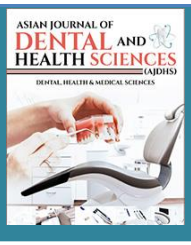

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Psychology of pregnant females regarding perinatal oral health

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Abstract

Aim: To evaluate the attitude, behaviour, experience and knowledge of pregnant females regarding perinatal oral health in rural population of Faridabad.

Methodology: Data was collected through personal interview. Eleven questions related to knowledge, attitude, experience and behaviour were asked. Data was analysed using IBM SPSS version 21.

Results: About one- fourth of the study population experienced adverse effects on oral health during pregnancy and their knowledge was also found to be poor with respect to perinatal oral health maintenance. They also reported ill behaviours to manage morning sickness. Despite this, their attitude towards maintenance of perinatal oral health was found to be positive.

Conclusion: The dental status of the child is a direct reflection of maternal oral condition in pregnancy. Thus, there is a need for educational oral health interventions in pregnant women to improve their own and children oral health status.

Keywords: Perinatal, Oral health, Pregnancy, Rural population

INTRODUCTION

Diseases related to oral cavity are a noteworthy burden on public health in India. Oral health is an integral part of general health as recognized by WHO. The outcomes of the poor oral health are seen on the individual, community as well as on the system for health care, which acts as a notable risk factor for various other systemic problems.[1] In developing countries like India, there is a wide distinction in oral health level between urban and rural community, with expanding inequality in access to quality care, specifically in the rural areas.[2]

According to the definition of public health 1920, every individual must realize the birthright of health and longevity and should have the access to the health care services.[3] To assist oral and dental health for longevity, efficient and appropriate care is mandatory. In women, oral and dental care is highly essential all through the phases of life, especially during pregnancy, breastfeeding and menopausal periods.[4] Pregnant women are susceptible to a wide range of oral health conditions that could be harmful to their own health and the future of their baby. Pregnant women undergo adaptive remaking in body structure due to hormonal balance changes during pregnancy because of the higher levels of estrogen and progesterone. Such endocrine actions also effects the oral cavity, which may show short-term or abiding changes as well as modifications that are considered morbid.[5]

According to American Academy of Pediatric Dentistry (AAPD), perinatal and infant oral health plays a vital role for children to possess a livelihood free from oral diseases. Perinatal period is around the time of birth, which begins with completion of 20th to 28th week of gestation and ends one to four weeks after birth. It holds a crucial role for the health and well-being of pregnant women and their newborn children.[6] Inspite of this fact, pregnant women do not seek dental care during the pregnancy and those who confront such services show unwillingness to dentists for providing care. The expectant mothers primarily in the rural population are not aware of the inference of poor oral health for their pregnancy and their unborn child.[7,8,9]

The women in pregnancy having restricted or no resources for health care generally present with consequential issues regarding oral health in perinatal period. They may also indicate narrow valuing the significance of preventive oral health practices during the gestation and postnatal period. It is of main concern among the low-income community with higher incidence rate of gingivitis, periodontitis and dental caries.[10] The perceptions that poor oral health in pregnancy is normal may drive the failure to obtain oral health care.[11] The lack of dental and oral health knowledge by pregnant patients is a serious barrier to perinatal care.[10,11] Hence the present study was conducted to evaluate the attitude, behavior, experience and knowledge of pregnant females regarding perinatal oral health in rural population of Faridabad.

METHODOLOGY:

An anonymous 11-question survey was conducted among 60 pregnant women visiting an outpatient obstetric clinic at the public health centre among the rural population of Faridabad

during a 15day time period from 25th November to 10th December in 2019. Sample size estimation was done by using **G Power software (version 3.0).** A minimum total sample size of **60** was found to be sufficient for an alpha of 0.05, power of 80%, 0.6 as effect size. The survey addressed questions regarding patient's knowledge, attitude, experience and behavior. The patients were also inquired about their knowledge concerning to linked unfavorable pregnancy outcomes and were commended oral health care behaviors in pregnancy. The questions were in multiple choice, bivariate, and choose all patterns. The data were analysed using IBM Statistical Package for the Social Science version 21. Descriptive statistics were tabulated and reported as percentages.

