

Access and use of dental services by pregnant women: an integrative literature review

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Abstract *The objective of this article is to identify the scientific productions on the access and use of dental services by pregnant women. A search was carried out on the BVS and MEDLINE/PubMed online databases to produce this integrative literature review. In the BVS database, the Portuguese descriptors were: “acesso aos serviços de saúde”, “saúde bucal” and “gestantes”, and in PubMed: “Health services accessibility”, “oral health” and “pregnant women”, all associated with each other by the Boolean operator “AND”. We identified five studies that met the inclusion and exclusion criteria and were systematized into two empirical and co-related categories: the significant number of pregnant women who do not perform prenatal dental care and the importance of educational measures that signal the need to receive dental care during prenatal visits. Further studies on the subject are required to support public health policies that consider this theme. Existing research shows low adherence to prenatal dental care and that the main factors hindering the access to and use of dental services were related to socioeconomic, cultural and educational aspects.*

Key words *Oral health, Health services accessibility, Pregnant women*

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Introduction

The gestational period is marked by several physical, hormonal and psychological transformations, and they require attention during prenatal care¹. At this stage, approaches to health promotion become favorable² because pregnant women are receptive to acquiring information, changing their habits and improving their health practices for their benefit and also for their baby¹.

During pregnancy, the woman's body undergoes several changes related to its functioning, causing changes in the estrogen and progesterone levels, which interfere in the oral cavity, with the aggravation of pathologies, such as periodontal diseases³. For populations with high preterm birth and low birth weight, periodontal treatment seems to reduce the risk of these adverse outcomes for gestation⁴.

In this context, women's need to receive dental care also during gestation⁵ is clear. However, pregnant women seem to lack information on the relevance of prenatal dental visit or fear doing it, since they often believe that it may involve risks to their health and that of their child⁶⁻⁸. Also corroborating this fact is that there are professionals who consider delaying or even not performing clinical procedures in the gestational period due to lack of knowledge or fear of causing some harm to the health of the mother-baby binomial⁶⁻⁹.

Other factors also appear to be associated with lower access and use of dental services by pregnant women, such as socioeconomic level, lack of interest or time and need to rest due to hypertension, hindering travel to the clinic³. Regarding maternal educational level, regardless of the level, most of them refuse dental treatment in the gestational period, evidencing that the lack of information on the subject is not restricted to pregnant women with lower educational level⁹.

As a result, this study aims to identify the scientific productions developed on the access and use of dental services by pregnant women.

Methods

This is a qualitative study conducted through an integrative literature review, which allows the identification, synthesis and accomplishment of an extended literature review about a specific theme¹⁰.

To do so, the following steps were followed: definition of the theme and elaboration of the re-

search question; elaboration of eligibility, inclusion and exclusion criteria of the studies; survey of publications in databases; categorization and analysis of the information found in the publications; evaluation of selected studies; presentation of results, including critical analysis of the findings and synthesis of the review¹¹.

The following question was outlined to address this review: "What is the scientific knowledge produced in the literature about access and use of dental services by pregnant women?"

For the construction of this work, the databases used were the BVS (Virtual Health Library) and MEDLINE/PubMed. The search for papers was conducted with an advanced form, considering Portuguese DeCS descriptors of the BVS database: "*acesso aos serviços de saúde*", "*saúde bucal*" and "*gestantes*". In the search on the MEDLINE/PubMed, we considered the indexed terms in the MeSH Database "*health services accessibility*", "*oral health*" and "*pregnant women*". All were associated with each other by the Boolean operator AND. The search was conducted in March 2017.

The inclusion criteria were listed as full-text papers available in the databases listed, with no restrictions as to the time of publication or language. Publications that did not respect the delimitation of the theme and the purpose of the study were excluded, as were those resulting from opinion papers, case studies or reflections, editorials, ministerial documents, book chapters, theses, and dissertations.

In the first phase, two trained reviewers (R1 and R2) independently read and evaluated the titles and abstracts of the papers identified in the electronic databases. According to the pre-established inclusion/exclusion criteria, they selected papers for full-text reading. Any disagreement among the reviewers about the inclusion of the studies and no consensus achieved required the opinion of a third reviewer (R3). In the second phase, when the papers were read in full, the opinion of a third reviewer (R3) was again requested when the reviewers R1 and R2 disagreed and did not achieve consensus as to the final inclusion of the papers.

