

Prevalence and severity of orofacial pain in pregnant women

Prevalência e severidade da dor orofacial em gestantes

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ABSTRACT

Objective

To evaluate the prevalence and severity of oral pain in pregnant women.

Methods

A cross-sectional study was conducted on a sample of pregnant women who were receiving dental care at a Dental School. A structured questionnaire about self-perception of oral conditions and the presence and severity of orofacial pain in the mouth or teeth in the last 6 months was applied.

Results

80 pregnant women participated in the study and, of these, 58.8% reported having a problem with their teeth, 31.3% periodontal problems, 61.3% bad taste in mouth and 62.5% bad breath. Only 22.5% of pregnant women did not exhibit any form of oral pain. The most frequently reported pains were: pain with hot/cold liquids or sweets (56.2%) and spontaneous toothache (38.8%). With regard to severity, mild and moderate pain were the most frequently reported, but there was a group of 23.8% of pregnant women with severe or very severe pain caused by hot or cold liquids and 18.8% in the same condition in relation to spontaneous pain.

Conclusion

The results of this study showed that, despite the high prevalence of pain detected in the pregnant women, severity was low and referred to specific situations.

Indexing terms: Oral health. Pain. Pregnant women.

RESUMO

Objetivo

Avaliar a prevalência e a severidade da dor orofacial em gestantes.

Métodos

O estudo transversal foi realizado em uma amostra de gestantes em atendimento odontológico em uma faculdade de odontologia. Foi aplicado questionário estruturado com perguntas sobre a auto percepção das condições bucais e a presença e a severidade da dor orofacial sentida na boca ou dentes nos últimos 6 meses.

Resultados

Participaram do estudo 80 gestantes e, destas, 58,8% afirmaram ter algum problema nos dentes, 31,3% problema na gengiva, 61,3% gosto ruim na boca e 62,5% mau hálito. Apenas 22,5% não apresentaram nenhum tipo de dor orofacial. As dores mais relatadas foram: dor com líquidos quentes, frios ou doces (56,2%) e dor de dente espontânea (38,8%). Quanto à severidade, as dores de intensidade leve e moderada foram as mais frequentes, mas havia um grupo de 23,8% das gestantes com dores intensas ou muito intensas provocadas por líquidos frios e 18,8% na mesma condição em relação à dor espontânea.

Conclusão

Os resultados do estudo mostraram que, apesar da alta prevalência de dor orofacial encontrada, a severidade foi baixa e relacionada a algumas situações específicas.

Termos de indexação: Saúde bucal. Dor. Gestantes.

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INTRODUCTION

Orofacial pain, a condition associated with head, face and neck tissues as well as mouth structures, is one of the most common symptoms of oral health problems. It may have social, economic and psychological consequences for individuals by interfering with behavior, affecting daily activities and changing health perceptions. Moreover it can affect the individual's quality of life¹.

It also represents one of the major causes for seeking health services. In the study by Lisboa & Abegg² in Canoas (in the Brazilian state of Rio Grande do Sul), 51.3% of men and 51.5% of all adults sought dental care only when they had toothache. In the oral health national survey conducted in 2010, 27.5% of adults had had toothache in the previous six months and 15.8% sought dental care for this reason³.

A number of studies have tried to investigate the factors associated with pain, such as demographic, social and cultural ones⁴⁻⁵, number of missing teeth due to dental caries⁶ and the pattern of dental appointments⁷.

In adults and elderly residents in the Brazilian capital cities, the prevalence of dental pain was found to be 15.2% and it was associated mainly with the female gender, blacks or mixed races, those who do not have health insurance, smokers and consumers of soft drinks⁸. Other factors commonly associated with pain are place of residence⁹, alcohol consumption and eating habits⁴. Considering that pain is a subjective symptom, cognitive factors such as knowledge, beliefs and expectations, as well as cultural aspects, have been associated with differences in pain perception¹⁰.

Pregnancy is a special time in a woman's life, in which health care should be greater. Moreover, she becomes more susceptible to embracing new habits and behaviors. During this period, preventive and educational health programs are important because they can make the mother/woman an information disseminator and help to demystify dental care¹¹.

During pregnancy, some care with proper oral hygiene must be taken, but dental treatment, when necessary, is essential, because infections and untreated dental caries can harm the health of the mother and baby. A study conducted with pregnant women in Rio de Janeiro, Brazil, showed a high prevalence of untreated caries, periodontal diseases and orofacial pain¹². In a study by Hashim¹³, with 800 pregnant women in the Arab Emirates, it was shown that 41.7% of pregnant women did not use

dental services during pregnancy and 32.8% used them due to dental pain.

Because untreated dental problems can cause orofacial pain, this study evaluated the prevalence and intensity of orofacial pain during the previous six months, in patients who were undergoing treatment in the School of Dentistry of Araraquara, in the Brazilian state of São Paulo.

