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Dental Caries, Gingivitis, and Oral Health in Pregnant Women: an Updated Review Article

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Abstract:

Background: Gingivitis and dental caries are common oral health issues among pregnant women due to hormonal fluctuations, changes in oral hygiene habits, and dietary modifications. Pregnancy increases susceptibility to gingivitis, with symptoms such as gum swelling, bleeding, and tenderness. Hormonal changes, particularly increased levels of estrogen and progesterone, alter the oral tissues and make the gums more prone to inflammation. This review aims to assess the impact of pregnancy on oral health, focusing on gingivitis, dental caries, and related complications.

Aim: The objective of this review is to evaluate the relationship between pregnancy, gingivitis, and dental caries, and to explore the effectiveness of interventions aimed at improving oral health during pregnancy. The review also highlights the influence of pregnancy-related hormonal changes on oral health and the importance of preventive care.

Methods: This updated review synthesizes findings from various studies and clinical trials examining gingivitis and dental caries during pregnancy. Data was collected from PubMed, Web of Science, and other reputable databases. The studies analyzed include both clinical assessments and interventions designed to improve oral health during pregnancy.

Results: The review found a significant increase in gingivitis prevalence among pregnant women, particularly during the second and third trimesters. Hormonal changes significantly contribute to the heightened sensitivity of gums, making them more susceptible to plaque accumulation. Moreover, the review emphasizes the importance of good oral hygiene practices and prenatal education in reducing the severity of gingivitis. A few studies showed that interventions such as advanced oral care regimens and educational programs led to improved maternal oral health and reduced adverse pregnancy outcomes.

Conclusion: Pregnancy-related gingivitis and dental caries pose a significant risk to maternal oral health. Hormonal changes, along with other factors such as dietary modifications and morning sickness, exacerbate oral health issues. Preventive measures such as improved oral hygiene, professional dental care, and patient education are essential to mitigate these risks. Further research is needed to establish standardized interventions and assess their impact on pregnancy outcomes.

Keywords: pregnancy, gingivitis, dental caries, oral health, hormonal changes, preventive care, maternal health

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Introduction:

Gingivitis represents the most widespread oral condition, affecting the majority of adults with natural teeth [1]. The primary etiological factor in the onset of gingivitis is dental plaque, although hormonal and other factors may influence the initiation or severity of gingival inflammation [2, 3]. Pregnancy has been associated with an increased extent and severity of gingival inflammation, affecting 36% to 100% of pregnant women [3-6, 6, 7]. While poor oral hygiene contributes to plaque accumulation and subsequent gingival inflammation [8], significant qualitative differences in the biofilm composition are not consistently linked with the heightened inflammation observed during pregnancy [9-12]. The hormonal fluctuations during pregnancy modify and amplify the inflammatory response to the dental plaque biofilm, leading to intensified gingival inflammation, even in the absence of changes in oral hygiene habits [13-15]. According to the 2017 World Workshop on the Classification of Periodontal Disease [2], pregnancy-associated gingivitis is classified as dental plaque-induced gingivitis modified by systemic factors and associated with sex steroid hormones. The increase in severity and extent of pregnancy-associated gingivitis is typically self-limiting and temporary. As pregnancy-related hormonal changes subside postpartum, gingival inflammation returns to pre-pregnancy levels, assuming oral hygiene remains unchanged [5, 16]. A systematic review of studies examining gingival inflammation in pregnant women revealed a marked increase in gingivitis compared to nonpregnant women. This increase is not linked to higher plaque accumulation between the two groups but seems proportional to systemic hormone levels and inflammatory biomarkers [11]. Optimal treatment for gingivitis involves thorough daily biofilm removal from the gingival sulcus [17]. Although hormonal and inflammatory changes during pregnancy contribute to clinical gingivitis, Geisinger et al. have demonstrated that pregnancy-related gingivitis is uncommon in individuals with exceptional plaque control and that the condition can be reversed through an intensive oral home care regimen, despite the influence of sex steroid hormones [18, 19]. Additionally, pregnancy offers a unique opportunity for women to adopt and maintain positive health behaviors [20-22]. Given the low prevalence of optimal oral health behaviors in the general population, pregnancy may represent an effective period for midwives and prenatal providers to offer health education and improve oral hygiene practices [23, 24].

