ORIGINAL ARTICLE

Prevalence of musculoskeletal pain in primary care dentists

Prevalência de dor musculoesquelética em cirurgiões-dentistas da atenção básica

Rayssa Nogueira de Sousa Silva[1], Jose Mario Nunes da Silva[1,2]

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ABSTRACT

BACKGROUND AND OBJECTIVES: Dentistry is among the occupational categories that most inflicts its practitioners to a series of risk factors to develop musculoskeletal disorders, especially the maintenance of static postures, repetitive activities, long work days, poorly designed work environment, stress and handling of chemical and biological materials. The objective of this study was to analyze the prevalence of work-related musculoskeletal pain in primary care dentists.

METHODS: The sample consisted of 167 primary care dentists, who answered questionnaires relating to musculoskeletal pain, social-demographic data, lifestyle, occupational characteristics, fatigue and ability to work.

RESULTS: The prevalence of musculoskeletal pain was high for upper limbs (38.3%), lower limbs (34.7%) and on the back (27.5%). The was a statistical association in the three body segments, with family income, associated morbidities, daily and weekly working time, the perception of fatigue, and ability to work.

CONCLUSION: The studied sample showed a high prevalence of musculoskeletal pain, which serves as a warning flag to the adoption of public policies to improve the working conditions of the dentists surveyed.

Keywords: Dentists, Musculoskeletal pain, Occupational health, Working conditions.

RESUMO

JUSTIFICATIVA E OBJETIVOS: O exercício da odontologia enquadra-se entre as categorias profissionais que mais impõe a seus praticantes uma série de fatores de risco ao desenvolvimento de distúrbios musculoesqueléticos, entre eles destacam-se, principalmente, a manutenção de posturas estáticas, as atividades repetitivas, as longas jornadas de trabalho, o ambiente de trabalho mal projetado, o estresse e o manuseio de materiais químicos e biológicos. O objetivo deste estudo foi analisar a prevalência de dor musculoesqueléticas em cirurgiões-dentistas da atenção básica, relacionada ao trabalho.

MÉTODOS: A amostra foi constituída por 167 cirurgiões-dentistas vinculados à atenção básica, sendo aplicados questionários referentes a dor musculoesquelética, dados sociodemográficos, estilo de vida, caraterísticas ocupacionais, fadiga e capacidade para o trabalho.

RESULTADOS: A prevalência de dor musculoesquelética foi elevada nos membros superiores (38,3%), nos membros inferiores (34,7%) e no dorso (27,5%) e, se associou estatisticamente nos três segmentos corporais com renda familiar, morbidades associadas, jornada diária e semanal de trabalho, percepção de fadiga e capacidade para o trabalho.

CONCLUSÃO: Na amostra estudada observou-se elevada prevalência de dor musculoesquelética, o que serve de alerta para adoção de políticas públicas para a melhoria das condições de trabalho dos cirurgiões-dentistas pesquisados.

Descritores: Condições de trabalho, Dor musculoesquelética, Odontólogos, Saúde do trabalhador.

INTRODUCTION

Among the healthcare professions exposed to work-related musculoskeletal disorders (WRMD), Dentistry fits the category most associated with these painful symptoms, especially in the cervical and lumbar regions, and the upper limbs (UL)[1,2]. This is mainly due to static, inflexible postures, repetitive activities, long working hours, poorly designed work place, chemical and biological materials handling and fatigue[3-5].

The prevalence of musculoskeletal disorders (MSD) in dentists is high[1-6], causing high rates of absenteeism, temporary or permanent disability, reduction in the production capacity, with a negative impact on the quality of life (QoL) and in the services provided to the population[5-9].

This set of occupational diseases is not only present in the Brazilian population; they are also reported in countries such as England, Scandinavia, Japan, United States and Australia, among others. The evolution of WRMD epidemics in these countries varies greatly, and in some of them, it is still a significant problem, just like in Brazil[10].

