

# Prenatal dental practices in the city of Itacoatiara, Amazonas, from the perspective of pregnant women

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## Abstract

This study sought to investigate the practices of prenatal dental care from the perspective of pregnant women in the city of Itacoatiara, Amazonas. An instrument composed of 14 objective questions was used, applied to 146 pregnant women, over 18 years of age, followed up in seven family health units in the city of Itacoatiara, Amazonas. The data were descriptively analyzed using absolute and relative frequencies, using the chi-squared test ( $p < 0.05$ ). Of the total number of participants, 49.32% reported not having gone to a dentist appointment during pregnancy, and among those who did, 47.30% went only once, and in 31.08% of the cases the appointment was made by a nursing professional. Regarding health education activities, 91.78% did not participate in any activity and 54.11% did not receive oral hygiene guidance. As the follow-up and dental care during pregnancy are essential to minimize oral changes that may affect the health of the mother and baby, the importance of strengthening actions by oral health teams in raising awareness among pregnant women about the importance of prenatal dental care is highlighted, contributing to a greater adherence to the monitoring of their oral health conditions.

**Keywords:** Primary health care. Prenatal care. Oral Health.

## INTRODUCTION

Pregnancy is a period in a woman's life with physiological, physical, and psychological changes<sup>1</sup>; where hormonal changes can cause oral variations, especially in the periodontium, in addition to changes that provide greater accumulation of biofilm, which can result in dental caries<sup>2,3</sup>. During this period, follow-up by a multidisciplinary team is essential to guide, clarify doubts, alert, and treat complications, not only during pregnancy, but also after birth<sup>4,5</sup>.

In this context, prenatal care is essential to ensure the health of the pregnant woman and

the baby and should be started from the moment the pregnancy is confirmed. This follow-up is essential to promote, protect, and recover the health of the pregnant woman and the fetus and guarantee the evolution of the pregnancy, reducing maternal and fetal morbidity and mortality<sup>6</sup>.

With regards to oral health, pregnancy is not the primary cause of oral diseases. These diseases or alterations appear due to several factors such as poor or difficult oral hygiene, nausea, lack of time, negligence with self-care,

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cariogenic diet, alterations in the secretion of salivary glands, hypervascularization of the periodontium, among others<sup>7,8</sup>.

According to the Comprehensive Assistance to Women's Health Program (CAWHP), it is suggested that pregnant women should be scheduled for routine consultations and prenatal dental care. Dental care during pregnancy is important for maintaining oral health, encouraging the adoption of healthy habits in relation to healthcare, in order to avoid oral diseases that can negatively impact their health and that of the baby. Therefore, it is essential to disseminate information to health professionals and make pregnant women aware of the importance of oral health care during this period<sup>9,10,11</sup>.

Furthermore, the dentist must ensure adequate follow-up and treatment for pregnant women, transmitting safety during care as well as establishing a bond with the patient. Given the resistance of pregnant women to dental treatment due to beliefs and fear of causing risks to the baby, the oral health team should guide pregnant women in relation to the importance of prenatal dental care and about the changes that occur in their bodies that can impact the oral cavity<sup>7,12</sup>.

## METHODOLOGY

This study was approved by the Ethics Committee in Research on Human Beings of the Amazonas State University in accordance with the norms of Resolution 466/2012, under opinion no. 26550919.9.0000.5016.

This is an exploratory cross-sectional study of a quantitative nature, aiming to assess the perception of pregnant women treated at Family Health Units in the city of Itacoatiara, AM, about the importance of prenatal dental care.

During this follow-up, guidelines on oral hygiene, fluoride application, and biofilm control may be carried out with the objective of preventing and controlling the manifestation of common alterations during pregnancy, such as dental caries and gingivitis<sup>7,13,14</sup>.

The incidence of dental caries can occur due to new eating habits, a lack of care with oral hygiene in addition to hormonal changes, factors that also collaborate with the accumulation of biofilm associated with an inflammatory response, leading to diseases and periodontal manifestations<sup>4,9</sup>.

Therefore, it is necessary to plan actions aimed at comprehensive healthcare for pregnant women, including educational activities in healthcare, for health promotion, disease prevention and follow-up. This will provide pregnant women humanized care, in addition to meeting their needs and expectations, which are important issues for creating a bond and trusting relationship between the patient and the health team<sup>15</sup>. Based on the above assumptions, this study sought to investigate the practices of prenatal dental care from the perspective of pregnant women in the city of Itacoatiara, Amazonas.

Itacoatiara is a municipality in the interior of the state of Amazonas, located in the Central-Amazonense Mesoregion, the intermediate region of Parintins, which makes up the Metropolitan Region of Manaus with 12 more cities and is part of the Mid-Amazon health region, and this city is specialized in medium complexity healthcare in this health region<sup>16</sup>.

