




## PRENATAL DENTAL CARE PROTOCOLS: THE ROLE OF PREVENTION AND ORAL HEALTH PROMOTION DURING PREGNANCY

### PROTOCOLOS DE PRÉ-NATAL ODONTOLÓGICO: O PAPEL DA PREVENÇÃO E PROMOÇÃO DE SAÚDE BUCAL NA GESTAÇÃO

### PROTOCOLOS DE ATENCIÓN ODONTOLÓGICA PRENATAL: EL PAPEL DE LA PREVENCIÓN Y PROMOCIÓN DE LA SALUD BUCAL EN EL EMBARAZO

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#### ABSTRACT

Pregnancy is a period marked by significant physiological, hormonal, and behavioral changes that can directly influence a woman's oral health and, consequently, impact maternal and child health. In this context, prenatal dental care plays a relevant role in the prevention, diagnosis, and treatment of oral diseases during pregnancy, contributing to the promotion of adequate health conditions for the pregnant woman and fetal development. The present study aimed to analyze, through a review of recent scientific literature, the main aspects related to prenatal dental care, with emphasis on care protocols, barriers to access to services, and strategies for prevention and promotion of oral health during pregnancy. To this end, a narrative literature review was conducted using the PubMed database, employing the descriptor "Prenatal Dental Care," according to the terminology of the Medical Subject Headings (MeSH). Articles published in the last five years, available in full text and written in Portuguese or English, that directly addressed the proposed topic were included. The search initially resulted in the identification of 300 records. After applying eligibility criteria and conducting the stages of title and abstract screening, followed by full-text reading, 10 articles met the established criteria and were included in the analysis. The analyzed studies indicate that changes in the oral microbiota during pregnancy may favor the development of periodontal diseases and odontogenic infections, which, when untreated, may be associated with adverse obstetric outcomes. In addition, socioeconomic, structural, and informational factors

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influence pregnant women's access to dental services. Therefore, it is evident that the integration between dentistry and prenatal care, combined with educational and preventive strategies, is essential to expand access to care, promote oral health among pregnant women, and contribute to better maternal and child outcomes. It is important to emphasize that dental follow-up during pregnancy is of utmost importance to prevent the occurrence of cariogenic disease in both the pregnant woman and the developing fetus, thus representing a strategy capable of protecting children from a source of cariogenic risk during early childhood.

**Keywords:** Prenatal Dental Care. Pregnancy. Oral Health. Prevention. Maternal and Child Health.

## RESUMO

A gestação é um período marcado por importantes alterações fisiológicas, hormonais e comportamentais que podem influenciar diretamente a saúde bucal da mulher e, conseqüentemente, repercutir na saúde materno-infantil. Nesse contexto, o pré-natal odontológico assume papel relevante na prevenção, diagnóstico e tratamento de doenças bucais durante a gravidez, contribuindo para a promoção de condições adequadas de saúde para a gestante e para o desenvolvimento fetal. O presente estudo teve como objetivo analisar, por meio de uma revisão da literatura científica recente, os principais aspectos relacionados ao pré-natal odontológico, com ênfase nos protocolos de cuidado, nas barreiras de acesso aos serviços e nas estratégias de prevenção e promoção de saúde bucal durante a gestação. Para isso, foi realizada uma revisão bibliográfica narrativa na base de dados PubMed, utilizando o descritor "Prenatal Dental Care", conforme a terminologia do Medical Subject Headings (MeSH). Foram incluídos artigos publicados nos últimos cinco anos, disponíveis integralmente e redigidos em português ou inglês, que abordassem diretamente o tema proposto. A busca resultou na identificação inicial de 300 registros. Após a aplicação dos critérios de elegibilidade e a realização das etapas de triagem de títulos e resumos, seguida da leitura dos textos completos, 10 artigos atenderam aos critérios estabelecidos e foram incluídos na análise. Os estudos analisados indicam que alterações na microbiota oral durante a gestação podem favorecer o desenvolvimento de doenças periodontais e infecções odontogênicas, que, quando não tratadas, podem estar associadas a desfechos obstétricos adversos. Além disso, fatores socioeconômicos, estruturais e informacionais influenciam o acesso das gestantes aos serviços odontológicos. Evidencia-se, portanto, que a integração entre odontologia e atenção pré-natal, aliada a estratégias educativas e preventivas, é fundamental para ampliar o acesso ao cuidado, promover a saúde bucal das gestantes e contribuir para melhores desfechos materno-infantis. É importante ressaltar que o acompanhamento odontológico durante a gestação é de suma importância para evitar o acometimento da doença cariogênica tanto na gestante quanto no filho que está em fase de desenvolvimento fetal, sendo assim, é uma estratégia capaz de livrar as crianças de uma fonte de risco cariogênica durante a primeira infância.

