

Prevalence of Caries in Pregnant Women in Patna District, Bihar

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ABSTRACT

Background: It is vital to maintain oral health if we care of our systemic health. It helps in maintaining a long-term health. Various studies have related preterm and low birth weight infants to dental diseases. The aim of this study is to calculate the prevailing rate of dental caries among the pregnant women in Patna district of Bihar.

Materials and Methods: This study was carried out on 100 pregnant women in 12 community health centers located in the urban areas of Patna district, Bihar, India. The literacy rate of the general population is 50.23%. The subjects were from the age group of 25 to 38 years.

Results: Total number of subjects that were affected by the dental caries were 68. The affected subjects in the age group of 25 to 30 were 43. The effected percentage in this group were 64.17 percent and the caries prevalence rate were 2.34 ± 2.23 .

Conclusion: Women should be accessible to exercise in upright oral hygiene traditions and community awareness programs should be conducted to increase their awareness of the crucial importance of such habits and detailed knowledge about the diseases and their effects on health should be explained.

Keywords: Prevalence, dental caries, pregnant women.

INTRODUCTION

It is vital to maintain oral health if we care of our systemic health. It helps in maintaining a long term health.¹ Pregnancy is a predominantly vital time to encourage oral health and healthy conduct including education about the inhibition of dental caries and gingivitis.² Pregnancy affects nearly every aspect of a woman's life including her oral health. Hormonal variations in the body through pregnancy make them more vulnerable to oral infections and gum diseases.³ These dental diseases in turn effect the developing fetus.⁴ These dental problems can be aggravated by the hormonal changes observed during pregnancy.⁵ The changes that occurs due to variations in levels of estrogen

and progesterone through pregnancy, leading to dilatation and tortuosity of gingival microvasculature, circulatory stasis, and increase in oral vasculature permeability along with a decrease in host immunocompetence, thereby increasing susceptibility to oral infections.⁶

Dental caries is an infectious microbiologic disease of the teeth that results in localized dissolution and destruction of the calcified tissues.⁶ An increased consumption of carbohydrates, increased acid in the mouth from vomiting, and reduced salivary production and/or increased acidity of saliva combine to raise the risk of dental caries in pregnant women.⁷ Various existing studies have

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shown a prevalence rate of dental caries to be 97%.⁸ Various studies have related preterm and low birth weight infants to dental diseases.⁹ The aim of this study is to calculate the prevailing rate of dental caries among the pregnant women in Patna district of Bihar.

MATERIALS AND METHODS

The study was carried out on 100 pregnant women in 12 community health centers located in the urban areas of Patna district, Bihar, India. The literacy rate of the general population is 50.23%. The subjects were from the age group of 25 to 38 years. The study was approved by Ethics Committee of the concerned institution. Prior permissions and consents were obtained from patients. This study was conducted from March 2019 to June 2019. The examiner underwent 1-day training program and clinical calibration exercises before screening the subjects. The patients were examined individually in the CHC premises on a simple straight wooden chair using plane mouth mirrors and community periodontal index probe. The examination was done under natural day light using WHO criteria. The pregnant mothers were examined for the presence of decay, missing and filled teeth (dmft) index was used to record primary dentition status. DMFT index values are recorded and mean and standard deviation calculated.

RESULTS

The study was carried out on 100 pregnant women in 12 community health centers located in the urban areas of Patna district, Bihar, India. The literacy rate of the general population is 50.23%. The subjects were from the age group of 25 to 38 years. The examination was done under natural day light using WHO criteria. The pregnant mothers were examined for the presence of decay, missing and filled teeth (dmft) index was used to record primary dentition status. DMFT index values are recorded and mean and standard deviation calculated.

Total number of subjects that were affected by the dental caries were 68. The affected subjects in the age group of 25 to 30 were 43. The affected percentage in this group were 64.17 percent and the caries prevalence rate were 2.34 ± 2.23 . Whereas, In the age group of 30 to 38, total affected subjects were 25 and the percentage was 75.75. The

caries prevalence rate in this group was 2.93 ± 2.64 . The overall affected subjects were 68(68%) and prevalence rate was 2.78 ± 2.82 .

Table 1: Prevalence rate

Age Group	Number of Subjects	Affected Subjects	Caries Prevalence Percentage	Score DMFT
25 to 30	67	43	64.17	2.34 ± 2.23
30 to 38	33	25	75.75	2.93 ± 2.64
Total	100	68	68.00	2.78 ± 2.82

DISCUSSION

The physiological changes during gestation may result in obvious changes in oral cavity.^{10,11} These changes may lead to gingivitis, benign oral gingival lesions, tooth mobility, tooth erosion, periodontitis, dental caries, and pregnancy gingivitis. The present study revealed that the rates of dental caries (68%). Kornman and Loesche in his landmark study reported that one-fourth of the women of reproductive age had dental caries.¹² These dental ailments can be due to an transformed immune response or can be related to stress and anxiety during pregnancy.¹³ This results in inadequate attention to oral hygiene and hence contributes to the deterioration in a woman's oral condition.²

Pregnant subjects were at a greater risk of developing tooth caries for many different motives.¹⁴ The possible causes of caries in pregnant females are changes in saliva and mouth flora, vomiting, neglected oral hygiene and nutritional changes, and inadequate attention to oral health.⁶

The variations in progesterone and estrogen levels have been revealed to affect the immune system and both the rate and form of collagen production in the gingiva.¹⁵ Both of these situations reduce the body's aptitude to restore and preserve gingival tissues. Henceforth, women are more probable to advance gingivitis during pregnancy.¹⁶ Surge in the amount of both estrogen breakdown by the gingiva and in the combination of prostaglandins was found to contribute to the gingival changes observed during pregnancy.⁶ Increased quantity of progesterone and estrogen improves exertion of

gingivitis, and therefore, preventive procedures for oral hygiene are extremely important.¹⁷

Dental caries and gingivitis were more predominant among pregnant than nonpregnant women.¹⁸ The pregnant women with a deprived oral hygiene status, insufficient knowledge of dental health maintenance, and deprived dental hygiene exercise were at more danger of emerging dental ailments such as dental caries, gingivitis, periodontitis, and other oral diseases. Hence, women should be accessible to training in good oral hygiene habits and community awareness programs should be conducted to increase their awareness of the crucial importance of such habits and detailed knowledge about the diseases and their effects on health should be explained.

CONFLICTS OF INTEREST

The authors declare they have no potential conflict of interests regarding this article.

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