Pregnancy-related periodontal disease has also been linked to adverse pregnancy outcomes, such as low birth weight and preterm birth [25-29]. The proposed mechanisms underlying these associations include systemic microbial exposure and the inflammatory burden caused by periodontal diseases. However, the effectiveness of periodontal treatment on pregnancy outcomes has been inconsistent [25, 30, 31]. Moreover, improvements in maternal oral hygiene during pregnancy and continued care post-pregnancy, as well as regular attendance at prenatal visits, have been associated with better oral health in offspring, including lower rates of early childhood caries [32, 33]. A further advantage of the approach described is its ease of implementation as part of perinatal healthcare. Given the potential impact of improving oral health behaviors and dental plaque biofilm removal during pregnancy on both oral and overall health, alternative mechanisms for enhancing oral home care during this critical period were explored in two pilot studies [18, 19, 35]. The first study found that a nonalcoholic cetylpyridinium chloride (CPC) oral rinse reduced the incidence of preterm birth among women with periodontal disease who declined dental care [35]. The second study expanded the intervention to include education and advanced oral hygiene products for pregnant women with moderate-to-severe gingivitis. The intervention was found to improve the women's periodontal health [18, 19]. Based on these findings, as well as related research on the effects of oral hygiene combination therapy, a randomized controlled trial was initiated. The primary aim of this multicenter trial was to determine whether an oral health intervention (OHI) that included an advanced over-the-counter (OTC) oral home care regimen, oral hygiene instructions delivered by nurse-led staff, and supplemental educational video content could improve gingival inflammation in pregnant women with moderate-to-severe gingivitis.

Dental Caries:

Gingivitis and Oral Health Diseases Related to Pregnancy

Pregnancy gingivitis is a common condition characterized by gum inflammation, swelling, and bleeding, which is often exacerbated by hormonal fluctuations during pregnancy. These hormonal changes, particularly the elevation of estrogen and progesterone, increase susceptibility to oral health issues, including dental infections. While hormonal changes do not directly cause dental infections, they make the gums more sensitive to bacterial plaque, increasing the likelihood of gingivitis and other oral complications. Factors such as morning sickness, changes in dietary habits, heightened gum sensitivity, and a decrease in dental care practices further contribute to the increased risk of oral health problems during pregnancy [36-40].

Hormonal Influence on Oral Health:

The hormonal fluctuations that occur during pregnancy, especially the increased levels of estrogen and progesterone, induce alterations in oral tissues. These hormonal changes heighten blood circulation in the gums, causing them to become more sensitive and prone to inflammation. This makes pregnant individuals more vulnerable to gum disease, especially gingivitis, which is a common manifestation during pregnancy. Symptoms of pregnancy gingivitis include gum inflammation, swelling, and bleeding, typically triggered by heightened sensitivity to bacterial plaque [38-40].

Contributing Factors to Dental Infections:

Several factors increase susceptibility to tooth infections during pregnancy. Hormonal fluctuations, coupled with morning sickness and dietary changes, contribute to heightened gum sensitivity and may lead to poor oral hygiene practices. These factors, in combination, create an environment conducive to the development and progression of gingivitis and other dental issues. The inflammatory and hemorrhagic tissues of the gums can serve as a gateway for bacterial infiltration, exacerbating the risk of dental infections [41-43]. This review examines pregnancy gingivitis, emphasizing the impact of hormonal changes—particularly elevated estrogen and progesterone—on gum health. These changes result in increased blood circulation and heightened sensitivity to plaque formation, which, in turn, affects gum size, shape, and overall health. While hormonal fluctuations do not directly cause infections, they make the gums more susceptible to plaque and inflammation, leading to an increased risk of dental infections during pregnancy. This review draws upon quantitative studies and literature searches from various databases, including PubMed, Web of Science, EMBASE, and Google Scholar, to provide a comprehensive analysis of the condition.