According to the Brazilian Institute of Geography and Statistics (IBGE), it had an estimated population of 102,701 people in 2020,

with 67% of the population living in urban areas (IBGE, 2010)<sup>17</sup>. According to the National Registry of Health Establishments (NRHE), the municipality has 10 primary healthcare centers located in the urban area, 5 primary healthcare centers located in the rural area, and 1 river healthcare center<sup>18</sup>.

As inclusion criteria, the study included pregnant women over 18 years of age, who were undergoing prenatal care with the health teams in the respective health units and who consented to participate in the study by signing the Informed Consent Form. As exclusion criteria, pregnant women who had cognitive problems that made it impossible to answer the questionnaire or those who felt uncomfortable in answering the questions were excluded.

The sample calculation was based on data from the Unified Health System (UHS) Primary Care Information System, where in August 2020 in Itacoatiara, 228 pregnant women were registered for prenatal care<sup>19</sup>. Based on these data, the sample calculation was performed for finite populations, through the Epi Info Program, where an error level of 5% was used, and a confidence interval of 95%, design effect 1.0, which confirmed that a sample of 143 pregnant women needed to be examined. 146 pregnant women participated in the

study distributed among 7 (seven) previously drawn Primary Care Centers in the urban area of Itacoatiara.

To investigate dental prenatal practices from the perspective of pregnant women, a questionnaire composed of 14 objective and subjective questions, prepared by the researcher, addressing issues related to the health of pregnant women and prenatal dental care was used.

Data collection was conducted in person at primary care centers, on prenatal care days, between November 2020 and January 2021, with a researcher using personal protective equipment, including disposable lab coat, disposable surgical mask, balaclava, maintenance of physical distance, and use of 70° alcohol in gel, to protect against the risk of contamination by COVID-19. All pregnant women who were in the aforementioned healthcare centers for prenatal consultations were invited to participate in the study, following the established inclusion and exclusion criteria.

Data were tabulated in an Excel 2016 spreadsheet and analyzed descriptively using absolute and percentage frequencies. For data analysis, the chi-squared test was used, adopting a significance level of 5%, through the SPSS program version 20.0 (IBM).

## RESULTS

Table 1 shows the results of the sociodemographic profile, period of pregnancy, and general health conditions of the study participants, where 58.22% were aged between 20 and 29 years old, 52.06% were in the last gestational trimester, and 44.52% had completed high school. Among the

146 participants, 60.27% were not primiparous and 7.53% reported having systemic diseases, of which 36.36% were hypertensive and 18.18% had type II diabetes. Still, of the total surveyed, 68.49% were taking some medication, where 39.00% took folic acid and ferrous sulfate.

**Table 1** – Sociodemographic data, period of management, and general health conditions of pregnant women monitored by health centers, Itacoatiara, AM, 2020.

	n	%
<b>Age</b>		
18 to 19 years	35	23.97
20 to 29 years	85	58.22
30 to 39 years	23	15.75
40 to 45 years	3	2.06
<b>Gestational period</b>		
First trimester	17	11.64
Second trimester	53	36.30
Last quarter	76	52.06
Total	146	100.00
<b>Education</b>		
Complete Higher Education	7	4.80
Incomplete Higher Education	3	2.06
Complete High School	65	44.52
Incomplete High School	37	25.34
Complete Elementary School	1	0.68
Incomplete Elementary School	33	22.60
Total	146	100.00
<b>Primiparous</b>		
Yes	58	39.73
No	88	60.27
Total	146	100.00
<b>Has systemic disease</b>		
Yes	11	7.53

	n	%
No	135	92.47
Total	146	100.00
<b>Which systemic disease</b>		
Hypertension	4	36.37
Asthma	2	18.18
Type II diabetes	2	18.18
Did not mention	3	27.27
Total	11	100.00
<b>Takes medication</b>		
Yes	100	68.49
No	46	31.51
Total	146	100.00
<b>Medication being used</b>		
Folic acid and ferrous sulfate	39	39.00
Amoxicillin	1	1.00
Amoxicillin, folic acid, and ferrous sulfate	1	1.00
Methylal and Ferrous Sulfate	1	1.00
Progesterone	1	1.00
Ferrous sulphate	34	34.00
Ferrous Sulfate and Cephalexin	1	1.00
Ferrous Sulfate and Vitamins	10	10.00
Vaccine for syphilis	1	1.00
Vitamins	11	11.00
<b>Total</b>	<b>100</b>	<b>100.00</b>

Table 2 shows the knowledge about prenatal dental care by pregnant women, according to the gestational period. Among the 146 pregnant women participating in the study, 67.81% did not know about prenatal dental care, and 31.51% were in the last gestational trimester. When asked if they performed prenatal dental care, 75.34% reported not doing it, where 37.70% of this total were in the last gestational trimester. Regarding

the difficulty of making an appointment with the dental surgeon, 19.18% reported some difficulty, where, of the total, 53.57% were due to the lack of appointments caused by the COVID-19 pandemic. Still, no pregnant woman who was in the first trimester reported any difficulty in making an appointment. There was no statistically significant difference in the parameters evaluated in relation to the gestational period.

