

## Barriers and facilitators to dental care during pregnancy: a systematic review and meta-synthesis of qualitative studies

Barreiras e facilitadores para os cuidados de saúde bucal durante a gravidez: uma revisão sistemática e meta-síntese de estudos qualitativos

Barreras y facilitadores para el cuidado dental durante el embarazo: una revisión sistemática y metasíntesis de estudios cualitativos

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### Abstract

Some barriers to dental treatment during pregnancy are poorly understood, especially those related to psychosocial factors, which are better explored in qualitative studies. The aim of this systematic review was to explore the barriers and facilitators to dental care during pregnancy through a thematic synthesis of qualitative studies. Qualitative or mixed-methods studies published in English, Portuguese, Spanish and French, from 2000 to 2016, were included. The search strategies were conducted in PubMed, Scopus, Web of Science, LILACS, BBO and CINAHL. To evaluate the quality of the studies, we used the Critical Appraisal Skills Programme tool. Thematic synthesis was performed in order to interpret and summarize the results. From 2,581 screened studies, ten were included in the synthesis. We found 14 analytical themes related to barriers and facilitators to dental care during pregnancy that interacted in complex ways: physiological conditions, low importance of oral health, negative stigma regarding dentistry, fear of/anxiety toward dental treatment, mobility and safety, financial barriers, employment, time constraints, social support, lack of information, health professionals' barriers, family and friends' advice, beliefs and myths about the safety of dental treatment. Myths and beliefs about oral health and dental treatment during pregnancy appear to be the most frequent barriers, both to pregnant women and to dentists or other health professionals. The findings of this review may support new studies, especially to test intervention protocols and to guide effective public policies for the promotion of oral health during pregnancy.

Pregnancy; Oral Health Services; Oral Health; Qualitative Research

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## Introduction

Dental treatment during pregnancy has been recommended by systematic reviews and several institutions, with guidelines on oral health care during pregnancy being widely available <sup>1,2,3,4</sup>. Such recommendations are important to assure women's well-being during their lifetime <sup>5,6</sup> and to control the changes that occur in their oral health during pregnancy, since this condition can increase the prevalence of oral diseases <sup>7,8</sup>. It is also relevant to determine the relationship between pregnant women's oral health and negative outcomes that can occur during and after delivery <sup>9,10</sup>. Moreover, pregnancy is considered an ideal time to establish educational and preventive programs, as pregnant women are more receptive to information about themselves and their babies' wellbeing and to adopt better health practices <sup>11</sup>.

Some studies have shown that the demand for dental services is low during pregnancy, regardless of the country of origin. The utilization of dental care reported ranged from 27 to 53% <sup>8,12,13,14,15</sup>. The main reason for seeking attendance was related to dental pain (72.2%) <sup>16</sup>. Studies have found multiple factors influencing the use of dental services for pregnant women: marital status <sup>17</sup>, ethnicity <sup>8,15</sup>, income, education level <sup>18</sup>, health insurance <sup>14,17</sup>, receipt of oral health education and hygiene practices <sup>8,13,16,18</sup>, enrollment in governmental programs <sup>8</sup>, medical referral or advice for dental visits <sup>19</sup>.

Some of the barriers to the utilization of oral health care services described are misconception, dental fear, difficulty of access to dental treatment, time constraints, dissatisfaction with the quality of services, and beliefs that dental treatment is unsafe <sup>12,13</sup>. Most of them are poorly explored in quantitative studies, according to a recent systematic review <sup>20</sup>. Furthermore, the findings of this systematic review suggest that it is still necessary to better understand the role of psychosocial factors in the use of dental services by pregnant women. Due to its nature, qualitative studies are better able to explore such questions and study those factors in depth, especially psychological <sup>21</sup>.

Therefore, the aim of this systematic review was to explore the barriers and facilitators to dental care during pregnancy through a thematic synthesis of qualitative studies.

## Methods

This systematic review was conducted based on the *Preferred Items for Systematic Reviews and Meta-Analysis Statement* (PRISMA) <sup>22</sup> and the *Enhancing Transparency in Reporting the Synthesis of Qualitative Research* checklist (ENTREQ) <sup>23</sup>.

A synthesis of qualitative studies exploring women's barriers and facilitators to use dental services during pregnancy was conducted using thematic synthesis according to the guidelines proposed by Thomas & Harden <sup>24</sup> and recommended by the Cochrane Qualitative Review Methods Group <sup>25</sup>. Thematic synthesis combines and adapts approaches from both meta-ethnography and grounded theoretical findings, in order to integrate and interpret results from different studies. It is appropriate for situations where evidence is likely to be largely descriptive <sup>24,26</sup>.

From the studies chosen, only results regarding barriers and facilitators to the use of services based on women's perceptions were considered, results including only the perception of health professionals or other people involved were excluded from the analysis. We also excluded the results that were not within the objectives of this review, for example, items referring to knowledge about the babies' oral health care.

## Eligibility criteria

Studies were included if they: (1) involved qualitative or mixed-method designs; (2) addressed the perceptions of pregnant women regarding the use of dental services during pregnancy, identifying their barriers and facilitators; (3) were published from 2000 to 2016; (4) were written in English, Portuguese, Spanish or French.

The exclusion criteria were: (1) lack of primary data (policy briefs, opinions, progress reports, systematic reviews); (2) studies that identified barriers through health professionals such as doctors,

dentists or nurses; (3) grey literature (i.e., unpublished or non-peer-reviewed reports, including conference proceedings).

### **Identification and selection of studies**

The search strategy was pre-planned<sup>23</sup> in order to seek all available studies on the topic, similarly to Rocha et al.<sup>20</sup> (Box 1). We searched on the following databases: PubMed, Scopus, Web of Science, Latin American and Caribbean Health Sciences Literature database (LILACS), Brazilian Library in Dentistry (BBO) and Cumulative Index to Nursing and Allied Health Literature (CINAHL, via EBSCO). The search terms were adapted to suit indexes in each database. Studies with quantitative design were set apart for specific data treatment and were described elsewhere<sup>20</sup>. For this review, studies with qualitative or mixed-method designs were considered.

The resulting papers were imported into a reference manager software (Endnote X5; <https://endnote.com/>, Philadelphia, United States). Duplicates were removed, and an initial screening of titles and abstracts was carried out by two independent reviewers (J.S.R. and L.A.), according to the inclusion/exclusion criteria. Texts of the remaining studies in full were obtained for analysis, aiming to include/exclude the paper for the systematic review. Discrepancies in the final decision about a specific paper were discussed with a third reviewer (R.I.W.) in order to reach consensus. The selection of the studies was summarized in a PRISMA compliant flow chart (Figure 1).

### **Critical appraisal of studies included**

The quality of the studies was critically evaluated for rigor, credibility and relevance, using the *Critical Appraisal Skills Programme* (CASP) tool for qualitative research<sup>27</sup>, as recommended in the Centre for Reviews and Dissemination (CRD) guidelines<sup>28</sup>. CASP was applied independently by three reviewers (J.S.R., L.A., A.C.C.). Disagreements were resolved by means of a discussion with a fourth reviewer (M.H.B.).

The papers were scored in each criterion as: 1 – if the criterion was met; 0 – if the criterion was not met; 0.5 – if the criterion was partially met<sup>29</sup>. The maximum score for a paper was 10. CASP assessment was conducted to ensure transparency in the potential risk of bias, studies were included in the review regardless of quality score<sup>27</sup>.

### **Data extraction and analysis**

The data were obtained by using customized extraction forms. The following information was recorded for each study included: (a) authorship and year of publication; (b) country; (c) participants' characteristics; (d) setting; (e) objectives; (f) methodological design; (g) data collection/analysis; (h) quality score (CASP).