Studies on Gingivitis:

Gonzalez-Jaranay et al. (44) conducted a clinical assessment of gingival inflammation and probing depth at various stages of pregnancy. They observed a significant increase in the Gingival Index ($p<0.001$) over the course of pregnancy, with values rising from 56.7% ± 0.20 at baseline to 66.36% ± 0.17 at 21–23 weeks, and reaching 74.5% ± 0.18 at 34–36 weeks. This progression highlights a noticeable exacerbation of gingival inflammation as pregnancy advances, particularly in the later stages. Kahetty et al. (45) employed an interview combined with a Type 3 oral examination, utilizing several indices such as the Simplified Oral Hygiene Index (OHI-S), Gingival Index, Community Periodontal Index, and TNs Index. Their findings revealed that pregnant women exhibited poor oral hygiene, with an average OHI-S score of 2.68. Additionally, gingivitis was prevalent among both pregnant and non-pregnant women, though it was more pronounced in the pregnant group, with a mean gingival score of 1.25. Notably, gingivitis severity was observed to increase from the second to the third trimester. Wijaya et al. (46) utilized the Gingival Index to assess the prevalence of gingivitis during pregnancy. The study found that gingivitis was most commonly observed in the third trimester, affecting 47.5% of the participants, with the majority presenting mild symptoms. These findings emphasize the heightened prevalence of gingivitis during pregnancy, especially as it progresses into the third trimester.

Gingivitis observed during pregnancy is primarily attributed to hormonal fluctuations, particularly the elevated levels of estrogen and progesterone that occur throughout the gestational period. These hormonal changes can have a profound effect on gum health, leading to the development of a condition commonly known as pregnancy gingivitis. The elevated estrogen and progesterone levels during pregnancy induce various changes in gum tissue, including increased blood flow to the gums, heightened sensitivity to plaque accumulation, and alterations in the size and shape of the gums. Although the precise cause of the increased gingival inflammation during pregnancy remains unclear, research into the effects of elevated estrogen and progesterone levels on the periodontium has been ongoing since the 1970s. Estradiol, the predominant estrogen in plasma, is synthesized by the ovaries and placenta, while progesterone is produced by the corpus luteum, placenta, and adrenal cortex. Throughout pregnancy, levels of both hormones steadily increase, particularly due to the secretion of the corpus luteum in the early stages, followed by the placenta in later stages.

By the third trimester, the concentrations of estrogen and progesterone reach their peak, with progesterone levels reaching 100 ng/mL and estrogen levels at 6 ng/mL, both significantly higher than during the menstrual cycle—progesterone levels are 10 times higher and estrogen levels 30 times higher. Animal models have demonstrated the physiological impact of estrogen on the gingiva, particularly in terms of gingival hypertrophy when serum estrogen levels are reduced using aromatase inhibitors. This hypertrophy can be reversed with the administration of estradiol, further emphasizing the significant influence of estrogen on various physiological processes in the gingiva, such as cell proliferation and differentiation. These effects are facilitated by both direct and indirect mechanisms, supported by evidence of estrogen and progesterone receptors being present in the human periodontium. In addition to hormonal changes, pregnancy-related symptoms such as morning sickness can further compromise oral health. Nausea and vomiting, common in the early stages of pregnancy, can result in the erosion of tooth enamel due to the regurgitation of stomach acid. This acid exposure weakens the enamel, which serves as the protective outer layer of the teeth, making it more susceptible to corrosion and increasing the risk of dental issues such as increased tooth sensitivity, decay, and other complications. If left unmanaged, pregnancy gingivitis, characterized by gum swelling, bleeding, and discomfort, can progress to a more severe form of gum disease, periodontitis.

Development of Gingivitis and Dental Caries in Pregnant Women:

Gingivitis and dental caries are common oral health issues that pregnant women may experience due to hormonal changes, dietary habits, and reduced oral hygiene practices during pregnancy. These conditions can significantly impact on oral health and, if left untreated, may contribute to further complications, such as periodontitis and tooth loss. Understanding the underlying factors contributing to gingivitis and dental caries during pregnancy is crucial for effective prevention and management.