**Table 2** – Knowledge about prenatal dental care by pregnant women, according to the gestational period, Itacoatiara, AM, 2020

		First Gestational Trimester		Second Gestational Trimester		Third Gestational Trimester		Total	
		n	%	n	%	N	%	n	%
Knows about prenatal dental care	Yes	2	1.37	15	10.27	30	20.55	47	32.19
	No	15	10.27	38	26.03	46	31.51	99	67.81
<b>p</b>		<b>0.143</b>							
Does prenatal dental care	Yes	5	3.42	10	6.85	21	14.38	36	24.66
	No	12	8.22	43	29.45	55	37.67	110	75.34
<b>p</b>		<b>0.254</b>							
Difficulty scheduling dentist	Yes	0	0.00	15	10.27	13	8.90	28	19.18
	No	17	11.64	38	26.03	63	43.15	118	80.82
<b>p</b>		<b>0.335</b>							
Reason for the difficulty of making an appointment with a dentist	Distance, lack of money	0	0.00	2	7.14	3	10.71	5	17.86
	No service/pandemic	0	0.00	8	28.57	7	25	15	53.57
	Waiting time	0	0.00	2	7.14	0	0.00	2	7.14
	hard to schedule	0	0.00	3	10.71	1	3.57	4	14.29
	Lack of time	0	0.00	0	0.00	2	7.14	2	7.14
<b>p</b>		<b>0.961</b>							
<b>Total</b>		17	11.64	53	36.30	76	52.06	146	100.00

p=chi-square test\* p<0.05

Table 3 shows the results of access to dental services according to the gestational period, where it was found that 50.69% of pregnant women reported having had an appointment with the dental surgeon during pregnancy, and of this percentage, 28.77% were in the last trimester of pregnancy. Regarding the frequency

of consultations, among those who consulted with the dental surgeon, 47.30% had only one consultation, and 18.92% of these women were in their third gestational trimester. When asked about who made the appointment, 32.43% reported that the appointments were made by the nurse of the healthcare team.

**Table 3** – Access to consultations with dentists during pregnancy, according to the gestational period, Itacoatiara, AM, 2020.

		First Gestational Trimester		Second Gestational Trimester		Third Gestational Trimester		Total	
		n	%	n	%	n	%	n	%
Consultation with dentist	Yes	10	6.85	22	15.07	42	28.77	74	50.69
	No	7	4.79	31	21.23	34	23.29	72	49.31
<b>Total</b>		<b>17</b>	<b>11.64</b>	<b>53</b>	<b>36.3</b>	<b>76</b>	<b>52.06</b>	<b>146</b>	<b>100.00</b>
Frequency	1 time	7	9.46	14	18.92	14	18.92	35	47.30
	2 times	1	1.35	5	6.76	14	18.92	20	27.03
	3 times	2	2.7	1	1.35	8	10.81	11	14.87
	4 times	0	0	1	1.35	3	4.05	4	5.4
	5 times	0	0	0	0	2	2.7	2	2.7
	Monthly	0	0	1	1.35	1	1.35	2	2.7
<b>Total</b>		<b>10</b>	<b>13.51</b>	<b>22</b>	<b>29.73</b>	<b>42</b>	<b>56.75</b>	<b>74</b>	<b>100.00</b>
Who made the appointment	CHA	1	1.35	1	1.35	2	2.7	4	5.41
	Family	0	0	2	2.7	4	5.4	6	8.11
	Nurse	4	5.41	3	4.05	17	22.97	24	32.43
	Doctor	0	0	0	0	1	1.35	1	1.35
	Nobody	2	2.7	7	9.47	11	14.87	20	27.03
	Particular	1	1.35	0	0	0	0	1	1.35
	Patient	2	2.7	9	12.16	5	6.76	16	21.62
	Did not answer	0	0.00	0,00	0.00	2	2.7	2	2.70
<b>Total</b>		<b>10</b>	<b>13.51</b>	<b>22</b>	<b>29.73</b>	<b>42</b>	<b>56.75</b>	<b>74</b>	<b>100.00</b>

With regards to participation in health education activities and oral health self-perception, 91.78% of the participants reported not having participated in health education activities, with 46.58% of the women in their third trimester. Regarding oral hygiene guidelines, 45.89% reported that they had such guidelines, 23.29% of those were in their third trimester. Regarding self-perception of oral health, 59.50% reported

having good oral health and only 4.79% reported having poor oral health. Concerning toothaches, 27.4% had toothaches during pregnancy, 15.75% among those who were in their third trimester. A statistically significant difference was found between participation in health education activities, oral hygiene guidance, self-perception, and toothaches with the gestational period. (Table 4).

