

Oral health status of pregnant and non pregnant women



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“ ORAL HEALTH STATUS AMONG PREGNANT AND NONPREGNANT WOMEN OF
AGRA CITY – A HOSPITAL BASED STUDY”

ABSTRACT

INTRODUCTION

Pregnancy is often thought to be a time of happiness for the expectant mothers but it does not only influence her own oral health status but also may increase her risk of other diseases.

OBJECTIVE

To compare the oral health status among pregnant and nonpregnant women of Agra city.

MATERIALS AND METHOD

A cross sectional study was carried out among 425 pregnant and 425 nonpregnant women of 18-45 years attending the hospital. A pretested proforma designed in local language for collecting all the relevant information was used which included questions regarding personal information, oral hygiene practices, frequency of dental visits, education, occupation, gravid status along with a self-reported oral health status questions. The investigator was calibrated before the start of the study in order to limit the intra-examiner variability.

RESULTS

A total of 850 subjects with a mean age of 29.30 ± 3.30 years were examined. The mean DMFT was found to be 3.02 ± 1.79 and 1.79 ± 1.90 in pregnant and nonpregnant respectively.

CONCLUSION

The results of this study showed that pregnancy had effect on the gingiva and on periodontal attachment levels. Overall oral health was poorer among pregnant women than nonpregnant women.

KEY WORDS

Gravid status, Oral Health Status, Oral hygiene.

INTRODUCTION

Pregnancy brings about physical, physiological and psychological changes in women. It affects almost all systems and parts of the body including the oral cavity. Due to changes in the hormones, many opportunistic organisms gain access to various parts of the body in the absence of proper care ¹.

Pregnancy constitutes a special physiological state characterized by a series of temporary adaptive changes in body structure, as a result of an increased production of estrogen, progesterone, gonadotropins and relaxin among other hormones. The oral cavity is also affected by such endocrine actions and may present both transient and irreversible changes as well as modifications that are considered pathological ².

Pregnancy related oral changes are most marked and frequent in gingival tissue. Gingival inflammation and pregnancy have now been linked for many <https://assignbuster.com/oral-health-status-of-pregnant-and-non-pregnant-women/>

years; as early as 1978, Vermeeran discussed “toothpains” in Pregnancy. In 1818, Pitcarin described gingival hyperplasia in pregnancy³. Pinard first described this situation in 1877 characterized with erythema, hyperplasia and increased bleeding⁴. Women’s pregnancy experience not only influences her own oral health status but also may increase her risk of other diseases. High levels of oral diseases may also have an impact on the Oral Health Related Quality of Life. Although some studies on pregnant women have been reported, they have been limited to exploring the impact of certain factors, such as pain, on the Oral Health Related Quality of Life⁴.

Pregnancy gingivitis marked by the gingival inflammation is the most common condition seen during the pregnancy due to hormonal changes particularly during the second trimester of gestation. The signs and symptoms of pregnancy gingivitis, however do not differ from the gingivitis seen in non pregnant women⁵. It has been noted that the gingivitis in pregnancy is related to the accumulation of dental plaque and maintenance of proper oral hygiene in pregnant women can play an important role in preventing this condition and maintaining a healthy gingival state⁶.

There is a growing acceptance of the fact that oral disorders too can have a significant impact on physical, social and mental well-being³ during pregnancy. No study has been conducted on Oral Health Related Status of pregnant and non pregnant women in Agra city. Keeping the above facts in mind, an attempt was made to carry out a comparative hospital based study on Oral Health Status of pregnant and nonpregnant women attending selected hospitals in Agra city.

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MATERIALS AND METHOD

A cross sectional study was carried out among 425 pregnant and 425 nonpregnant women of 18-45 years attending the hospital. A pilot study was conducted on 100 (n= 50) pregnant and nonpregnant women each with OHRQoL as a main parameter. The prevalence of Oral Impact on Daily Performance was 76%. The estimated sample size for the study based on prevalence of Oral Impact on Daily Performance was calculated to be 827. Keeping in mind the non-response rate in each hospital, sample size of 850 subjects was taken. To obtain the total sample size of 850, 85 pregnant and 85 nonpregnant women from each of the five zone were randomly selected.

INCLUSION CRITERIA

- Subjects reporting in the hospitals
- Subjects willing to participate in the study.
- Subjects of 18-45 years age group.

EXCLUSION CRITERIA

- Subjects suffering from any systemic disease
- Subjects in critical condition.