The health and social costs resulting from this problem are on the rise in recent years, reaching a considerable part of these professionals, representing a significant impact on their health and QoL[6,7,10]. Therefore, the analysis and appropriate sizing of the problem, as well as the investigation of the associated factors, are relevant to create measures which may

1. Faculdade de Ciências e Tecnologia do Maranhão, Departamento de Fisioterapia, Caxias, MA, Brasil.
2. Universidade Federal do Piauí, Departamento de Medicina Comunitária, Teresina, PI, Brasil.

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Correspondence to:
Rua Aarão Reis, 1000, Centro
Departamento de Fisioterapia
65606-020 Caxias, MA, Brasil.
E-mail: zemariu@hotmail.com

speak on this issue, primarily in dentists working in primary care who deal with concerns and expectations of patients to maintain their oral health.

Thus, the overall objective of this study was to analyze the prevalence of musculoskeletal disorders in dental surgeons (DS) of primary care and their relationship with occupational factors.

METHODS

This is an epidemiological, cross-sectional study. The dentists who participated in this study worked in the program Family Health Strategy (FHS), in the city of Teresina, Piauí, from January to March 2014.

To be included in the study the DS had to be in the professional practice in the period of data collection and accept to participate in the survey. Dental surgeons that weren't performing direct assistance activities, working in an administrative job, and/or in leave of absence for any reason were excluded from the study.

Considering a total of 220 DS in FHS working in the period surveyed, the sample calculation was estimated by a prevalence of 50% for the variables related to the outcome, an error margin of 5% for a 95% confidence interval, totaling an ideal sample of 140 dental surgeons for the development of the study . The sample was increased by 20%, estimating a 10% non-response rate, and more 10% to control confusing factors, resulting in a final sample of 167 dental surgeons.

The dependent variable, the frequency of musculoskeletal pain (MSP), was obtained from the investigation of body structures (upper and lower limbs and back), by self-report of pain in the leg, arms, and shoulders. Pain frequency was measured by a Likert-type scale: zero=never, 1=rarely, 2=not frequent, 3=frequent and 4=very frequent. MSP complaint was considered when the DS reported frequent or very frequent pain[11].

The independent variables investigated were:

- Sociodemographics: gender, age group, marital status, and monthly household income.
- Occupational: workplace; tenure; daily working time. Concerning to the work organization, it was applied the approved and adapted de Vasconcelos et al.[12] questionnaire concerning the organizational structure and physical work environment with answers ranging from: yes (always or very frequent), sometimes (not so frequent) or no (little frequent or never);
- Lifestyle: practice of physical activity, alcohol consumption, smoking and nutritional state according to body mass index;
- Self-reported health aspects: satisfaction with sleep, stress, health, besides the amount of morbidity reported with medical diagnosis;
- Fatigue: it was used the fatigue perception questionnaire[13], consisting of 30 multiple choice questions with scores ranging from 30 to 150 points, corresponding to less and high fatigue respectively. Cronbach's alpha coefficient was 0.93;
- Work capacity was evaluated by the Work Capacity Index (WCI)[14], being the inadequate capacity to work for individuals aged between 18 and 34 years (less than 40 points) and for 35 years and above (less than 37 points). The internal reliability coefficient (Cronbach's alpha) of the items was 0.79.

The study was approved by the Ethics and Research Committee of the Federal University of Piauí (UFPI) under number CAAE 22135013.8.0000.5214. All respondents signed the Free and Informed Consent Term (FICT) according to Resolution Nr. 466/12 of the National Health Council and the Declaration of Helsinki of the World Medical Association.

Statistical analysis

In the univariate analysis, we applied the descriptive statistical procedures**.** In the bivariate analysis, for the association between MSP and sociodemographic variables, lifestyle, occupational, fatigue and capacity to work we used the Pearson Chi-square test[2].