**Table 4** – Oral health education activities for pregnant women, according to the gestational period, Itacoatiara, AM, 2020.

		First Gestational Trimester		Second Gestational Trimester		Third Gestational Trimester		Total	
Health education	Yes	1	0.68	3	2.05	8	5.48	12	8.22
	No	16	10.96	50	34.25	68	46.58	134	91.78
<b>p</b>					0.000*				
Oral hygiene guidance	Yes	11	7.53	22	15.07	34	23.29	67	45.89
	No	6	4.11	31	21.23	42	28.77	79	54.11
<b>p</b>					0.000*				
Oral health self-perception	Excellent	4	2.74	9	6.16	14	9.59	27	18.49
	Good	7	4.79	33	22.6	47	32.19	87	59.59
	Regular	5	3.42	7	4.79	13	8.9	25	17.12
	Bad	1	0.68	4	2.74	2	1.37	7	4.79
<b>p</b>					0.000*				
Toothache	Yes	3	2.05	14	9.59	23	15.75	40	27.4
	Sometimes	2	1.37	4	2.74	9	6.16	15	10.27
	No	12	8.22	35	23.97	44	30.14	91	62.33
<b>p</b>					0.000*				
<b>Total</b>		17	11.64	53	36.3	76	52.06	146	100.00

p=chi-squared test \* p<0.05

## DISCUSSION

In this study, 58.22% of the participating pregnant women were between 20 and 29 years old, 52.06% were in their last gestational trimester, and 44.52% had completed high school. Still, 60.27% were not primiparous and 7.53% reported having systemic diseases, of which 36.36% were hypertensive. Regarding prenatal dental care, 67.81% did not know about prenatal dental care and 75.34% reported not doing it; however, 47.30% reported having had at least 1 consultation with the dental surgeon, and in 31.08% of the cases the consultation was scheduled by the nurse of the healthcare team.

Regarding the age of the pregnant women interviewed in this study, the majority (58.22%) were between 20 and 29 years old, consistent with the studies conducted in Maringá, PR<sup>8</sup> and Fortaleza, CE<sup>21</sup>, both with

a mean age of 25 years old; however, disagreeing with a study conducted in Araçatuba, SP, where the majority (63%) were under 25 years of age<sup>5</sup>.

With regards to the gestational period, 52.05% of the pregnant women were in the last trimester, differing from the study carried out in Araçatuba<sup>5</sup>, where the pregnant women in the study were in the first trimester, considered the most critical period of pregnancy. This can be explained by the fact that many women take time to prove their gestational status, and they may be afraid of professional attention at this stage or ignore the importance of this period to the formation of the fetus. In addition, the results of this study revealed that 60.27% of the pregnant women were not in their first pregnancy, unlike a study in which 37.7% were not primiparous women<sup>21</sup> and

similar to a study that found 38% were primiparous pregnant women<sup>2</sup> and a study whose result was of 48.75% who were primiparous women<sup>8</sup>.

Furthermore, in relation to the socioeconomic conditions of the pregnant women, it was observed that 44.53% had completed high school, a result similar to the study carried out in Fortaleza where 42.6% reported having completed high school<sup>20</sup>, and different from the study in Araçatuba, SP, where 69% of pregnant women had not completed high school<sup>5</sup>.

Regarding the general health of pregnant women, it is important to highlight that 7.53% reported having some systemic disease, and of this total, 36.36% declared themselves to be hypertensive, 18.18% with type 2 diabetes, and 18.18% with Asthma. Moreover, only one pregnant woman claimed to take medication to control hypertension, with Methylal being the drug of choice. In this context, the literature highlights healthy eating, regular practice of physical activity, humanized and qualified prenatal care as important actions for the prevention and management of hypertension in pregnancy, contributing to health promotion and disease prevention, as well as the relevance of prenatal consultations for the health of the pregnant woman and the baby<sup>21</sup>.

The preferred entry point for pregnant women into the healthcare system should be the primary care center and is the strategic point of care for meeting their needs, providing longitudinal and continuous monitoring<sup>6</sup> to ensure gestational development, allowing for the delivery of a healthy newborn, with no impact on maternal health. This includes addressing psychosocial aspects and educational and preventive activities<sup>15</sup> as well as prenatal dental care, which should be the focus of attention on the part of oral health professionals, with a view to promote oral health and prevention of diseases that affect the oral cavity<sup>7</sup>.

