ORIGINAL ARTICLE

Prevalence of musculoskeletal pain in climacteric women of a Basic Health Unit in São Paulo/SP

Prevalência de dor musculoesquelética em mulheres climatéricas em uma Unidade Básica de Saúde de São Paulo/SP

Anny Caroline Dedicação[1], Tatiana de Oliveira Sato[1], Mariana Arias Avila[1], Ana Sílvia Moccellin[2], Maria Elisabete Salina Saldanha[3], Patricia Driusso[1]

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ABSTRACT

BACKGROUND AND OBJECTIVES: The objective of this study was to evaluate the prevalence of musculoskeletal pain in climacteric women of a Basic Health Unit in Sao Paulo.

METHODS: This is a descriptive cross-sectional study, with the participation of 93 climacteric women with average age of 49.1±6.1 years, with medical history containing obstetric background and pain characterization, including the presence, location, and intensity of these complaints. For data collection, we used a map of pain and a visual analog scale associated with the faces pain rating scale.

RESULTS: Of the total, 87 women (93%) reported pain, with an average onset of symptoms of 5.8±7.7 years, and average pain in the visual analog and the faces scales of 6.9±3 mm. The pain was classified by most of the women (53%) as intense, and the places of greater involvement were the spine (71%), followed by the knees (58%) and shoulders (47%). Thus, the musculoskeletal pain showed to be a frequent complaint among climacteric women, involving 93% of the volunteers in this study, ranked by the majority as an intense pain.

CONCLUSION: It is important to recognize the magnitude of this complaint in primary care to elaborate preventive and therapeutic actions aiming at improving the quality of life of these women.

Keywords: Basic health care, Climacteric, Physiotherapy, Pain measurement.

RESUMO

JUSTIFICATIVA E OBJETIVOS: O objetivo deste estudo foi avaliar a prevalência de dor musculoesquelética em mulheres climatéricas de uma Unidade Básica de Saúde do município de São Paulo.

MÉTODOS: Trata-se de um estudo descritivo transversal, no qual participaram 93 mulheres climatéricas, com idade média de 49,1±6,1 anos, submetidas a anamnese, contendo: antecedentes tocoginecológicos e caracterização da dor, incluindo a presença, o local e a intensidade dessas queixas. Para a coleta desses dados, foi utilizado um mapa de dor, e uma escala analógica visual associada à escala de faces.

RESULTADOS: Do total, 87 mulheres (93%) referiram dor, com média de início dos sintomas há 5,8±7,7 anos, e média de dor na escala analógica visual, e de faces de 6,9±3,0mm. A dor foi classificada pela maioria das mulheres (53%) como intensa, sendo os locais de maior acometimento a coluna vertebral (71%), seguido de joelhos (58%) e ombros (47%). Sendo assim, a dor musculoesquelética mostrou-se como queixa frequente entre as mulheres climatéricas, afetando 93% das voluntárias deste estudo, classificada pela maioria como intensa.

CONCLUSÃO: É importante reconhecer a magnitude dessa queixa na atenção primária em saúde para traçar ações preventivas e terapêuticas que visem melhorar a qualidade de vida dessas mulheres.

Descritores: Atenção básica em saúde, Climatério, Fisioterapia, Mensuração de dor.

INTRODUCTION

With the increase in life expectancy, most women will spend more than one third, or even half of their lives in the post-menopausal period[1]. The impact on the economy and society is huge since most women undergo significant changes in their general health during the menopause, which negatively impacts their quality of life (QoL)[1]. About 70% of perimenopausal women have symptoms related to estrogen deficiency, as vasomotor instability, sleep disorders, decreased bone mineral density, genitourinary atrophy, lipoprotein changes, and musculoskeletal pain[2], the latter being reported by more than half of perimenopausal women[3].

In Brazil, the public health system, known as Sistema Único de Saúde (SUS), adopted the Family Health Strategy (FHS),

1. Universidade Federal de São Carlos, Departamento de Fisioterapia, São Carlos, SP, Brasil.
2. Universidade Federal de Sergipe, Departamento de Fisioterapia, Aracaju, SE, Brasil.
3. Universidade Cidade de São Paulo, Departamento de Fisioterapia, São Paulo, SP, Brasil.

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Correspondence to:
Rodovia Washington Luís, km 235
13565-905 São Carlos, SP, Brasil.
E-mail: maafisio01@gmail.com

as the crucial entry point of the care for the users of SUS. In this model, the FHS work teams work in specific geographical areas and are responsible for the implementation of actions to promote health, prevent diseases, treat common health conditions and rehabilitation[4,5]. Despite their responsibility for identifying the risk factors and the presence and prevalence of musculoskeletal symptoms in the population they treat, there are very few records of these symptoms.

