

## Research Article

# Study of Oral Health Status of Pregnant Women in Rural Konkan, Maharashtra

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**Abstract:** Pregnant women are particularly vulnerable to caries and periodontal diseases due to their specific physiological conditions, as well as nutritional and hormonal changes. The purpose of this study was to assess the factors influencing oral and dental health in pregnant mothers in Rural Konkan, Maharashtra. **Methods:** Cross-sectional Data was collected from 60 cases of ANC. This study was carried out in the department of Dentistry at BKL walawalkar hospital, diagnostic and research centre, dervan, Maharashtra. The prevalence of dental caries, gingivitis & periodontitis were studied in the oral cavity of antenatal care patients and to find associations of these with oral hygiene status, dental care knowledge, socioeconomic status and daily cleaning habit among pregnant women. **Result:** The prevalence of dental caries in the present study was found to be 4.5 where as mean DMFT INDEX 6.17. The mean OHI-S was 2.79. Periodontitis in ANC cases were found to be highly significant. **Conclusion:** The present study demonstrates poor oral hygiene and high prevalence of periodontal diseases. Therefore improving the oral health of pregnant women will prevent the complications of pregnancy associated dental disease.

**Keywords:** ANC (antenatal case), OHI-S (oral hygiene index –simplified), DMFT (decayed filled missing teeth), PI (periodontal index).

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## INTRODUCTION:

The current concept of satisfactory oral health goes beyond possessing healthy teeth, oral health is now known to be integral to general health and essential for well-being (World Health Organization, 2003) (Bakhtiar, K. *et al.*, 2018). While oral health is a key component of overall health and wellbeing of women across their life span, it is particularly important prior to conception and during pregnancy. The physical changes that occur during pregnancy may increase a woman's susceptibility to oral infections, including periodontal disease, and may harm the body's ability to maintain the soft tissues in the mouth. Therefore improving the oral health of pregnant women will prevent the complications of pregnancy associated dental disease. Knowledge and awareness to sustain proper oral hygiene during pregnancy are very crucial for the wellbeing of the pregnant women (N.Ranasinghe, U.S. & Gupta, B., & Siddique, A. 2016). There was a definite lack of knowledge on the importance of maintaining oral care in pregnant women of Rural Konkan Region. Thus education of women in the ante-

natal period can prevent most of the dental problems, as well as sustainment of good oral hygiene during and after pregnancy.

## MATERIALS AND METHODS:

This study was carried out in the department of Dentistry at BKL Walawalkar Hospital, Diagnostic and Research Centre, Dervan. The institution caters the medical and dental needs of rural population of Konkan, Maharashtra. The antenatal cases attending the OPD were counselled and after the consent were registered in the study.

Cross-sectional Data Was Collected From 60 Cases Of ANC. A Specially Designed Questionnaire Was Used To Assess The demographic variables and oral hygiene practices Dental Caries & Periodontal diseases Were Defined According To The WHO Criteria; 'Newly Developed Cavity' (Dental Caries) And 'Gingival Bleeding On Probing' (Gingivitis) (Gupta, R., & Acharya, A. K. 2016; & Offenbacher, S. *et al.*, 1998). The Level Of Dental Health Care

Knowledge Among Pregnant Women Was Measured Based On Questionnaire. The two components the debris/plaque (DI) and the calculus (CI) were used to calculate the oral hygiene index (OHI-S index=DI+CI). The OHI-S index <1 was considered good and OHI-S index ≥1 was considered poor. All were examined for oral hygiene status and indices of oral hygiene index simplified (OHI-S), decayed, missing, filled teeth (DMFT) index and Periodontal index (PI) (Offenbacher, S. *et al.*, 1998) were calculated by Russell and the results were tabulated and statistically analysed.

Data was analyzed using SPSS v16.0 software package. Descriptive statistics such as mean, standard deviation, and percentage were used. Association was evaluated using chi-square test. Any *p* value less than 0.05 was considered significant.

### Results of Statistical Analysis

**Table 1:** Mean distribution of oral health status among studied subjects

Variable	Mean	Standard deviation	Chi sqi value	p value <0.05
OHI-S	2.79	1.605	43.433	Significant .032
DMFT INDEX	6.17	4.361	23.533	Significant .036
PI	2.67	1.100	14.667	Significant .005

According to the table results in all three parameters are statistically significant as the *p* value is less than 0.5. Periodontal index in 60 ANC cases are highly significant.

