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Comparative Study Of Oral Changes In Pregnant Women Compared To Non Pregnant Women Coming To Nims Hospital And Nims Dental College In Rural Area Of Jaipur District

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ABSTRACT

Aim: Pregnancy brings about significant physiological and hormonal changes that influence various body systems, including the oral cavity. These changes can lead to distinct oral health conditions that are more commonly observed during pregnancy. The objective of this study is to assess the prevalence of oral health issues specifically associated with pregnancy and to compare their incidence between pregnant women and control group.

Materials and Methods: The study involved 110 pregnant women and 110 women in the control group, all between the ages of 18 and 35. Participants were initially identified at the Gynecology Department of NIMS Medical Hospital and later referred to the Oral Medicine and Radiology Department of NIMS Dental College for further assessment. Key oral health indicators, such as the Gingival Index (GI), Decayed, Missing, and Filled Teeth (DMFT) score, and Plaque Index (PI), were measured.

Results: Pregnant women demonstrated a significantly higher occurrence of aphthous ulcers and dental erosion. Furthermore, their GI, PI, and DMFT scores were markedly elevated in comparison to the control group, reflecting poorer overall oral health.

Conclusion: Poor oral hygiene, increased gingival inflammation, and a higher prevalence of periodontal disease were observed in pregnant women compared to the control group. It is essential to educate women about the critical role of oral health during pregnancy and the potential effects these conditions can have on both maternal and fetal well-being.

Keywords: *Gingivitis, pregnancy, oral health, oral hygiene, trimester, periodontitis, dental caries.*

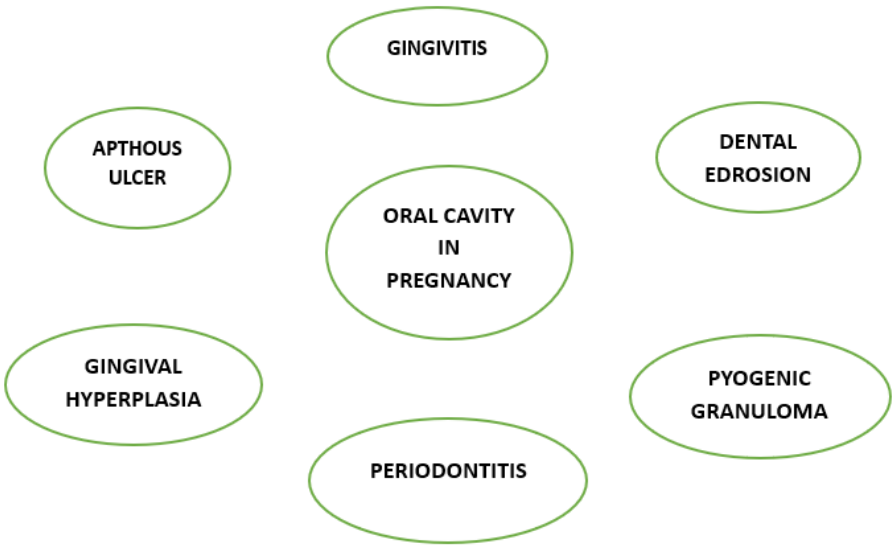
1. INTRODUCTION

Pregnancy is a physiological state that causes a variety of changes in the oral cavity, in conjunction with numerous physiological changes that take place throughout the female body. [1] The changes in hormone levels are chiefly responsible for the aging process and the different physiological modifications in the female reproductive system.[2] Some striking pathological changes have been made in the oral cavity in women during the pregnancy.[3]. Oral health plays a crucial role in maintaining general health. The oral health challenges unique to women have been a focus of attention for a considerable time.[4]

Pregnancy is accompanied by numerous physiological changes, including oral inflammation manifesting as gingivitis and periodontitis. Gingivitis in pregnancy can be characterized as a tissue reaction where estrogen and progesterone influence

the local tissue and its microvascular system. This leads to a lowered threshold for tissue injury, which causes endothelial damage, increased vascular permeability, and a decrease in corpuscular flow rate. The effect of progesterone is more pronounced than that of estrogen. The inflammatory response to local irritants may be heightened during pregnancy, contributing to changes in the gingiva. Pregnancy does not directly result in gingivitis; however, it may worsen any existing gum disease. Typically, the changes observed in the gums will resolve within a few months after childbirth, as long as local irritants are removed.[4] The presence of periodontal disease is associated with ongoing inflammatory challenges in the body, resulting from bacterial microorganisms. These pathogens release substances that initiate the immune-inflammatory cascade in the individual. However, other issues such as dental caries, tooth mobility, aphthous ulcerations, erosion of the tooth surface due to vomiting, and facial hyperpigmentation may also be present. Moreover, pallor of the oral mucosa resulting from anemia is observed, but these changes are less specific and are associated with the overall health of the women. [3]

The purpose of this research was to identify oral modifications in pregnant women as opposed to nonpregnant women , to examine the oral hygiene status, gingival health, periodontal condition, and treatment requirements among pregnant and non-pregnant women, while also investigating whether any distinctions exist between the two groups. The study also evaluated the awareness of these oral health conditions



AIM

To analyse the oral changes in pregnant women compared to non pregnant women in rural areas of Jaipur district

OBJECTIVES

1.To assess the occurrence of dental caries through DMFT index among pregnant women and in control group.