Services considered as Primary Health Care must recognize the importance and prevalence of musculoskeletal symptoms in the population under their care. However, it is believed that these elements are underestimated, given that, in Brazil, they are not reported and recorded at the Primary Care Units (SUS). The professional who works at SUS must: 1) study and detect the needs and health goals of the population that use the service; 2) develop a plan and strategies to achieve their goals, to provide integrated and humanized care to the population, according to the needs and specificities of each territory. These tasks are part of their job assignment.

In this context, the objective of this study was to investigate the prevalence of musculoskeletal pain in perimenopausal women of a Primary Care Unit and users of the FHS for a low-income community in the city of São Paulo, Brazil.

METHODS

This is a cross-sectional study that included women aged between 40 and 60 years, residents in the community of Paraisópolis, district of Vila Andrade, in the southern area of São Paulo, enrolled in the Family Health Strategy program of Paraisópolis I Primary Care Unit. This community has a population of approximately 80,000 inhabitants, according to the census conducted by the Brazilian Institute of Geography and Statistics[6]. Approximately 5% (3,872) of the inhabitants are in the age group above 40 years.

The inclusion criteria were: live in the community of Paraisópolis, age between 40 and 60 years, and be enrolled in the FHS program of Paraisópolis I. The exclusion criteria were: be confined to bed, use a wheelchair, neurological disorders, and presence of cognitive damage that prevents the volunteer to understand the questionnaires.

The participants in the study signed the Free and Informed Consent Term (FICT), as determined by the Report 466/12 of the National Health Council.

One researcher who did not participate in data collection was responsible for the calculation of the sample size. The volunteers eligible for the study were listed at the SUS and after randomization by the Excel software they were selected and invited to the study. The sample calculation followed the equation:

$$n = \frac{NZ_c^2 p(1-p)}{(\varepsilon_p^2(N-1) + Z_c^2\, p\,(1-p)}$$

Where **n** is the sample size, **n** is the size of the total population (perimenopausal women living in the region of the Paraisópolis I SUS) = 3872 women, **Zc** is the value of the normal distribution (95%), **p** is the estimated prevalence of perimenopausal women (4.8%), and **εp** is the estimated sample error (10%).

With this information, the estimate sample size was 93 volunteers. The women included in the study followed the same evaluation protocol, applied on a single day, in a room of the Primary Care Unit. The evaluations took about 60 minutes.

Instrumentation

The evaluation form used in this study had questions concerning personal data, lifestyle and gynecological background. An anthropometric scale (R-110 CH, Welmy) was used to obtain the body mass and height data to calculate the body mass index (BMI).

Pain location was evaluated with a body map composed of two figures of the human body with anterior and posterior views. The subjects were asked to paint the locations corresponding to the sites where they had pain. This figure was adapted from the pain map in McGill Pain questionnaire[7].

Pain intensity was assessed by the visual analog scale (VAS), the numeric scale associated with the faces of pain. The VAS allows for better assessment of the subjective feeling of pain, and the faces help the individual to understand the need to rank pain in numbers from zero to 10[8], where 10 is considered the worse pain possible.

This study was approved by the Research Ethics Committee of the Municipal Secretariat of Health of São Paulo, under Report Nr. 292/11.

Statistical analysis

We used the Statistica software (v. 7.0, Stat Soft, USA). The Shapiro-Wilk test was used to check data normality. For comparison between categories, we used the Variance Analysis (ANOVA), and Duncan's post hoc test was applied to identify the differences. In the case of only two categories, the Student's *t*-test was used. The data are expressed as average (standard deviation) and percentage. The significance level was set at 5%.

RESULTS

Demographic, personal and general data on health are shown in table 1. The average age of the volunteers was 49.1 (6.1) years, and the average BMI was 27.7 (6.7) kg/m^2. Thirty-four volunteers (36%) were considered overweight, 37 (40%) reported hypertension, 13 (14%) diabetes *mellitus*, and seven (8%) cardiovascular diseases. Pain levels were higher for women with low educational level, and for those who lived with 2 or 3 generations in the same household (Table 1).

The gynecologic and obstetric characteristics are shown in table 2. It was noted that the average age for menopause was 50.8 (4.9) years.