Ethical clearance for the study was obtained by the Ethical Committee of K. D. Dental College and Hospital, Mathura. Also informed consent was taken from the women prior to the examination. A pretested Questionnaire and proforma designed in local language for collecting all the required and relevant information was used. The questionnaire included questions regarding name, age, socioeconomic status, oral hygiene practices,

frequency of dental visits, education, occupation, gravid status along with a self-reported oral health status questions.

Clinical examination included Oral Hygiene Index-Simplified (OHI-S), Gingival Index, Community Periodontal Index and DMFT/DMFS. Oral examination was done using mouth mirror, probe and natural light. Self-reported oral health status was assessed by asking eight questions that collected information about periodontal health and dental health. The eight questions were: Do you have bleeding gums?; burning gums?; swollen gums?; loose teeth?; decayed teeth?; tooth pain?; food lodgment between teeth?; sensitive teeth?. These questions were dichotomized into present and absent.

The data obtained was compiled systematically from a pre-coded proforma in computer and a master table was prepared. The statistical analysis was done using SPSS version 16.0 Statistical Analysis Software. Results on continuous measurement were presented in Mean \pm SD (Min-Max) and results on categorical measurements were presented in Number (%). Significance was assessed at 5% level of significance.

RESULTS

A total of 850 study subjects were selected out of which 61(7.17%) were of the age group 20-25 years with mean age observed 29.30 \pm 3.30. Among pregnant women, 204(48%) had poor OHI-S scores(Table. 1), 198(46.58%) had moderate gingivitis(Table. 2), 61(14.35%) had CPI score 4 (Table. 3) and 37(8.71%) had LOA score 2 (Table. 4). The mean number of decayed, missing and filled teeth were 3.42 \pm 2.66, 2.91 \pm 2.01 and 3.01 \pm 1.98 respectively among pregnant group. The mean scores for self reported oral

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health status, among pregnant group was 64.38 ± 5.59 for decayed teeth and among nonpregnant group was 65.81 ± 5.36 for burning gums (Table. 5).

TABLE. 1 DISTRIBUTION OF STUDY SUBJECTS ACCORDING TO OHI-S SCORES AMONG PREGNANT AND NONPREGNANT GROUP

OHI-S SCORE	PREGNANT	NONPREGNANT	TOTAL
0. 0-1. 2 Good	64(15.05%)	208(48.94%)	272(32%)
1. 3-3. 0 Fair	157(36.95%)	178(41.88%)	335(39.14%)
3. 1-6 Poor	204(48%)	39(9.17%)	243(28.58%)
Total	425(100%)	425(100%)	850(100%)

TABLE. 2 DISTRIBUTION OF STUDY SUBJECTS ACCORDING TO GINGIVAL INDEX SCORES AMONG PREGNANT AND NONPREGNANT GROUP

GI- SCORE	PREGNANT	NONPREGNANT	TOTAL
0-Normal	46(10.22%)	56(13.18%)	102(12%)
0. 1-1. 0 (Mild)	133(31.31%)	184(43.29%)	317(37.37%)

	29%)		29%)
1. 1-2. 0 (Moderate)	198(46. 58%)	168(39. 53%)	366(43. 06%)
2. 1-3. 0 (Severe)	48(11. 29%)	17(4. 00%)	65(7. 65%)
Total	425(100%)	425(100%)	850(100%)

TABLE. 3DISTRIBUTION OF STUDY SUBJECTS ACCORDING TO CPI SCORES AMONG PREGNANT AND NONPREGNANT GROUP

1. CPI- SCORE	PREGNANT	NONPREGNANT	TOTAL
2. Healthy	42(9. 89%)	56(13. 17%)	98(11. 52%)
3. Bleeding	86(20. 23%)	142(33. 42%)	228(26. 85%)
4. Calculus	98(23. 05%)	166(39. 05%)	264(31. 05%)
3 - Pocket	138(32. 47%)	44(10. 36%)	182(21. 41%)

4 - Pocket > 6mm	61(14.35%)	17(4.00%)	78(9.17%)
X - excluded	0(0.00%)	0(0.00%)	0(0.00%)
9- not recorded	0(0.00%)	0(0.00%)	0(0.00%)
Total	425(100%)	425(100%)	850(100%)