2. To assess the various gingival and periodontal changes in pregnant women and control group.

3. To determine the calculus and plaque and erosion of teeth in pregnant women as compared to control group

4. To analyse and assess the various oral pathologies in both pregnant women and control group.

5. To compare the GI Index, PI Index and DMFT and other oral pathologies in both pregnant and control group.

2. MATERIALS AND METHODOLOGY

The present study comprised of 110 pregnant females with 110 control group with age group between 18-35 years. The patients preliminary selected in the Gynecology Department of NIMS Medical Hospital. Those selected patient has got certain oral health changes and referred to OPD of Oral Medicine and Radiology Department, NIMS Dental College.

The selected patients were comfortably sit in the dental chair with proper illuminated light and later after following aseptic precautions, all these patients were examined intra orally to rule out for various pathologies and dental anomalies. Later, these patients were also assessed for DMFT, GI, PI changes in both pregnant and control groups. The details of all the oral changes were properly entered into the proforma attached and with informed consent taken by the respective patients.

The study sample were divided into 2 groups, such as Group A comprised of pregnant women of all trimesters. The other

Group B is control group consist of non pregnant women, where all the scores of GI, PI and other oral changes were examined.

The various changes were entered into the proforma given and entered as per criteria given

GINGIVAL INDEX [BY LOE H AND SILNESS J IN 1963]

SCORING CRITERIA

GINGIVAL SCORES	CONDITION
0.1-1.0	Mild gingivitis
1.1-2.0	Moderate gingivitis
2.1-3.0	Severe gingivitis

3. INTERPRETATION

SCORE	CRITERIA
0	Absence of inflammation/ normal gingiva
1	Mild inflammation, slight change in color, slight edema, no bleeding on probing
2	Moderate inflammation, moderate glazing, redness, edema, hypertrophy, bleeding on probing
3	Severe inflammation, marked redness, hypertrophy, ulceration, tendency to spontaneous bleeding

PERIODONTAL INDEX [BY RUSSELL A L IN 1956]

SCORE	CRITERIA	ADDITIONAL RADIOGRAPHIC FEATURE
0	Negative: there is neither overt inflammation in the investing tissues nor loss of function due to destruction of supporting tissues	Radiographic features essentially normal
1	Mild gingivitis: there is an overt area of inflammation in the free gingivae, which does not circumscribe the tooth.	
2	Gingivitis: inflammation completely circumscribes the tooth but there is no apparent break in the epithelial attachment.	
4	Used only when radiographs are available	There is early notch like resorption of the alveolar crest

6	Gingivitis with pocket formation : the epithelial attachment has been broken and there is a pocket. There is no interference with normal masticatory function, the tooth is firm in its socket and has not drifted.	Horizintal bone loss involving the entire alveolar crest upto half of the length of the root.
8	Advanced destruction with loss of masticatory function: totth may be loose: may have drifted , may sound dull on percussion with a metallic instrument, may be depressible in its socket.	Advanced bone loss involving more than half of the tooth root or a definite infrabony pocket with widening of periodontal ligament. There may be root resorption or rarefafaction at the apex

4. NTERPRETATION:

CLINICAL CONDITION	INDIVIDUAL PI SCORE
Clinically normal supportive tissues	0-0.2
Simple gingivitis	0.3-0.9
Beginning destructive periodontal disease	1.0-1.9
Established destructive periodontal disease	2.0-4.9
Terminal disease	5.0-8.0

DMFT INDEX [HENRY T. KLEIN, CARROLE E. PALMER AND KNUTSON J IN 1938]

The maximum number for an individual dmft score is 28 or 32, if third molars are included.

Total each component i.e d+m+f = dmf.

WHO MODIFICATION OF DENTAL CARIES CRITERIA [1987]

All third molars are included.

Temporary restorations are considered as d.

The initial lesions like chalky or discolored rough spots and stained fissures are not considered as d. Caries is recorded when there is an unmistakable cavity, undermined enamel or a softened wall or floor.

Only teeth missing due to caries are included in its m- component.

Later these changes were tabulated and entered into the proforma and send for statistical analysis.