According to table 3, the prevalence of musculoskeletal pain was 93%, associated with intense pain and gradual worsening of the symptoms. The average of reported pain was 6.9 (3.0) points.

Table 1. Characterization of the sample concerning demographic and personal data, and self-reported associated diseases

Variables	Categories	Total	VAS	p value
Age group (years)	40 - 45	30 (32.3%)	6.3±3.1	0.48
	46 - 50	29 (31.2%)	6.8±3.3	
	51 - 55	19 (20.4%)	7.7±3.1	
	56 - 60	12 (12.9%)	5.9±3.7	
	61 - 64	3 (3.2%)	5.7±4.9	
Body mass index	Underweight (<18.5)	3 (3.3%)	3.3±5.8	0.14
	Adequate (18.5 - 24.9)	27 (29.4%)	6.5±3.1	
	Overweight (25 - 29.9)	34 (37.0%)	6.3±3.5	
	Obesity (>30)	28 (30.4%)	7.5±2.7	
Profession	Housewife	35 (37.6%)	6.07±2.2	0.28
	Cleaning	21 (22.6%)	7.3±3.4	
	Caregiver	18 (19.4%)	6.66±2.2	
	General services	9 (9.7%)	6.08±2.5	
	Retail	8 (8.6%)	6.67±3.0	
	Retired	2 (2.2%)	20±1.1	
Marital status	No marital life	29 (31.2%)	7.4±2.9	0.13
	With marital life	64 (68.8%)	6.3±3.4	
Education	None	12 (12.9%)	7.83±3.2*	0.03
	Primary education	57 (61.3%)	6.95±3.0	
	High school + higher education:	22 (23.7%)	5.21±3.5	
Color/Race	White	55 (59.1%)	6.1±3.4	0.33
	Black	26 (28.0%)	7.1±3.5	
	Brown	12 (12.9%)	7.9±1.3	
Housing	Alone	14 (15.1%)	5.0±4.0	0.016
	Spouse	4 (4.3%)	8.0±2.8	
	1 generation	62 (66.7%)	6.4±3.2	
	2-3 generations	13 (14.0%)	8.8±1.3#	
Physical activity	Yes	16 (17.2%)	5.8±3.7	0.25
	No	77 (82.8%)	6.8±3.2	
Smoking	Yes	22 (23.7%)	7.6±2.6	0.09
	No	71 (76.3%)	6.3±3.4	
Systemic hypertension	Yes	37 (39.8%)	6.6±3.4	0.98
	No	56 (60.2%)	6.6±3.2	
Diabetes mellitus	Yes	13 (14.0%)	7.8±2.7	0.17
	No	80 (86.0%)	6.4±3.3	
Cardiomyopathy	Yes	7 (7.5%)	8.9±1.2	0.06
	No	86 (92.5%)	6.4±3.3	

VAS=visual analog scale; * p<0.05 versus elementary and high school + higher; # p<0.05 versus 1 generation, and alone.

Table 2. Gynecologic and obstetric characteristics of participants

Variables	Categories	Frequency	VAS	p value
Age of menarche	13.1±1.6			
Number of pregnancy	3.8±2.3			
Menopause	Yes	39 (41.9%)	6.8±3.4	0.60
	No	54 (58.1%)	6.5±3.2	
Age of the menopause	50.8±4.9			
Regular cycles	Yes	14 (25.9%)	6.1±1.8	0.59
	No	40 (74.1%)	6.6±3.6	
Sexual activity	Yes	60 (64.5%)	6.5±3.3	0.65
	No	33 (35.5%)	6.8±3.1	

VAS = visual analog scale.

Table 3. Evaluation of the occurrence and frequency of musculoskeletal pain

Variables	Categories	Frequency	VAS
Musculoskeletal pain	Yes	87 (93.6%)	6.9±3.0
	No	6 (6.5%)	-
Onset of symptoms	5.78±7.73		
Since started	Better	18 (20.7%)	6.9±3.1
	Same	20 (23.0%)	6.0±2.7
	Worse	49 (56.3%)	7.2±3.1
Pain intensity	Mild	11 (12.64%)	0.64±0.92
	Moderate	30 (34.48%)	5.80±1.40
	Intense	46 (52.87%)	9.09±0.89

VAS = visual analog scale.

Table 4 shows the site of pain reported by all the volunteers, and the more prevalent were lumbar spine, knees, and shoulders.