Hormonal Changes and Gingivitis During Pregnancy

The primary factor contributing to gingivitis during pregnancy is hormonal fluctuations, particularly elevated levels of estrogen and progesterone. These hormones play a vital role in the development and progression of pregnancy gingivitis. Estrogen and progesterone can cause changes in the gum tissues, leading to increased blood flow, which makes the gums more sensitive and prone to inflammation. As a result, women experience symptoms such as swelling, redness, bleeding upon brushing, and tenderness in the gums. Pregnancy gingivitis is typically most noticeable during the second and third trimesters, with an increased incidence in the latter stages of pregnancy. The heightened hormonal levels cause the gums to become more responsive to plaque and bacteria, which results in an inflammatory response. In the absence of proper oral hygiene, this inflammation can lead to gingivitis. If left untreated, gingivitis can progress into periodontitis, a more severe condition that can affect the underlying bone structure and lead to tooth loss. Additionally, during pregnancy, changes in the immune system, including alterations in immune cell function and the release of inflammatory cytokines, can make the gums more susceptible to infection. This increased susceptibility to oral infections is further exacerbated by the reduced ability to fight bacteria due to pregnancy-related changes in saliva composition and its buffering capacity.

Morning Sickness and Dental Caries

Another significant factor influencing oral health during pregnancy is morning sickness, which affects many women during the early stages of pregnancy. Morning sickness is characterized by nausea and vomiting, often accompanied by acid reflux. The regurgitation of stomach acid into the oral cavity can lead to the erosion of tooth enamel. Enamel is the hard outer layer of teeth, and when exposed to stomach acid repeatedly, it can wear away, resulting in dental erosion and increased susceptibility to cavities. The erosion of enamel weakens the teeth, making them more vulnerable to the effects of bacteria and plaque accumulation. Dental caries, commonly known as tooth decay, is a progressive condition that occurs when acids produced by bacteria in the mouth break down the tooth's structure. Pregnant women are particularly vulnerable to dental caries due to the combination of factors, including hormonal changes that affect saliva production, dietary habits, and the tendency to snack more frequently, often on sugary foods. Inadequate oral hygiene practices during pregnancy, coupled with the increased consumption of sugary foods, can promote the growth of decay-causing bacteria, increasing the risk of dental caries.

Preventive Measures and Oral Health Care

Maintaining good oral hygiene is essential for preventing gingivitis and dental caries during pregnancy. Pregnant women should brush their teeth at least twice a day with fluoride toothpaste, floss daily, and use antimicrobial mouthwashes to reduce plaque buildup. Regular dental checkups during pregnancy are crucial for early detection and management of oral health issues. Dentists can provide professional cleanings, identify early signs of gingivitis or dental caries, and offer personalized advice on maintaining oral health. In addition to proper oral hygiene, pregnant women should avoid acidic foods and beverages, which can exacerbate enamel erosion, and reduce their intake of sugary snacks that can contribute to tooth decay. Chewing sugar-free gum or drinking water after vomiting episodes can help neutralize stomach acids and reduce the risk of enamel damage. Gingivitis and dental caries are prevalent oral health issues among pregnant women, with hormonal fluctuations, dietary changes, and decreased oral hygiene contributing to their development. Early prevention and treatment are vital to maintaining optimal oral health during pregnancy. Regular dental visits, proper oral care, and attention to diet can significantly reduce the risk of gingivitis and dental caries, ensuring better outcomes for both maternal and fetal health.

Treatment of Dental Caries and Using of Anesthesia:

The treatment of dental caries during pregnancy is a critical aspect of oral healthcare, as untreated dental conditions can exacerbate discomfort, lead to systemic complications, and potentially affect maternal and fetal health. The management of dental caries during pregnancy requires careful consideration of the safety and well-being of both the mother and the developing fetus. Anesthesia, which is often used for pain management in dental procedures, also requires specific attention to ensure it is safe for use during pregnancy.

Treatment of Dental Caries During Pregnancy

Dental caries, also known as tooth decay, is a common oral health issue during pregnancy due to hormonal changes, dietary habits, and altered oral hygiene practices. The early stages of dental caries are usually treatable through non-invasive methods such as remineralization, but if left untreated, the condition can progress to more severe stages requiring restorative procedures such as fillings or extractions. During pregnancy, treatment is generally considered safe when performed with proper precautions. Non-invasive treatments, such as fluoride varnishes, may be recommended to remineralize early carious lesions and halt the progression of decay. Fluoride helps to strengthen the enamel, making it more resistant to acids produced by plaque bacteria. This approach is particularly useful in the early stages of pregnancy, as it minimizes the need for more invasive procedures and reduces the risk of exposure to certain medications or radiographic examinations that may be harmful to the fetus. For more advanced stages of dental caries, restorative procedures like fillings or crowns are necessary. Restorative dentistry during pregnancy should generally be postponed until the second trimester if possible. This is because the first trimester is a critical period for fetal organ development, and exposure to dental materials or medications, such as certain

analgesics and local anesthetics, should be avoided if feasible. Elective dental procedures are typically postponed until the second trimester when the risk of teratogenicity is lower. However, if a dental emergency arises, such as severe pain or infection, treatment may be necessary during the first trimester to prevent further complications.