**Palavras-chave:** Pré-Natal Odontológico. Gestação. Saúde Bucal. Prevenção. Saúde Materno-Infantil.

## RESUMEN

El embarazo es un período marcado por importantes cambios fisiológicos, hormonales y conductuales que pueden influir directamente en la salud bucal de la mujer y, en consecuencia, repercutir en la salud materno-infantil. En este contexto, la atención



odontológica prenatal asume un papel relevante en la prevención, diagnóstico y tratamiento de enfermedades bucales durante la gestación, contribuyendo a la promoción de condiciones adecuadas de salud para la gestante y el desarrollo fetal. El presente estudio tuvo como objetivo analizar, mediante una revisión de la literatura científica reciente, los principales aspectos relacionados con la atención odontológica prenatal, con énfasis en los protocolos de atención, las barreras de acceso a los servicios y las estrategias de prevención y promoción de la salud bucal durante el embarazo. Para ello, se realizó una revisión bibliográfica narrativa en la base de datos PubMed, utilizando el descriptor “Prenatal Dental Care”, conforme a la terminología de los Medical Subject Headings (MeSH). Se incluyeron artículos publicados en los últimos cinco años, disponibles en texto completo y redactados en portugués o inglés, que abordaran directamente el tema propuesto. La búsqueda resultó inicialmente en la identificación de 300 registros. Tras la aplicación de los criterios de elegibilidad y la realización de las etapas de selección de títulos y resúmenes, seguida de la lectura de los textos completos, 10 artículos cumplieron con los criterios establecidos y fueron incluidos en el análisis. Los estudios analizados indican que los cambios en la microbiota oral durante el embarazo pueden favorecer el desarrollo de enfermedades periodontales e infecciones odontogénicas que, cuando no son tratadas, pueden estar asociadas a resultados obstétricos adversos. Además, factores socioeconómicos, estructurales e informativos influyen en el acceso de las gestantes a los servicios odontológicos. Se evidencia, por lo tanto, que la integración entre la odontología y la atención prenatal, junto con estrategias educativas y preventivas, es fundamental para ampliar el acceso al cuidado, promover la salud bucal de las gestantes y contribuir a mejores resultados materno-infantiles. Es importante destacar que el seguimiento odontológico durante el embarazo es de suma importancia para prevenir la aparición de la enfermedad cariogénica tanto en la gestante como en el feto en desarrollo, constituyendo así una estrategia capaz de proteger a los niños de una fuente de riesgo cariogénico durante la primera infancia.

**Palabras clave:** Atención Odontológica Prenatal. Embarazo. Salud Bucal. Prevención. Salud Materno-Infantil.



## 1 INTRODUCTION

Pregnancy represents a period of intense physiological, hormonal, and behavioral changes that can have a direct impact on a woman's oral health and, consequently, on fetal development (Jang et al., 2021). Historically, dental care during pregnancy has been surrounded by myths and fears, both on the part of patients and health professionals, which often resulted in the postponement of necessary treatments (Aliabadi et al., 2022). However, contemporary scientific evidence reinforces that the maintenance of oral health is an essential component of comprehensive prenatal care, contributing to the prevention of systemic complications and the promotion of maternal and child health (Aliabadi et al., 2022; Byrappagari et al., 2024).

Among the biological factors associated with oral health in pregnancy, the presence of periodontal pathogens, such as *Porphyromonas gingivalis*, stands out, which have been linked to adverse obstetric outcomes, including preterm birth and preeclampsia (Jang et al., 2021). In addition to biological aspects, access to dental prenatal care is also influenced by socioeconomic determinants and the organization of health services. In metropolitan contexts, inequalities in maternal income and schooling are important barriers to the adequacy of this care (Esposti et al., 2021).

Prenatal care is the ideal strategic moment to integrate dental care, taking advantage of the constant presence of the pregnant woman in the health unit. Educational activities and routine appointments facilitate access to the dentist; However, the reality shows a worrying gap: only a minority of women receive adequate oral care during this period, evidencing a failure in the integration of services. (Esposti et al., 2021).