RESULTS:

The present study composed of 60 pregnant females who visited the public health centre for consulting obstetrician, were of 23.06 ± 3.2 years. Among the females, 83.3% were unemployed and 36.7% were having either their first or second pregnancy. None among the pregnant females had any insurance coverage (Figure 1).

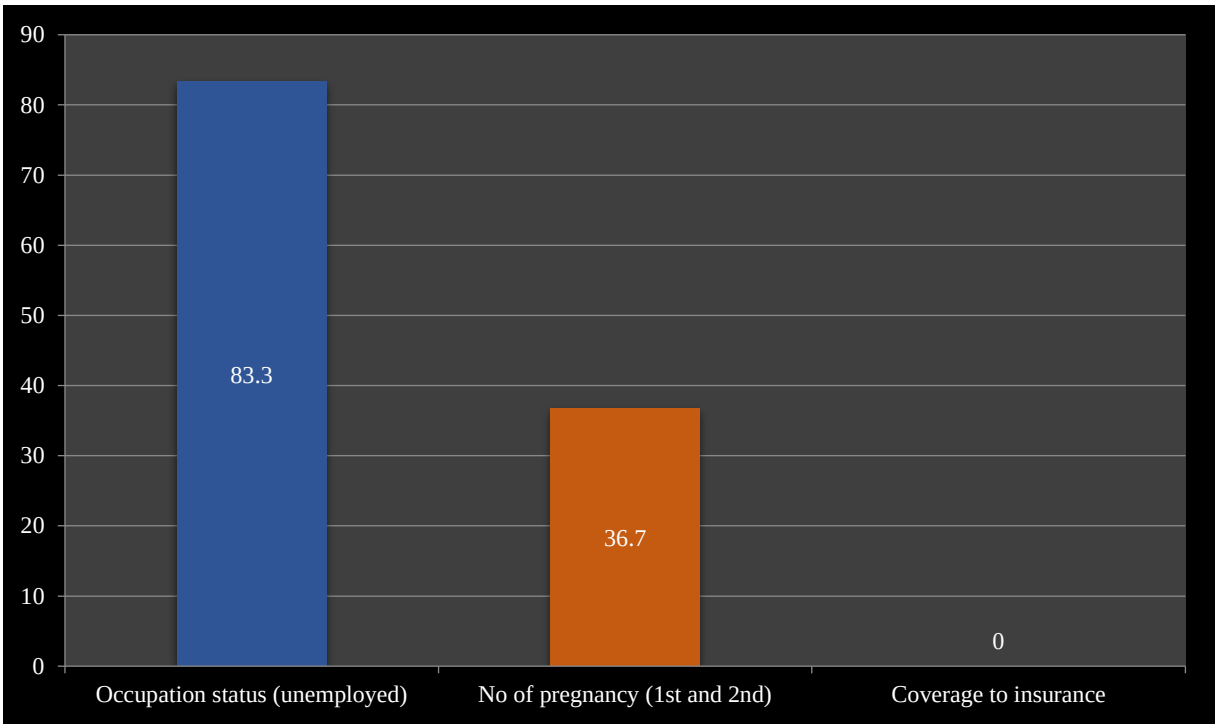

FIGURE 1: Descriptives of study population

In our society, there are many misconceptions regarding the effect of pregnancy on oral health. Approximately one-third of the patients didn't recognize any commonly described physiologic oral cavity changes related to pregnancy. Only about 25% reported that they experienced bleeding gums during the period of pregnancy (Figure 2). Patients perceived tooth decay, tooth loss, swollen gums and tooth ache were normal events associated with pregnancy.