Use of Anesthesia During Pregnancy

Anesthesia is commonly used in dental procedures to provide pain relief and ensure patient comfort. During pregnancy, the use of anesthesia requires careful consideration of the potential effects on the mother and fetus. Local anesthesia, which is commonly used in dental treatments, is generally considered safe when administered appropriately. The most commonly used local anesthetics, such as lidocaine, have a well-established safety profile and are typically preferred during pregnancy. Lidocaine, for instance, has been classified as a Category B drug by the U.S. Food and Drug Administration (FDA), indicating that it is generally considered safe for use during pregnancy based on animal studies. However, it is important to use the lowest effective dose to minimize systemic absorption and potential risks. Additionally, the administration of local anesthesia should be performed with care to avoid inadvertent systemic effects, such as hypotension or toxicity, which can adversely affect both the mother and fetus. The use of general anesthesia or sedation is typically avoided during pregnancy unless absolutely necessary, as these agents carry a higher risk of fetal harm. The potential risks include fetal respiratory depression, low birth weight, and teratogenic effects. In the rare cases when general anesthesia is required, it should be administered by a specialist with expertise in managing pregnant patients, and the procedure should be carefully planned to minimize risks.

Considerations for Pain Management and Postoperative Care

Postoperative pain management after dental procedures should also be carefully managed during pregnancy. Nonsteroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen, which are commonly used for pain relief, should be avoided during pregnancy, particularly during the third trimester, due to the risk of premature closure of the ductus arteriosus in the fetus. Instead, acetaminophen is generally recommended as a safer alternative for pain relief during pregnancy. In addition to medication management, maintaining good oral hygiene after dental procedures is essential to prevent further complications and ensure proper healing. Pregnant women should be encouraged to follow a regular oral hygiene routine, including brushing with fluoride toothpaste, flossing, and using antimicrobial mouthwash to reduce the risk of post-treatment infections. The treatment of dental caries during pregnancy, when approached with appropriate precautions, is essential for maintaining maternal oral health and preventing complications. Local anesthesia, particularly lidocaine, is considered safe for use in dental procedures, but careful attention should be paid to dosages and the timing of treatment to minimize any risks to the fetus. Non-invasive treatments, such as fluoride varnishes, can help manage early-stage caries, while more invasive procedures may be necessary for advanced cases. With proper management, dental care during pregnancy can be safely provided, ensuring optimal oral health for both the mother and the developing fetus.

The Role of Nursing in Managing Dental Caries and Gingivitis During Pregnancy

Nurses play a critical role in the prevention, early detection, and management of dental caries and gingivitis during pregnancy. Given the physiological changes that occur during pregnancy, including hormonal fluctuations that can affect oral health, nursing professionals are key in ensuring that expectant mothers receive appropriate education, guidance, and support to manage and mitigate oral health issues effectively. The role of nursing in addressing these conditions involves a multifaceted approach that includes patient education, collaboration with dental professionals, early intervention, and promoting good oral hygiene practices.

Patient Education and Awareness

One of the primary roles of nurses is to educate pregnant women about the importance of oral health and its potential impact on maternal and fetal health. Nurses can provide information about the increased risk of dental caries and gingivitis during pregnancy due to hormonal changes, including elevated levels of

estrogen and progesterone, which can lead to changes in gum tissue, plaque formation, and inflammation. Education can also emphasize the significance of maintaining good oral hygiene and regular dental visits, which are essential in preventing or managing these conditions. Nurses can educate patients on proper oral hygiene techniques, including the use of fluoride toothpaste, regular brushing, flossing, and the use of antimicrobial mouthwashes. They can also emphasize the importance of avoiding sugary snacks, which can contribute to the development of dental caries. Furthermore, nurses can highlight the significance of prenatal dental check-ups and the safe timing of dental treatments during pregnancy, as some dental procedures may need to be postponed or adjusted depending on the stage of pregnancy.

