






## THE IMPORTANCE OF DENTAL PRENATAL CARE IN INFANT HEALTH: A LITERATURE REVIEW

### A IMPORTÂNCIA DO PRÉ-NATAL ODONTOLÓGICO NA SAÚDE DO INFANTE: UMA REVISÃO DE LITERATURA

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#### ABSTRACT

The physiological changes resulting from pregnancy and habits during pregnancy motivate interest about the need for dental prenatal care, in order to understand the repercussions on the oral health of the mother and the newborn. Pregnancy is an appropriate phase for promoting oral health, as it is a time when women are more receptive to the acquisition of new practices that help with self-care and favor the development of their baby. This study aimed to review the literature about the importance of dental prenatal care and the impact of physiological changes in pregnancy and the mother's habits on the infant. It was a literature review, with the eligibility criteria being the selection of articles in English, Portuguese and Spanish, indexed to the PubMed and SciELO databases, from 2009 to 2019, through the Boolean operator "AND". The inclusion of Dentistry in the monitoring of pregnant women is seen as an essential part of prenatal care, considering that physical and behavioral changes during this period are associated with inflammatory reactions in the gingival tissue, enabling the installation of oral manifestations such as tooth decay and periodontal disease. The obstacles found regarding the lack of information of the pregnant woman, professional unpreparedness due to lack of knowledge for care and the difficulty of accessing the service are highlighted. The inclusion of Dentistry in prenatal care is important, since it avoids disorders in general and oral health of the mother and child.

**Keywords:** Prenatal care. Prenatal education. Oral health.

#### RESUMO

As transformações fisiológicas decorrentes da gestação e hábitos durante a gravidez motivam o interesse sobre a necessidade de um pré-natal odontológico, para que se entenda as repercussões na saúde bucal da mãe e do recém-nascido. A gestação é uma fase adequada para promoção de saúde bucal, pois é um momento que a mulher é mais receptiva a aquisição de novas práticas que ajudam no autocuidado e favorecem o desenvolvimento de seu bebê. Este estudo teve como objetivo revisar a literatura acerca da importância do pré-natal odontológico e da repercussão das alterações fisiológicas na gestação e hábitos da mãe sobre o infante. Tratou-se de uma revisão de literatura, tendo por critério de elegibilidade a seleção de artigos nos idiomas inglês, português e espanhol, indexados às bases de dados PubMed e SciELO, de 2009 a 2019, através do operador booleano "AND". A inclusão da Odontologia no acompanhamento das gestantes é vista como parte essencial dos cuidados no pré-natal, considerando que alterações físicas e comportamentais durante este período estão associadas às reações inflamatórias no tecido gengival, propiciando a instalação de manifestações bucais como a cárie dentária e a doença periodontal. São ressaltados os empecilhos encontrados quanto à falta de informação da gestante, despreparo profissional por falta de conhecimento para o atendimento e a dificuldade de acesso ao serviço. A inclusão da Odontologia no pré-natal é importante, visto que evita desordens na saúde geral e bucal materno-infantil.

**Palavras-chave:** Cuidado pré-natal. Educação pré-natal. Saúde bucal.

## INTRODUCTION

Pregnancy is a dynamic physiological state that is evidenced by numerous transitory changes in the woman's body that can affect its health, perceptions and interactions with the environment. The local physical changes occur in different parts of the body, including the oral cavity. These changes all together can represent different challenges regarding the dental care of pregnant patients. Throughout this phase, the pregnant woman requires support such as monitoring or medical intervention, preventive care and physical and emotional assistance (CODATO *et al.*, 2011; HEMALATHA *et al.*, 2013; CRUZ, 2014).

Prenatal care is characterized by ensuring the progress of the pregnancy, providing a healthy birth, without impact to the maternal fetal health. Thus, the insertion of Dentistry in the monitoring of pregnant women in prenatal care is considered a relevant part of care during pregnancy due to the biological, clinical, cultural, behavioral and socioeconomic factors of the family environment. In most cases pregnant women do not have knowledge about dental prenatal care, believing that it might induce negatively in the course of the pregnancy and therefore generate damages to the health of the mother and the baby such as abnormalities and abortion (LOPES; PESSOA; MACÊDO, 2018).

On the other hand, it is a period in which the pregnant woman starts to have innumerable doubts that may result in her estimation to search for information, and thus, obtain new and better health activities. Hence, it is plausible that improvements in the the pregnant woman's self-care regarding oral health and the consequent health of her child will be achieved. In these cases, therefore, the collaboration and participation of the pregnant woman becomes essential for an effective dental care (CODATO *et al.*, 2011).

The repercussion of the mother's health on the baby may be due to numerous aspects, such as maternal metabolism, respiratory changes, social habits and vitamin deficiency of the pregnant woman. Among the changes, the alterations in the oral cavity that contributes to a greater susceptibility to oral infections and negative effects on the child stand out (CRUZ, 2014).