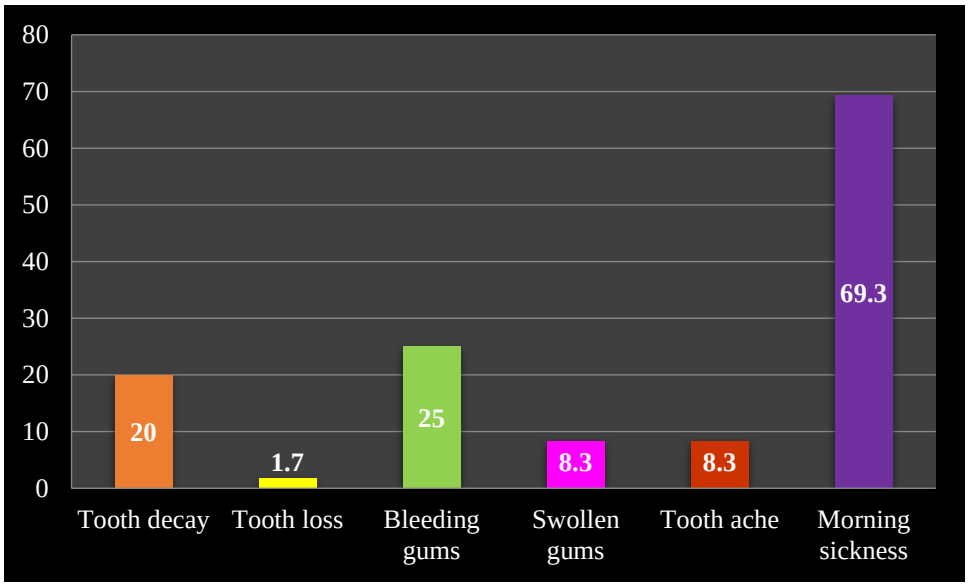

FIGURE 2: Experiences of the study population

The maintenance of the oral hygiene is crucial and it becomes a necessity during pregnancy. In this regard, 75% of the pregnant females showed no importance of changing toothbrush every 3-4 months. In concern to their behavior, 88.3% pregnant females were reported of not visiting to dentist in past 6 months, whereas 60% females showed positive response towards the importance of dental evaluation every 6 months (Figure 3). The pregnant females were asked about managing morning sickness during pregnancy to measure the potential risk behaviors. Among them, 69.3 % reported morning sickness. About 38.3% responded managing by rinsing with baking soda, 18.3% were brushing their teeth and 31% responded they did not know. This former behavior is recognized as potentially harmful to teeth by the dental community (Table 1).

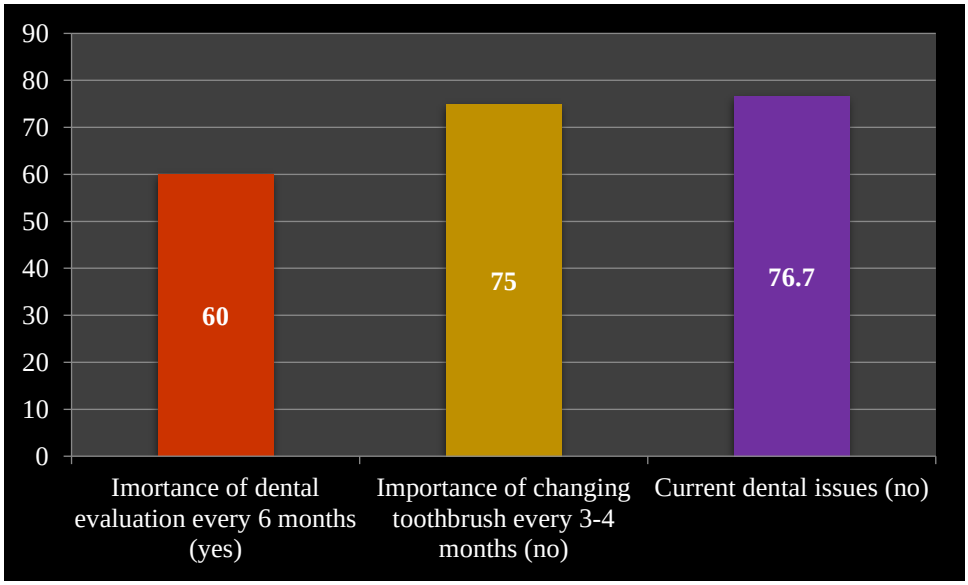

FIGURE 3: Attitude and Behavior of study population

TABLE 1: Risky behavior: morning sickness management

Behavior in response to	Percentage (%)
Brush teeth immediately	18.3
Drink water	11.7
Rinse with baking soda in water	38.3
Don't know	31.7