INCLUSION CRITERIA

1. Pregnant women and control group between 20-35 years.
2. Subjects who gave written informed consent.
3. Control group participants with a minimum of 15-month postpartum period

EXCLUSION CRITERIA:

1.Participants with a contributory medical history.

2.Participants who had received dental prophylaxis during the past 6 months before the study.

ARMAMENTARIUM

Probe

Explorer

Tweezer

Intraoral mouth mirror

Cheek retractor

Green cloth

Head cap

Face mask

Surgical gloves

Kidney tray

STUDY SETTINGS:

This study was conducted in OPD of OMDR, NIMS Dental College attending the Gynecology department, NIMS Medical College.

STUDY SUBJECT: This study group consisted of group A comprised of 110 pregnant female and group B comprised of 110 control group, with age group between 18-35 years.

STUDY SAMPLE: A total of 220 participants comprised of pregnant women and control group between the age range of 18-35 years were included in this study.

ETHICAL CLEARNCE: Permission from the ethical committee NIMS Dental College, Jaipur, Rajasthan was obtained for the paticipants.

All the Data was entered in Microsoft excel spreadsheet, tabulated and subjected to statistical analysis.

5. RESULTS

TABLE 1: PERCENTAGE DISTRIBUTION OF PREGNANT WOMEN AND CONTROL GROUP

Group	N	Mean	Std. Deviation	P value
Pregnant women	110	25.86	4.357	0.45
Control group	110	26.30	4.334	

Table 1 showed that p value is significant in both the groups.

TABLE 2: PERCENTAGE DISTRIBUTION OF PREGNANT WOMEN IN DIFFERENT TRIMESTER OF PREGNANCY

Trimester	Frequency (n)	Percentage (%)
1st Trimester	46	41.8%
2nd Trimester	44	40%
3rd Trimester	20	18.2%

In the above table, it was found that highest proportion of patients were seen in first trimester [41.8%] followed by second [40%] and third trimester [18.2%] in Group A.

TABLE 3: PERCENTAGE DISTRIBUTION OF ORAL CHANGES IN PREGNANT WOMEN AND CONTROL GROUP

	Pregnant women n (%)	Control group n(%)	Chi square value	P value

Aphthous Ulcers	8(3.6%)	4(1.8%)	1.410	0.023*
Oral candidiasis	7(4.6%)	3(1.4%)	0.519	0.47
Angular cheilitis	5(2.3%)	3(1.4%)	0.519	0.47
Precancerous lesion	6(2.7%)	4(1.8%)	0.419	0.51
Dental erosion	10(4.5%)	4(1.8%)	2.746	0.04*
Dental anomalies	5(2.3%)	1 (0.7%)	0.519	0.47

In the above table, it was observed that aphthous ulcers and dental erosion were significantly more common in pregnant women, with statistically significant in both cases ($p < 0.005$). However, other conditions such as oral candidiasis, angular cheilitis, precancerous lesions, and dental anomalies showed non significant .

TABLE 4: PERCENTAGE DISTRIBUTION OF GINGIVAL INDEX IN PREGNANT WOMEN AND CONTROL GROUP

Indices	Score	Pregnant n(%)	Control group n(%)	Chi square value	P value
GI index	Mild gingivitis	93(42.3%)	110(50%)	18.42	0.00*
	Moderate gingivitis	17(7.7%)	0		
	Severe gingivitis	0	0		

Similarly, it was found that 42.3% [93 cases] of pregnant women had mild gingivitis, while 7.7% [17 cases] experienced moderate gingivitis and statistically significant with p value < 0.005.

TABLE 5: PERCENTAGE DISTRIBUTION OF GRADING OF PERIODONTITIS [ACCORDING TO AAP GUIDELINES] IN PREGNANT WOMEN AND CONTROL GROUP]

Stage of periodontitis	Pregnant n(%)	Control group n(%)	Chi square value	P value
Stage 1	14(6.4%)	4(1.8%)	6.051	0.014*
Stage 2	3(1.4%)	0	3.041	0.081
Stage 3	0	0	-	

It was found that 6.4% of pregnant women had stage 1 periodontitis, and 1.4% had stage 2 periodontitis. In the control group, 1.8% had stage 1 periodontitis. The results were statistically significant ($p<0.005$).

TABLE 6: PERCENTAGE DISTRIBUTION OF PERIODONTAL INDEX IN PREGNANT WOMEN AND CONTROL GROUP

Indices	Score interpretation	Pregnant n(%)	Control group n(%)	Chi square value	P value
Periodontal index	Normal	0	102(92.7%)	190.46	0.00*
	Simple gingivitis	96(43.6%)	8(3.6%)		
	Beginning destructive periodontal disease	14(6.4%)	0		

It was observed that periodontitis was more common in pregnant women than in the control group, and the difference was statistically significant ($p<0.005$).

