

## The Importance of Oral Health during Pregnancy and Among the Newborn

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### Abstract

**Objective:** Assessment of the knowledge that future mothers have about the importance of their oral health and future oral health of their newborn.

**Methods:** An observational cross-sectional study was designed in which the participants were pregnant women and mothers of newborns living in the city of Viseu, Portugal. The self-administered questionnaires were distributed to a final sample of 68 participants. The objective of this questionnaire was to assess the oral hygiene and the level of oral health of pregnant women and the importance attributed to them, taking into account the implications of oral health in the newborn.

**Results:** It was observed that the participants had satisfactory oral health habits and had some knowledge about the oral health of the newborn, however, in certain fundamental parameters they had a significant lack of knowledge. Most pregnant and mothers of newborns rated their oral health as good (30.9%) and very good (38.2%). However, 14.7% consider that their oral health was bad, which is a concerning issue considering that the sample were young pregnant and mothers of a newborn.

**Conclusions:** We find that there is a need to educate the population about oral healthcare during pregnancy, postpartum care, and also oral health of the newborns. In this way, we are contributing to a better future for the oral health of the community. However, further studies should be performed in order to better understand the oral health behaviours of mothers to better define preventive strategies in the field of oral health.

**Keywords:** Oral health; Pregnancy; Newborn; Dental caries; Education; Mothers; Periodontal disease; Tooth brushing; Prevention

### Introduction

Pregnant patients present an increased risk for the development of oral diseases, namely, dental caries and periodontal diseases [1]. As such, it is extremely important to continuously assess the state of oral health and to implement appropriate preventive measures, such as food and education plans. This care will bring reflexes not only at an oral level but also at a systemic level for both mother and baby [1]. Despite the implementation of these measures, several studies have attributed the lack of knowledge about oral health among parents and caregivers as the main cause of poor oral health, namely the need of a dental appointment when the first deciduous teeth start to erupt [2].

It is important to inform the mother of the term "vertical colonization" of *Streptococcus mutans*, since it is the main microorganism involved in the etiology of dental caries. This term refers to the direct influence of the mother's oral health status on the child's oral health [2].

However, there are factors that prevent women from seeking care during pregnancy, such as: lack of public awareness about the importance of oral health, barriers to access to care, and myths about fetal safety during pregnancy in dental treatment [3].

The objective of this study consists in the assessment of the knowledge that future mothers have about the importance of their oral health and future oral health of the newborn.

### Materials and Methods

An observational cross-sectional study was designed in which the participants were first time pregnant women and mothers of newborns living in the city of Viseu, Portugal. The self-administered

questionnaires were distributed to a final sample of 68 female participants, with the average age of 28, 6 ± 2, 6 years. It was defined as exclusion criteria the experience of previous oral or dental diseases of the pregnant women or mother of a newborn. The objective of this questionnaire was to assess the oral hygiene and the level of oral health of pregnant women and the importance attributed to them, taking into account the implications of oral health in the newborn. The questionnaire applied had the following group of questions: seven questions related to personal data and the stage of pregnancy, three questions referring to the oral hygiene habits during pregnancy, seven questions focused on oral health and five questions about the future oral health care that should be given to the newborn.

Along with the questionnaire, pregnant women received an information leaflet with guidelines for oral hygiene and oral healthcare during pregnancy and oral healthcare for the newborns. In this way, we aim to improve information and contribute for better oral health for both mothers and children.

After collecting the data, the questionnaires were numbered, stored and processed, using the Statistical Package for Social Sciences (SPSS 23.0 version). The prevalence's were expressed in proportions.

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## Results

Of the 68 pregnant women and mothers of a newborn that participated in the study, the majority was Caucasian (91.2%), were employed and lived in the city of Viseu, Portugal. Two thirds had a level of education corresponding to secondary education (until the 12<sup>th</sup> grade).

When asked about their gestational status, four were in the first trimester, nineteen were in the second trimester, twenty-three were in the third trimester and twenty-two had already newborns (with children up to 12 months). About 60.3% of the respondents were pregnant for the first time.