Results

The search returned 17 publications in the BVS database and 46 publications in the MEDLINE/PubMed database, totaling 63 publications. Duplicated abstracts within the same database, as

well as those in both databases, were excluded. After reading the titles and abstracts with the application of the inclusion criteria, 20 papers remained, and they were read in full. After reading and final analysis of the manuscripts, only five papers were left out in the final selection (Figure 1).

A collection instrument called the synoptic table, adapted from the one elaborated by other researchers¹⁰ was used to systematize the data of these papers, which considered: title of the study, name of the authors, year of publication, indexing journal and database, language, country of origin, objectives, method employed and the primary results and conclusions regarding the access and use of dental services by pregnant women (Table 1).

The papers included have been published in the last ten years. We observed that all of them are observational, four with a cross-sectional design

and one case-control type. None of these studies analyzed the access and use of dental services by pregnant women, although their results showed data regarding this outcome (Table 1).

The reading of the corpus of analysis allowed the systematization of the papers in two empirical categories that are complementary and directly related: expressive number of pregnant women not performing prenatal dental care^{6,12,13}; the relevance of educational measures that signal to pregnant women the need to receive dental care during prenatal care visits^{6,14,15} (Table 1).

Discussion

This study aimed to verify the access to and use of dental services by pregnant women, a matter of high relevance, considering the consequences of not performing prenatal dental care for the

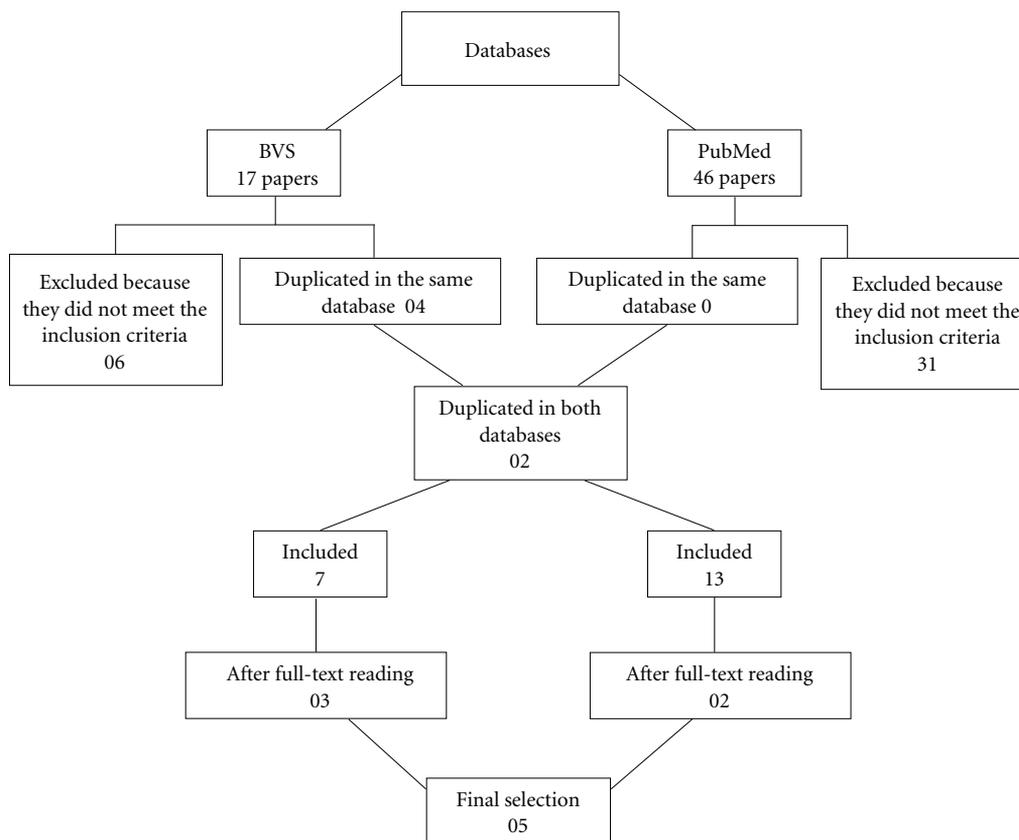


Figure 1. Flowchart of selection of papers focused on the access and use of dental services by pregnant women, 2017.