TABLE 7: PERCENTAGE DISTRIBUTION OF DMFT INDEX IN PREGNANT WOMEN AND CONTROL GROUP

Index	Pregnant Mean ± Std.deviation	Control group Mean ± Std.deviation	Mean difference	t	P value
DMFT	3.2±1.40	1.073±1.0	2.172	13.22	0.03*

It was found that pregnant women had a significantly higher DMFT Index compared to the control group, with the results being statistically significant ($p<0.05$).

TABLE 8: PERCENTAGE DISTRIBUTION OF CHANGES IN TEMPOROMANDIBULAR JOINT PAIN IN PREGNANT WOMEN AND CONTROL GROUP

	Pregnant women n (%)	Control group n(%)	Chi square value	P value
TMJ pain	6(2.7%)	2(0.9%)	2.075	0.1

It was found that 2.7% of pregnant women had TMJ pain, and non significant compared to 0.9% in the control group.

TABLE 9: PERCENTAGE DISTRIBUTION OF DEAN'S FLUOROSIS IN PREGNANT WOMEN AND CONTROL GROUP

Indices	Score	Pregnant n(%)	Control group n(%)	Chi square value	P value
Deans fluorosis index	Normal (0)	103(46.8%)	107(48.6%)	1.676	0.19
	Very Mild (1)	7(3.2%)	3(1.4%)		

It was suggested that 46.8% of pregnant women scored 0, while 3.2% scored 1. In comparison, in the control group, 48.6%

scored 0, and 1.4% scored 1. However, the difference between the groups was not statistically significant (p>0.005).