Table 4. Painful regions reported, and pain intensity obtained by visual analog scale

Variables	Frequency and %	VAS
Spine	66 (70.97)	6.61±3.25
Shoulder	44 (47,31)	6.54±3.32
Elbow	37 (39.78)	6.61±3.25
Wrist	28 (30.11)	6.59±3.28
Hand	29 (31.18)	6.59±3.26
Hip	14 (15.05)	6.56±3.33
Knee	54 (58.06)	6.59±3.26
Ankle	33 (33.33)	6.53±3.34
Foot	32 (34.41)	6.59±3.26

DISCUSSION

The results of the present study indicate that pain is highly prevalent in perimenopausal women, with the most affected sites being the lumbar region, knees and shoulders, and the reported pain from moderate to intense. No Brazilian epidemiological studies were found that characterized the prevalence of pain in perimenopausal women in low-income communities. This is the first study conducted in a low-income community in Brazil. Most of the studies focused on vasomotor symptoms of the post-menopause syndrome. Many studies are from the United States of America and Europe, being conducted with Caucasian women with more privileged socioeconomic status[9]. Neslihan et al.[10] reported joint and musculoskeletal pain in 82% of perimenopausal women. Olaolorun and Lawoyin[11] noticed that pain was reported by more than 50% of perimenopausal women.

The Brazilian Society for the Study of Pain (SBED, Brazilian chapter of the International Association for the Study of Pain, IASP), states that musculoskeletal pain is the most prevalent in the world population, affecting all ages[12]. A possible explanation for musculoskeletal pain in the perimenopausal period can be related to hormone alterations, especially hypoestrogenism, that can cause the wearing of the cartilage, similar to the bone mass loss that occurs in perimenopausal women[13]. On the other hand, the sexual hormones are part of the pain modulation process, which makes perimenopausal women more sensitive to pain[14]. The differences among the studies can be related to several aspects, such as cultural differences, economic, social, psychological, environmental, health condition, type of study, population studied, sample selection, population, the presence of misleading variables and use of different instruments to assess pain[14].

Pain, especially in the level reported by the women evaluated in the present study, can be very disabling, affecting all the life dimensions of the person, leading to significant differences in interpersonal and family relations, social interaction, and the capacity to perform daily activities[15,16]. A result that most women in this study have been facing for years; their pain can be classified as chronic. Chronic pain has a major impact on the professional and social life, as well as on the QoL. The costs to control chronic pain can lead to a financial overload due to the increased need for medical services and drugs, especially in the public health system. The annual costs to handle chronic pain are of approximately 100 million reais, including diagnosis, treatment, factors related to work performance as well as social security services[17].

Given all the changes that a person with chronic pain has to face to try to control its condition, the crisis also affects the family[18]. The family is the central subject of care in the Primary Health Care, the main "gateway" to SUS[17]. Considering the significant prevalence of chronic pain in perimenopausal women in a low-income situation, it is necessary that the Primary Health Care develop preventive and therapeutical cation focusing on musculoskeletal pain. The proper diagnosis and handling of acute pain can be extremely important to public health because it can lead to the decrease in costs and better functioning of the higher complexity levels of health care[19]. Another remarkable result of this study refers to the fact that women with low educational level have higher levels of pain, corroborating the results of Hoy et al.[18] and Gulbrandsen et al.[19]. Individuals with low educational level can begin their work-life in early ages[18]; and may have difficulty to health care access[19], which leads to a more fragile health, making these individuals even more vulnerable.

Park et al.[20] have found that back pain is very common in the perimenopausal phase due to the decreased levels of estrogen and bone mineral density. Hoy et al.[18] correlate back pain with the aging process and the high prevalence of chronic diseases as osteoarthritis. Women in this study perform both housework activities and work outside, where they can be exposed to physical overloads such as cleaning services and caregivers. According to Dennerstein et al.[21], the lack of professional qualification, occupation, and lower educational levels are associated with the higher prevalence and severity of the perimenopausal symptoms.

The present study has some limitations. First, it was conducted in only one district of São Paulo, and generalize the results can be difficult. However, it shows evidence of the prevalence of chronic musculoskeletal pain in perimenopausal women in regions with similar sociodemographic characteristics. Another limitation is that no objective measures to assess pain were conducted. However, the study was carried out in a real situation of the public health system in Brazil, and it is in accordance with the most common assessing methods of Primary Care Units.

CONCLUSION

The results of this study show a high level of musculoskeletal pain in women in a low-income situation, with pain being reported from moderate to intense. Taking into account the magnitude of the impact that pain can have on a person's life, it seems necessary and urgent that Primary Health Care develops preventive and curative strategies for this specific population.

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