For the multivariate analysis was used the Poisson regression with a robust variance of standard errors[15] with all covariates of interest that presented $p<0.20$ in the bivariate analysis. The gross and adjusted prevalence ratios were calculated with their respective confidence intervals of 95% (CI95%), and significance obtained by the Wald test for heterogeneity. In all the analyses, we used a significance level of 5%, using the SSPS software, version 18.0 for Windows (SPSS Inc., Chicago, IL 60606, USA).

RESULTS

Concerning the respondents, it was observed a predominance of females (56.9%), with ages between 23 and 40 years (57.5%), monthly income greater than or equal to 10 minimum wages (47.3%), and the majority married/domestic partnership (60.0%). Most of them practiced physical activity (70.1%), did not smoke (97.6%), did not drink (71.3%) with adequate nutritional status (70.1%) (Table 1).

As for professional insertion, the largest proportion was the public and private sectors (62.9%). As for tenure, it was observed that the majority (68.3%) has been working for 10 years, with daily work of 8 to 10 hours (62.9%) in total (Table 1).

Table 1. Distribution of professionals according to sociodemographic variables, lifestyle, occupational, health aspects, fatigue perception and capacity to work

Sociodemographic variables	n	%	Average	SD
Gender				
Male	72	43.1		
Female	95	56.9		
Age group (years)			40.3	10.7
23 ⊢ 40	96	57.5		
≥40	71	42.5		
Marital status				
Not married	66	39.5		
Married/domestic partnership	101	60.5		

Continue...

Table 1. Distribution of professionals according to sociodemographic variables, lifestyle, occupational, health aspects, fatigue perception and capacity to work – continuation

Sociodemographic variables	n	%	Average	SD
Family income (MW)				
4 ⊦ 5	11	6.6		
5-10	77	46.1		
≥10	79	47.3		
Lifestyle				
Physical activity				
Yes	117	70.1		
No	50	29.9		
Smoking				
Yes	04	2.4		
No	163	97.6		
Alcohol consumption				
Yes	48	28.7		
No	119	71.3		
Nutritional status (BMI kg/m ²)			24.0	3.0
Eutrophic	117	70.1		
Overweight	50	29.9		
Occupational				
Workplace				
Public service only (Primary Care Service)	62	37.1		
Public service (Primary Care) and private	105	62.9		
Tenure (Primary Care) (years)			18.9	9.0
Up to 10	114	68.3		
≥10	53	31.7		
Daily work (hours)			7.8	2.4
4 ⊦ 8	45	26.9		
8-10	105	62.9		
≥10	17	10.2		
Health aspects*				
Satisfaction with sleep				
Very dissatisfied	11	6.6		
Dissatisfied	40	24.0		
Neither dissatisfied / nor satisfied	42	25.1		
Satisfied	67	40.1		
Very satisfied	07	4.2		
Self-reported stress				
Always	04	2.4		
Often	25	15.0		
Sometimes	98	58.6		
Rarely	00	0.0		
Never	40	24.0		
Health state				
Very bad	00	0.0		
Bad	00	0.0		
Regular	30	18.0		
Good	113	67.6		
Very good	24	14.4		
Fatigue perception**				
Low	123	73.7		
High	44	26.3		
Capacity to work***				
Adequate	89	53.3		
Inadequate	78	46.7		

MW = minimum wage (R$: 720), BMI = body mass index. *Adapted[12] **Fatigue perception questionnaire[13]; ***Capacity to work index[14].

Table 1 also shows the data regarding the relative health distribution and perception of muscle fatigue on DS, with predominance of answers concerning be satisfied with the sleep (40.1%), reporting stress sometimes (58.6%), in good health (67.6%); considerable part had high perception of fatigue (26.2%), and inadequate capacity to work (46.7%).

Table 2 shows the data about the characteristics of the workplace and its organization.

The prevalence of musculoskeletal pain was 38.3% (95% CI: 30.9-45.8) for UL, 34.7% (CI95%: 27.4 -42.0) for LL, and 27.5 (CI95%: 20.7 -34.4) for the back (Figure 1). The global prevalence for MSP related to any of the three body segments was 68.9%: 45.5% referred pain only in one of the three body segments, 15.0% in two segments, 8.4% in the three body segments.