In this context, it is essential to integrate dentistry with prenatal care services, allowing oral health care to be incorporated into gestational follow-up routines. Considering that, during the gestational period, many women are more receptive to the adoption of healthy habits, this moment is a strategic opportunity to carry out clinical care and educational actions aimed at promoting oral health (Esposti et al., 2021). The integrated performance of the oral health team in prenatal care contributes to the early identification of diseases, to the orientation of pregnant women regarding self-care practices and to the demystification of beliefs related to the performance of dental procedures during pregnancy.

In addition, the inclusion of dental surgeons in the multiprofessional prenatal care team has been recognized as an important strategy for the promotion of maternal and



child health. The preventive approach during pregnancy enables not only the early diagnosis of oral diseases, but also guidance on oral hygiene care, diet, and healthy habits, favoring the construction of health practices that can benefit both the pregnant woman and the child (Jang et al., 2021; Esposti et al., 2021).

In addition, the gestational period represents a particularly opportune time for the implementation of health education actions. Many pregnant women demonstrate greater motivation to adopt healthy behaviors at this stage of life, which favors adherence to professional guidelines and prevention practices. Thus, the performance of the dental surgeon in the context of prenatal care can generate positive impacts not only for the health of the pregnant woman, but also for the formation of care habits that can be transmitted later to the children (Byrappagari et al., 2024).

In view of this scenario, the present study aims to analyze, through a review of recent scientific literature, the main aspects related to dental prenatal care, with emphasis on care protocols, barriers to access to services, and strategies for prevention and promotion of oral health during pregnancy.

## **2 METHODOLOGY**

The present study is characterized as a narrative literature review, developed with the objective of synthesizing and analyzing the most recent scientific evidence related to dental prenatal protocols, focusing on the role of prevention and promotion of oral health in pregnancy. The search was carried out in the PubMed database, using the descriptor "Prenatal Dental Care", in accordance with the terminology of the Medical Subject Headings (MeSH). Articles published in the last five years, available in full and written in Portuguese or English, that directly addressed the topic, were included. Studies that did not have a direct relationship with the central theme, duplicate publications, narrative reviews with low methodological rigor, and articles not indexed in the database used were excluded. The selection of studies was conducted in two stages: screening of titles and abstracts, followed by the evaluation of full texts to confirm relevance. The information extracted was organized in a descriptive way.

## **3 RESULTS**

The search carried out in the PubMed database, using the descriptor "Prenatal Dental Care", resulted in the initial identification of 300 records. After applying the



previously established eligibility criteria, the titles and abstracts were screened, followed by the reading of the full texts of the potentially relevant studies.

At the end of this selection process, 10 articles met the defined criteria and were included in the analysis. These studies formed the basis of the review and had their information organized and described to support the synthesis of evidence about dental prenatal care and its role in the promotion and prevention of oral health during pregnancy.

**Table 1**

*Characterization of the studies included in the review*

Title	Author	Year	Background
Antibiotic use in endodontic treatment during pregnancy: A narrative review	Aliabadi et al.	2022	Use of antibiotics in endodontic treatments during pregnancy and drug safety for pregnant women.
Clinical practice guidelines for oral health care during pregnancy: a systematic evaluation and summary recommendations for general dental practitioners	Bao et al.	2022	Evaluation of clinical guidelines for oral health care during pregnancy and recommendations for dental surgeons.
Association between dental visits during pregnancy and setting for prenatal care	Byrappagari et al.	2024	Association between dental consultations during pregnancy and the place where prenatal care is performed.
Adequacy of prenatal dental care: social and geographic inequalities in a metropolitan region of Brazil	Esposti et al.	2021	Evaluation of the adequacy of dental prenatal care and social and geographic inequalities in access to care.