In interest of the perception of pregnant females towards the safe oral health intervention, most of them identified teeth cleaning is a safe and an admissible intervention in pregnancy, 40% identified antibiotics and pain medications as safe; and very few acknowledged teeth X-ray, filling cavities, fluoride treatment, and local anesthesia as safe interventions in pregnancy (Table 2).

The pregnant patients showed poor knowledge regarding the risks associated with periodontal disease in pregnancy such as worsening gum disease, tooth loss, caries, miscarriage, preterm birth and growth restriction (Table 3). Pregnant females were inquired to gauge their knowledge related to the undertakings that vigour the risk of transmission of bacteria causing caries among children postpartum. Majority, 76.7% responded that the risk of getting caries was not there until the teeth erupts in the oral cavity, whereas few acknowledged that sharing spoon can be considered as risky. (Figure 4)

TABLE 2: Knowledge towards the safe oral health intervention

Intervention	Safe during pregnancy (%)	Not safe during pregnancy (%)
Teeth cleaning	55	45
Teeth X-ray	45	55
Filling cavities	25	75
Fluoride treatment	15	85
Local anesthesia	15	85
Antibiotics	38.3	61.7
Pain medications	40	60

TABLE 3: Knowledge about periodontal disease and its outcomes

	Yes (%)	No (%)
Worsening gum disease	23.3	76.7
Tooth loss	25	75
Caries	25	75
Miscarriage	25	75
Preterm birth	25	75
Growth restriction	25	75

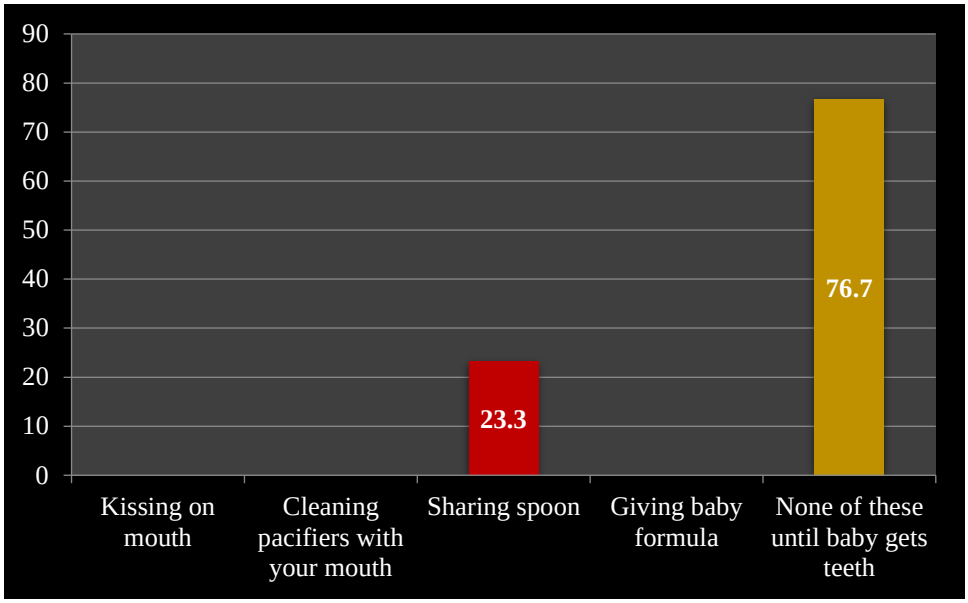

FIGURE 4: Postpartum risk of vertical transmission of S. Mutans

DISCUSSION:

During pregnancy, every female undergoes complex physical and physiological changes which have a crucial impact on body organs, especially the oral cavity.[12] Perinatal period is an opportunate time during which the women can be motivated and educated, so as to perform dental treatment on expectant mothers which can provide them as well as their children a safe future. Pregnancy care visits to obstetricians provide teachable moment to educate expectant mothers regarding the diet including nutritious food of adequate quality and in quantity which controls food cravings helping in preventing the caries process. It also educates that dental treatment including comprehensive oral examination, dental prophylaxis, dental radiographs with proper shielding and local anesthetic, is safe in all trimesters and optimal in the second trimester. Hence, a combination of personal and professional care is very important in improving the oral health.

According to the WHO, the provisions for oral health-care services are few in rural parts of India, where the majority of the Indian population resides. This is further complicated by the great variation that occurs across this population in social parameters such as income and education.[1] Apart from the health care services, health insurance is one of the traditional barrier which restricts the approach to such services. In our study also none of the patients had any insurance coverage neither for the medical nor for the dental care. This is probably due to the lack of knowledge and dearth of health care providers who could educate the expectant mothers regarding it.[13]

In the present study periodontal disease was experienced by almost 1/4th of the study population. Whereas, literature suggest the prevalence of periodontal disease as 40%. Sixty percent of the subjects were aware about the importance of dental evaluation every 6 months and similarly results were reported by *Ganesh et al* and *Thomas et al.*[14,15] It was found that patients had poor knowledge about perinatal oral health similar to the study conducted by *Thomas et al* among the expectant mothers to evaluate the knowledge and attitude of expectant mothers about infant oral health and their oral hygiene practices in Mangalore city.

The study conducted by Ganesh et al (2011) among 208 antenatal women attending Government Maternity Hospital found that 86.1% of the women were not aware of oral health problems during pregnancy and majority of them were not aware of oral health problems during pregnancy. Similarly in our study, Patients perceived tooth decay, tooth loss, swollen gums and tooth ache were normal events associated with pregnancy. Naumah I and Annan BD (1998) did a study on the periodontal status and oral hygiene practices of pregnant and non-pregnant women attending the outpatient clinic of the department of Obstetrics and Gynaecology of Korle-Bu Teaching Hospital where they reported the prevalence of gingival bleeding was 89% among pregnant women, in contrast with only 25% in our study.[16]

Pregnant patients need to be educated specially in the rural areas regarding the changes during pregnancy which are to be considered normal physiologic changes and the events that should be identified as pathologic. In addition, patients perception regarding the procedures such as teeth X-ray, filling cavities, fluoride treatment, and local anesthesia is required to be altered as they are the safe interventions to be carried out during pregnancy with appropriate precautions.[13]The pregnant females should be particularly specified to evade the risky behavior carried out to manage the morning sickness by either brushing or rinsing with baking soda immediately after vomiting.

Oral hygiene of the mother, especially in pregnancy directly influences on infant's oral health. Poor understanding and knowledge of good oral health practices, poor dietary habits and practice saliva-sharing activities in combination increases the likelihood of transmitting caries causing bacteria from mother to infants.[17] High Mutans Streptococci levels and carious lesions are recognized as risk factors in the transmission of Mutans Streptococci (MS) from mother to child. S. mutans load reduction in the mothers oral cavity diminishes the vertical transmission to the infant which reduces the probability of caries among infants, as evidence based research suggested.[13,18]

LIMITATION:

The current study bears some limitations. Firstly, the convenience sampling selection procedure of participants and sample size do not necessarily represent the entire target population. Secondly, small sample size is a limitation.

CONCLUSION:

Perinatal oral health is a very important health concern phenomenon. In this period, oral health negligence has a great effect on both mother and child's physical and oral health. Generally, dental care is not given preference by women during the pregnancy, and those who seek dental care usually defy the wish to get any treatment provided. A widespread cognizance is needed about oral health problems, to evade difficulties caused by delinquency and dearth of personal-care, with the support of healthy lifestyles, by acquiring appropriate habits to eat and practicing good oral hygiene and by paying regular visits to the dentist.

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