In a study conducted in Vitória da Conquista, BA, it was observed that 86.1% of pregnant women stated that it was necessary to include a dental professional during prenatal care. However, a high percentage of pregnant women were unaware of the actions that would be required for prenatal dental care (46.3%), 19.6% described only preventive actions such as cleanings and fluoride, and 6.2% reported that no dental procedure should be performed during the pregnancy phase<sup>22</sup>.

In the present study, there was a high percentage of pregnant women who reported not having prenatal dental care (75.34%), with a high percentage in the third trimester (37.67%), which may be due to lack of knowledge regarding this important component of monitoring gestational health, corroborated by the high percentage of participants who did not know about prenatal dental care (67.81%), and a relevant percentage of those who were in the last trimester (31.51%) was also recorded. This is a critical factor, considering that the latter are in the last trimester of pregnancy, and have spent this entire period without evaluation or monitoring of oral health conditions.

Furthermore, 50.68% of the participants reported having had an appointment with the dental surgeon, and 47.30% had only 1 appointment. This result differs from the study of municipalities in the interior of the State of São Paulo, where only 27% sought consultation with the dental surgeon<sup>5</sup>, and from the study in the state capital of Ceará, where 57.4% did not seek or undergo dental care<sup>20</sup>. However, these results are in line with what is recommended by the Ministry of Health, which recommends that the pregnant woman, when starting prenatal care, should be referred to a dental appointment, during which she will receive guidance on the possibility of care during pregnancy, soft tissue exams, identification of risks to oral health, diagno-



ses of carious lesions, the need for curative treatment, diagnoses of gingivitis or chronic periodontal diseases, as well as the need for treatment and guidance on eating habits and oral hygiene<sup>6</sup>.

The role of the nursing professional vis-à-vis the pregnant woman is to guide her on the importance of prenatal care to improve promotion, prevention, and treatment during pregnancy, providing a structure so that the individual needs of the patient and the community are met<sup>26</sup>. In this study, of the pregnant women who had a dental appointment, 31.08% had their appointment scheduled by the center's nurse, different from a study that found 25% of pregnant women were advised by health center employees (40%)<sup>6</sup>. This makes the role of the nursing team and of the multidisciplinary team evident, guiding and providing information for education, promotion, and prevention for the health of pregnant women<sup>9</sup>.

In this context, it is essential that the oral healthcare teams work in an integrated way with the other professionals of the general healthcare team in primary care and, with regards to pregnant women, they work in constant interaction with the professionals responsible for their care, so that there is safe a development and adequate care for these pregnant women<sup>6</sup>.

It could be noted that 24.66% of the pregnant women in the present study who underwent prenatal dental care reported difficulties in making an appointment with the dental surgeon, reporting that the greatest difficulty encountered was in relation to the lack of care during the pandemic (52.57%). Likewise, a study found difficulties in accessing dental services, even though pregnant women are priority groups for healthcare, and it also concluded that pregnancy is surrounded by myths and doubts that make dental care difficult during prenatal care<sup>20</sup>, although this study had

been conducted at a time prior to the COVID-19 pandemic. In another study, the major cause was related to the lack of treatment (32.9%)<sup>5</sup>.

In addition, the suspension of elective dental treatments during the pandemic in the State of Amazonas was determined, except for those referring to the healthcare line for pregnant women, so as not to impair the follow-up of prenatal dental care, avoiding only procedures that produce aerosols and leaving these for emergency appointments. Thus, the justification of pregnant women for the lack of dental care during the pandemic may be related to a lack of knowledge and a fear regarding the risk of contagion in the healthcare center during dental consultations<sup>23</sup>.

In a survey conducted in Mineiros, GO, it was found that 54% of pregnant women reported having received guidance on the importance of oral healthcare during prenatal care. In addition, 44% of pregnant women did not know about prenatal dental care, and of the 56% who knew about it, only 37% had a dental follow-up. However, 99% of these pregnant women believe in the importance of dental follow-up, despite not all undergoing this follow-up<sup>24</sup>.

Thus, the presence of the dental surgeon during prenatal dental care is necessary and fundamental, since this professional can exchange information with the multidisciplinary team and guide the pregnant women, so that they can have a comfortable and healthy pregnancy<sup>25</sup>. Therefore, prenatal dental care should be offered to all pregnant women as a way of spreading knowledge about oral care as well as treating any oral alterations early, minimizing problems that may affect the well-being of both the mother and the baby<sup>24</sup>.

Most of the participating pregnant women (91.78%) reported not participating in health education activities during pregnancy and 54.11% did not receive oral hygiene guidance

ce. This is an alarming result, as educational activities are moments that allow for the exchange of experiences and difficulties among pregnant women and make it possible to clarify doubts and information about care for their health and that of the baby. This reinforces the lack of prioritization of pregnant women among the healthcare team. Based on the health education work developed by health professionals in prenatal care, women will be able to act as a multiplying agent of preventive information and oral health promotion. They will be well informed and aware of the importance of their role in the acquisition and maintenance of positive healthy habits in the family environment<sup>9</sup>.

