, where depression, anxiety, and sensitivity are the symptoms of increased association with impairment in sexual activity. Physical activity would have a protective behavior to the risk of pain interference in sexual activity[27].

Management of FMS symptoms goes beyond pain. As previously described, FMS treatment guidelines expand treatments to the goal of reducing pain. Within this multifactorial context,

Brazilian researchers have developed an application (ProFibro) for health promotion, helping patients to manage self-care. In the results of this study, self-care presents a variation between the categories. However this variable remains a challenge in addition to the patients' treatment. It is important to emphasize the need for aids (technological or not) to facilitate the promotion of self-care, such as: sleep monitoring, exercise programs, mood monitoring, among others, such as the gratitude practice proposed by the ProFibro application[28].

CONCLUSION

The prevalence of fibromyalgia syndrome was estimated in 2% of the Brazilian population, through data secondary to a study of chronic pain prevalence.

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