Physical and behavioral changes during pregnancy are associated to a sudden increase in the hormones capable of causing inflammatory reactions in the gingival tissue, exacerbating the accumulation of biofilm and bacteria in dental elements. Some oral manifestations are more common during pregnancy such as, for instance, caries and periodontal disease (GONÇALVES; SONZA, 2018).

The occurrence of caries is related to the high index of *Streptococcus mutans*, deficiency in the control of dental biofilm, high sugar consumption and reduced access to health services (BASTIANI *et al.*, 2010; SANTOS NETO *et al.*, 2012). Furthermore, periodontal disease is stimulated through factors that influence the response of the periodontium such as biofilm, the immunological response and the concentration of sexual hormones (BASTIANI *et al.*, 2010).

It is noteworthy that dental practices that used outdated techniques, materials and equipment can contribute to the appearance of reports about unpleasant and traumatic experiences regarding dental care (FAGUNDES; OLIVEIRA; SANTOS NETO, 2014).

Another common situation is the unpreparedness of dental surgeons for care, given that most suggest postponing the treatment based on myths and beliefs. Insecurity in the use of x-rays, type of anesthetic, which procedures could be performed and which is the best period for treatment are among the main difficulties. In addition to that, the public dental care access to pregnant women still is considered complicated in health attentions (BERNARDI; OLIVEIRA; MASIERO, 2019).

Consequently, it is important that professionals provide correct information about the prevention and maintenance of oral health during pregnancy, contributing for it to be safer and without negative impacts on the health of the pregnant woman (MARTINS *et al.*, 2013, BERNARDI; OLIVEIRA; MASIERO, 2019). The dental surgeon must be a health promoting agent, providing a healthy oral condition to the pregnant woman with positive repercussions on the child's development and enabling the education and motivation of the pregnant woman for the

importance of the baby's oral health (PRESTES *et al.*, 2013; FAGUNDES; OLIVEIRA; SANTOS NETO, 2014).

Such health activities will surely extend to the future baby, due to the adherence to adequate eating habits and preventive measures, reducing the probability of the appearance of several pathologies in the child. It seems that well-informed and motivated mothers take better care of their children's oral health (SOARES *et al.*, 2009).

Given the above, the aim of this study was to review the literature about the importance of dental prenatal care and the impact of the physiological changes resulting from the pregnancy and habits of the mother to the infant.

## METHODOLOGY

It was a narrative literature review study with the eligibility criteria the selection of articles indexed to the PubMed and SciELO (Scientific Electronic Library Online) databases. Searches were restricted to articles published between 2009 and 2019 in Portuguese, English and Spanish. For advanced searches the Boolean operator "AND" was used. Duplicated articles were removed, as well as those that were not available in full.

The articles were selected using the descriptors indexed in the DeCS (Health Sciences Descriptors) and their corresponding terms in the MeSH (Medical Subject Headings) – "cuidado pré-natal / prenatal care", "parto prematuro / premature birth", "saúde bucal / oral health".

The selected articles by the use of descriptors underwent a new selection by reading the titles, abstracts and, finally, reading the content. 17 articles were selected, including a document from the Ministry of Health.

## DEVELOPMENT

Dental care during pregnancy, in a multidisciplinary way, aims to avoid complications in the child's general and orofacial health such as premature births and low birth weight. At this stage, the dental surgeon must analyze the physiological changes of the pregnant woman and guide her towards the promotion of oral health and habits taking into consideration the remarkable repercussion on the baby's health (CRUZ, 2014).

All pregnant women should be encouraged to seek dental care because a failure in the treatment of developing problems affects the health of the mother and her child. Therefore, professionals must have a basic understanding of the physiological changes resulting from pregnancy and how they can influence maternal and baby's oral health (HEMALATHA *et al.*, 2013).

Regarding dental prenatal care, the professional must inform about the need to control dental biofilm making patients aware of possible oral changes that may occur during pregnancy and what can be done to avoid them. During consultations, oral evaluations are carried out, followed by guidelines, clarification of doubts regarding the oral health of the mother and baby, in addition to dental treatment for pregnant women who need them. Restorative, periodontal and endodontic procedures, for example, should preferably be performed in the second trimester of pregnancy (MARTINS *et al.*, 2013; BERNARDI; OLIVEIRA; MASIERO, 2019).

Pregnancy is the period in which oral health guidelines are extremely important given that women are willing to acquire new knowledge and are motivated to make changes that may have positive repercussions on the baby's health and, for this reason, the insertion of Dentistry in the gestational phase becomes increasingly indispensable (BASTIANI *et al.*, 2010).

Gingivitis accompanied by gingival bleeding occurs more easily during pregnancy. Periodontal tissues become susceptible to inflammatory changes induced by dental biofilm in face of hormonal changes. Therefore, pregnant women should adopt a daily habit of caring for their oral health using dental floss and a soft toothbrush with toothpaste (MINISTÉRIO DA SAÚDE, 2018).