Synthesis was carried out in three stages according to Thomas & Harden's<sup>24</sup> guidelines: (1) the free line-by-line coding of the findings of primary studies; (2) the organization of these "free codes" into related areas to construct "descriptive" themes; and (3) the development of "analytical" themes.

In the first stage, full texts of each selected study were scrutinized and freely coded line-by-line. All the original codes, cited in the papers, were listed. Relevant additional codes, when identified by reviewers, were also included in the analysis.

In the second stage of the analysis, the free codes were organized under initial descriptive themes, based on their similarities and differences, according to the barriers and facilitators to the use of dental services during pregnancy. These themes were interactively defined through discussion between the reviewers (J.S.R., L.A., A.C.C.). This qualitative synthesis summarized the literature available and created an analytical typology of findings as well as a descriptive-themed diagram that summarized the barriers and facilitators to the use dental services during pregnancy, which were closely related, graphically represented through the application Corel Draw version X7 (Corel, Ottawa, Canada).

The third stage involved developing "analytical themes" through new interpretative constructs that synthesized the findings across all the studies included.

**Box 1**

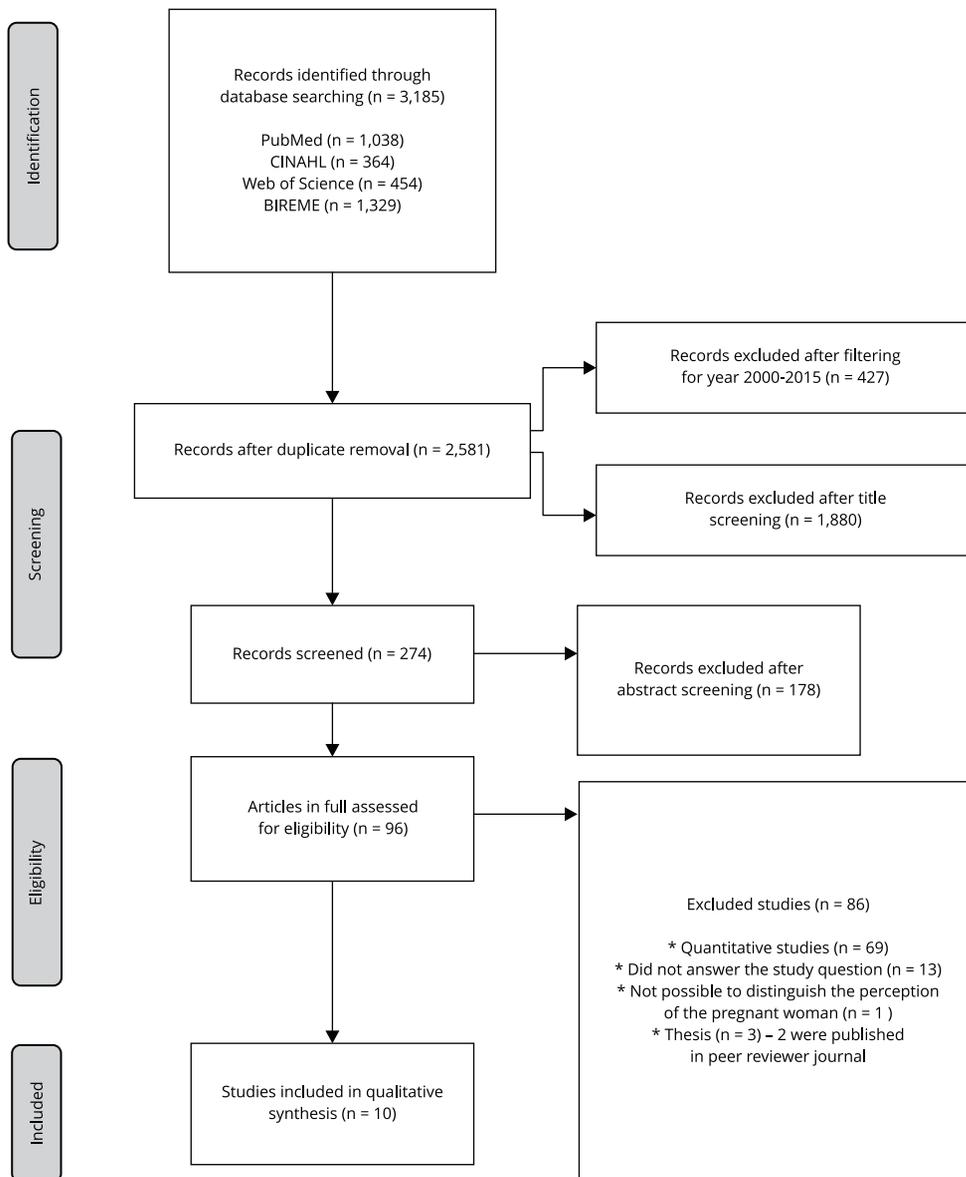
Electronic database and search strategy.

| <b>CINAHL with text in full (via EBSCO)</b>   |   |
|---|---|
| S9  | ((S1 OR S2 OR S3 OR S4 OR S5) AND (S6 OR S7 OR S8))   |
| S8  | AB pregnancy OR AB "pregnant women" OR AB "pregnant woman" OR AB pregnant   |
| S7  | TI pregnancy OR TI "pregnant women" OR TI "pregnant woman" OR TI pregnant   |
| S6  | MH pregnancy  |
| S5  | AB "dental care" OR AB "oral health" OR AB "dental health services" OR AB "oral services" OR AB "oral health care" OR AB "dental visits" OR AB "perceived oral health" OR AB "oral health services"   |
| S4  | TI "dental care" OR TI "oral health" OR TI "dental health services" OR TI "oral services" OR TI "oral health care" OR TI "dental visits" OR TI "perceived oral health" OR TI "oral health services"   |
| S3  | MH dental health services   |
| S2  | MH dental care  |
| S1  | MH oral health  |
| <b>LILACS and BBO (via Bireme)</b>  |   |
| #1 (mh:(“pregnancy”) OR (ab:(“gravidez”) OR (ti:(“gravidez”) OR (ab:(“embarazo”) OR (ti:(“embarazo”)))  | #2 (ab:(“dental care”) OR (ti:(“dental care”) OR (mh:(“dental care”) OR (mh:(“oral health”) OR (ab:(“oral health”) OR (ti:(“oral health”) OR (ab:(“dental health services”) OR (ti:(“dental health services”) OR (mh:(“dental health services”) OR (ab:(“dental visits”) OR (ti:(“dental visits”) OR (ab:(“saúde bucal”) OR (ti:(“saúde bucal”) OR (ab:(“atención odontológica”) OR (ti:(“atención odontológica”) OR (ab:(“assistência odontológica”) OR (ti:(“assistência odontológica”) OR (ab:(“serviços de saúde bucal”) OR (ti:(“serviços de saúde bucal”))) |
| #1 and #2   |   |
| <b>PubMed</b>   |   |
| #1 pregnancy[MeSH Terms] OR pregnant women[MeSH Terms] OR 'pregnant women'[Title/Abstract] OR "pregnant woman"[Title/Abstract] OR pregnancy[Title/Abstract] | #2 oral health[MeSH Terms] OR "oral health"[Title/Abstract] OR dental care[MeSH Terms] OR dental health services[MeSH Terms] OR "dental care"[Title/Abstract] OR "dental health services"[Title/Abstract] OR "oral services"[Title/Abstract] OR "oral health care"[Title/Abstract] OR "dental visits"[Title/Abstract] OR "perceived oral health"[Title/Abstract] OR "oral health services"[Title/Abstract]  |
| #1 and #2   |   |
| <b>Web of Science</b>   |   |
| #7  | #6 AND #5   |
| #6  | #4 OR #3  |
| #5  | #2 OR #1  |
| #4  | TI=(“dental care” OR “oral health” OR “dental health services” OR “oral services” OR “oral health care” OR “dental visits” OR “perceived oral health” OR “oral health services”)  |
| #3  | TS=(“dental care” OR “oral health” OR “dental health services” OR “oral services” OR “oral health care” OR “dental visits” OR “perceived oral health” OR “oral health services”)  |
| #2  | TI=(pregnancy OR “pregnant women” OR “pregnant woman” OR pregnant) OR TS=(pregnancy OR “pregnant women” OR “pregnant woman” OR pregnant)  |
| #1  | TS=(pregnancy OR “pregnant women” OR “pregnant woman” OR pregnant) OR TS=(pregnancy OR “pregnant women” OR “pregnant woman” OR pregnant)  |

BBO: Brazilian Library in Dentistry; CINAHL: Cumulative Index to Nursing and Allied Health Literature; LILACS: Latin American and Caribbean Health Sciences Literature.

