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## RESEARCH ARTICLE

### DENTAL DISEASES AND ITS EFFECT ON OUTCOME OF PREGNANCY

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#### ABSTRACT

Pregnancy is a holistic experience which suggests that every little thing that happens to the mother anywhere in or on her physique has the chance of influencing the infant. Adverse pregnancy outcomes including preterm birth, low birth weight, intrauterine growth restriction, are important events determining neonatal morbidity and mortality. In the present scenario the oral hygiene is the least cared for during pregnancy and owing to the high impact of dental disease on pregnancy outcome research into this area becomes mandatory. Keeping this in mind, this study was conducted to see the significant association of dental disease with adverse pregnancy outcome in MGM Hospital, Kalamboli, Navi Mumbai, so that in future dental examination can be made an integral part of antenatal check-up.

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## INTRODUCTION

Pregnancy and dental care do not appear like details that would obviously go together, but the entire body is a humorous factor. It turns out that tooth care is vitally crucial through pregnancy for a wide range of reasons. After all, pregnancy is a holistic state which means that anything that happens in or on the mother's physique has the chance to influence the infant. Adverse pregnancy outcomes represents a serious public health problem and incur high costs to health care services over the short and long term. Adverse pregnancy outcomes including preterm birth (PTB), Low birth weight (LBW), intrauterine growth restriction (IUGR) are important events determining neonatal morbidity and mortality. In all populations, the worldwide variation in birth weight may or may not be due to a pathological process. LBW may be the result of a short gestational period or preterm birth, IUGR, or a combination of both events. IUGR indicates a uterine pathologic event. PTB contributes to around 80% of perinatal mortality and 50% of neurological problems reported in the neonatal period. The prevalence of PTB and LBW varies worldwide from 4% to 15% respectively. The risk of infant morbidity and mortality are greater with increased prematurity, especially when birth occurs before 34 weeks.

Neurological disorders such as cerebral palsy, which is often combined with mental disability, epilepsy, and cognitive impairment are of special concern for survivors of preterm birth. Adverse pregnancy outcomes have long been a target of epidemiologic investigations and efforts have been directed towards the identification of risk factors and the preventive care. Several epidemiological studies seem to support the theory that there is a link between dental diseases in pregnant women and adverse pregnancy outcomes. For instance, one study suggested that pregnant women with periodontal disease are seven times more likely to have babies that are born too early or have relatively low birth weight.

Since in the present scenario, oral hygiene is the least cared for during pregnancy and owing to the high impact of dental disease on pregnancy outcome research into this area is mandatory. The present study was conducted to see if there is any significant association of dental disease with adverse pregnancy outcome in our hospital, so that in future dental examination can be made an integral part of antenatal check up.

## MATERIALS AND METHODS

This prospective study was conducted in Mahatma Gandhi Mission's hospital, Kalamboli in the Department of Obstetrics and Gynecology in collaboration with Dentistry Department. The study population consisted of 225 pregnant women.

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Study sample was collected from the outpatient department of obstetrics and gynecology after fulfilling the inclusion and exclusion criteria. Informed consent of the patient was taken. After taking detailed history and general and systemic examination, a thorough per abdomen examination was done. Per-speculum and per vaginal examination was done where indicated. Cervicovaginal swabs were taken wherever indicated. Dental examination was done to check for any dental caries, periodontal status and gingivitis. Periodontal status of women was assessed using periodontal charting using unc-15 periodontal probes. After the participants were placed in the respective groups they were scheduled to be followed up by the obgy department. Those requiring intervention were motivated and based on their willingness, interventions were carried out only in the second trimester. The assessment of pregnancy outcome was done after the participants delivery and statistical analysis was done using chi square test.

## RESULTS

Unlike previous studies that examined only periodontitis, the present study includes the assesment of the oral inflammatory burden other then infective that is gingivitis and mucosities. Given that gingivitis is common during pregnancy and increased prostaglandin and interleukin 1b level in gingival crevicular fluid were shown to be associated with PTB ,it is reasonable to include gingivitis as a potential source of infection adding to the oral inflammatory burden. In the present study, out of all the patients who had caries 30% had FTND, 1 patient had PTVD, 2% has PROM. Among those with gingivitis, 44% had FTND, 1% went for LSCS due to fetal distress and 3% had PTVD. All the patients with gingival hyperplasia had FTND. All those in who me no abnormality was detected had FTND.9% of patients with periodontitis had 59.3% PTVD and 29.63% had PROM whereas, 4% had FTND. All patients with pregnancy granuloma (7%) has FTND. Among the 9% patients with periodontitis in the 2nd trimester 22% were treated and were found to have FTND.

The present study was designed to explore the effects of treatment on the clinical adverse events in terms of either obstetric or periodontal outcomes that were attributed to the intervention.

It is important to note that there was far less pregression of disease during pregnancy among members of the intervention group, a phenomenon that was predictive of preterm birth at earlier gestational age.

## Conclusion

The present study showed that the presence of five dental diseases during pregnancy. They are caries, gingivitis, gingival hyperplasia, periodontitis and pregnancy granuloma.

## Effect of dental disease on pregnancy

Patients with caries, pregnancy granuloma and gingival hyperplasia did not have significant relation with adverse pregnancy outcome. Patients with periodontitis showed

significant difference in the outcome in terms of preterm vaginal delivery, and LBW babies.

## Effect of pregnancy on dental disease

The p value of 0.038 implies that there is significant difference in the counts of gingivitis over three trimesters. The p value of 0.58 in periodontitis implies the condition remains the same over the trimesters unless treated. In the intervention group none of the patients had adverse effects

## Recommendations

- A multucenter trial with larger sample size should be conducted.
- More patients should be counselled for interventions to see if it really has any significant impact on the pregnancy outcome.\
- Awareness should be created amongst pregnant women about the impact of dental diseases on pregnancy outcome.
- Dental examination should be made an integral part of routine ANC check up.
- Simple measures to promote dental hygiene like brushing teeth twice daily and using mouth wash should be promoted.

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