METHODS

This cross-sectional, analytical study included pregnant women, aged 18 years and older, who attended the Preventive Dentistry Clinic of the School of Dentistry of Araraquara (UNESP), during 2009-2010. A total of 95 pregnant women were in attendance, but only 80 were included in the study because ten were younger than 18 years and five participated in a pilot study.

The calculation of sample size was not performed because this study used a consecutive sample of all mothers attending the Preventive Dentistry Clinic in the given period (2 years).

Data were collected through a self-applied, structured questionnaire with 18 questions, divided into two parts. In the first part, socioeconomic and demographic variables (age, marital status, years of education, occupation, perception and self-assessed oral health with questions about tooth and gum status) were collected by means of seven questions that have already been used in another study of pregnant women by the same authors¹⁴.

The second part of the questionnaire collected information about the experience and severity of orofacial pain in the six months before the survey. The pregnant women were asked whether in the last six months they had: "spontaneous toothache; toothache caused by hot/cold liquids or sweets; prolonged burning tongue sensation; pain in the jaw or during chewing; pain when opening the mouth, in the face or around/behind the eyes". The possible answers "yes" or "no" determined the prevalence of orofacial pain. All pregnant women who answered "yes" were also asked about the intensity of pain on a scale of 1 (mild pain) to 4 (very severe). Questions about orofacial pain were adapted from the Nardi study¹⁵.

Before application, a pre-test was performed with five pregnant women in order to test the appropriateness of the questionnaire. Then a re-test was performed on the same pregnant women after seven days to confirm the

reproducibility of the instrument by applying the Kappa coefficient in accordance with the criteria of Landis and Koch¹⁶. The agreement was found to be 88% with a Kappa value of 0.878 (95% CI, 0.842 to 0.915).

All the pregnant women received an explanation of the research objectives. The consent form was read by the researcher and signed by the participants before handing out the questionnaire, which was applied in the clinic waiting room before the first appointment. No time limit for completing the questionnaire was set. On average they answered all questions, individually, in 10 minutes. If it was necessary, the researcher clarified the question(s), taking care to avoid influencing the responses.

Data were analyzed using the statistical program Epi Info version 3.5.2. The percentages of women with or without orofacial pain, as well as the severity of the pain, were determined.

All procedures for this research followed the ethical guidelines involving human subjects, approved by Resolution 196/96 of the National Health Council. This study was approved by the Ethics Committee of the School of Dentistry of Araraquara, Univ. Estadual Paulista Júlio de Mesquita Filho (protocol #36/07).

RESULTS

A total of 80 pregnant women participated in this study, conducted over a period of two years. They were on average 25 years-old (minimum 18 and maximum 39 years). A total of 32.5% received eight years of schooling, the maximum being 11 years. Most of them were married (68.8%) and 62.5% were not in employment.

The perception of oral problems showed the following results: the majority (58.8%) reported having some problem with teeth; however only 31.3% of pregnant women perceived some problem with gums. When asked what grade they would give to their oral health status, 41.3% graded excellent/good, 38.8% regular and 20.1% poor/very poor. Most of them (61.3%) reported feeling a bad taste in their mouth and 62.5% reported bad breath.

Table 1 shows the responses to 8 questions that represented the prevalence of orofacial pain in this study.

Regarding the prevalence of orofacial pain, the results showed that 22.5% of pregnant women reported no form of orofacial pain, while 77.5% answered "yes" to at least one of the questions. The severity of reported orofacial pain is shown in Table 2.

Table 1. Prevalence of orofacial pain in pregnant woman from Araraquara (SP).

In the last six months...	Yes		No	
	n	%	n	%
1. Did you feel spontaneous pain (no apparent cause)?	31	38.8	49	61.2
2. Did you feel toothache caused by hot/cold liquids or candies?	45	56.2	35	43.8
3. Did you have a prolonged burning sensation in the tongue or other parts of the mouth?	6	7.5	74	92.5
4. Did you feel pain in the joints of the jaw?	17	21.3	63	78.7
5. Did you feel pain while chewing?	14	17.5	66	82.5
6. Did you feel pain when opening the mouth fully?	15	18.8	65	81.2
7. Did you feel pain in the face, in front of the ear?	19	23.8	61	76.2
8. Did you feel pain around or behind the eyes?	11	13.7	69	86.3

Table 2. Severity of orofacial pain (%) in pregnant women from Araraquara (SP).

Severity	Pain-free	Mild	Moderate	Severe	Very severe
	%	%	%	%	%
1. Spontaneous toothache	61.2	10.0	10.0	11.3	7.5
2. Toothache caused by hot/cold liquids or candies	43.8	16.2	16.2	15.0	8.8
3. Prolonged burning sensation in the tongue or other parts of the mouth	92.5	3.7	2.5	1.3	0.0
4. Pain in the joints of the jaw	78.8	13.7	2.5	3.7	1.3
5. Pain during chewing	82.4	8.8	5.0	2.5	1.3
6. Pain when opening the mouth fully	81.2	11.2	3.7	2.5	1.3
7. Pain in the face, in front of the ear	76.2	7.5	6.3	6.3	3.7
8. Pain around or behind the eyes	86.2	6.3	3.7	2.5	1.3

DISCUSSION

The pregnant women in this study were, predominantly, young (average age of 25 years). On average they had nine years of schooling, which would correspond to full secondary education. However, this does not correspond to reality, because not all students finish elementary school in a period of eight years. No pregnant women attended undergraduate courses, because they studied 11 years at most. Most respondents (62.5%) did not work and 68.8% were married. Demographic data are important to characterize the sample, because life and work conditions affect the way in which individuals think and feel. In this study, pregnant women are young, with some schooling but without employment.