FIGURE 1: DISTRIBUTION OF ORAL CHANGES IN PREGNANT WOMEN AND CONTROL GROUP

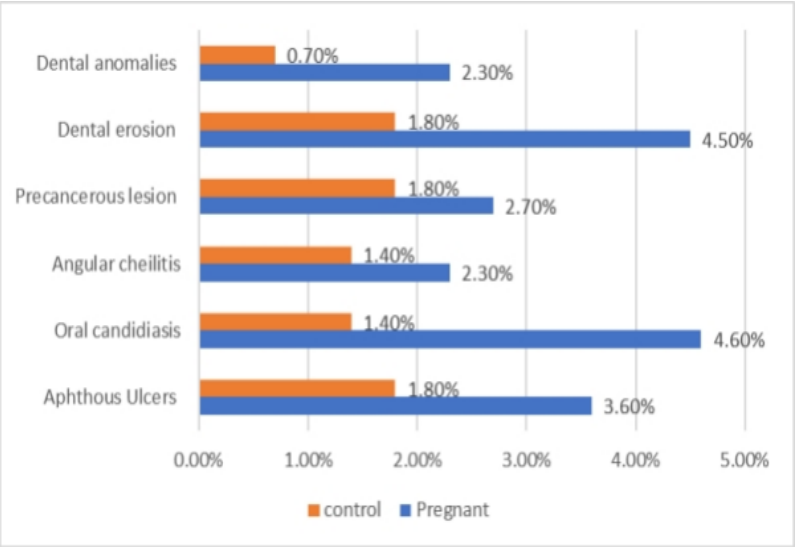


FIGURE 2: DISTRIBUTION OF DEAN'S FLUOROSIS IN PREGNANT WOMEN AND CONTROL GROUP

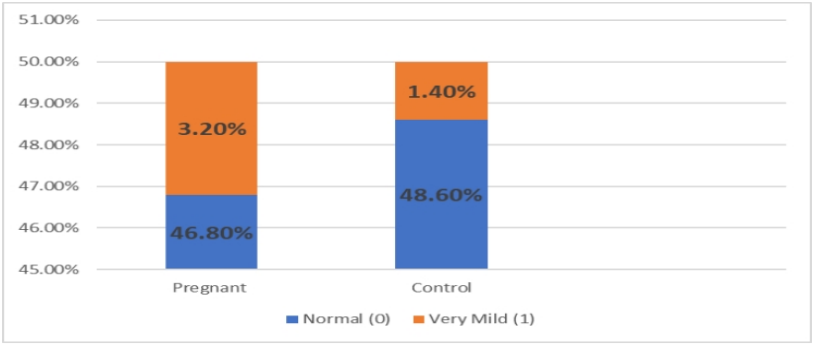


FIGURE 3: DISTRIBUTION OF GINGIVITIS IN PREGNANT WOMEN AND CONTROL GROUP

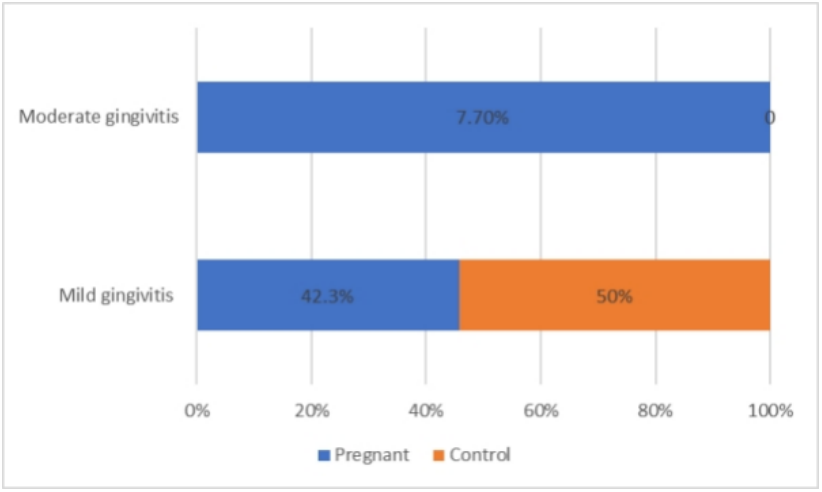


FIGURE 4: DISTRIBUTION OF GRADING OF PERIODONTITIS [ACCORDING TO AAP GUIDELINES] IN PREGNANT WOMEN AND CONTROL GROUP

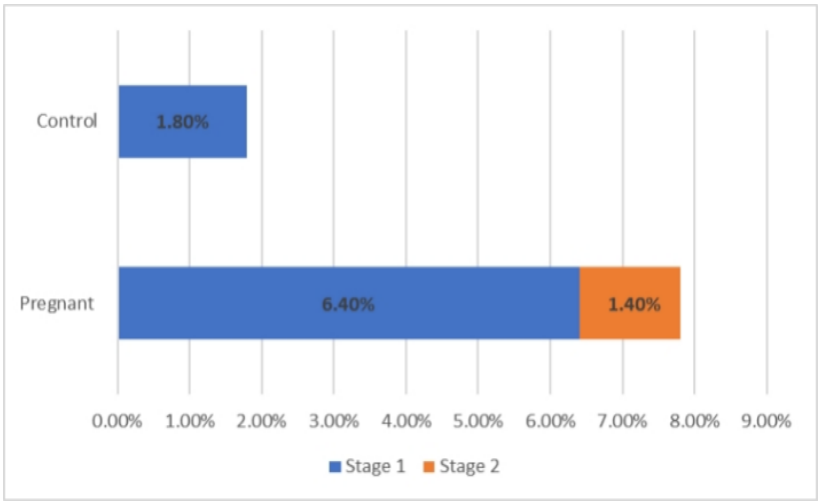


FIGURE 5: DISTRIBUTION OF PERIODONTAL INDEX IN PREGNANT WOMEN AND CONTROL GROUP

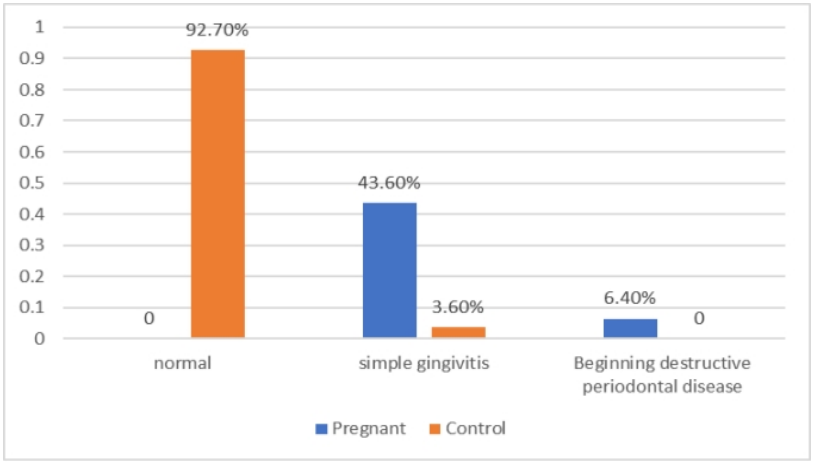


FIGURE 6: PERCENTAGE DISTRIBUTION OF DMFT INDEX IN PREGNANT WOMEN AND CONTROL GROUP

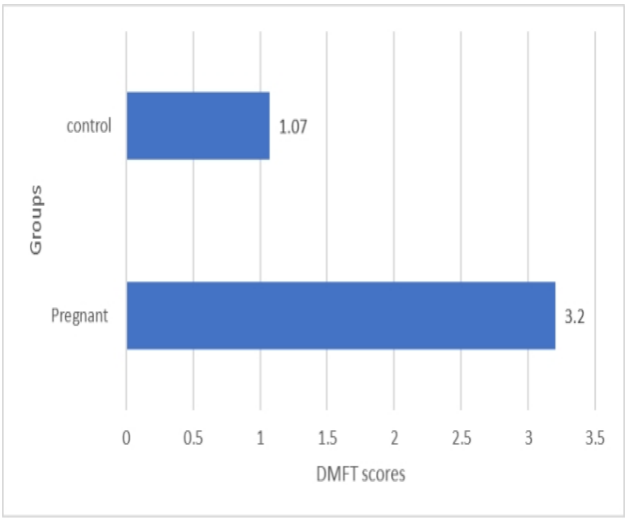


FIGURE 7: DISTRIBUTION OF PREGNANT WOMEN IN DIFFERENT TRIMESTER OF PREGNANCY

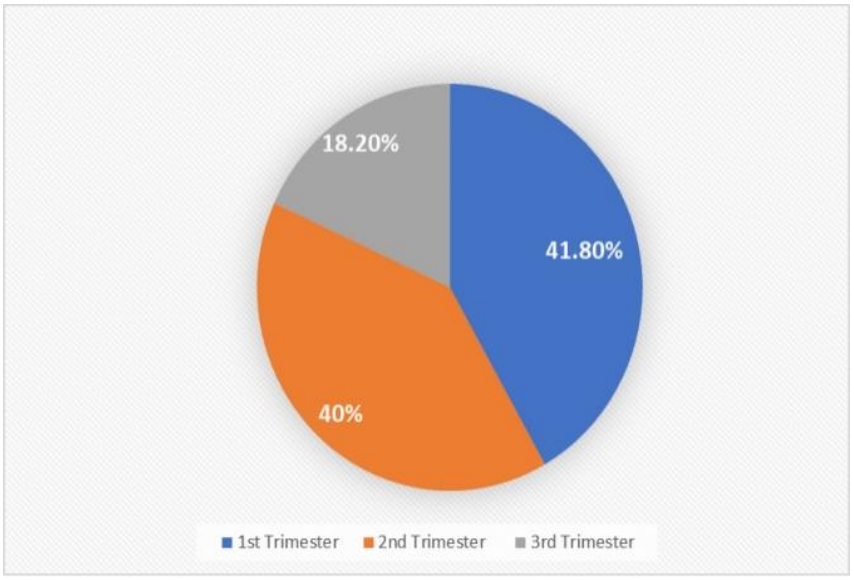
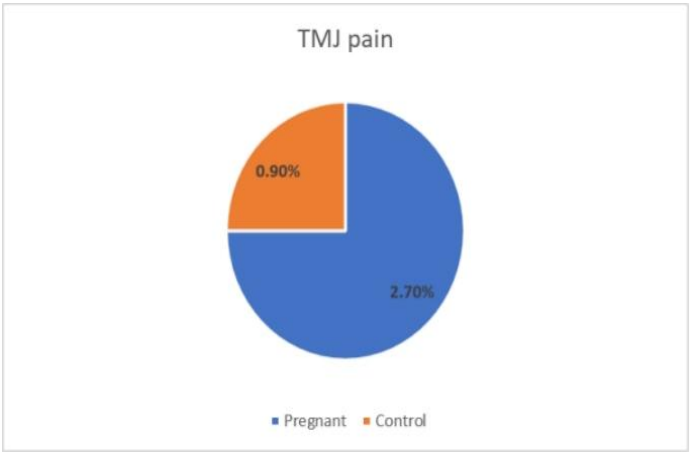


FIGURE 8: DISTRIBUTION OF CHANGES IN TEMPOROMANDIBULAR JOINT IN PREGNANT WOMEN AND CONTROL GROUP



6. DISCUSSION

During pregnancy, due to hormonal factors (high estrogen and progesterone), women are more vulnerable to gingiva and periodontal disease, which exaggerate the inflammatory response to local irritants. Unfortunately, it is widely observed that many women with obvious signs of Oral disease do not visit a dentist before ,during or after pregnancy. Some fear that they or their fetus might be harmed by dental treatment, other consider poor oral health status during pregnancy as normal.This study was carried out in the OPD of OMDR, NIMS Dental College attending Gynaecology Department, NIMS Medical College. Patients were divided in two groups that is Group A comprising of pregnant women and Group B control group. A complete and detailed case history was recorded. Patients were examined for oral findings by dental surgeon. Medical records were used for information about demographic factors and medical and obstetric history. The GI Score, DMFT scores, PI Index and other oral changes such as oral candidiasis, Angular cheilitis, erosion due to vomiting, apthous ulcer, any other pathologies were recorded.