**Figure 1**

Flow diagram of study selection.



## Results

### Study characteristics

The complete search trajectory is shown in Figure 1. After the removal of the duplicates, 2,581 titles remained; 96 texts in full were retrieved and 10 papers were included. The reasons for these article exclusions were: (a) quantitative studies; (b) not suitable for the purposes of this study; (c) thesis; (d) impossible to distinguish the perception of the pregnant women from other people's perceptions<sup>30</sup>. Table 1 describes the characteristics of the papers included. The methodological design of two papers

**Table 1**

Summary of characteristics of the studies included in this systematic review.

| Author (year)                           | Country/Setting                                     | Participants  | Objectives   | Data collection/Analysis                     | Quality score (CASP) |
|---|---|---|--|--|----------------------|
| Albuquerque et al. <sup>33</sup> (2004) | Brazil/Public health system                         | Pregnant women in the third trimester who did not seek dental care during pregnancy (3 focus groups with 4 to 9 pregnant women)                         | To identify and analyze qualitatively individual barriers to the dental care of pregnant women enrolled in the Family Health Program   | Focus groups/Thematic analysis               | 8.5                  |
| Finkler et al. <sup>34</sup> (2004)     | Brazil/Public and private health system             | Women attending their antenatal consultation (n = 12)   | To understand the social representations of pregnant women about babies' oral health, influence of her oral health on the child's health and the role of promoting oral health for their future child                            | Face-to-face interviews/ Thematic analysis   | 8                    |
| Codato et al. <sup>35</sup> (2008)      | Brazil/Public and private (insurance) health system | Women around 3 gestational trimesters, of different educational levels, and amount of pregnancies (10 interviewed for each group) (n = 20)              | To discuss pregnant women's perceptions about dental care during pregnancy   | Face-to-face interviews/ Thematic analysis   | 9                    |
| Le et al. <sup>38</sup> (2009)          | USA/Medicaid community program                      | Pregnant women who had delivered their baby divided into 4 strata (with use or not of dental services/primiparous vs. multiparous) (n = 51)             | To understand why women in Klamath County in the Oregon pilot program did not use the dental services offered, and to provide a basis for planning an expansion of the program.  | Telephone interviews/ Ground theory approach | 8.5                  |
| Leal et al. <sup>37</sup> (2009)        | Brazil/Public health system                         | Pregnant women enrolled who performed at least 2 prenatal consultations (n = 23)<br><br>[Interviews with doctors (14) and dentists (12) not considered] | To understand how practices and representations of prenatal care professionals, dentists, and pregnant women about dental care function during pregnancy and how they could interfere in the demand and adherence to dental care | Face-to-face interviews/ Thematic analysis   | 8.5                  |
| Detman et al. <sup>31</sup> (2010) *    | USA/Resident of Florida counties                    | Pregnant African American (1 month after the birth of their baby) (n = 253)   | To explore Florida women's experience of barriers in obtaining dental care before and during their pregnancies   | Face-to-face interviews/ Thematic analysis   | 9                    |
| Codato et al. <sup>36</sup> (2011)      | Brazil/Public and private (insurance) system        | Pregnant women around 3 trimesters of gestation, who had to prenatal care in the Family Health Program and did not seek dental care during pregnancy    | Are there barriers in the dental care of pregnant women?<br><br>What is the nature of these barriers?  | Face-to-face interviews/ Content analysis    | 7.5                  |

(continues)

**Table 1 (continued)**

| Author (year)              | Country/Setting   | Participants   | Objectives  | Data collection/Analysis                      | Quality score (CASP) |
|----------------------------|---|--|---|---|----------------------|
| George et al. 40 (2012)    | Australia/Women attending their antenatal consultation at a large metropolitan hospital in south-western Sydney | Pregnant women residing in south-western Sydney (n = 10)   | To explore the perceptions of pregnant women towards oral health and care during pregnancy and midwives providing oral education, assessment, and referrals as part of antenatal care | Telephone interviews/<br>Thematic analysis    | 8                    |
| Nogueira et al. 32 (2012)* | Brazil/Central health office of the municipality and the Araraquara dental school                               | Women with children up to 5 years (sample 200) and who have needed some type of dental intervention during pregnancy   | To explore the perception of their oral health and possible reasons that led these women to seek dental care during pregnancy   | Face-to-face interviews/<br>Unclear           | 5                    |
| Concha-Sánchez 39 (2013)   | Colombia/Hospitals and emergency care units   | Pregnant women divided into: those who went to prenatal care and those who did not; those who attended a dental consultation and those who did not; and those with periodontal disease and those without it (n = 18) | To explore the perceptions of individual, social and structural level that can influence the attention and assistance to dental consultations of pregnant women                       | Face-to-face interviews/<br>Thematic analysis | 8.5                  |

CASP: *Critical Appraisal Skill Programme*.

\* Mixed-methods (qualitative and quantitative) studies.

was that of mixed-methods 31,32 and the remaining were qualitative-only. The majority of the studies were from Brazil (n = 6) 32,33,34,35,36,37; two were from the United States 31,38, one from Colombia 39 and one from Australia 40. Only one used focus group as a data collection source 33. Most studies were considered as having a high quality score, according to the CASP 27. The studies generally met the CASP tool criteria in terms of clarity of research, aims, appropriateness of design 31,32,33,34,35,36,37,38,39,40, recruitment 31,33,34,35,36,37,38,39,40, data collection 31,32,33,34,35,36,37,38,40, and analysis and reporting of findings 31,33,34,35,36,37,38,39,40. The relationship between the researcher and the participants was described in only one of them 35. One study 32 achieved low score and was considered as having low quality for the reviewers. It presented poor methodological and interpretative descriptions in the qualitative approach (quality score = 5), and their findings were confirmed by other studies. Two of the studies included were conducted by the same group of researchers 35,36 and used the same database as one of the authors' thesis. The major problem in the quality of the studies was related to the relationship between researcher and participants, and the influence of the researcher during the formulation of the research questions should be considered when regarding data collection, including sample recruitment and choice of location (Table 2).

## Synthesis

Most studies (n = 9) 31,32,33,35,36,37,38,39,40 reported themes supported by comments from participants, except one 34. In total, 186 first-level codes were identified as barriers and 33 as facilitators.