Pregnancy gingivitis is a disease characterized by an exacerbated response to the presence of dental biofilm. This periodontal condition is clinically similar to gingivitis induced by dental biofilm with red, swollen gums, with bleeding during brushing. Its prevalence varies between 35% and 100% of pregnant women (GONÇALVES; SONZA, 2018).

Regarding caries, factors such as lower stomach capacity, causes the pregnant woman to decrease the amount of food intake during meals and increase its frequency. This behavior results in an increase in the consumption of carbohydrates in the diet which associated with negligence of the oral hygiene, intensifies the risk of caries (CRUZ, 2014). In addition to that, the reduction in brushing frequency should be considered, especially in the morning, due to morning sickness, or those women that maintained the same frequency, but normally brush faster and with less effectiveness. This fact increases the amount of biofilm in the oral environment affecting the health-disease process (LOPES; PESSOA; MACÊDO, 2018).

Another factor that happens in this phase and should be highlighted is the change in breathing pattern, adopting oral breathing. This type of breathing also favors the onset of periodontal disease and is associated with premature births and the birth of low birth weight children (CORREA, 2009; FAGUNDES; OLIVEIRA; SANTO NETO, 2014). Premature birhts adversely affect the structure of the child's dental enamel, making them more susceptible to caries. In addition, they show delays in the development and in the tooth eruption in childhood (FAGUNDES; OLIVEIRA; SANTO NETO, 2014).

Generally, during pregnancy several changes occur in the endocrine system in women, the dysregulation of the hypothalamic-pituitary-adrenal (HPA) axis leads to the exposure of the fetus to stress hormones, which influence the fetal development and parameters related to childbirth (DUTHIE; REYNOLDS, 2013).

Drinking and smoking habits are some of the risk factors that can have repercussions for serious problems in the child's development such as the occurrence of syndromes and orofacial lesions such as the clef palate; low birth weight of the child, due to premature births and even spontaneous abortions (OLIVEIRA *et al.*, 2014).

The lack of nutrient input by the pregnant woman can lead the child to a delay in intrauterine growth, congenital malformations, decreased immunocompetence, abnormal development of some organs, premature birhts and ultimately, its death (SOARES *et al.*, 2009).

The impact generated on the pregnant woman by some unpleasant situation that occurred previously, negative comments from acquaintances, as well as the professional's disgust about dental care, creates a feeling of fear in the patient. Some pregnant women believe that they should not receive dental care and the lack of academic training of professionals on the subject contributes to this misconception (SOARES *et al.*, 2009). It is emphasized the need to build a bond of trust between the dental surgeon and the pregnant woman which helps to reduce the fear about clinical care trying to demystify beliefs, myths and the stress generated in consultations, a reason that many times ends up taking patients away from dental procedures (SANTOS NETO *et al.*, 2012; GONÇALVES; SONZA, 2018).

Access to dental care during pregnancy still is a major negative factor in health units, taking into consideration the numerous obstacles that affect it since the lack of knowledge of the need of dental care by the pregnant women such as fear of feeling pain and difficulties to its introduction into the public service (SANTOS NETO *et al.*, 2012, FAGUNDES; OLIVEIRA; SANTO NETO, 2014).

The ideal time for the insertion of habits and behavior models that must be followed and memorized is during pregnancy. Oral health education aims to obtain knowledge and skills that help transform the individual's conduct and actions, generating new values that will favor their health (RIGO; DALAZEN; GARBIN, 2016).

It is worth mentioning that this early introduction of those responsible for preventive oral disease programs is a positive factor in providing children's oral health. The dialogue with the responsible person about the post-pregnancy period is essential as it points out the importance of

maintaining the child's hygiene and encourages it to become a habit promoting the well-being of individuals and encouraging them to practice routine consultations (SOARES *et al.*, 2009).

## CONCLUSION

The inclusion of Dentistry in prenatal care is important because in addition to demystifying fears and beliefs, it avoids disorders in the general and oral health of the mother and child. The performance of professionals in the area with excellence is essential for the control of dental biofilm, making it difficult to install periodontal disease and caries. As a result, the probability of premature births, low birth weight and other changes generated by the mother's physiological changes during pregnancy are reduced. It is worth highlighting the importance of maternal awareness of adopting good habits in a current and future perspective, demystifying beliefs and myths about dental treatment.

The development of pregnancy without impact on fetal maternal health and the insertion of a new concept of care for the newborn is responsibility of the pregnant woman and the professional, in co-participation. It is up to the dental surgeon to ensure better access to care and multidisciplinary care, however, the pregnant woman must collaborate in the self-care project, following the guidelines of oral hygiene, aiming at health promotion and allowing dental monitoring during and after the pregnancy.

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