The self-perception of oral health of pregnant women was also analyzed, where it was found that the majority considered their oral health relatively good (59.59%). It was also investigated whether the pregnant women had a toothache during pregnancy, the result of which was that 62.33% did not report any pain. This result was different from a study that found that the reason for seeking the dentist was due to pain and urgency (73.9%)<sup>6</sup>, and a

study in which 53% sought dental care due to an episode of pain<sup>8</sup>.

The present study was limited to pregnant women residing in the urban area and those accompanied by the healthcare teams of the public service of the municipality of Itacoatiara, Amazonas; therefore, new studies are suggested, also directed to rural communities in order to have a larger and more heterogeneous sample. However, the results made it possible to bring to light the pregnant women's knowledge about this relevant topic for their health, enabling the planning of strategies to collaborate with the expansion of their adherence to prenatal dental care.

A possible explanation for the low access and prenatal dental care may be due to the fear of pregnant women in relation to dental treatment in this period, reinforced by the lack of information about the relevance of dental care, and denote the need to prioritize pregnant women in oral healthcare programs, in order to develop educational activities, health promotion actions, disease prevention, and timely follow-ups and treatment, providing the pregnant woman with humanized, quality, and resolute care.

## CONCLUSION

The results of this study suggest the need to improve access to dental consultations by pregnant women in the municipality of Itacoatiara, Amazonas. This result may be due to the lack of health education actions developed by healthcare teams with pregnant women, resulting in low access to information regarding dental services, as well as guidelines on oral health care.

We emphasize the importance of strengthening educational-preventive actions by oral health teams with the multidisciplinary team, in raising awareness among pregnant women about the importance of prenatal dental care, contributing to greater adherence to the monitoring of their oral health conditions, in order to minimize oral alterations that may affect the health of the mother and baby.

## CRediT author statement

Conceptualization: Monteiro, AX; Simões, KAP. Methodology: Monteiro, AX; Pinto, ABS; Simões, KAP. Validation: Pinto, ABS. Statistical analysis: Pinto, ABS; Monteiro, AX. Formal analysis: Passos, SMA; Regis-Aranha, LA. Investigation: Monteiro, AX; Simões, KAP. Resources: Monteiro, AX; Simões, KAP; Pinto, ABS; Passos, SMA; Regis-Aranha, LA. Writing-original draft preparation: Simões, KAP. Writing-review and editing: Passos, SMA; Regis-Aranha, LA. Visualization: Pinto, ABS; Regis-Aranha, LA. Supervision: Monteiro, AX. Project administration: Monteiro, AX.

All authors have read and agreed to the published version of the manuscript.