The codes were organized into 14 analytical themes, which encompassed 38 interpretative codes as barriers and 9 as facilitator factors. A coding diagram (Figure 2) was used to illustrate the frequency

**Table 2**Score of the evaluated papers item by item for *Critical Appraisal Skill Programme (CASP)*.

|  | Albuquerque<br>et al. <sup>33</sup><br>(2004) | Finkler<br>et al. <sup>34</sup><br>(2004) | Codato<br>et al. <sup>35</sup><br>(2008) | Le<br>et al. <sup>38</sup><br>(2009) | Leal et<br>al. <sup>37</sup><br>(2009) | Detman<br>et al. <sup>31</sup><br>(2010) | Codato<br>et al. <sup>36</sup><br>(2011) | George<br>et al. <sup>40</sup><br>(2012) | Nogueira<br>et al. <sup>32</sup><br>(2012) | Concha-<br>Sánchez <sup>39</sup><br>(2013) |
|--|---|---|--|--------------------------------------|--|--|--|--|--|--|
| Was there a clear statement of the aims of the research?                             | 1   | 1   | 1  | 1                                    | 1                                      | 1  | 1  | 1  | 1  | 1  |
| Is qualitative methodology appropriate?  | 1   | 1   | 1  | 1                                    | 1                                      | 1  | 1  | 1  | 1  | 1  |
| Was the research design appropriate to address the aims of the research?             | 1   | 1   | 1  | 0.5                                  | 1                                      | 1  | 0.5                                      | 0  | 1  | 1  |
| Was the recruitment strategy appropriate to the aims of the research?                | 1   | 0.5                                       | 0.5                                      | 1                                    | 1                                      | 1  | 0.5                                      | 1  | 0  | 1  |
| Was the data collected in a way that addressed the research issue?                   | 0.5   | 1   | 0.5                                      | 1                                    | 0.5                                    | 1  | 0.5                                      | 1  | 1  | 0.5  |
| Has the relationship between researcher and participants been adequately considered? | 0   | 0   | 1  | 0                                    | 0                                      | 0  | 0  | 0  | 0  | 0  |
| Have ethical issues been taken into consideration?                                   | 1   | 1   | 1  | 1                                    | 1                                      | 1  | 1  | 1  | 1  | 1  |
| Was the data analysis sufficiently rigorous?   | 1   | 0.5                                       | 1  | 1                                    | 1                                      | 1  | 1  | 1  | 0  | 1  |
| Is there a clear statement of findings?  | 1   | 1   | 1  | 1                                    | 1                                      | 1  | 1  | 1  | 0  | 1  |
| How valuable is the research?  | 1   | 1   | 1  | 1                                    | 1                                      | 1  | 1  | 1  | 0  | 1  |
| Total  | 8.5   | 8   | 9  | 8.5                                  | 8.5                                    | 9  | 7.5                                      | 8  | 5  | 8.5  |

Note: answers: 1 – if a criterion was met; 0 – if the criterion was not met; 0.5 – if the criterion was partially met.

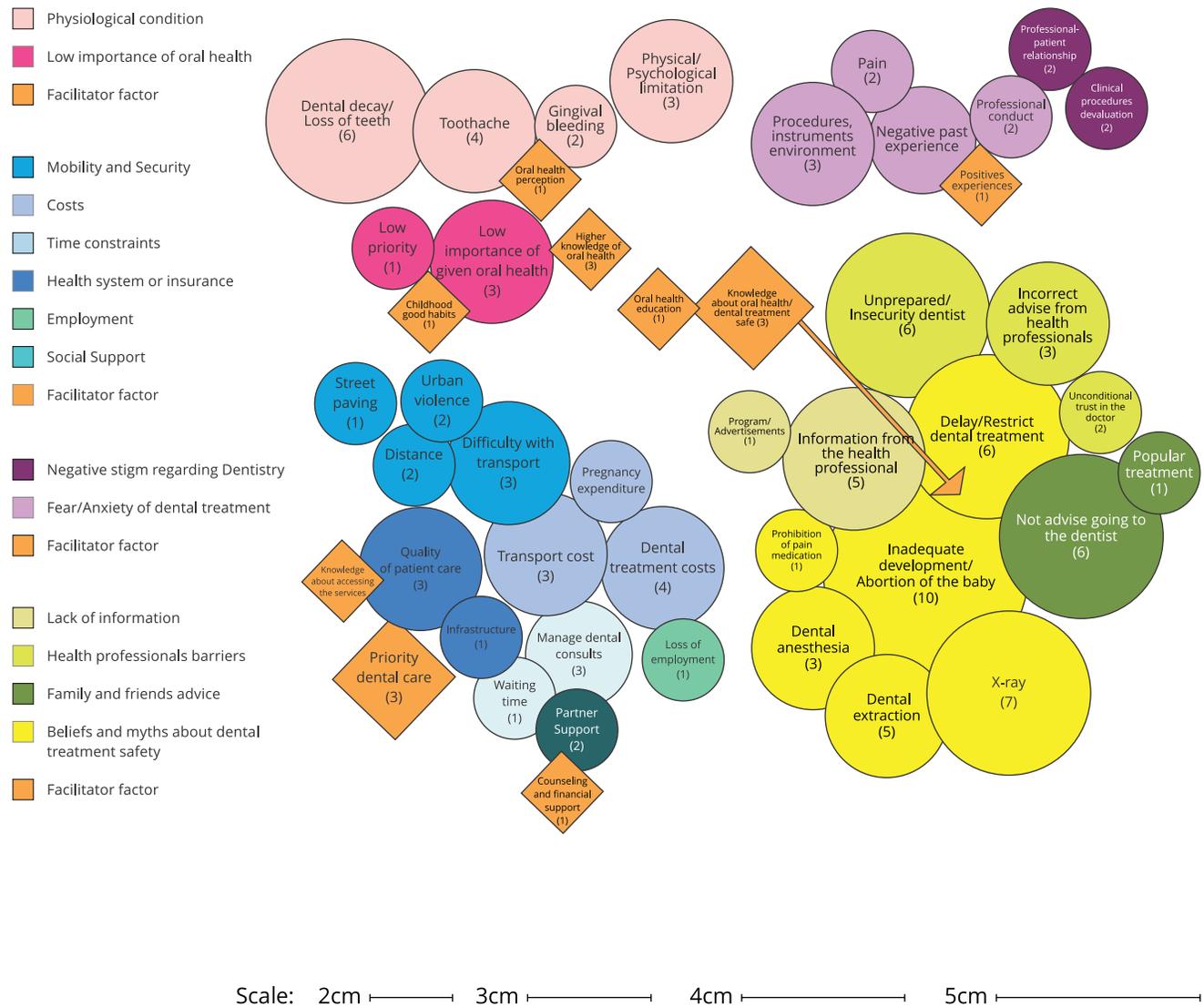
of each reporting category, represented by the area size of the figures, taken as a relevance marker of the coding categories, based on the methodology used by Notley et al. <sup>29</sup>. The circles represent barriers, and the diamonds, facilitators. Each geometric figure represents an interpretative code and the colors represent the themes. The figures overlap when codes are related.

The themes identified as barriers in this review were the following: physiological conditions, low importance of oral health, negative stigma regarding dentistry, fear of/anxiety towards dental treatment, mobility and safety, financial barriers, employment, time constraints, social support, lack of information, health professionals' barriers, family and friend's advice, beliefs and myths about the safety of dental treatment (circles – Figure 2).

The facilitator codes identified were related to the minimization of the following barriers: physiological condition, low importance of oral health, fear of/anxiety towards dental treatment, financial barriers, lack of information, and beliefs or myths regarding dental treatment safety (diamonds – Figure 2).

**Figure 2**

Graphical representation of the amount of original studies that reported each interpretative code.



Notes: size of circles and diamonds (indication of coding density): 1-2 references = 2cm, 3-5 references = 3cm, 6-7 references = 4cm, 8-10 references = 5cm. Each geometric figure represents an interpretative code: diamonds are related to facilitator factors; circles are related to barriers. The colors represent the themes. The factors considered as barriers (circles) are those that difficult the access of pregnant woman to dental care, and the facilitators (diamonds) are those that minimize these barriers.

### • Physiological conditions

Accepting oral problems as inherent physiological conditions of pregnancy becomes a barrier to seeking dental care during pregnancy. The conditions that were perceived as inherent outcomes and became barriers to the utilization of dental services were: “dental decay/loss of teeth” (5 references) <sup>31,32,37,39,40</sup>, “toothache” (4 references) <sup>32,33,37,40</sup>, “gingival bleeding” (2 references) <sup>39,40</sup>, “physical/ psychological limitation” (3 references) <sup>32,34,38</sup>.