Chart 1. Synoptic table, showing the summary of the primary data referring to the included publications, which focus on the access and use of dental services by pregnant women, 2017.

Title/Authors/Year of Publication	Journal/ Databases	Language published/ Country	Objective	Method	Main outcomes/Conclusions
Acesso à assistência odontológica no acompanhamento pré-natal. Santos Neto ET et al., 2012 ⁶ .	Ciência & Saúde Coletiva/BVS/ PubMed	Portuguese and English/ Brazil	To assess the impact of oral health on the quality of life of pregnant women and their association with adequate prenatal and oral care in the Unified Health System (SUS), Metropolitan Region of Greater Vitória, Espírito Santo, Brazil.	Design: cross-sectional study. Sample: women who attended public maternity hospitals with the Unified Health System in the Greater Vitória metropolitan region, Espírito Santo, Brazil, were interviewed.	The evaluation of the impact of oral health was divided into health care, educational, preventive and curative levels. Of these, the preventive and the curative influenced the impact of oral health on the quality of life of women, whereas the educational was not associated. For 14.7% of the respondents, the oral condition influenced and affected the quality of life. Approximately 20% of the puerperae were attended at the preventive level during pregnancy, and when the preventive and educational level were verified, the rate drops to 10%. About 17% of women received some curative dental care in pregnancy, but only 7% received educational, preventative and curative together. Thus, women's access to dental care, when in place, seems to work as an agent that enhances the quality of life.
Oral health status during pregnancy: rural-urban comparisons of oral disease burden among antenatal women in Sri Lanka. Karunachandra NN et al., 2012 ¹³ .	The International Electronic Journal of Rural and Remote Health and Research/ BVS/PubMed	English/Sri Lanka	To verify the oral health status of pregnant women living in rural and urban areas of Western Province of Sri Lanka.	Design: cross-sectional study. Sample: 459 pregnant women from the rural area and 348 from the urban area answered a questionnaire and were submitted to dental examination through the DMFT index (decayed, missing and filled teeth) and periodontal examination.	The mean age of the pregnant women was 35 years. Rural pregnant women had a more significant experience of decayed teeth and periodontal problems than urban women. The mean DMFT in the rural area was 5.4, and 3.69 in the urban area. All pregnant women who underwent prenatal care were referred to the nearest public dental clinic for oral health examinations and necessary care. Women living in the urban area were more likely to use dental services during pregnancy and had fewer negative perceptions about safety in receiving care from the dentist during pregnancy.
Indicadores de saúde bucal de gestantes vinculadas ao programa de pré-natal em duas unidades básicas de saúde em Porto Alegre/RS, Rosa PC et al., 2007 ¹² .	Arquivos em Odontologia/ BVS	Portuguese/ Brazil	To evaluate the socioeconomic conditions, the intention to breastfeed, the care with their children, the self-perception and the oral health conditions of pregnant women who performed the prenatal care in two PHC facilities in the city of Porto Alegre in 2006.	Design: cross-sectional study. Sample: 63 pregnant women. Semi-structured interviews and evaluation of DMFT were carried out, and the need for treatment was evaluated.	It was observed that the participants were mostly young, with a mean age of 24 years, and 33% were adolescent. Low socioeconomic and schooling levels were found. Concerning the intention to breastfeed, all the pregnant women answered that they would breastfeed their babies. The prevalence of pacifier use was 82.4%, and 54.7% of them answered that they would already add in the first year of life substances with the presence of sugar in the children's diet. The mean DMFT was six teeth. Among the pregnant women included, 13% never went to the dentist, and 30.2% reported having had many toothaches in the last six months.

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Chart 1. Synoptic table, showing the summary of the primary data referring to the included publications, which focus on the access and use of dental services by pregnant women, 2017.