## REFERENCES

1. Alves TV, Bezerra MMM. Principais alterações fisiológicas e psicológicas durante o Período Gestacional. Rev. Mult. Psic. [Revista de Internet] 2020; acesso 18 de maio de 2022;14(49):114-126. Disponível em: <https://idonline.emnuvens.com.br/id/article/view/2324/3608>
2. Prestes ACG, Martins AB, Neves M, Mayer RTR. Saúde bucal materno-infantil: uma revisão integrativa. RFO UPF.[Revista de Internet]2013; acesso 18 de maio de 2022 18(1):112-119.Disponível em: [http://revodonto.bvsalud.org/scielo.php?script=sci\\_arttext&pid=S1413-40122013000100019](http://revodonto.bvsalud.org/scielo.php?script=sci_arttext&pid=S1413-40122013000100019)
3. Hartnett E, Haber J, Krainovich-Miller B, Bella A, Vasilyeva A, Kessler JL. Oral Health in Pregnancy. JOGNN [Revista de Internet]2016; acesso 18 de maio de 2022; 45:565-3. Disponível em: <https://www.jognn.org/action/showPdf?pii=S0884-2175%2816%2930159-9>
4. Falcone VM, Mäder CVDN, Nascimento CFL, Santos JMM, Nóbrega, FJD. Atuação multiprofissional e a saúde mental de gestantes. Rev. Saúde Pública. [Revista de Internet]2005; acesso 13 de dezembro de 2020;39(4):612-8. Disponível em: <https://www.scielo.br/j/rsp/a/MyTQvk6Md9rykvHCWHjpmBS/?lang=pt>
5. Moimaz SAS, Rocha NB, Saliba O, Garbin CAS. Acesso de gestantes ao tratamento odontológico. Rev. Odontol. Univ. Cid. [Revista de Internet]2007;acesso em 13 de dezembro de 2020;19(1):39-45. Disponível em: [https://arquivos.cruzeirodosuleducacional.edu.br/principal/old/revista\\_odontologia/pdf/3\\_janeiro\\_abril\\_2007/o\\_acesso\\_gestantes.pdf](https://arquivos.cruzeirodosuleducacional.edu.br/principal/old/revista_odontologia/pdf/3_janeiro_abril_2007/o_acesso_gestantes.pdf)
6. Serafim ALC, Marques AA, Cândido DB, Marques RM. Orientações Alimentares na Assistência Pré-natal: Avaliação do processo em Unidades Básicas de Saúde. R. Assoc. bras. Nutr. [Revista de Internet]2021;acesso em: 13 de dezembro de 2020;12(2):133-45.Disponível em: <https://www.rasbran.com.br/rasbran/article/view/1528/384>
7. Oliveira EC, Lopes JMO, Santos PCF, Magalhães SR. Atendimento odontológico a gestantes: a importância do conhecimento da saúde bucal. Rev. Inic. Cient. Univ Vale Rio Verde. [Revista de Internet]2014;acesso em: 13 dezembro de 2020;4(1):11-23. Disponível em: <http://periodicos.unincor.br/index.php/iniciacaocientifica/article/view/1550/1210>
8. Bastiani C, Cota ALS, Provenzano MGA, Fracasso MLC, Honório HM, Rios D. Conhecimentos da gestante sobre alterações bucais e tratamento odontológico durante a gravidez. Odontologia Clínico-Científica. [Revista de Internet]2010; acesso em: 13 de dezembro de 2020;9(2):155-60. Disponível em: [http://revodonto.bvsalud.org/scielo.php?script=sci\\_abstract&pid=S1677-38882010000200013&lng=en&nrm=isoT&tlng=pt](http://revodonto.bvsalud.org/scielo.php?script=sci_abstract&pid=S1677-38882010000200013&lng=en&nrm=isoT&tlng=pt)
9. Reis DM, Pitta DR, Ferreira HMB, Jesus MCP, Moraes MEL, Soares MG. Educação em saúde como estratégia de promoção de saúde bucal em gestantes. Cien Saude Colet. [Revista de Internet]2010; acesso em 15 de dezembro de 2020; 5(1): 269-276. Disponível em: <https://www.scielo.br/j/csc/a/Vz4jXkQhRxttghWDxHvTRDc/abstract/?lang=pt>
10. Bressane LB, Costa LNBS, Vieira JMR, Rebelo MAB. Oral health conditions among pregnant women attended to at a health care center in Manaus, Amazonas, Brazil. Rev Odonto Cienc. [Revista de Internet]2011; acesso em: 15 de dezembro de 2020;26(4):291-296. Disponível em: <https://www.scielo.br/j/roc/a/Y9T6pBBg7NQSxnM7QqJJyqS/?lang=en>
11. Kelly Alves Guimarães, Gabriela Andrade Sousa, Marcelo Dias Moreira de Assis Costa, Cláudia Maria de Oliveira Andrade, Lia Dietrich. Gestaçao e Saúde Bucal: Importância do pré-natal odontológico. Research, Society and Development. 2021; 10(1): e56810112234.
12. Martins LO, Nascimento LS, Pinheiro RDPS, Júnior PBS, Arantes DC. Assistência odontológica à gestante: percepção do cirurgião dentista. Rev. Pan-Amazônica de Saúde[Revista de Internet] 2013; acesso em: 15 de dezembro de 2020;4(4):11-8; Disponível em: [http://scielo.iec.gov.br/scielo.php?script=sci\\_abstract&pid=S2176-62232013000400002&lng=pt&nrm=iss](http://scielo.iec.gov.br/scielo.php?script=sci_abstract&pid=S2176-62232013000400002&lng=pt&nrm=iss)
13. Poletto VC, Stona P, Weber JBB, Fritscher, AMG. Atendimento odontológico em gestantes: uma revisão da literatura. Stomatos. [Revista de Internet]2008; acesso em: 15 de dezembro de 2020;14(26): 64-75. Disponível em: <https://www.redalyc.org/pdf/850/85012264009.pdf>
14. Silva FWGP, Stuaní AS, Queiroz AM. Atendimento odontológico à gestante – Parte 2: Cuidados durante a consulta. Rev. Fac. Odontol. Porto Alegre. 2006;47(3): 5-9.
15. Brasil. Ministério da Saúde Secretaria de Atenção à Saúde. Departamento de Atenção Básica. Cadernos de Atenção Básica Atenção ao Pré-natal de Baixo Risco, nº 32. [Revista de Internet] Brasília; 2012.acesso em: 15 de abril de 2020. Disponível em: [https://bvsm.sau.gov.br/bvs/publicacoes/cadernos\\_atencao\\_basica\\_32\\_prenatal.pdf](https://bvsm.sau.gov.br/bvs/publicacoes/cadernos_atencao_basica_32_prenatal.pdf)
16. Secretaria de Estado da Saúde do Amazonas. Plano Estadual de Educação Permanente em Saúde do Amazonas. Brasil 2019-2020. Acesso em: 25 de abril de 2020. Disponível em: <https://www.conass.org.br/planos-estaduais-educacao-permanente/PEEPS-AM.pdf>.
17. Brasil. IBGE. Instituto Brasileiro de Geografia e Estatística. acesso em: 10/04/2020.Disponível em: <https://cidades.ibge.gov.br/brasil/am/itacoatiara/pesquisa/23/25207?tipo=ranking&indicador=29518>.