Water fluoridation for the prevention of dental caries	Iheozor-Ejiofor et al.	2024	Systematic review on the effectiveness of water fluoridation in the prevention of dental caries.
Oral microflora and pregnancy: a systematic review and meta-analysis	Jang et al.	2021	Relationship between oral microbiota and pregnancy, including microbial changes and possible impacts on maternal-fetal health.
Effectiveness of interventions on improving early-life dental care utilization: a systematic review and meta-analysis	Ly-Mapes et al.	2024	Effectiveness of interventions to increase the use of dental care in early childhood.
Risk of early childhood caries estimated by maternal dental caries during pregnancy: a retrospective cohort study	Thearawiboon, Rojanaworarit	2024	Association between maternal caries during pregnancy and risk of early childhood caries.
Health Risks and Benefits of Fluoride Exposure During Pregnancy and Infancy	Till et al.	2025	Review of the risks and benefits of fluoride exposure during pregnancy and early childhood.
Changes in use of prenatal dental care after Brazil's incentive policy	Schuch, Furtado, Chiavegatto	2024	Impact of Brazilian public policies on the increase in the use of dental prenatal care.

## 4 DISCUSSION

### 4.1 DYNAMICS OF ORAL MICROFLORA AND IMPACT OF INTERVENTION

During pregnancy, the composition of the oral microflora undergoes significant changes, although it maintains a certain relative stability. Systemic conditions such as gestational diabetes mellitus and preeclampsia are associated with distinct microbial profiles, characterized by increased pathogens. Dental prenatal care plays a crucial role in reducing the burden of cariogenic microorganisms, such as *Streptococcus mutans*, decreasing the likelihood of vertical transmission to the neonate. In addition, the presence



of *Porphyromonas gingivalis*-rich subgingival biofilm in women with preterm birth reinforces the importance of preventive periodontal therapies as part of the care protocol during pregnancy (Jang et al., 2021).

In this context, the presence of odontogenic infections during pregnancy can modify the balance of the oral microbiota, favoring the growth of pathogenic microorganisms associated with inflammatory and infectious processes. These infections, often related to the dental pulp or periapical tissues, can evolve rapidly when not properly treated, which reinforces the importance of timely clinical interventions to control bacterial proliferation and avoid potential systemic complications (Aliabadi et al., 2022).

Dental treatment, especially endodontic interventions, contributes to the reduction of the microbial load present in the infectious focus. Procedures such as removal of the infected pulp, drainage of exudate, and disinfection of the root canal aim to eliminate pathogenic microorganisms and restore the microbiological balance of the oral cavity, reducing the risk of spreading the infection to adjacent tissues or to the maternal body (Aliabadi et al., 2022).

The relationship between oral health and pregnancy complications is a central point of attention. Studies indicate that the imbalance of the oral microbiota can cause problems in childbirth, since the presence of bacteria such as *P. gingivalis* in the amniotic fluid is linked to premature birth. In patients with preeclampsia, this correlation is even clearer, requiring close dental follow-up. (Jang et al., 2021).

Another relevant point refers to the impact of the rational use of drugs on microbiological control. Antibiotics used as complementary therapy can help contain bacterial infections when there are systemic signs or dissemination of the infectious process. However, its use must be judicious, since inappropriate use can favor the development of bacterial resistance and interfere with the maternal and neonatal microbiota, highlighting the importance of well-planned therapeutic interventions during the gestational period (Aliabadi et al., 2022).

It was also evidenced that maternal oral health is directly associated with children's oral health, especially with regard to the vertical transmission of cariogenic pathogens from mother to baby. Thus, the reduction of bacterial load during pregnancy, through appropriate dental interventions, can delay or decrease the early colonization of the oral cavity of the newborn by potentially pathogenic microorganisms (Jang et al., 2021).



Maintaining the balance of the oral microbiota during pregnancy depends not only on the treatment of already established infectious conditions, but also on the adoption of continuous preventive measures. Guidance on proper brushing, flossing and periodic follow-up with the dentist contribute significantly to the reduction of bacterial biofilm and to the maintenance of periodontal health. Thus, dental prenatal care plays a relevant role in the microbiological control of the oral cavity during this period (Jang et al., 2021; Aliabadi et al., 2022).

#### 4.2 ACCESS BARRIERS AND CARE MODELS

The effectiveness of dental prenatal protocols is conditioned by geographic and social access. In Brazil, it was observed that the adequacy of dental care — defined by having at least one consultation — is lower among pregnant women with low education and lower income, evidencing persistent inequity in primary care (Esposti et al., 2021). On the other hand, integrated care models, such as Federally *Qualified Health Centers (FQHCs)* in the United States, have demonstrated a superior ability to facilitate dental visits for vulnerable populations covered by the public system (*Medicaid*) compared to non-integrated models (Byrappagari et al., 2024). Physical and flow integration between medicine and dentistry in the same place of prenatal care is a positive predictor for pregnant women's adherence to treatment (Byrappagari et al., 2024).