Pregnant women associate “dental decay and loss of teeth”<sup>31,32,37,39,40</sup> with the loss of calcium during the formation of the baby, which would make teeth weaker, susceptible to decay and breakage, as related below:

*“I lost my teeth because of pregnancy... They broke ... It’s lack of calcium because the baby is feeding and taking the calcium from me...”*<sup>39</sup> (p. 285).

Moreover, other problems such as gum bleeding<sup>39,40</sup> and tooth pain<sup>32,33,37,40</sup> are considered common during pregnancy:

*“My gums do bleed when I do brush but when you read it, yeah, that is part of pregnancy and stuff. I didn’t go rushing to the doctor’s and say why are my gums bleeding. I just deal with it”*<sup>40</sup> (p. 1091).

Regarding “physical and psychological limitations”, the arguments for not going to dentist appointments were the discomfort during pregnancy, related to the position of the chair<sup>34</sup>, physical indisposition<sup>38</sup>, nausea<sup>32</sup>, and mood swings<sup>38</sup>. Le et al.<sup>38</sup> called these “determinant internal causes” – stress-related issues. Therefore, dental treatment can cause discomfort, either during the treatment itself or due to the position of the pregnant woman, becoming a barrier to the use of dental services during pregnancy.

*“I could not put anything in my mouth, without any chance”*<sup>32</sup> (p. 129).

- **Low importance of oral health**

This theme was identified as a barrier in dental care during pregnancy. Low perception of need for treatment, little importance given to oral health, and low priority of dental needs affect the demand for dental care<sup>31,32,33,40</sup>. Low concern along with lack of interest, laziness and forgetfulness<sup>33</sup> result in not seeking care<sup>32,33,40</sup> and worsening of oral problems<sup>31,33</sup>. Also related to this topic is that, when oral health is not considered relevant, there is low priority in seeking dental care, resulting in the treatment being often postponed.

*“No, there’s a reason for why I never went. It was just... I never made an appointment to go”*<sup>31</sup> (p. 321).

*“I postponed, I postponed, I put one thing, another [on the tooth], then I felt such a toothache that I nearly went crazy”*<sup>33</sup> (p. 791).

On the other hand, some facilitators were related to this theme. Oral health perception<sup>39</sup> can facilitate the use of dental services by reducing/eliminating barriers: physiological conditions. According to Concha-Sánchez<sup>39</sup>, pregnant women who perceive a higher frequency of bleeding gums during brushing tend to seek dental practice more frequently.

Other facilitators were related to the elimination of the barrier “little importance given to oral health”: women who had good oral health habits since childhood reported continuing care during pregnancy<sup>35</sup>. Also related to this, pregnant women who had more knowledge about oral health tended to value dental visits, both for themselves and for their children<sup>34,38</sup>.

- **Negative stigma regarding dentistry**

The following codes were found in this theme: “professional-patient relationship” (2 references)<sup>33,40</sup> and “clinical procedure devaluation” (2 references)<sup>33,40</sup>. Regarding “professional-patient relationship”, the situations that can disrupt the relationship between the dentist and the pregnant women were: disliking the dentist, shame of own oral condition and fear of criticism on the part of the dentist:

*“I get scared when they make faces, but they don’t know what really happened with us and [then] say a lot of things”*<sup>33</sup> (p. 792).

In the following sentence, the dentist was compared to the physician, demonstrating the pregnant woman’s lack of confidence in the professional:

*“Everything that passes into her passes to her baby. So you know, this is a dentist, he’s not a doctor and that would be scary”*<sup>40</sup> (p. 1090).

Low credibility for the procedures performed, price charged for procedures and diagnosis given by the dentist were also found to function as barriers by George et al.<sup>40</sup> and Albuquerque et al.<sup>33</sup>.

- **Fear of/anxiety towards dental treatment**

The theme “fear of/anxiety towards dental treatment” is a result of negative past experiences lived by pregnant women<sup>33,38,39</sup>. Dentists’ procedures, instruments and environment, such as anesthesia and turbine<sup>33,36,39</sup>, or felling pain or discomfort<sup>33,38,40</sup>, can generate anxiety and fear. Also related to previous experiences, professional conduct can generate anxiety. Bad reception or lack of delicacy during the procedures were reported as well<sup>33,38,39</sup>.

*“I thought it was a bad thing to fill the tooth because of the pain, that machine [the engine, the drill] is very bad”<sup>33</sup> (p. 792).*

*“It’s like: you lay in a white, cold room and a guy comes... appears with an injection... Oh, how awful... And then you lose control of the situation. You stand there with your mouth numb. And that horrible engine... Dentists are horrible”<sup>36</sup> (p. 2299).*

Conversely to how negative experiences may be a barrier to the use of dental services during pregnancy, Le et al.<sup>38</sup> (p. 49) found that positive experiences are facilitators for pregnant women who received dental treatment during pregnancy: *“I actually like going to the dentist, because since I was a little girl I’ve been going to the dentist. They’re always friendly and they’re nice, so I guess that’s why I like going to the dentist a lot”.*

- **Beliefs and myths about dental treatment safety**

All the papers included in the review discussed this theme, depicting the close relationship between beliefs and myths and the utilization of dental service. These tend to strengthen the fear that dental treatment may cause problems with “inadequate development/abortion of the baby” (10 references). Many dental procedures are considered unsafe during pregnancy and, therefore, pregnant women prefer to delay/restrict dental treatment<sup>31,32,33,34,35,40</sup>, either on their own initiative or even under the recommendation of health professionals. On the most common myths, women associated radiographic examinations<sup>31,34,35,36,37,39,40</sup> and dental anesthesia<sup>33,35,37</sup> with the risk of malformations in the baby. Dental extraction<sup>31,33,35,37,39</sup> was related to abortion and hemorrhage. The prohibition of pain medication<sup>31</sup> was a barrier related to the fear of feeling pain after a procedure and not being able to be medicated.

*“Anesthesia, for example. What happens to the child? She could have a problem inside, mental illness, (...) some disease. I would not go and would not recommend anyone to go to the dentist when they are pregnant”<sup>37</sup> (p. 416).*

*“I would not do it because it’s radiation. I think it could pass to the baby and could affect the’ development, the growth. If it were me, I would not take it”<sup>35</sup> (p. 1079).*

*“I didn’t really think about going to the dentist because most likely I was going to have to get my teeth pulled and everybody was, like, it’s no use because I couldn’t get my teeth pulled while I was pregnant because they wouldn’t give me no pain medicine, so you just was better off waiting”<sup>31</sup> (p. 321).*

- **Health professionals’ barriers**

Some of the barriers found regarded the dentist (6 references)<sup>31,32,36,38,39,40</sup> and others regarded other health professionals (3 references)<sup>31,32,36</sup>, especially physicians. The women’s reports show that dentists were not comfortable during treatment or that they advised them to return after the baby’s birth<sup>31,32,36,38,39,40</sup>.

*“When it comes to dental work, I tried to get my teeth done during my pregnancy, but the dentist wanted me to sign this waiver that if anything happened to my baby during my delivery that he wouldn’t be responsible, and I wasn’t comfortable with that because he really freaked me out”<sup>38</sup> (p. 49).*

Other professionals also have doubts about the safety of dental treatment during pregnancy and almost do not talk about oral health during prenatal visits, or incorrectly advise the pregnant women<sup>31,32,36</sup>. This is aggravated when the advice is given by physicians, because there is an unconditional trust in the doctor-patient relationship, creating a barrier that is difficult to overcome<sup>35,37</sup>.