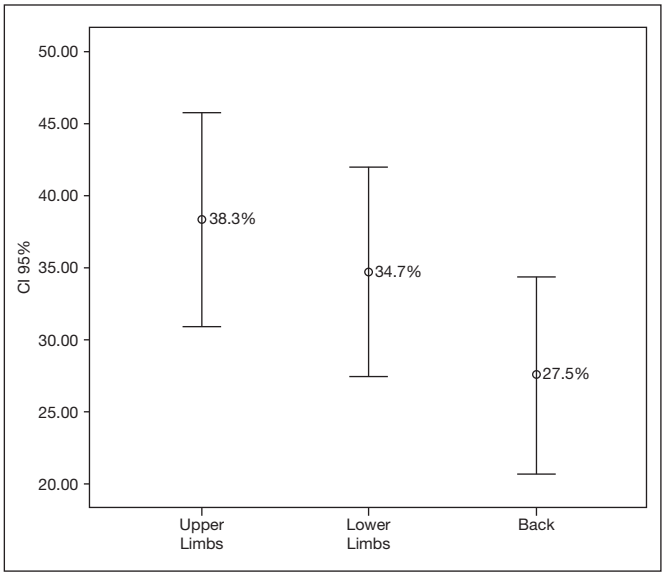

Figure 1. Prevalence of musculoskeletal pain in dental surgeons, according to body location

A higher prevalence of MSP in the UL was found in the variables of individuals in the ≥40 years age group with (PR=1.04), with household income between 5 and 10 MW (PR=1.16) and, in the individuals who had associated comorbidities (PR=1.25) (Table 3).

Table 2. Distribution of professionals according to characteristics related to the work physical environment and organization

Variables*	Always or very frequent		Little frequent		Very little frequent or never	
	n	%	n	%	n	%
Proper cleaning	74	44.3	52	31.1	41	24.6
Satisfactory lighting	86	51.5	51	30.5	30	18.0
Proper cooling system	57	34.1	61	36.6	49	29.3
Humid environment	18	10.8	52	31.1	97	58.1
A lot of noise in the work environment	58	34.7	54	32.3	55	33.0
Work environment with unpleasant odor	23	13.8	60	35.9	84	50.3
Organized environment	71	42.5	63	37.7	33	19.8
Materials required for carrying out the procedures are sufficient	26	15.6	76	45.5	65	38.9
Equipment used are appropriate to the procedures	46	27.6	53	31.7	68	40.7
Excessive work pace	21	12.6	84	50.3	62	37.1
Sufficient number of oral health assistants	140	83.8	14	8.4	13	7.8
Repetitive and monotonous tasks	68	40.8	52	31.1	47	28.1
Difficult communication between the leadership and the team	33	19.8	62	37.1	72	43.1
Leadership supports professional growth	41	24.6	52	31.1	74	44.3
Autonomy to make decisions	72	43.1	60	35.9	35	21.0

* Adapted[12].

Table 3. Prevalence of musculoskeletal pain according to the sociodemographic variables and lifestyle