The barriers to access to dental care during pregnancy are not restricted only to structural factors of the health system, but include misperceptions about the risks of dental treatments during this period. Many health professionals and patients still show insecurity regarding the performance of dental procedures in pregnant women, which contributes to the postponement or absence of care, even in the face of evident clinical needs (Jang et al., 2021).

In addition, studies indicate that the lack of integration between medical and dental professionals can compromise the continuity of prenatal care. When obstetric follow-up does not incorporate oral health as part of the comprehensive care of pregnant women, opportunities for early diagnosis and preventive intervention end up being lost, which can negatively impact both maternal and neonatal health (Aliabadi et al., 2022).

Another factor that can influence pregnant women's access to dental services is related to the level of information available about the importance of oral health during pregnancy. In many cases, the lack of knowledge about the safety of dental procedures



during this period makes pregnant women avoid seeking care, even when they have symptoms or need treatment. In this sense, educational strategies aimed at both health professionals and the population are essential to reduce these misconceptions and expand access to dental care in prenatal care (Jang et al., 2021; Esposti et al., 2021).

In addition, public policies that encourage integration between oral health teams and prenatal care services can contribute to expanding access and improving the quality of care provided to pregnant women. The creation of more efficient referral flows, combined with the training of health professionals, represents an important measure to strengthen comprehensive care during pregnancy (Byrappagari et al., 2024).

Another important factor to be discussed is the inclusion of dental care during prenatal treatment services, where it was verified in the study that there was no certain integration of services, thus causing a lapse in the provision of services by the management of the medical service of gestational follow-up. Ways to include dental care associated with obstetric medical treatment can be developed. (Byrappagari et al., 2024).

#### 4.3 SAFETY OF PROCEDURES AND PHARMACOLOGICAL THERAPEUTICS

The safety of dental procedures during pregnancy is a fundamental aspect of prenatal care, since many pregnant women and health professionals are still afraid of undergoing treatments during this period. Scientific evidence indicates, however, that most routine dental procedures can be performed safely during pregnancy, especially when appropriate clinical recommendations and appropriate professional follow-up are respected (Jang et al., 2021). Dental consultations during prenatal care allows the early identification of oral diseases and the adoption of safe therapeutic measures, contributing to the maintenance of maternal and fetal health.

In this context, the use of pharmacological therapies should also be conducted with caution, considering the physiological particularities of pregnancy. Some medications commonly used in dental practice, such as certain analgesics, antibiotics, and local anesthetics, have well-established safety profiles for pregnant women when used appropriately. The choice of medication should take into account the gestational stage, the patient's clinical condition, and the risk-benefit ratio of the proposed treatment (Aliabadi et al., 2022).

However, misperceptions about the risks of dental treatments still represent an important barrier to performing necessary procedures during pregnancy. Many health



professionals and patients demonstrate insecurity regarding the performance of clinical interventions or the use of medications, which can result in the postponement of treatments even in the face of evident dental needs (Jang et al., 2021).

In addition, the lack of integration between medical and dental professionals can compromise the proper conduct of treatment during prenatal care. When obstetric follow-up does not include guidance on the safety of dental procedures and indicated pharmacological therapies, the likelihood of interruption or delay in necessary dental care increases, which can negatively impact maternal and newborn health (Aliabadi et al., 2022).

Another relevant factor refers to the level of information available to pregnant women about the safety of dental treatments during pregnancy. The absence of clear guidelines can generate fear regarding the performance of clinical procedures or the use of medications prescribed by the dentist. In this sense, educational strategies aimed at both health professionals and the population are essential to clarify doubts, reduce myths, and promote safe access to dental treatment during prenatal care (Jang et al., 2021; Esposti et al., 2021).

In addition, public policies and clinical protocols that encourage integration between oral health teams and prenatal care services can contribute to ensuring greater safety in the performance of dental procedures during pregnancy. The training of health professionals and the creation of well-defined care flows represent important measures to ensure that pregnant women receive adequate and safe dental treatment throughout prenatal care (Byrappagari et al., 2024).

In addition, the mechanisms of action of the drugs that are going to be prescribed should be taken into account, observing how the compound is dissolved by the body, verifying the sites of action that in the dental context may be systemic or local, and oral antibiotics should preferably be prescribed due to their lower rate of systemic absorption, which could lead to the passage of the drug solution to the placenta and consequent fetal absorption. (Aliabadi et al., 2022).