Screening and Early Detection

Nurses are often the first point of contact for pregnant women in both community and clinical settings, which provides an opportunity for early identification of oral health issues. Routine nursing assessments should include screening for signs of gingivitis and dental caries, such as gum bleeding, swelling, sensitivity, and visible decay. Identifying these conditions early allows for prompt referral to dental professionals for further evaluation and treatment, thereby preventing more severe complications such as periodontitis or tooth loss. Nurses can also assess the patient's risk factors for dental caries and gingivitis, including poor oral hygiene practices, inadequate nutrition, and a history of periodontal disease. By addressing these risk factors early, nurses can help pregnant women reduce the likelihood of developing oral health issues.

Collaboration with Dental Professionals

Nurses work closely with dental professionals in managing dental caries and gingivitis during pregnancy. As part of a multidisciplinary team, nurses facilitate communication between the pregnant patient and the dental provider, ensuring that the patient receives the appropriate care. Nurses can also assist in coordinating dental appointments, ensuring that pregnant women are seen at the optimal stage of pregnancy for necessary procedures. In cases where dental treatments are needed, nurses can help explain the treatment plan to the patient and ensure that they understand the potential benefits and risks associated with the procedure. Additionally, nurses can provide guidance on pain management options for dental procedures, including the use of safe anesthetics and medications. Nurses also help to manage any anxiety or concerns that the patient may have about receiving dental care during pregnancy, offering reassurance and support throughout the process.

Post-Treatment Care and Follow-up

Following dental treatment, nurses play a vital role in monitoring the patient's recovery and ensuring proper postoperative care. They can provide instructions on pain management, appropriate dietary modifications (e.g., avoiding acidic foods or beverages that can irritate the gums), and maintaining good oral hygiene to prevent infection or recurrence of dental caries and gingivitis. Furthermore, nurses should emphasize the importance of regular follow-up appointments with both dental and obstetric care providers to ensure that oral health remains optimal throughout pregnancy. Continued monitoring of the patient's oral health is essential, as untreated gingivitis can progress to more severe forms of periodontal disease, which may contribute to adverse pregnancy outcomes such as preterm birth or low birth weight.

Support for Mental and Emotional Well-being

The experience of dental discomfort or complications during pregnancy can contribute to stress and anxiety for some women. Nurses are well-positioned to offer emotional support and counseling, addressing concerns related to dental treatments, the impact of oral health on pregnancy, and managing pain or discomfort. By offering reassurance and demonstrating empathy, nurses can alleviate stress, fostering a more positive experience for the expectant mother. Nurses play an essential and multifaceted role in managing dental caries and gingivitis during pregnancy. Through patient education, early detection, collaboration with dental professionals, and support throughout treatment, nurses contribute significantly to the overall health and well-being of pregnant women. Their role in promoting good oral hygiene practices and facilitating access to dental care ensures that potential oral health issues are addressed early, ultimately reducing the risk of complications for both the mother and the developing fetus. By incorporating oral

health into routine prenatal care, nurses help improve the outcomes of pregnancy and enhance maternal and fetal health.

Conclusion:

Pregnancy-related oral health problems, such as gingivitis and dental caries, are highly prevalent among pregnant women. The primary contributing factors include hormonal fluctuations, particularly increased levels of estrogen and progesterone, as well as dietary changes and reduced oral hygiene practices. These hormonal changes induce alterations in the gingiva, increasing blood flow and making the gums more sensitive to plaque, thus resulting in gingival inflammation. Pregnancy gingivitis is most common during the second and third trimesters, with symptoms such as swelling, bleeding, and gum tenderness. Morning sickness, which often involves vomiting, further compromises oral health by exposing the teeth to stomach acid, leading to enamel erosion and increased susceptibility to cavities. Additionally, many pregnant women experience changes in dietary habits, such as increased consumption of sugary foods, which can promote bacterial growth and contribute to the development of dental caries. Preventive measures are crucial for maintaining oral health during pregnancy. Pregnant women should adhere to good oral hygiene practices, such as brushing with fluoride toothpaste, flossing regularly, and using antimicrobial mouthwashes to reduce plaque accumulation. Regular dental visits during pregnancy are essential for detecting early signs of gingivitis and dental caries. Professional cleanings and guidance on proper oral care techniques can help mitigate the risks of these oral health issues. Furthermore, pregnancy provides a unique opportunity for healthcare providers, particularly midwives and prenatal care professionals, to educate women about the importance of oral health. Effective education programs can help pregnant women adopt healthier oral hygiene habits, which can improve both maternal oral health and long-term outcomes for their offspring. Studies have shown that improving oral health during pregnancy is associated with better oral health in children, including reduced rates of early childhood caries. In conclusion, addressing oral health issues during pregnancy is critical for the overall well-being of both mothers and their babies. Hormonal changes during pregnancy exacerbate gingivitis and dental caries, but with proper care and education, these issues can be managed effectively. Further research is needed to explore more targeted interventions and their impact on both maternal and fetal health. Enhanced prenatal care, along with a comprehensive oral hygiene regimen, is essential in preventing and managing oral health problems during pregnancy.

