

Temporomandibular disorders and pregnancy*

Disfunção temporomandibular em gestantes

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SUMMARY

BACKGROUND AND OBJECTIVES: Temporomandibular disorders (TMD) may present as pain at muscle and/or joint function and palpation, decreased mouth amplitude, jaw locking, clicking joints, among others, which when present during pregnancy may significantly impact quality of life. This study aimed at reviewing the literature on the prevalence of TMD signs and symptoms during pregnancy.

CONTENTS: Major available international databases (Medline, Cochrane, EMBASE, Pubmed) were queried from January 2000 to August 2012. Initially, 17 articles were found and after applying established criteria, only three were eligible for inclusion and discussion herein.

CONCLUSION: There is smaller however significant prevalence of TMD signs and symptoms during pregnancy.

Keywords: Facial pain, Pregnancy, Prevalence, Temporomandibular joint disorders.

RESUMO

JUSTIFICATIVA E OBJETIVOS: As disfunções temporomandibulares (DTM) podem apresentar-se como dor à função e palpação muscular e/ou articular, diminuição da amplitude bucal, travamentos mandibulares, estalos articulares, entre outros, que quando presentes durante a gravidez podem gerar um importante impacto na qualidade de vida. O objetivo deste estudo foi analisar a literatura a respeito da prevalência de sinais e sintomas de DTM em gestantes.

CONTEÚDO: Realizou-se busca eletrônica nas principais bases de dados internacionais disponíveis (Medline, Cochrane, EMBASE, Pubmed), referente ao período de janeiro de 2000 a agosto de 2012. Inicialmente foram encontrados 17 artigos, e após a aplicação dos critérios estabelecidos restaram três para inclusão e discussão neste estudo.

CONCLUSÃO: Há menor, porém não significativa prevalência de sinais e sintomas de DTM em pacientes gestantes.

Descritores: Dor facial, Gestantes, Prevalência, Transtornos da articulação temporomandibular.

INTRODUCTION

Temporomandibular disorders (TMD) are a subgroup of musculoskeletal disorders and are the primary source of facial pain, excluding dental pain¹. The literature suggests that it is 1.5 to 2 times more prevalent in females as compared to males and that 80% of patients treated for TMD are females²⁻⁴. The severity of symptoms is also related to patients' age, with peaks at reproductive age, with the highest prevalence in females aged between 20 and 40 years^{5,6}, and low prevalence in children and older adults^{6,7}.

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Most individuals looking for TMD treatment are females in reproductive age^{5,6}, however there is still no consensus in the literature about the reason for the higher prevalence among females⁶. Highest TMD prevalence at reproductive age, added to the pattern of starting after puberty, higher association to pre-menstrual period and lower prevalence in the post-menopausal period suggest that female hormones may play important role in TMD etiology or maintenance^{6,8,9}.

In addition, gestation brings about dramatic changes in sexual estrogen and progesterone hormones. Both are increased throughout pregnancy, with higher elevation rate starting in early second trimester and returning to their normal rates in up to one year after delivery¹⁰. During gestation there is also increase of relaxin hormone, responsible for increased mobility of body joints⁶. Generalized joint hypermobility may contribute to the development of TMD¹¹, such as luxation or subluxation of temporomandibular joints (TMJ), for example.

TMDs may present as pain at muscle and/or joint function and palpation, decreased mouth opening amplitude, jaw locking and clicking joints¹⁻³, among others, which when present during pregnancy may significantly impact quality of life^{10,12}. This study aimed at reviewing the literature on the prevalence of TMD signs and symptoms during pregnancy.

CONTENTS

Major available international databases (Medline, Cochrane, EMBASE and Pubmed) were queried from January 2000 to August 2012. Keywords used and crossed during query were “pregnant women”, temporomandibular joint disorders”, “facial pain”, “prevalence”,

and “hormones”, which were obtained from the DeCS/MeSH dictionary. Initial list of articles was submitted to evaluation according to inclusion and exclusion criteria. They are: articles written in English; following the evidence-based dentistry concept we have selected observational (transversal) and longitudinal (prospective) studies; articles published from January 2000 to August 2012; studies evaluating the prevalence of orofacial pain and/or TMD in pregnant adult women aged above 18 years; orofacial pain and/or TMD classification according to the criteria of the American Academy of Orofacial Pain or of RDC/TMD. Articles evaluating the prevalence of dental pain, headache or periodontal disease in pregnant women were excluded.

We have found 17 articles and after applying inclusion and exclusion criteria three were left to be included and discussed herein (Table 1)

In the context of Evidence-based Dentistry, observational studies are not the highest scientific evidence level, however they are the most adequate when the goal is to study the prevalence of a certain condition in a population. Longitudinal studies may evaluate both prevalence and incidence of a certain condition/disease in a population¹⁵. We have looked for observational and longitudinal studies evaluating the prevalence of orofacial pain and/or TMD in pregnant patients.

An important study¹⁰ evaluating the evolution of TMD signs and symptoms in women before, during and after pregnancy, has observed that TMD symptoms previously present have decreased during pregnancy and there has been increased mouth opening amplitude during the same period. Reported pain rates, which decreased throughout pregnancy, have returned to baseline values in one year after delivery. The same was true to estradiol

Table 1 – Included articles.

Year	Authors	Study design	Sample	Results
2005	LeResche et al. ¹⁰	Longitudinal (prospective)	35 pregnant women (19 with TMD and 16 w/o TMD)	Improvement of pain/TMD during pregnancy
2005	Silveira et al. ¹³	Observational (transversal)	100 pregnant women	46% with TMD hypermobility during mouth opening 7.1% prevalence of TMD in pregnant women, with no statistical difference as compared to control group (non pregnant).
2009	Solak et al. ¹⁴	Observational (transversal)	70 pregnant women 40 controls (non pregnant)	

TMD = temporomandibular disorder; TMJ = temporomandibular joint.

and progesterone levels, which the authors believe is an indication of the role of such hormones in modulating pain during pregnancy.

In 2005, a group of authors¹³ has studied the possible association of systemic joint hypermobility and temporomandibular joint hypermobility in pregnant women as a way to establish a higher predisposition to the development of TMD. Although not finding an association between both conditions, there has been a prevalence of 46% TMJ hypermobility during mouth opening among pregnant women.

With similar objective, a study evaluating 70 pregnant women¹⁴ has not found higher prevalence of systemic joint hypermobility as compared to non-pregnant women. In addition, and similar to the already mentioned study¹³, it was not possible to establish association between systemic joint hypermobility and TMJ hypermobility.

If estradiol and progesterone levels influence orofacial pain experience, a decrease in pain reports may be expected during pregnancy. Although finding increased mouth opening amplitude during pregnancy, there has been no association with generalized joint hypermobility in pregnant patients.

Our study is a warning about the scarcity of studies evaluating TMD prevalence in pregnant women, being necessary studies with well-defined methodology to obtain reliable results.

CONCLUSION

Analyzed studies have shown lower, however not significant prevalence of TMD signs and symptoms among pregnant patients.

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