However, although bacterial resistance is a natural process, the indiscriminate use of antibiotics accelerates this phenomenon, generating resistant strains and serious systemic risks, such as arrhythmias and severe allergic reactions. In the obstetric context, the impact is even more profound: the use of these drugs during the fetal and neonatal phase negatively alters the maternal microbiota (vaginal and intestinal) and compromises



the intestinal colonization of the newborn. This early interference can delay the maturation of the children's immune system, increasing the predisposition to diseases and allergies throughout life. (Aliabadi et al., 2022).

#### 4.4 PREVENTION AND HEALTH PROMOTION: THE FLUORIDE DEBATE

The gestational period demands extra attention to oral health due to greater vulnerability to periodontal pathologies. While mechanical hygiene is critical, the need for fluoridation of drinking water is debated, given the low certainty of current evidence. The literature suggests that combating socioeconomic disparities in oral health should prioritize topical and educational actions, such as school programs and the use of fluoride toothpaste, addressing social determinants in a broader and more targeted way. (Till et al., 2025).

The promotion of oral health traditionally includes the use of fluoride as one of the main strategies for preventing caries. However, recent discussions related to prenatal biosafety have highlighted the need for a careful analysis of fluoride exposure during pregnancy. Some studies suggest that elevated levels of fluoride exposure, from fluoridated water or supplementation, may be associated with possible impacts on fetal neurological development, including reductions in infant intelligence quotient (IQ). While community water fluoridation remains widely recognized as an important public health measure for caries prevention, the balance between its dental benefits and potential neurodevelopmental vulnerabilities of the fetus should be considered in preventive counseling during prenatal care (Till et al., 2025).

The efficacy of water fluoridation has also been the subject of reevaluation in the recent scientific literature. A systematic review conducted by Ihezor-Ejiofor et al. (2024) indicates that much of the evidence supporting the benefits of systemic fluoride intake for caries prevention was produced in periods prior to 1970. According to the authors, the reduction in the incidence of caries observed today may be more related to the use of topical sources of fluoride, such as fluoride toothpastes, than to ingestion through water. The study also highlights the occurrence of dental fluorosis in populations exposed to elevated levels of fluoride, which reinforces the importance of balancing the preventive benefits with the possible risks of excessive exposure (Ihezor-Ejiofor et al., 2024).

Given this evidence, some researchers highlight that determining safe levels of fluoride exposure still represents a challenge, especially during pregnancy. Studies



suggest that high concentrations of this element may act as potential endocrine disruptors, interfering with hormonal mechanisms, including changes in thyroid-stimulating hormone (TSH) levels. In addition, fluoride has the ability to cross the placenta and the blood-brain barrier, and can reach developing fetal tissues. These findings reinforce the need for caution in assessing fluoride exposure during pregnancy, as well as the importance of guidelines based on up-to-date scientific evidence (Till et al., 2025).

In this context, special attention is recommended to the consumption of additional sources of fluoride during pregnancy, especially in the form of supplements or in foods with high concentrations of this element. For infants, it is recommended that infant formula preparation be carried out, whenever possible, with water with lower fluoride content, in addition to encouraging adult toothbrushing supervision in order to avoid excessive intake of fluoride toothpaste by children (Till et al., 2025).

Although fluoride has the ability to cross the placenta and can be detected in fetal tissues, scientific evidence indicates that its main preventive effect against caries occurs predominantly topically, acting directly on the surface of tooth enamel after tooth eruption. Thus, systemic fluoride ingestion during pregnancy is not considered a direct mechanism of protection of fetal tooth enamel, and the topical use of fluorides is the main preventive strategy recommended in dental practice (Iheozor-Ejiofor et al., 2024; Bao et al., 2022).

In this regard, despite recent discussions about possible risks associated with excessive fluoride exposure, the scientific literature still widely recognizes fluoride as one of the most effective strategies for preventing tooth decay. Evidence from systematic reviews indicates that water fluoridation contributes to the reduction of the prevalence of caries in the population, and is considered an important public health measure when used at appropriate concentration levels (Iheozor-Ejiofor et al., 2024).