*“So, I think it’s risky. But with a doctor’s supervision, it would be something else. And no doctor advised me. They no longer make any referrals. Only when people are (...) is dying of pain do they recommend it”<sup>37</sup> (p. 416).*

- **Family and friends' advice**

In addition to the barriers created by the women themselves and the health professionals, "family and friends' advice" that pregnant women should not go to the dentist <sup>31,32,37,39,40</sup>, restricting even more the use of dental services for these women.

*"Someone actually told me that I shouldn't go to the dentist because I am pregnant (...) A friend [told me] (...) someone told her that going to the dentist was like pointless while you're pregnant because they won't give you any kind of numbness. They're pretty much limited to what they can do"* <sup>31</sup> (p. 321-2).

There are also reports of advice regarding oral problems and medications delivered by family members and using only popular knowledge <sup>31</sup>, without any scientific basis.

*"They didn't tell me anything about [dental care]. I was telling them my mouth hurt and to try to stick it out. I drank the milk and then I called... their great grandmother and she told me to take some vinegar and pepper and put it where it hurt, and that kind of worked, too... I had a lot of home remedies"* <sup>31</sup> (p. 323).

- **Lack of information about pregnant women's oral health**

The study participants exhibited lack of information about which dental treatments should be delivered during pregnancy and which are some possible changes in their oral health. They felt the need for more information from the health professionals involved in prenatal care <sup>31,33,34,39</sup> or from programs/ advertisements about it <sup>36</sup>.

*"Nobody told me about the changes that could happen in the mouth during pregnancy and their effects on the baby"* <sup>39</sup> (p. 287).

The facilitators and barriers explored in the themes *Family and Friends' Advice* and *Beliefs and Myths About Dental Treatment Safety* are pre-existing or acquired knowledge during health education. Pregnant women who referred to previous knowledge regarding their health during pregnancy felt safer with regard to receiving dental treatment <sup>34,35,39</sup>.

*"...that you should go because if you have an infection it will affect the baby... The baby's teeth, because if you have bad oral health the baby will have it too, then you really need to go..."* <sup>39</sup> (p. 285).

Education in oral health is fundamental for overcoming these barriers, and it can be performed by health professionals other than the dentist. George et al. <sup>40</sup> found satisfaction from pregnant women who received oral health information from midwives who accompanied them in the prenatal care.

*"Right now, what the doctors have just explained to me is that it can affect the baby, the health of the baby, and I have also been told that, you know, my teeth can also fall..."* <sup>39</sup> (p. 287).

- **Costs**

The barriers related to costs are: "dental treatment cost" (4 references) <sup>31,33,34,40</sup>, "transportation cost" (3 references) <sup>33,38,39</sup>, "pregnancy expenditure" (1 reference) <sup>38</sup>. George et al. <sup>40</sup> found that cost was a factor that prevented many pregnant women from seeking dental treatment. The justifications given by the study participants to avoid dental treatment were: high cost and lack of insurance or money to pay dental treatment <sup>31,33,34</sup>. Lack of money to pay for public transport or to fill up the car fuel tank were mentioned as the barrier "cost for transportation" <sup>33,38,39</sup>. Other sporadic situations related to pregnancy expenditure were found by Le et al. <sup>38</sup>.

*"I haven't noticed that my gums have been bleeding, but I have a few holes. But the holes were there before... becoming pregnant. They are not causing a problem só... I haven't actually gone, just because I don't have the money at the moment"* <sup>40</sup> (p. 1090).

- **Health system or insurance**

Pregnant women who received free access to treatment from the government or have health insurance also encountered barriers to the use of these benefits: "infrastructure" (1 ref) <sup>39</sup> and "quality of care" (3 references) <sup>31,33,39</sup>. Infrastructure and institutional dynamics have an impact on the capacity of healthcare and on pregnant women's access to dental care <sup>39</sup>. Difficulty to make an appointment <sup>31,33,39</sup>, low resoluteness <sup>33</sup> and poor care <sup>39</sup> were factors related to "quality of care".

*“The INAMPS [place where she extracted all upper teeth] is for the people, it is not like what happens in private services, where you are paying in cash (...). The salary [at INAMPS], I think it is not very good, there is a lot of people, [the dentists] pulled out [teeth] more than they filled”* <sup>33</sup> (p. 793).

*“...some people are well treated, others are not... Attention should be equal for all...”* <sup>39</sup> (p. 287).

Difficulty of access to appointments were related to the complexity of administrative processes, restraints related to schedules, and queues.

*“That’s one thing that I do have a problem with is getting in to see the dentist. I have dental coverage, but there’s only one dentist who will see all of the Medicaid patients and they don’t answer the phone. (...) They said there’s only one provider and we’ll let you know now, he will not answer the phone”* <sup>31</sup> (p. 321).

In addition, lack of information about the gratuity of governmental programs <sup>33</sup> and the administrative processes for obtaining appointments by insurance, or information about their coverage <sup>39</sup>, prevent the access of pregnant women to dental services. With regard to these, “knowledge about services accessibility” for pregnant women would be a facilitating factor (1 reference) <sup>32</sup>.

*“I saw a TV report showing that, at UNESP, there was a preventive treatment during pregnancy, so I went back to see how it worked”* <sup>32</sup> (p. 129).

Another facilitator described in the studies was the priority care pregnant women receive in these services (3 references). In relation to this, the gratuity and the priority pregnant women receive when accessing the service were highlighted by the participants of the studies <sup>35,39,40</sup>.

*“I do not have anything to talk about my teeth. I am fine. I’m receiving dental care, but I’m happy now because pregnant women have the privilege of getting treatment for free, and they are well cared here”* <sup>35</sup> (p. 1077).

#### • **Mobility and security**

This theme addresses the access of participants to the dental services facilities: “transportation difficulty” (3 references) <sup>33,38,39</sup>, “distance” (2 references) <sup>33,39</sup> and “street paving” (1 reference) <sup>39</sup> were related to mobility, and “urban violence” (2 references) <sup>33,39</sup> was related to security. Lack of a car or a driving license and the need to take a bus were transportation difficulties reported in some studies <sup>33,38,39</sup>. Street paving also becomes a problem on rainy days <sup>39</sup>.

*“...then it’s difficult. The bad thing about the bus is that, sometimes, when I have appointments in the morning, it gets very crowded, then it is not so easy because, as sometimes you enter [the bus] last, you cannot get off due to the amount of people on the bus...”* <sup>39</sup> (p. 282).

The distance between the women’s house and the dental office was cited as a barrier to the use of dental services during pregnancy <sup>33</sup>, and this was related to urban violence <sup>33,39</sup>.

*“A large distance from the hospital and even from the cab ... I’m not good at walking ... It’s not a luxurious neighborhood ... There’s no way to get a fix on the streets ... I do not feel safe with those people...”* <sup>39</sup> (p. 281).

*“You have to leave home early in the morning [to get a numbered ticket for an attendance], it’s scary ... It’s dangerous to walk through... there are bandits and stoned people”* <sup>33</sup> (p. 793).

#### • **Time constraints**

Lack of time for dental visits and long waiting time at the dentist’s office <sup>33,38</sup> were factors that limited the participants’ use of dental care services. Pregnant women who worked or studied had difficulty in adjusting their dental appointments to their daily schedules (manage dental appointments – Figure 2) <sup>38</sup>. In addition, family also appeared as requiring their time <sup>38</sup>.

*“I had a toothache, but it continued for days and I filled it with a cotton pellet... I was not going to work...”* <sup>39</sup> (p. 281).

*“...someone to come watch the kids when I have to be at the dentist because I used to do a lot of my appointments on my husband’s lunch hour and when the kids were napping, but sometimes it takes a few hours”* <sup>38</sup> (p. 49).