The present study comprised of 110 participants in the pregnant group out of which 41.8 % in first trimester, 44 % in second trimester, 18.2 % in third trimester respectively and 110 in the control group.In our study, it was found that 3.6 % cases of apthous ulcerative conditions noted in pregnant group, whereas 1.8 % cases in control group which is in not in accordance to the study done by ***Annan BDRT, Nuamah K [2005] [6], Patil, Santosh. [3] (2013).*** *Annan BDRT, Nuamah K [2005] [6]* documented that apthous ulceration has been noted to reduce in incidence during pregnancy. Similar study done by *Patil, Santosh. [3] (2013)***,** documented that aphthous ulcerations have shown reduced incidence during pregnancy.

Our study reveals 4.6% cases of oral candidiasis in pregnant group while 1.4 % in the control group which is in agreement with the ***Shaimaa et al.*** **2021 [35]** and ***Xiao et al 2021 [36].*** Another study done by ***Lloret MPP et al [32] [2024]*** stated that no significant correlation indicating oral candidiasis as a rare lesion during pregnancy. However, there is not enough evidence

on this matter [26,27]. In contrast, ***Africa et al.*** **[37]** [2019] found that only 17.4% of the 443 women who participated in the study had this oral lesion which is in agreement to our study.

The present study reveals 2.3% cases of angular cheilitis in pregnant group and 1.4% in the control group. There is not enough evidence on this matter.

The present study revealed 2.7% cases of precancerous lesions in pregnant group and 1.8 % in control group which is in agreement with the study of ***Da Silva et al.[38] [2022].*** *Da Silva et al.[38] [2022]* stated potentially malignant lesions that is 6 cases of leukoplakia and 3 cases of erythroplakias [n=2481 pregnant group].

Our study highlighted 4.5 % cases of dental erosion in pregnant group and 1.8 % cases in control group with p value of 0.04, which is in agreement with the study of ***Adesina et al. [39] [2018]*** and ***Patil, Santosh. [3] (2013), Dr Thakur V et al.[21] [2020]..*** *Adesina et al. [39] [2018]* and *Patil, Santosh. [3] (2013)* highlighted that erosion of teeth was more common during pregnancy due to excess vomiting. *Dr Thakur V et al.[21] [2020]* documented that tooth surface loss, primarily through acid-induced erosion, may be seen if there has been nausea and associated repeated vomiting during pregnancy. On the contrary study done by ***Annan BDRT, Nuamah K [6] [2005],*** stated no significant correlation in pregnant women with erosion of teeth.

The present study reveals 2.3% of dental anomalies in pregnant group as compared to 0.7 % in control group. Various dental anomalies recorded were retained deciduous teeth, supernumerary teeth, malocclusion. There is not enough evidence on this matter.

The present study revealed 3.6 % cases of other pathologies such as inflammatory gingival enlargement, pyogenic granuloma etc in pregnant women as compared to control group. Study done by ***Patil S. [3] [2013]*** is in line with our study highlighting the prevalence of pyogenic granuloma to be 8%. On the contrary, ***Annan and Nuamah K[6] [2005]*** stated no serious pathology which was not in agreement with our study.

The present study reveals 2.7% of cases of temporomandibular joint disorders in pregnant group whereas 0.9% in control group which is statistically non significant and is in accordance to the study done by ***Patil, S [3] (2013).*** *Patil, S.[3] (2013)* highlighted TMJ and myofascial pain during pregnancy. A study done by ***Annan and Nuamah K [6] [2005],*** stated no significant correlation with the present study.

The present study reveals 42.3 % cases of mild gingivitis in pregnant group and 50 % in control group whereas 7.7% cases of moderate gingivitis in pregnant group and 0 % in control group which is in accordance with the study of ***Kashetty M et al [4] [2018], el-Ashiry et al [40] and Samant et al. [41]***, ***Patil, S.[3] (2013),*** **Adesina et al[42] [2018].** Study done by *Kashetty M et al [4][2018]* state that the higher proportion of pregnant women [66.6 %] suffered with severe form of gingivitis and higher proportion of control group suffered with mild form of gingivitis. Another study done by ***el-Ashiry et al [40] and Samant et al. [41]*** stated that severe type of gingivitis seen in pregnant women as 42% and 6.6% respectively whereas mild type of gingivitis in control group as 86 % and 75% respectively which is in agreement to the present study. But none of the cases reported severe type of gingivitis. Cornejo et al [43] [2024] suggested that 93.75% of the patients had signs of gingivitis. Studies done by *Islam NAB, Haque A et al [2]2024* , *Naseem M et al 2015[1]* documented gingivitis contributes to around 60-70% of pregnant women. which is in accordance with our study. Another type of study done by *Patil S et al [3] 2023*, suggested that gingivitis were significantly higher in pregnant than in non pregnant women which is in accordance to our study.