Title/Authors/Year of Publication	Journal/ Databases	Language published/ Country	Objective	Method	Main outcomes/Conclusions
Perspectives of Maryland women regarding oral health during pregnancy and early childhood, Buerlein JK et al., 2011 ¹⁵ .	Journal of Public Health Dentistry/ PubMed	English/ USA	To obtain information about oral health knowledge, beliefs, and practices during pregnancy and baby care.	Design: qualitative. Sample: 34 women aged 10-49 years who use Medicaid (a health system available in the U.S., which has been extended to low-income people).	Women were reasonably well informed about oral health practices for themselves and their children; however, relevant myths and misconceptions were common. Most women did not receive oral health information for the care they needed during their pregnancy and with their baby, regardless of whether or not they used Medicaid. Focus groups with low-income women provided rich and in-depth information and implications for future communication strategies to help prevent dental disease among pregnant women and their babies.
Medicaid Reforms In Oregon And Suboptimal Utilization Of Dental Care by Women of Childbearing Age Milgrom P et al., 2010 ¹⁴ .	The Journal of the American Dental Association/ PubMed	English/ USA	Women of childbearing age who attended Medicaid in Oregon (USA) from 2000 to 2005 were studied during reforms to expand coverage of dental services. They compared the differences between pregnant, non-pregnant women with children and non-pregnant women without children concerning access to dental services.	Design: case-control study. Sample: comprised of 3 groups: women aged 15-45 who were pregnant, adult women aged 19-45 years not pregnant with at least one child and non-pregnant women and without children.	The results showed that the use of dental care, mainly preventive and restorative, by pregnant women and mothers was low and became even lower with time. In 2005, the last year studied, the rates of the use of dental services by low-income pregnant women and women with dependent children were only slightly higher than the rates for non-pregnant women without children who were covered only for dental emergencies.

mother-baby binomial^{16,17}, as well as the strong influence of mothers on their child concerning the transmission of oral health habits¹⁸. However, the scarcity of research on the subject in this specific population caused a stir. Due to the robust complementary nature and direct relationship of the empirical categories, which emerged from the reading of the papers included in this integrative review, we opted for the construction of an expanded discussion, considering both thematic axes in an interconnected way.

The evaluated studies identified that few pregnant women perform prenatal dental care. As researchers report, when assessing pregnant women in public maternity wards and in agreement with the Unified Health System (SUS) in the metropolitan region of Great Vitória, Espírito Santo, Brazil, where approximately 20% of pregnant women were assisted in pregnancy at a preventive dental care, and at curative level, the most frequently performed procedures were urgent visits⁶, when patients already feel pain, a fact that could be avoided with continuous dental monitoring.

It was observed that prenatal care is a crucial element in maternal health, which encompasses children's and women's health and family planning. They say that pregnant women should receive health care in the public system and may be referred to the nearest dental clinic for oral examinations and necessary treatments, regardless of socioeconomic status and geographical location. The oral health education sessions should aim to sensitize women to the importance of this during pregnancy and the care of the baby's oral health¹³. Throughout the context of pregnancy, it is usually a stage in which women are more willing to receive new knowledge that will improve their lives and that of their babies^{19,20}.

One of the reasons for the low demand for the follow-up of a dental surgeon during the gestational period is due to the beliefs and myths that dental treatment may be harmful to the baby. Regardless of the region, studies agree that the expectation of physical pain and insecurity are determinant in the option of not performing prenatal dental care^{6,21}. When interviewing 170 pregnant women, researchers found that 89% reported fear of dental treatment, 53% were afraid of losing their babies due to genital hemorrhage caused by dental treatment, and 32.6% believed that these treatments would cause harm to the baby. It was also observed that 22.4% of the respondents did not seek the dentist for the following reasons: "pregnant cannot go to the dentist",

"the obstetrician doctor did not authorize", "the dental surgeon refused to attend". Thus, it is noted that even if dental treatment is required, pregnant women often avoid treatment in this period⁹ due to beliefs and misinformation about the importance of oral health care.

Another reason why pregnant women do not perform dental care is that many dentists feel unsafe meeting them and end up postponing dental treatment until after the birth of the baby, and most of the time the problem can be solved during gestation²². It is known that provided that professionals are aware of the care in performing dental care on pregnant women, including their stance during care, types of recommended anesthetics, indication of radiographic exams and medication, there will be no problems for the mother-baby binomial²¹⁻²³.