- **Employment**

In the study by Concha-Sánchez<sup>39</sup>, pregnant women reported loss of employment due to pregnancy, which compromised economic stability and their affiliation with the social health insurance system, hindering their access to health care:

*"I was very good at my insurance controls with C... S... (name of institution) and then I called to get an appointment with the gynecologist and they said no, that I was no longer affiliated... They asked if I had stopped working and I said yes, then that I was no longer..."*<sup>39</sup> (p. 281).

- **Social support**

This theme addresses family support during pregnancy<sup>38,39</sup>. The study participants reported that unstable relationships with their partner might impair health care during pregnancy. According to Concha-Sánchez<sup>39</sup>, relationship can positively or negatively influence dental care attendance. The way women perceived the support from their partners could encourage health care behaviors for themselves and for their unborn children.

*"...I think [stress] was mainly brought on because my ex-husband kind of emotionally and physically abused me, and I was having a really hard time. He hurt me when I was pregnant with her, and he let his friends do things to me when I was pregnant with her. I was about probably 3½ or 4 months pregnant when I finally just left him and went and lived with my parents because he was smoking crystal meth and doing pot, and I was trying to get away from him"*<sup>38</sup> (p. 48).

Family support can be a barrier, but it can also act as a facilitator for the use of dental services. This involves the pregnant women's accompaniment and counseling, as well as financial support.

*"We go to the control visits, both of us together; he always accompanies me everywhere; He never lets me go alone, he is always with me, up and down... Besides, he cares [about me] more than myself, when I have to eat he gives me [food], it is one thing or the other; more worried than me"*<sup>39</sup> (p. 280).

## Discussion

According to a recent systematic review on the determinants for the use of dental services by pregnant women, many questions remain unclear, especially with regard to some psychosocial issues, such as beliefs and values<sup>20</sup>. As the qualitative approach aims to study the individual in depth by understanding their reality<sup>41,42,43</sup>, this systematic review was proposed in order to better understand the factors already identified in quantitative analyses, and to provide an exploratory study for new variables that could be tested.

We conducted quality appraisal of both qualitative and mixed-method studies in order to provide a transparent assessment of them. As all assessments in published papers, it is an evaluation of the quality of reporting rather than of the methodological approaches. Grey literature was excluded. We recognize that some good studies may have not been included in this review. However, we opted to include only studies that were published in a peer-reviewed journal<sup>44</sup>. When selecting the studies, we decided to include two papers from Codato et al.<sup>35,36</sup> that came from the same sample, as their cut-offs were different: one addresses the professional barriers perceived by pregnant women<sup>37</sup>, and the other the barriers of the pregnant women themselves<sup>35</sup>.

## Major findings

The studies included in this systematic review showed that many barriers exist to the use of dental services during pregnancy, even in countries with free care programs and policies. Some are inherent to the patient, regardless of pregnancy, and they were associated with irregular dental attendance patterns, such as fear/anxiety and negative stigma regarding dentistry<sup>33,38,39,40</sup>.

Fear of pain, dental procedures or the environment of the dental office were cited by the pregnant women in the studies, resulting from bad previous dental experiences. The conduct of professionals also generated anxiety and it was related to the dentist/doctor-patient relationship. This was verified

by Armfield et al.<sup>45</sup>, who found an association between high levels of dental fear and high levels of dissatisfaction towards the dentist. Interpersonal factors are the most commonly endorsed reasons for people's satisfaction with their dentist. A friendly and respectful dentist that explains everything well will most likely contribute to patients' acceptance of dental care. Items relating to professional competence were much less endorsed as reasons for patients' satisfaction<sup>45</sup>.

In addition to inherent fears/anxiety, the lack of information about oral health during pregnancy results in beliefs and myths about dental treatment safety. Many beliefs and myths are present within society, the general population and health professionals, which was the strongest barrier found. All studies found reports of fear that dental treatment causes problems to the baby's development or abortion. This fear was related to procedures and drugs used during treatment, such as exposure to X-rays, dental extraction, and anesthesia, leading to delays and hindering dental treatment. In the study by Dinas et al.<sup>12</sup>, 72.2% of the participants believed that dental treatment during pregnancy might have a negative effect on pregnancy outcome and it was an important factor limiting the utilization of dental care. Family and friends also contribute to this barrier, with wrong advice regarding the safety of the treatment coming from their experiences, which was described in 5 studies<sup>31,32,37,39,40</sup>.

Furthermore, it is clear that the lack of knowledge and the insecurity of health professionals perpetuate myths and beliefs, as they may transmit incorrect information to patients. The review put forward by Vieira et al.<sup>46</sup> described that dentists have doubts and fears about dental care for pregnant women, especially with regard to the use of X-rays, prescriptions, and ideal gestational period for treatment. George et al.<sup>47</sup> examined all studies published in English until 2012 that assessed the knowledge of oral health care during pregnancy of dentists, general practitioners, midwives, and obstetricians/gynecologists; they found that any general practitioner believes that dental procedures are unsafe during pregnancy. Al-Habashneh et al.<sup>48</sup> found that 88% of doctors advised the delay of dental treatment until after pregnancy, resulting in another barrier to be overcome that is related to the unconditional trust that patients have in the doctor, following their guidelines without questioning.

Altogether, these factors result in a vicious cycle constituted by health professionals' doubts with regard to the safety of dental procedures during pregnancy, insecurity of dentists in delivering treatment, and myths or beliefs from pregnant women, and their family/friends. This cycle must be interrupted, and the first step should come from the dentists, who need constant updates on oral health and dental treatment during pregnancy, expanding their knowledge on the theme to transmit confidence and correct information to the population. Moreover, in order to minimize myths, beliefs, fear and anxiety regarding dental care for pregnant women, prenatal dentistry should focus on health literacy, creating a space for dialogue and exchange of knowledge.

Prenatal programs can encourage dental care during pregnancy, potentially having positive influences in changing attitudes and beliefs regarding oral health<sup>33</sup>. Priority of care in the health systems and insurance was strongly associated with dental visits during pregnancy in quantitative studies<sup>14,16,17,19</sup> as confirmed in this review<sup>35,39,40</sup>, but there are still problems that need to be overcome. Administrative processes and patient/professional relationship need to be improved, with better team training and health planning. This can increase users' satisfaction and thus encourage women to use these services during pregnancy.

Many oral health problems are commonly considered usual during pregnancy, such as dental impairment/loss, toothache, and gingival bleeding. This misconception becomes a barrier, since several dental conditions could be prevented, avoiding the increase in cavities and gingivitis during gestation<sup>16</sup>. Although pregnant women are more susceptible to oral problems due to hormonal, salivary and behavioral change, the dental conditions depicted here are not inherent to pregnancy. They are all associated with plaque due to poor/difficult hygiene of the teeth during pregnancy and are therefore avoidable<sup>49,50</sup>. Any attempt to eliminate this barrier is of high importance, since it is directly related to the mother's quality of life, minimizing the chances of oral pain, psychological discomfort, physical and psychological disability, social disability and handicap<sup>6,51</sup>. Moreover, the maintenance of good oral health during pregnancy depends on healthy diet and oral hygiene<sup>52</sup> and health literacy (we will discuss below) is the key to that.

The findings of this review show that knowledge regarding pregnant women's oral health and the developmental effects of the baby are facilitators for the use of services. These results are reinforced by quantitative studies, which found that pregnant women who know the connection between

oral health and pregnancy use dental services more often <sup>17,53</sup>. This is directly related to the health education carried out by the professionals involved with prenatal care. Health literacy is the way to overcome the barriers mentioned, as it has been described in the literature that dental health education is related to the use of dental services during pregnancy <sup>13,16,19</sup>. Furthermore, by recognizing the importance of oral health, especially during pregnancy, barriers related to perception and low importance of oral health, misconception that oral problems are physiological during gestation, and devaluation of the professional could also be overcome. Finally, to facilitate effective health education, health professionals require pregnancy-specific education on oral health to provide up-to-date preventative and curative care to pregnant patients <sup>54</sup>.