**Table 2:** Distribution of Oral diseases among studied subjects

ORAL DISEASES	NUMBER	PERCENTAGE%
Swollen gums	12	20
Xerostomia	25	41.66
Fissured tongue	9	15
Geographic tongue	7	11.66
Bilateral Angular Cheilitis	23	38.33
Leukoplakia	15	25
Lichen planus	4	6.66
Pyogenic granuloma	4	6.66
Anemia	25	41.66

Tooth decay may increase during pregnancy due to changes in oral hygiene and diet. Dental caries can result from contact with gastric acids during the 'morning sickness' that may occur during pregnancy. Dietary habit- frequency of having snacks in between

## RESULTS AND DISCUSSIONS:

Prevalence of dental caries in the present study was found to be 4.5 (mean) per person out of 60 pregnant women where as mean DMFT INDEX (DECAYED-MISSING-FILLED) 6.17. However oral hygiene index (OHI –S) value was significantly higher in pregnant women with mean value 2.79( *p*<0.05). Similarly the periodontal index tended to be significantly higher (*p*<0.05) in pregnant women. Oral Mucosa Examination. On intraoral examination pregnant women with oral diseases had leukoplakia, 25 (41.66%) had fissured tongue 9 (15%), pyogenic granuloma 4 (6.66%) (pregnancy epulis) and all the pregnant women with pyogenic granuloma were in their second and third trimester of pregnancy, Xerostomia 25 (41.66%), Bilateral angular cheilitis 23( 38.33%), anemia 25 (41.66%), geographic tongue 7 (11.66%).

meals and a tendency to have food rich in sugar. Low salivary PH 26.3% of pregnant women had poor oral hygiene. In the present study, most of the pregnant women used finger and tobacco / misri/ charcoal to clean their teeth on regular basis. This could be due to The influence of hormones on the periodontium , Poor education status, Low socioeconomic status, Lack of knowledge about the competent practices of good oral hygiene measures .The present study shows there is marked increase in the association between pregnancy and periodontal condition. The risk factors associated with periodontitis during pregnancy are smoking, tobacco presence of pre-existing periodontitis. Alterations in progesterone and estrogen levels have been shown to affect the immune system and these conditions reduce the body's ability to repair and maintain gingival tissues. So a number of alterations in the oral cavity may become more prevalent during pregnancy.

## CONCLUSION:

There is a need to improve the oral health knowledge and oral health care habits of pregnant women of konkan, Maharastra by making oral health an integral part of antenatal and primary health care in order to prevent oral diseases and encourage them to have regular dental care to prevent further disease.

## REFERENCES:

1. N.Ranasinghe, U.S., Usgodaarachchi, R.D.F.C., & Kanthi, R. Evaluation of the Oral Healthcare Programme during Pregnancy in reducing Dental Caries in young children in the district of Gampaha, in Sri Lanka: *Asian Pac. J. Health Sci*, 3 (4), 256-265.
2. Gupta, B., & Siddique, A. (2016). A study of association between dental health status and pregnancy. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, 2(4), 521-523.

3. Amin, R., & Shetty, P. (2014). Oral health status during pregnancy in Mangalore. *Nitte University Journal of Health Science*, 4(2), 114.
4. Molnar-Varlam, C., Cristina, M. V., Loana-Gabriela, B., & Tohati, A. (2011). Risk Assessment of Caries in Pregnancy. *Acta Medica Marisiensis*, 57(6).
5. Gupta, R., & Acharya, A. K. (2016). Oral health status and treatment needs among pregnant women of Raichur District, India: A population based cross-sectional study. *Scientifica*, 2016.
6. Kırca, N. (2018). The importance of oral - dental health in pregnancy: *Adv dent & oral health* 7(2).
7. Karnik, A. A., Pagare, S. S., Krishnamurthy, V., Vahanwala, S. P., & Waghmare, M. (2015). Determination of salivary flow rate, pH, and dental caries during pregnancy: A study. *Journal of Indian Academy of Oral Medicine and Radiology*, 27(3), 372.
8. Mital, P., Dr. Amit, Dr. Deepak, R., Dr. Premlata, M., Dr. Nupur, H., & Dr. Priyanka. (2013). Dental caries and gingivitis in pregnant women: *sch. j. app. med. sci*, 1(6),718-723.
9. Kumar, S., Tadakamadla, J., Tibdewal, H., Duraiswamy, P., & Kulkarni, S. (2013). Factors influencing caries status and treatment needs among pregnant women attending a maternity hospital in Udaipur city, India. *Journal of clinical and experimental dentistry*, 5(2), e72.
10. Vergnes, J. N., Kaminski, M., Lelong, N., Musset, A. M., Sixou, M., & Nabet, C. (2012). Frequency and risk indicators of tooth decay among pregnant women in France: a cross-sectional analysis. *PLoS One*, 7(5).
11. Offenbacher, S., Jared, H. L., O'reilly, P. G., Wells, S. R., Salvi, G. E., Lawrence, H. P., ... & Beck, J. D. (1998). Potential pathogenic mechanisms of periodontitis-associated pregnancy complications. *Annals of periodontology*, 3(1), 233-250.
12. Rakchanok, N., Amporn, D., Yoshida, Y., Harun-Or-Rashid, M. D., & Sakamoto, J. (2010). Dental caries and gingivitis among pregnant and non-pregnant women in Chiang Mai, Thailand. *Nagoya J Med Sci*, 72(1-2), 43-50.
13. Bakhtiar, K., Gharouni, K., Gharouni, B., Bastami, F., Almasian, M., & Hosseintalai, M. (2018). DMFT and OHIS Indexs in the Pregnant Mothers: An Explanation Based on the Health Belief Model. *Journal of Community Health Research*, 7(1), 1-10.