In a study conducted in the United States, more than 80% of dentistry training courses devote only two hours on the unfavorable outcomes in pregnancy related to the periodontal condition of pregnant woman in their curricula, which indeed generates insecurity for professionals in the field²⁴. The result of pregnant women care program in Brazil reported that dental students, although previously prepared, have difficulties regarding drug administration, performing invasive clinical procedures and knowledge about baby care²¹. Thus, there is little knowledge of dentistry professionals in this field, and they end up reproducing common-sense beliefs, causing insecurity and fear in pregnant women who postpone dental appointments¹.

Scientific literature has evidenced that the access to and use of dental services by pregnant women may be related to issues linked to the place of residence¹³, while even if care programs for vulnerable populations are established, they often do not achieve the targeted results¹³. As most of the studies^{6,12,13} are performed with pregnant women attending public health services, it was not possible to gauge differences with the private service.

During gestation, women are more susceptible and determined to acquire new knowledge and modify some habits that can intervene in the health and development of the baby. Thus, pregnant women become a strategic group for health education, and it is essential that these guidelines be carried out in a multidisciplinary way, aiming to ensure the introduction of healthy habits from the beginning of gestation²⁵⁻²⁷. Therefore, this is an appropriate time to demystify apprehensions and beliefs about dental treatment²⁸.

Medical professionals, mainly gynecologists and obstetricians, play a fundamental role in guiding pregnant women to perform prenatal dental care. About 78% of the pregnant women attended at the private practice or through covenants, and 50% of those assisted at the SUS reported that they had not received counseling from the gynecologist about oral health²². In a previous study, it was verified that only 5% of the pregnant women received some information about oral health during the prenatal period²⁸. In another study, it was observed that the knowledge about dental care, passed on to pregnant women in the Family Health Program (PSF), the current Family Health Strategy (ESF) by health professionals, was low for most of the oral health promotion and prevention items²⁹.

Ideally, women should be referred to the dental surgeon as soon as they discover the pregnancy²⁵. It is even a recommendation of the Ministry of Health, and the Pregnant Women's Booklet states that they can and should undergo dental treatment during pregnancy³⁰.

Dental caries^{12,31} and gingival and periodontal diseases³² are highly prevalent among pregnant women, showing biological mechanisms that may affect pregnancy, and are risk factors for preeclampsia and the birth of preterm and low-weight babies³³. These data reinforce the relevance that pregnant women should consult the dental surgeon for the prevention and treatment of these diseases. Another critical factor is that the maintenance of the oral health of pregnant women brings good oral health habits for the future baby^{1,34} and an improvement in the quality of life of women during the gestational period^{27,35}.

According to the guidelines of the Unified Health System (SUS)³⁶, women in the gestational period are a priority in health services and are a target group for the implementation of oral

health education programs³⁴. However, as explained previously, this population is still often lacking care.

We found that most of the papers selected in this integrative review did not mainly aim to evaluate access to and use of dental services by pregnant women, which was considered a secondary outcome, but assess other outcomes related to the oral health of pregnant women. Almost all works were cross-sectional studies, not allowing the establishment of the cause-effect relationship; moreover, they were based on information reported by research participants, so there may be a bias related to the reliability of the reports. Therefore, these limitations must be considered when interpreting the results. It is suggested that other research, explicitly focused on this topic, with appropriate methodology, be conducted so that results can support public health measures aimed at oral health care during pregnancy.

Final considerations

Few studies on the access to and use of dental services by pregnant women are available. These show low adherence to prenatal dental care and that the main complicating factors of access to and use of these services were related to socioeconomic, cultural and educational aspects.

Despite the progress of the scientific-technological knowledge and the development of dentistry, in an attempt to improve the quality of life of the human being, the oral health of pregnant women still requires attention. The available literature evidenced the relevance of educational measures that signal to pregnant women the need to receive dental care during prenatal care visits and their safety, contributing to the well-being of the mother-baby binomial.

Collaborations

CC Silva, CM Savian, BP Prevedello, C Zamberlan, DM Dalpian e BZ Santos: substancial contributions to the conceptions, design of the work, analysis and interpretation of the data for the work; drafting the work, revising it critically; final approval of the version to be published.

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