TABLE. 4DISTRIBUTION OF STUDY SUBJECTS ACCORDING TO LOA SCORES AMONG PREGNANT AND NONPREGNANT GROUP

LOA- SCORE	PREGNANT	NONPREGNANT	TOTAL
0. (0-3mm)	316(74.35%)	382(89.89%)	698(82.11%)
1 (4-5mm)	72(16.94%)	34(8%)	106(12.47%)
2 (6-8mm)	37(8.71%)	9(2.11%)	46(5.42%)
3 (9-12mm)	0(0.00%)	0(0.00%)	0(0.00%)
Total	425(100%)	425(100%)	850(100%)

TABLE 5: DISTRIBUTION OF STUDY SUBJECTS ACCORDING TO SELF-REPORTED ORAL HEALTH STATUS AMONG PREGNANT AND NONPREGNANT GROUP

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OHS	Pregnant (425)	Non-pregnant (425)	Total(850)
Variable	Mean	Mean	Mean
Bleeding gums	61.58±5. 49	64.58±5.03	63.08±5. 26
Burning Gums	62.59±5. 64	65.81±5.36	64.20±5. 50
Tooth sensitivity	54.62±4. 77	58.25±1.25	56.43±3. 01
Swollen Gums	60.55±6. 02	60.54±5.48	60.54±5. 75
Loose Teeth	56.28±6. 99	58.60±2.40	57.44±4. 70
Decayed Teeth	64.38±5. 59	64.52±5.88	64.45±5. 73
Tooth Pain	59.81±6. 63	59.76±5.67	59.78±6. 15
Food Lodgment	61.21±4. 82	61.46±6.22	61.33±5. 52

DISCUSSION

In our study, out of the total study population of 850 pregnant and nonpregnant women, 359(42. 23%) women were below the age of 30 years, which was in accordance to the studies conducted by Ingrida Vasiliauskiene et al ⁷ and Gaffeid M et al ⁸ . On the contrary, in the study conducted by Nuamah and Annan ⁹ 20% of pregnant women and 21. 4% of nonpregnant group belonged to the age group of 30-35 years.

In the present study, among the total study population, 29.30 ± 3.30 was the mean age. The results of our study were similar to the study conducted by Machuca et al ¹⁰ , in which the mean age was 30.1 ± 1.90 . On the contrary, studies conducted by Yalcin et al ¹¹ and Tilakarante et al ¹² showed the mean age pattern of 18.62 ± 3.01 and 19 ± 2.90 respectively. Among pregnant population 204(48%) had poor oral hygiene. On the contrary, in the study conducted by Santosh Kumar et al ¹³ among total study population only 25% had poor oral hygiene. In our study, among the total study subjects, mean OHI-S score was 2.65 ± 0.85 . On the contrary, in the study conducted by Ingrida Vasiliauskiene et al ⁷ mean OHI-S score among total study subjects was 1.79 ± 1.13 . The reason behind this is that during pregnancy, gums are more susceptible to the damaging effects of plaque, gingiva become more edematous and fragile due to which during brushing it bleeds quickly. The problem is compounded if women have morning sickness – nausea and vomiting which make it hard to brush teeth regularly resulting in more plaque accumulation. Among pregnant group, about half of the total study subjects i. e 46. 58% had moderate gingivitis. Results of our study

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were similar to the studies conducted by Yalcin et al ¹¹ and Tilakarante et al ¹². In our study, among the total study subjects, it was found that 98(11.52%) had healthy periodontium. On the contrary, studies conducted by Santosh Kumar et al ¹³ and Ingrida Vasiliauskiene et al ⁷ found that approximately half of the total study population i. e 49.8% had healthy periodontium whereas, among pregnant group 36.6% and among nonpregnant group 61% had healthy periodontium. While the study conducted by Miyazaki et al ¹⁴ stated that 82% of the pregnant study population had 4 or 5mm pocket which is much higher in comparison to our study.

In our study, the mean scores among pregnant group and non pregnant group was 64.38 ± 5.59 for decayed teeth and 65.81 ± 5.36 for burning gums respectively. No earlier studies have been carried out that show distribution of study subjects according to self-reported oral health status among pregnant and non pregnant groups.

In conclusion, results of the study showed that oral health status among pregnant and nonpregnant group of Agra city was not good. The study also drew attention towards the need for highlighting the importance of maintaining oral health during pregnancy. Regular dental care is a key component to good oral and general health. It can be stated that there is a need for the health care professionals to acknowledge the importance of good oral health in ensuring a safe and successful pregnancy and overcome misconceptions regarding rendering of essential dental care during this vital period in a woman's life.

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