According to several studies, socioeconomic factors were significant predictors of low demand for dental services during pregnancy. Women with lower household income levels were less likely to have dental visits <sup>8,15,19,41,55</sup>. With the analysis of the qualitative studies in this review, we are able to understand some factors involved. As expected, the cost of dental treatment was indeed confirmed to be an important barrier to the use of dental services, moreover, expenses with the newborn, such as diapers and clothes, also directly impact family income. One unexpected finding was that even the pregnant women with insurance or free care had barriers to the use of this service due to transportation costs <sup>33,38,39</sup> such as bus tickets or fuel to go to the place where dental services are offered. Socioeconomic condition is related to social support. Studies show that women who received financial and psychological support from their partners and family sought dental care more often than those who did not <sup>16,18,19</sup>. Similarly, this review identified that financial and social support from family and friends were enabling factors of access to dental services. These results highlight the complexity of the psychosocial factors involved in dental attendance during pregnancy.

Another important finding was the loss of employment, the insecurity of losing one's job during pregnancy due to taking day offs to go to dental appointments, which may be influenced by the need for greater financial resources for the arrival of the new family member. Although many countries legally support women during gestation, in that they are able to return to their jobs after the end of maternity leave <sup>56</sup>. Even though pregnant women should be treated the same way as any other applicants or employees for all employment related purposes, there exists an employer preconception towards pregnant women <sup>57</sup>. In the study by Concha-Sánchez <sup>39</sup>, there were reports of pregnant women who lost their jobs because they were pregnant, and this impacted in their health insurance policy and socioeconomic condition.

Dentistry practice must be based on evidence, so that this vicious cycle of beliefs and myths, which passes from professional to patient and vice versa, comes to an end and, thus, pregnant women have better access to prenatal quality treatment. This review helps to understand how the barriers found in the studies are complex, so that health managers can prepare actions to increase the access of pregnant women to dental treatment. Few facilitators were found and they are here poorly exploited, as they were not the objective of these studies.

Therefore, further studies on this topic are suggested to assist in the planning of effective oral health policies for pregnant women. These results may also support new studies, especially for test intervention protocols and to guide effective public policies to minimize barriers/encourage facilitators, promoting oral health during pregnancy. Intervention studies should focus on overcoming the barriers here described and on enhancing a comprehensive prenatal dentistry. Dental prenatal care must encompass women's health and aim to clarify myths and beliefs regarding the safety of dental treatment during pregnancy. Aside from that, it is necessary to invest in permanent education for health professionals involved in prenatal care in order for them to ensure appropriate care for pregnant women.

There are some limitations. Articles published in a year and/or language different from those adopted as inclusion criteria may have been left out of the analysis. In addition, the exclusion of gray literature also affected the overall number of studies analyzed. Theoretical and sociological approaches should be included when designing and reporting further studies, for greater understanding of the subject.

## Conclusion

This systematic review concludes that many factors may co-operate in complex ways and influence in the search and access to the dental services during pregnancy. These factors are: physiological conditions, low importance towards oral health, negative stigma regarding dentistry, fear of/anxiety towards dental treatment, mobility and safety, financial barriers, employment, time constraints, social support, lack of information, health professional's barriers, family and friend's advice, beliefs and myths about the safety of dental treatment. Myths and beliefs about oral health and dental treatment during pregnancy appear as a prevalent barrier that affects both pregnant women and health professionals, including dentists. Some facilitators were identified in this review, but need to be further analyzed in the future.

## Contributors

J. S. Rocha contributed to conception, design and acquisition of the study, analysis and interpretation of data, and draft of the manuscript. L. Arima contributed to acquisition, analysis of data, and manuscript review. A. C. Chibinski contributed to analysis and interpretation of data, and manuscript review. R. I. Werneck contributed to study design, analysis of data, and manuscript review. S. J. Moisés contributed to the conception of the study, interpretation of data, and manuscript review. M. H. Baldani contributed to conception and design of the study, analysis and interpretation of data, and manuscript review.

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## Resumo

*Algumas barreiras aos cuidados de saúde bucal durante a gravidez são mal compreendidas, principalmente aquelas relacionadas a fatores psicossociais, que são exploradas melhor com estudos qualitativos. Esta revisão sistemática teve como objetivo explorar as barreiras e facilitadores dos cuidados odontológicos durante a gravidez, através de uma síntese temática de estudos qualitativos. Foram incluídos estudos qualitativos ou de métodos mistos, publicados em inglês, português, espanhol ou francês entre 2000 e 2016. As buscas foram realizadas nas bases PubMed, Scopus, Web of Science, LILACS, BBO e CINAHL. Para avaliar a qualidade dos estudos, usamos a ferramenta Critical Appraisal Skills Programme. A síntese temática teve como objetivo interpretar e resumir os resultados. Entre os 2.581 estudos identificados, dez foram incluídos na síntese. Encontramos 14 temas analíticos relacionados a barreiras e facilitadores dos cuidados odontológicos na gravidez, e que interagiram de maneira complexa: condições fisiológicas, baixa importância atribuída à saúde oral, estigma negativo em relação à odontologia, medo ou ansiedade frente ao tratamento dentário, mobilidade e segurança, barreiras financeiras, emprego, limitações de tempo, apoio social, falta de informação, barreiras produzidas pelo profissional de saúde e conselhos de amigos e familiares, além de crenças e mitos sobre a segurança do tratamento dentário. Os mitos e crenças sobre a saúde oral e o tratamento dentário durante a gravidez parecem ser as barreiras mais importantes, tanto para as gestantes quanto para os odontólogos e outros profissionais de saúde. Os achados da revisão podem apoiar novos estudos, principalmente para testar protocolos de intervenção e orientar políticas públicas efetivas para a promoção da saúde oral durante a gravidez.*

*Gravidez; Serviços de Saúde Bucal; Saúde Bucal; Pesquisa Qualitativa*

## Resumen

*Algumas barreras al tratamiento dental durante el embarazo no se han entendido adecuadamente, especialmente aquellas relacionadas con factores psicosociales, que están mejor examinados en estudios cualitativos. El objetivo de esta revisión sistemática fue examinar las barreras y facilitadores para el cuidado dental durante el embarazo, a través de una síntesis temática de estudios cualitativos. Se incluyeron métodos cualitativos, o estudios de métodos mixtos, publicados en inglés, portugués, español y francés, desde el 2000 al 2016. La búsqueda de estrategias se realizó en PubMed, Scopus, Web of Science, LILACS, BBO y CINAHL. Con el fin de evaluar la calidad de los estudios, usamos la herramienta Critical Appraisal Skills Programme. Se realizó la síntesis temática para interpretar y resumir los resultados. De los 2.581 estudios seleccionados, diez fueron incluidos en la síntesis. Encontramos 14 temas analíticos, relacionados con barreras y facilitadores para la atención dental durante el embarazo, que interactuaron de forma compleja: condiciones fisiológicas, baja importancia de la salud oral, estigma negativo referente a la odontología, miedo/ ansiedad al tratamiento dental, movilidad y seguridad, barreras financieras, empleo, restricciones de tiempo, apoyo social, falta de información, barreras a la salud profesional, consejo de familia y amigos, creencias y mitos sobre la seguridad del tratamiento dental. Mitos y creencias sobre la salud oral y el tratamiento dental durante el embarazo parecen ser las barreras más frecuentes, tanto en el caso de las mujeres embarazadas, como en el caso de dentistas y otros profesionales de salud. Los hallazgos de esta revisión tal vez susciten nuevos estudios, especialmente para probar protocolos de intervención y guiar políticas públicas efectivas, orientadas a la promoción de la salud oral durante el embarazo.*

*Embarazo; Servicios de Salud Dental; Salud Bucal; Investigación Cualitativa*

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