	Upper limbs		Lower limbs		Back	
	%	PR (CI95%)	%	PR (CI95%)	%	PR (CI95%)
Gender						
Male	37.9	1	34.7	1	27.8	1
Female	38.9	1.01 (0.87 -1.17)	34.9	1.01 (0.88 -1.17)	27.4	0.96 (0.84 -1.10)
Age group (years)						
23 ⊦ 40	37.5	1	23.9	1	22.9	1
≥40	39.4	1.04 (0.75 -1.28)	42.7	1.27 (1.09-1.49) **	33.8	1.04 (0.88 -1.24)
Marital status						
Not married	37.9	1	27.3	1	21.2	1
Married/domestic partnership	38.6	1.03 (0.87 -1.21)	39.6	1.04 (0.89 -1.22)	31.7	1.09 (0.96 -1.26)
Family Income (MW)						
4 ⊦ 5	27.1	1	18.2	1	23.4	1
5 ⊦ 10	36.4	1.16 (1.04 -1.34) **	27.3	1.09 (1.02-1.29) **	29.1	1.01 (0.88 -1.17)
<10	49,4	1.36 (1.22 -1.54) **	44,3	1.24 (1.18 -1.46) **	45.5	1.27 (1.09-1.48) **
Physical activity						
Yes	37.6	1	33.3	1	24.8	1
No	40.0	1.03 (0.88 -1.20)	38.0	1.02 (0.88 -1.18)	34.0	1.09 (0.94 -1.25)
Smoking						
Yes	38.7	1	50.0	1.38 (1.15 -1.66) **	25.0	1
No	25.0	1.05 (0.70 -1.56)	34.4	1	27.6	1.08 (0.94 -1.25)
Alcohol consumption						
Yes	45.8	1	41.7	1.13 (0.96 -1.32)	27.1	1
No	35.3	0.92 (0.77 -1.09)	31.9	1	27.7	1.01 (0.76 -1.35)
Nutritional status						
Eutrophic	38.0	1	34.2	1	26.5	1
Overweight	38.5	0.93 (0.79 -1.09)	36.0	1.02 (0.87 -1.19)	30.0	1.03 (0.89 -1.20)
Associated morbidities						
None	31.0	1	8.8	1	19.5	1
1-4 diseases	32.4	1.02 (0.88 -1.17)	34.5	1.33 (1.16-1.54) ***	23.5	1.09 (0.94 -1.26)
5 or more	56.5	1.25 (1.01-1.55) **	54.3	1.67 (1.40-1.98) ***	45.7	1.21 (1.01-1.39) **

SM = minimum wage (R$: 720,00), PR = prevalence ratio, CI95%: Confidence interval of 95%; *p≤0.05; **p≤0.01; ***p≤0.001.

It was also found a high prevalence of MSP in lower limbs (LL), especially in individuals in the ≥40 years age group, with (PR=1.27), smoking (PR=1.38), and those with 1 to 4 and more than 5 associated comorbidities (PR=1.33 and PR=1.67, respectively) (Table 3).

In the back region, it was found significant indexes of MSP in the household income variable >10 MW (PR=1.27) and 5 or more associated comorbidities (PR=1.21). The other analyzed variables showed no significant variation in this study (p<0.05) (Table 3).

Higher prevalence of MSP in UL was found in individuals with tenure equal/greater than 10 years (PR=1.22), with a workday of more than 10 hours (PR=1.55), individuals who carried out monotonous and repetitive tasks (PR=1.19), with high fatigue perception (PR=1.08), and with inadequate capacity to work (PR=1.24) (Table 4).

As for the prevalence in LL, high levels of MSP were found in dental surgeons who had a day work of more than 10 hours (PR=1.59), high fatigue perception (PR=1.18) and inadequate capacity to work (PR=1.17) (Table 4).

In regards to the work characteristics, the prevalence of MSP was significantly in the back, with tenure in the primary care equal or bigger than the 10 years (PR=1.27), workday >10h (PR=1.37), excessive work pace (PR=1.21), monotonous and repetitive tasks (PR=1.05), high fatigue perception (PR=1.21) and inadequate capacity to work (PR=1.32) (Table 4).

DISCUSSION

Over time, the labor activity of dental surgeons became the subject of various surveys and discussions. Regis Filho, Michels and Sell[16] mentioned in a study that dental professionals are part of the working class most affected by MSP, and it is ranked first with regard to temporary or permanent work disability. Grace, Araújo e Silva[17] point out that preventive measures should be taken, because the work environment of these professionals exposes them to ergonomic risk factors that may lead to the development of WRMD.

The results of the present study are similar to the study of Santos and Vogt[18], who noticed in their study that 58.0% of the interviewees complained about pain, with prevalence in the neck region (20.0%), followed by the shoulder (17.0%) and thoracic and/or lumbar spine (21.0%).