The present study reveals 6.4 % cases of stage 1 periodontitis in pregnant group and 1.8 % in control group whereas 1.4 % cases of stage 2 periodontitis and 0 in control group. In the present study, 43.6% pregnant women scored with code 2 and 6.4% pregnant women with code 8. In the control group , 92.7% scored code 0 and 3.6% scored code 1. A study done by ***Cohen et al [46]***, ***Amin and Shetty in Mangalore [49]***, ***Vogt et al [47] and Machuca et al***.[48] stated that the periodontal index tends to be significantly higher in pregnant women than the non pregnant women which is in accordance with our studies. However, such a similar study done by ***Cornejo et al . [43]2013, Wu et al 2013[11], Gil-Montoya et al. [27] (2022), Deghatipour et al. 2019,*** **Geevarghese et al. 2017** stated periodontal index to be higher in pregnant women as compared to control group. On the contrary, study done by ***Tilakaratne et al.,*** highlighted that pregnancy had an effect only on the gingiva and not on periodontal status which is not in accordance to our study. Another study done by ***Islam NAB et al.[2] 2024*** , ***Naseem M et al.[1]2015, Miyazaki et al.[50]*** highlighted that signs of periodontal diseases were observed more in pregnant women which is in accordance to our study. Also similar results have been reported by ***Tadkamadla A et al. in Sri Lanka***, ***Yaghobi S et al***. in ***Iran*** and ***Wandera M et al. in Uganda.*** , ***Jain S et al 2020*** highlighted that the prevalence of periodontal disease was high in the pregnant female as compared to non pregnant females which is in accordance to our study.

The present study showed significant correlation between pregnant women and DMFT Index which is in accordance with the results of ***Al- Nuaimy and Al-Doski***, ***Patil S.[3]*** On the contrary, various studies have shown that there exists no relation between between dental caries and any complications due to dental caries. Similar studies were reported by ***Al- Nuaimy and Al-Doski [52], Mital P et al 2013, Kornman and Loeshe [53]*** **highlighting that** dental caries were significantly higher in pregnant than in non pregnant women

The present study reveals score 1 of Dean's fluorosis Index in 3.2% of pregnant women whereas 48.6% in control group scored 0 and 1.4 % in control group scored 1. There is no enough evidence on this matter.

7. SUMMARY

This study aimed to compare oral health changes between pregnant women and a control group, involving 220 participants divided into two groups: Group A (pregnant women aged 18-35) and Group B (control group). The key findings are as follows: In our study, A higher percentage of pregnant women had aphthous ulcers compared to in the control group, and this difference was statistically significant ($p < 0.05$). Similarly, when viewed for other oral changes such as oral candidiasis , it was non-significant. In our present study, it was observed that, pregnant women had a slightly higher incidence of angular cheilitis compared to the control group, but the difference was not statistically significant ($p > 0.05$). Similarly,other parameters such as precancerous lesions, dental anomalies, temporomandibular joint disorders were found non significant [$p>0.05$]. In our study, it was observed that there was a significantly higher rate of dental erosion in pregnant women ($p < 0.05$). In our present study, gingivitis had a higher prevalence in pregnancy as compared to control group due to hormonal factors [high estrogen and progesterone]. Similarly, a significant association between periodontitis and pregnancy was noticed and was found significant ($p < 0.05$) as compared to control group. On the contrary, there was no statistically significant difference in fluorosis scores between the two groups. In our study, The DMFT (Decayed, Missing, and Filled Teeth) index was significantly higher in pregnant women, indicating worse overall dental health ($p < 0.05$).

To summarize, pregnancy appears to have a significant impact on certain oral health conditions, such as aphthous ulcers, dental erosion, periodontitis, and overall dental health. However, no significant differences were found in other conditions like oral candidiasis, angular cheilitis, and TMJ disorders.

8. CONCLUSION

In conclusion, pregnant women had poor oral hygiene conditions when compared to control group. Almost both the group had gingivitis. Severe type of gingivitis was predominant in pregnant group. The periodontal disease was found to be higher among pregnant women as compared to control group due to hormonal changes and local deposits. Excellent oral hygiene practices is an important factor in the prevention of pathologic conditions in the mouths of pregnant women. A program of oral health promotion should be planned for pregnant women to provide education on oral hygiene maintenance and periodontal disease treatment. This will aid in bridging the gap between the obstetricians and the dental clinician to provide an effective healthcare to the pregnant women and prevent the associated complications. Oral health during pregnancy is important to minimize possible adverse outcomes and to improve the quality of life.

9. CONFLICT OF INTERESTS

None declared

10. ACKNOWLEDGEMENTS

None

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