In addition, the use of topical sources of fluoride, such as fluoride toothpastes, is one of the main recommendations of clinical guidelines for the maintenance of oral health during pregnancy. These strategies help in the process of remineralization of tooth enamel and in the reduction of bacterial activity associated with the development of caries, contributing to the control of oral diseases in pregnant women (Bao et al., 2022).

Considering that hormonal and microbiological changes during pregnancy can favor the development of oral diseases, evidence-based preventive measures become even more relevant during this period. In this context, the adoption of oral hygiene practices associated with the proper use of fluoride represents an important strategy for



maintaining maternal oral health and reducing the risks of transmission of cariogenic bacteria to the child (Jang et al., 2021; Ly-Mapes et al., 2024).

Parallel to the debate on the use of fluoride, actions to promote oral health during pregnancy should prioritize educational strategies that encourage the adoption of healthy habits. Guidelines related to proper oral hygiene, a balanced diet and reduced sugar consumption are essential to prevent the development of cavities and periodontal diseases. In addition, periodic dental consultations allow the monitoring of the oral health of pregnant women, enabling early interventions when necessary (Jang et al., 2021; Esposti et al., 2021).

Therefore, health education programs aimed at pregnant women can play a relevant role in disseminating correct information about oral care during pregnancy. The participation of pregnant women in collective or individual educational activities contributes to the strengthening of autonomy in self-care and to the construction of health practices that can benefit both mother and child (Byrappagari et al., 2024).

#### 4.5 DENTAL PRENATAL CARE AND MATERNAL AND CHILD ORAL HEALTH

During pregnancy, women are often more receptive to acquiring knowledge related to their own health and care for the baby. In this scenario, dental prenatal care is a strategic opportunity for the dissemination of health information. Although health promotion should be understood as a continuous process throughout the life course, this period presents particularly favorable conditions for educational and preventive actions (Schuch et al., 2024). In addition, the approach in this context should not be limited to the dental care of pregnant women, since its effects have a direct impact on the health of the newborn (BAO ET AL., 2022; ESPOSTI ET AL., 2021).

The insufficiency of oral health education during this period can compromise maternal preparation for the adoption of adequate oral hygiene and food control practices in childhood, favoring an increased risk of developing dental caries in children. Evidence also indicates that the presence of maternal caries during pregnancy is an important clinical indicator associated with a higher risk of early caries occurrence in childhood. This association reinforces the relevance of dental follow-up in the prenatal period as a strategy to promote oral health and prevent this condition in children (THEARAWIBOON; ROJANAWORARIT, 2024).



In this sense, dental prenatal care is also configured as a privileged moment of learning, favoring the development of more conscious attention on the part of mothers in relation to the child's oral health (LY ET AL., 2024). The dissemination of knowledge and guidance on dental care in this phase becomes, therefore, fundamental for the strengthening of a dental practice with greater preventive emphasis, oriented to the promotion of the well-being of pregnant women, mothers and babies.

## 5 CONCLUSION

Dental prenatal care is a crucial component of comprehensive maternal and child health care. The analysis of the studies shows that the integration between dental services and prenatal care is fundamental. This integration allows not only the prevention of oral diseases, but also the early identification of risk factors that can compromise the health of the pregnant woman and the baby, promoting better maternal and child outcomes.

However, access to this care is still influenced by structural, social, and care factors. Socioeconomic inequalities and structural limitations in health systems remain relevant barriers to pregnant women's access to dental care. On the other hand, integrated care models — such as those linked to community health centers — have been shown to be more effective in promoting dental consultations during pregnancy.

Maternal oral health, which includes the condition of the oral microbiota, directly influences the baby's health, and the presence of maternal caries is an indicator of the risk of early childhood caries. Dental follow-up helps control potentially pathogenic microorganisms, but further research is needed to better understand the full impact of this relationship on the oral microbiota and birth outcomes.

In addition, dental prenatal care offers a strategic moment of learning, in which pregnant women are more receptive to the adoption of healthy habits. In addition to ensuring the safety of dental procedures and the judicious use of pharmacological therapies, the debate on fluoride reinforces the importance of preventive approaches based on scientific evidence and adapted to the specific needs of the maternal and child population.

Therefore, the strengthening of public policies that encourage the inclusion of dentistry in prenatal care is an essential strategy to expand access and quality of care. This alliance between dentistry and prenatal care promotes a positive and lasting change



in lifestyle and oral care, benefiting both the pregnant woman and the child, especially in more disadvantaged social environments.

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