18. Brasil. Ministério da Saúde. Cadastro Nacional de estabelecimentos de saúde (CNES). Acesso em 18 de maio de 2022. Disponível em: <https://cnes.datasus.gov.br/pages/estabelecimentos/consulta.jsp>
19. Brasil. Ministério da Saúde. Sistema de Informação de Atenção Básica do SUS. acesso em: 10 de dezembro de 2020. Disponível em: <https://sisab.saude.gov.br/paginas/acesoPublico/relatorio/indicadores/IndicadorPrenatal.xhtml>.
20. Botelho DLL, Lima VGA, Barros MMAF, Almeida JRF. Odontologia e gestação: a importância do pré-natal odontológico. SANARE [Revista de Internet]2019; acesso em: 30 de maio de 2021;18(2): 69-77; Disponível em: <https://sanare.emnuvens.com.br/sanare/article/view/1376>
21. De Sousa DTR, Silva EJ, Araújo RV. Cuidados de enfermagem para prevenção e manejo da Hipertensão Arterial em gestantes na Atenção Primária. Research, Society and Development. [Revista de Internet]2021; acesso em: 30 de maio de 2021;10(6): e1410615464; Disponível em: <https://rsdjournal.org/index.php/rsd/article/view/15464>
22. Ferreira SMSP; Silva JF; Pinheiro ES; Batista LD e Fernandes CG. Conhecimento em saúde bucal do bebê e expectativa relativa ao pré-natal odontológico: retrato de um município baiano de grande porte. Rev Faculdade de Odontologia de Lins[Revista de Internet]2015; acesso em: acesso em: 30 de maio de 2021;25(2): 19-30; Disponível em: <https://www.metodista.br/revistas/revistas-unimep/index.php/Fol/article/view/2726/1625>
23. Secretaria Municipal de Saúde do Município de Manaus. Departamento de Atenção Primária. Nota Técnica 007/2020 – DAP/DEVAE/SUBGS. Adequações do Processo de trabalho nas Unidades de Saúde no âmbito da Secretaria Municipal de Saúde de Manaus frente a situação epidemiológica atual ocasionada pelo novo Coronavírus (SARS-COV-2).acesso em: 30 de maio de 2021. Disponível em: [https://semsa.manaus.am.gov.br/wp-content/uploads/2020/07/NOTA-TE769\\_CNICA-N%C2%BA-007\\_2020-DAP\\_DEVAE\\_SUBGS-REORGANIZA%C3%87%C3%83O-DO-PROCESSO-DE-TRABALHO-2-vers%C3%A3o.pdf](https://semsa.manaus.am.gov.br/wp-content/uploads/2020/07/NOTA-TE769_CNICA-N%C2%BA-007_2020-DAP_DEVAE_SUBGS-REORGANIZA%C3%87%C3%83O-DO-PROCESSO-DE-TRABALHO-2-vers%C3%A3o.pdf)
24. Oliveira LF, Silva DS, Oliveira DC, Favretto CO. Percepção sobre saúde bucal e pré-natal odontológico das gestantes do município de Mineiros-GO. Rev. Odontol. Bras. Central[Revista de Internet]2021;acesso em 30 de maio de 2021;30(89):116-27; Disponível em: <https://www.robrac.org.br/seer/index.php/ROBRAC/article/view/1324>
25. Harb DA, Carmo WD, Boaventura RM. A importância do pré-natal odontológico. Rev. Cathedral. [Revista de Internet]2020; acesso em: 10 de abril de 2021;2(3):145-56. Disponível em: <http://cathedral.ojs.galoa.com.br/index.php/cathedra>.
26. Martins JSA, Dantas FA, Almeida TF, Santos MBR. A Assistência de Enfermagem no Pré-Natal: Enfoque na Estratégia da Saúde da Família. Revista UNIABEU. [Revista de Internet] 2012; acesso em: 10 de abril de 2021;5(9): 278-88; Disponível em: <https://revista.uniabeu.edu.br/index.php/RU/article/view/369>

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