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التسوس السني والتهاب اللثة وصحة الفم لدى النساء الحوامل: مراجعة محدثة

الملخص:

الخلفية :يعد التهاب اللثة وتسوس الأسنان من المشاكل الشائعة المتعلقة بصحة الفم لدى النساء الحوامل بسبب التغيرات الهرمونية، والتغييرات في عادات العناية بالفم، والتعديلات في النظام الغذائي. تزيد فترة الحمل من قابلية الإصابة بالتهاب اللثة، مع ظهور أعراض مثل تورم اللثة، والنزيف، والحساسية. تؤدي التغيرات الهرمونية، خاصة زيادة مستويات الإستروجين والبروجسترون، إلى تغيير الأنسجة الفموية مما يجعل اللثة أكثر عرضة للالتهاب. تهدف هذه المراجعة إلى تقييم تأثير الحمل على صحة الفم، مع التركيز على التهاب اللثة، وتسوس الأسنان، والمضاعفات ذات الصلة.

الهدف :الهدف من هذه المراجعة هو تقييم العلاقة بين الحمل والتهاب اللثة وتسوس الأسنان، واستكشاف فعالية التدخلات التي تهدف إلى تحسين صحة الفم أثناء الحمل. كما تسلط المراجعة الضوء على تأثير التغيرات الهرمونية المرتبطة بالحمل على صحة الفم وأهمية الرعاية الوقائية.

الطرق :تجمع هذه المراجعة المحدثة نتائج الدراسات والتجارب السريرية التي تدرس التهاب اللثة وتسوس الأسنان خلال الحمل. تم جمع البيانات من قواعد بيانات مثل PubMedو Web of Scienceوغيرها من قواعد البيانات الموثوقة. تشمل الدراسات التي تم تحليلها التقييمات السريرية والتدخلات المصممة لتحسين صحة الفم أثناء الحمل.

النتائج :وجدت المراجعة زيادة كبيرة في انتشار التهاب اللثة بين النساء الحوامل، خاصة في الثلثين الثاني والثالث من الحمل. تساهم التغيرات الهرمونية بشكل كبير في زيادة حساسية اللثة، مما يجعلها أكثر عرضة لتراكم البلاك. علاوة على ذلك، تؤكد المراجعة على أهمية ممارسة العناية الجيدة بالفم والتعليم قبل الولادة في تقليل شدة التهاب اللثة. أظهرت بعض الدراسات أن التدخلات مثل برامج العناية الفموية المتقدمة والبرامج التعليمية أدت إلى تحسين صحة الفم للأمهات وتقليل النتائج السلبية للحمل.

الخلاصة :يشكل التهاب اللثة وتسوس الأسنان المرتبطان بالحمل خطرًا كبيرًا على صحة الفم للأمهات. تساهم التغيرات الهرمونية، جنبًا إلى جنب مع عوامل أخرى مثل التعديلات الغذائية وغثيان الصباح، في تفاقم مشاكل صحة الفم. تعد التدابير الوقائية مثل تحسين العناية بالفم، والعناية السنية المهنية، والتعليم الموجه للمرضى ضرورية لتقليل هذه المخاطر. هناك حاجة إلى مزيد من البحث لتحديد التدخلات الموحدة وتقييم تأثيرها على نتائج الحمل.

الكلمات المفتاحية :الحمل، التهاب اللثة، تسوس الأسنان، صحة الفم، التغيرات الهرمونية، الرعاية الوقائية، صحة الأم