Table 4. Prevalence of musculoskeletal pain according to work-related variables, fatigue perception and capacity to work

	Upper limbs		Lower limbs		Back	
	%	PR (CI95%)	%	PR (CI95%)	%	PR (CI95%)
Workplace						
Public service only (Primary Care Service)	36,2	1	25.8	1	25.7	1
Public service (Primary Care) and private	41,9	1.12 (0.96 -1.32)	40.0	1.08 (0.94 -1.26)	30.6	1.12 (0.96 -1.30)
Tenure (Primary Care) (years)						
<10	32,1	1	34.0	1	20.2	1
≥10	41,2	1.22 (1.04 -1.47) **	35.0	1.09 (0.92 -1.30)	43.4	1.27 (1.05 -1.45) ***
Daily work (hours)						
4 ⊢ 8	31,1	1	26.7	1	26.7	1
8 ⊢10	39,0	1.04 (0.93 -1.32)	29.4	1.05 (0.97 -1.15)	25.7	0.98 (0.86 -1.46)
<10	52,9	1.55 (1.12 -1.71) ***	39.0	1.59 (1.35-1.86) ***	35.3	1.37 (1.10 -1.76) **
Furniture is adequate						
Yes	32,4	1	34.6	1	18.9	1
No	40,0	1.10 (0.95 -1.29)	35.1	0.99 (0.85 -1.15)	30.0	1.10 (0.96 -1.27)
Too much noise						
Yes	39,7	1.02 (0.87 -1.18)	43.1	1.08 (0.92 -1.27)	32.8	1.02 (0.89 -1.16)
No	37,6	1	30.0	1	24.8	1
Excessive work pace						
Yes	57,1	1.19 (0.95 -1.50)	47.6	1.07 (0.88 -1.30)	47.6	1.21 (1.01-1.46) *
No	35,6	1	32.9	1	24.7	1
Repetitive and monotonous tasks						
Yes	52,9	1.19 (1.02-1.39) *	44.1	1.07 (0.92 -1.26)	30.9	1.05 (1.01-1.38) *
No	28,3	1	28.3	1	25.3	1
Fatigue						
Low	35,8	1	26.8	1	18.7	1
High	45,5	1.08 (1.01-1.29) *	56.8	1.18 (1.07 -1.43) **	52.3	1.32 (1.10 -1.58) **
Capacity to work						
Adequate	28,1	1	22.5	1	18.0	1
Inadequate	50,0	1.24 (1.04 -1.47) *	48.7	1.17 (1.03-1.39) **	38.5	1.21 (1.01-1.46) *

PR = prevalence ratio, CI95% = confidence interval of 95%, *p<;0.05; ** p<;0.01, *** p<;0.001.

Rambabu and Suneetha[19], in a comparative study with 100 doctors practicing modern or alternative medicine, and 200 dental surgeons, found that MSP was more prevalent among dentists (61.0%). Similarly, in the study of Gupta et al.[8] conducted in northern India revealed that of the 2,879 interviewed dentists, 80.0% had musculoskeletal disorders. They also found that of the dentists who used complementary medicine, 70.0% showed a reduction in pain symptoms compared to those who did not use.

In a study of Nokhostin and Zafarmand[20] conducted with 600 dental surgeons, they found that 67.5% had physical problems, especially in the neck (51.9%), wrist (93.0%), waist (11.1%) and shoulder (7.4%).

Therefore, pain becomes one of the main factors that may lead to WRMD in dental surgeons, varying in intensity from one individual to another. Gabriel et al.[2] showed that one of the factors that could lead to the onset of pain in dentists is the incorrect posture during labor activity, such as the rotation of the head (73.1%), rotation of the spine (41.8%) and leg angle less than 90° (91.6%).