As regards the perception of oral health, the pregnant women had a positive assessment. Amongst them, 41.3% graded their oral health as excellent or good and 38.8% as moderate, similar to the results found by Silva et al.¹⁴ who had previously studied pregnant women in the same Clinic. A total of 58.8% reported having trouble

with their teeth and 31.3% reported having problems with the gums. These values are similar to others, particularly in relation to perception of gingival/periodontal problems. Silva et al.¹⁷ found that 31% of adults perceived themselves as having gum problems. It was also observed that the majority perceived a bad taste in the mouth (61.3%) and bad breath (62.5%). Honkala & Al-Ansari¹⁸ found that a third of pregnant women from Kuwait believed they had periodontal problems and all of them graded their oral health as poor.

Considering that, in this study, no clinical examination was performed, it is impossible to compare our results with the clinical status of the women examined. However, studies on self-perception of oral health^{17,19} have shown that most people grade their oral health better than it really is, because their evaluation takes into account subjective factors that are not measured by the professional. Thus it is very important to understand the factors people take into consideration when making their assessments, because their behavior and the search for health services will depend on this perception.

As for the negative impact of oral health on quality of life, Locker & Grushka²⁰ says that it is possible to find people with chronic problems who report higher levels of quality of life than healthy individuals, and one possible explanation for this is the subjective and multidimensional characteristic of this concept. For Jokovic & Locker¹⁹ the often asymptomatic nature of oral diseases, as well as fear, anxiety or even aversion to dental treatment, can be a decisive factor in their behavior.

The results on the prevalence of orofacial pain varied according to the area covered by the questionnaire. The main pain experienced by pregnant women was that caused by hot/cold liquids or sweets (56.3%), followed by spontaneous pain (38.8%), pain in the face (23.8%) and pain in the joints of the jaw (21.3%).

Nardi¹⁵ applied the same questionnaire to workers from southern Brazil and found similar values, especially in the following areas: pain caused by hot/cold liquids (49.1%) and pain in the joints of the jaw (20.2%). Locker & Grushka²⁰ also found 28.8% of pain caused by hot or cold liquids and spontaneous pain in 14.1% of adults from Canada.

According to Oliveira & Nadanovsky¹² the most frequent pain in pregnant women are headaches, pelvic pain and orofacial pain. All of them significantly affect activities of daily life and must be investigated. In a study conducted by the authors amongst 504 pregnant women from Rio de Janeiro, pain was a major problem for this group, with a negative effect on their quality of life.

With regard to the severity of orofacial pain in pregnant women, the most frequent pain was that of mild and moderate intensity, which is in line with other studies²⁰⁻²¹. However it can be seen that some women had severe or very severe pain in all areas. For example, 23.8% of pregnant women reported pain caused by hot or cold liquids and 18.8% with spontaneous toothache. One can see that the most common pain (spontaneous toothache and pain caused by liquids) is related to dental problems, indicating that caries may be more prevalent than periodontal pain or pain in the joints of the jaw. These problems can be solved by means of prevention programs and access to treatment.

Another explanation for the high prevalence of pain related to dental problems may be the fact that other types, such as pain in the face, pain while chewing or in the joints of the jaw, have to be severe before the individuals actually notice.

For Gomes & Abegg²², toothache and function limitation are more strongly associated with the impact on daily performance than the presence of disease. This type of pain causes concern because it generates suffering and it does not require demand for health services, as stated by Lacerda et al.²³.

Lacerda et al.²⁴ stated that the impact of oral health on daily performance depends on social, behavioral and cultural aspects. According to the authors, increased access to information is related to raised awareness of the importance of having good health and greater adherence to preventive measures and self-care. Thus, there is a clearer perception of the problems.

It is likely that the suffering and limitations experienced by individuals are more reliable characteristics of their oral health status than the biological after-effects of injuries and events measured by most clinical indicators. Therefore the use of subjective indicators is recommended in defining actions and priority groups in the health services.

CONCLUSION

Despite the high prevalence of orofacial pain, severity was low and limited to specific situations, in the studied sample.

Collaborators

FL ROSELL participated in the study design, data collection and writing the paper. JR VALSECKI collaborated in interpreting the results and writing the paper. EPS TAGLIAFERRO collaborated in the writing of the paper. SRC SILVA participated in the conception, study design and writing the paper.

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