All said that they brushed their teeth daily, most of them brushing them twice a day (72.4%). When questioned about the use of dental floss, 76.5% stated they did not use it daily. Concerning visits to the dentist, only 19.1% did not attend a dental appointment in the last 12 months. Most pregnant and mothers of newborns rated their oral health as good (30.9%) and very good (38.2%) (Figure 1). However, 14.7% consider that their oral health was bad, which is a concerning issue considering that the sample were young pregnant and mothers of a newborn.

Regarding gingival bleeding, we obtained the following results: 32.4% referred gum bleeding before pregnancy, 30.9% presented bleeding of the gums only during pregnancy and only 32.4% refer no gum bleeding (Figure 2).

Regarding the presence of bad breath, 60.3% said they did not have bad breath and the great majority said they did not have toothaches during pregnancy. About half of the participants did not perform oral

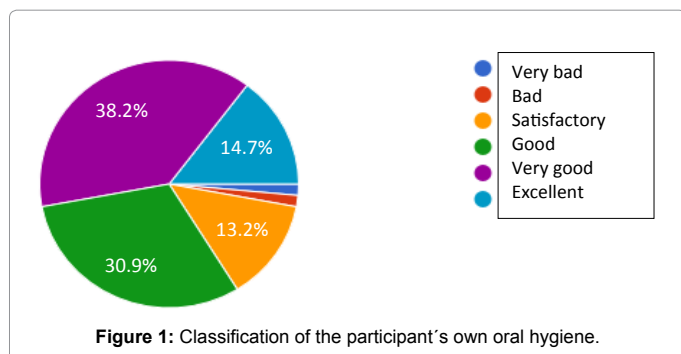


Figure 1: Classification of the participant's own oral hygiene.

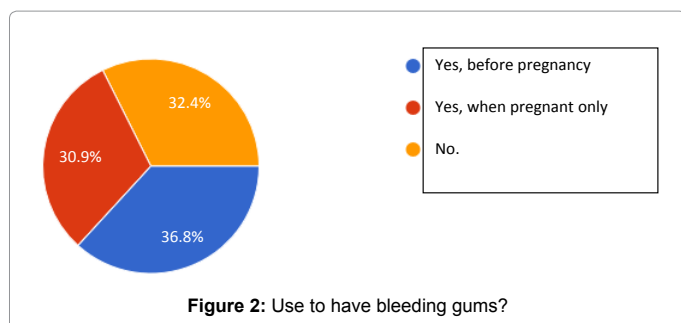


Figure 2: Use to have bleeding gums?

treatments during pregnancy, but those who performed most of them did not have dental caries treatment (62.2%).

More than half of the participants felt that oral health during pregnancy is important for the oral health of the child.

Regarding the knowledge of pregnant women and new mothers about oral healthcare among the newborn, 38.2% said they did not know when should be the first dental appointment of the newborn. As for the habits, most consider that the use of a bottle or pacifier can be harmful to the teeth and that these must be removed until the 3 years of age. Most reported that the oral cavity of the child should be cleaned before the first tooth was born (83.7%), but 64.7% considered that dental caries was not a transmissible disease.

## Discussion

With the results presented above we can conclude that a significant percentage of pregnant women or mothers needed dental treatments, although daily brushing was performed regularly [3]. As for gingival bleeding and bad breath, we did not obtain significant differences between the state before and after pregnancy, which can be explained by the reduced sample and the absence of observation of the oral cavity. Therefore, we are restricted to the personal sensitivity of each participant about their own oral health [4].

Regarding the oral health of the newborn, it was possible to observe that pregnant women and new mothers have some literacy about the harm of long-term sucking habits, however, a significant part was not aware when it should be the first dental appointment of the newborn to the dentist, and, with the aggravating factor, the great majority said that dental caries are an inalienable disease which, in the present days, is already an obsolete information [4,5].

## Conclusions

We find that there is a need to educate the population about oral healthcare during pregnancy, postpartum care, and also oral health of the newborns. In this way, we are contributing to a better future for the oral health of the community. However, further studies should be performed in order to better understand the oral health behaviours of mothers to better define preventive strategies in the field of oral health.

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