Khan and Chew[21] found in their comprehensive study with 575 Dentistry students, that about (95.0%) of the interviewed complained about pain in more than one body segment, with a higher prevalence of women self-reporting MSP. Another important result was that most of the respondents (92.0%) did not give importance to the posture in the performance of their profession. This is something worth to highlight because they are future dentistry professionals, who are not yet inserted into the labor market.

Sanchez et al.[22] pointed out that the prevalence of pain in the lower back and neck could be associated with the fact that the lumbar region provides greater mobility to the professional when carrying out their labor activities. As they seek for a better line of sight, they put overloads and tensions in the muscles which lead to the pain in the lumbar region. Pargali and Jowkar[23] concluded in their study that the labor activities of these professionals are not a factor triggering the onset of pain in the cervical and lumbar region, but they accelerate the onset of pain and aggravation of symptoms.

Another important result observed in this study was that a considerable number of dentists had a high perception of muscle fatigue (26.2%). Corroborating with the present study, Scopel and Oliveira[24] in their study with dental surgeons working in private clinics of Porto Alegre, found that 34 of the 39 respondents reported muscle fatigue (74.4%) and some pain symptoms (71.8%). These results indicate that the activities performed by these professionals can result in the occurrence of lesions.

In the physiological aspect, Casarin and Caria[25], in a study about the electromyographic behavior and fatigue in the deltoid and bilateral trapezius muscles, found that the dentists' long working hours cause pain and fatigue in the muscles of the shoulder girdle and neck.

Souza et al.[26], corroborating with Nokhostin and Zafarmand[20] concluded in their research at the Centro Odontológico do Brasil, that the high prevalence of WRMD in dentists is due to factors such as the poor ergonomic design of equipment and furniture, forcing these professionals to adopt inadequate postures.

Authors such as Gabriel et al. [2] suggest the consolidation and application of standards and guidelines to modify the working environment of these professionals and correct the inadequacies regarding posture in the dental practice in order to promote and ensure safety, high-performance, motivation, and satisfaction.

In the study of Cunha, Marques and Farias[27] regarding the healthiness of the workplace, 45.83% of the respondents reported as somewhat healthy and 29.2% as very unhealthy. Similarly, Ellerro and Lepera[28] concluded in their study that 80.0% of the professionals did not have their needs met regarding the resources to achieve an adequate working position, such as furniture and lighting.

Simões et al.[29] also included the temperature, which influences vasoconstriction or vasodilation, generating discomfort to the individual due to the excessive heat or cold. Also, insufficient or poorly distributed lighting can create points of reflection which can lead to vicious postures, and vibrating equipment, among other factors that aggravate the work overload.

In the study conducted by Regis Filho, Michel and Sell[16], using a cross-sectional epidemiologic method, they tried to correlate the tasks performed by dental surgeons with the onset of WRMD. There was an indication of a statistical association between gender and diseases. To the authors, women were the most affected with injuries in the shoulder/arm (39.40%), wrist/hand (18.30%) and neck (17.20%). This higher prevalence of MSP in women can be explained, in part, by the fact that the modern society increasingly demands women`s participation in the marketplace and the fact that women care more about their health than men and look more for medical assistance.

As for tenure, it was observed that the majority (68.3%) has been working for approximately 10 years, with daily work of 8 to 10 hours (62.9%). There was a significant association between long working hours and MSP. This result was also pointed out by Gazzola, Sarto and Avila[30] who observed that more than half of the dentists interviewed (56.3%) had a weekly working schedule of 30 to 40 hours, such activity goes beyond the physical/mental capacity of the worker, causing injuries.

Saliba et al.[6] found that the MSP etiology is multifactorial and that psychosocial factors showed significant association with the occurrence of injuries.

CONCLUSION

The prevalence of musculoskeletal pain in this study was high in the body segments analyzed. There was a significant association with tenure equal/greater than 10 years, daily work of more than 10 hours, individuals who consider the work pace excessive, monotonous and repetitive tasks, associated morbidities, high perception of fatigue and inadequate capacity to work.

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