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KAP ASSESSMENT OF ORAL HEALTH AND ADVERSE PREGNANCY OUTCOMES AMONG PREGNANT WOMEN IN CENTRAL INDIA : A PRELIMINARY STUDY

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Abstract

Background : Oral hygiene practices of pregnant women are important for their oral health and pregnancy outcomes. This questionnaire-based study was conducted to asses knowledge, attitude and practices of oral health and adverse pregnancy outcomes among pregnant women of central India. Methods : A self-administered questionnaire study was conducted, in which 300 pregnant women participated. Women who had time constrains or refused to participate were excluded from the study. Results: Majority of the subjects were between 20-24 years of age. The women had poor oral health knowledge where 58% did not know what gum disease was. They had a positive attitude and 52% wanted to receive information about the relationship between oral health & well being of their baby. Conclusion : The positive attitude presents their intention to learn and practice more about oral health and adverse pregnancy outcomes. Health care workers who come in contact with the pregnant women should encourage them to visit the dentist regularly.

Introduction:

Women need to be aware of the importance of oral health care during and after pregnancy for themselves as well as their children.[1] Oral diseases have the potential to affect pregnancy outcomes. Adverse pregnancy outcomes that have been linked to periodontal disease include preterm birth (PTB), low birth weight (LBW), miscarriage or early pregnancy loss and pre-eclampsia. A systematic review of 25 studies (13 case-control, 9 cohort and 3 controlled trials) has demonstrated that periodontal disease may be associated with adverse pregnancy outcomes in humans.[2] Another systematic review and meta analysis of case control studies to assess periodontal disease as a risk factor for adverse pregnancy outcomes showed a statistically significant association between periodontal disease and adverse pregnancy outcomes.[3] Pregnant women may be considered as patients with temporary, but higher than normal risk of developing periodontal complications.[4] Proper brushing, regular flossing and professional plaque control methods like oral prophylaxis including scaling and root planning will help achieve good oral health during pregnancy. Pregnant women need oral health education and its enforcement regarding the relationship of periodontal diseases and pregnancy outcomes, oral disease prevention and treatment options available. Early education programs aimed at pregnant women can help to

prevent oral diseases in both mother and infant. Dental professionals can play an important role in assuring the well-being of women during their pregnancies by promoting and maintaining their oral health.[5] Thus, it becomes important to understand oral hygiene practices and assess pregnant women's self perceptions of their oral health, knowledge, attitudes and its possible relation with adverse pregnancy outcomes. Such data will help for planning preventive programs and interventional awareness programs to address this very important issue, in order to positively influence both maternal and infant health. Keeping this thought in mind this study was undertaken to assess the awareness and perceptions of pregnant patients visiting a tertiary level government hospital regarding their oral hygiene and its possible association with poor pregnancy outcomes, paving the way for effective future preventive and interventional programs benefiting maternal and child health.

The aim of the present study is to assess the knowledge, attitudes and practices of pregnant women relating to their oral hygiene and its potential association with adverse pregnancy outcomes. The objectives of the present study were:-

1. To examine their self-care practices in relation to oral and dental health.
2. To identify possible barriers and formulate dental education material for pregnant women.
3. To make suitable recommendations.

METHODOLOGY

Study setting: A cross sectional study was conducted on the patients visiting the out-patient department of a tertiary government hospital, in Bhopal city. There is a single OPD room in the hospital where all the patients report after making the OPD card from the reception desk. The average waiting time for patients to get examined is 10-15 minutes depending upon the emergency, urgency and number of patients who are reporting.

Study population: The study population consisted of new patients who were visiting the hospital to obtain some kind of treatment or routine checkup. Pregnant women who made repeated visits, were uncooperative and systematically ill, did not gave consent, or refused to participate due to time and priority constrains were not included in the study. Participants were chosen for inclusion in the study using following criteria: who did not have any emergency constraints, and not having any difficulty in understanding the questionnaire given by the principal investigator.

Study sampling and sampling technique: A non-probability convenient sampling was followed in the present study, where all the pregnant women present on the day of study were included. A total of 300 pregnant women, who were available at the time of study participated.

Measurement & instrument: The questionnaire recorded demographic details namely age, education, occupation, present trimester and number of pregnancy. A pre tested questionnaire[6] containing 5 questions was used to record the respondent's knowledge regarding periodontal disease and adverse pregnancy outcomes, 5 questions for assessing the respondent's attitudes towards oral hygiene maintenance and acquiring knowledge or treatment to prevent adverse pregnancy outcomes and 6 questions for assessing the respondent's health and oral hygiene practices was used. The questionnaire was converted into local language and was pre-tested for its

validity and reliability and had Cronbach's alpha values of 0.85, 0.73 and 0.81 for knowledge, attitude and practice questions, respectively.

Ethics & informed consent: Before the start of survey, ethical clearance to conduct a study was obtained from the institute. Permission was taken from the administrators of the government hospital. It was assured that participants would not be individually identified in research reports, nor data from any single individual will be conducted as report results. A written consent in local language was signed by all the participants individually, which gave them detailed information about the study.

Data collection: Individual consent was taken prior to the start of survey. A schedule of the survey for data collection was prepared. On an average 15 pregnant women were interviewed per day. Patients were distributed the questionnaire while they were waiting to see the doctor. One of the investigators was present with the participants while the questionnaire was being filled to make sure that the participants were able to understand the questions and respond accordingly. The questionnaire took 3 minutes on an average to complete.

Statistical analysis: The data was transferred to pre-coded survey form to a computer. A master chart was created for the purpose of data analysis. Statistical analysis was done using Statistical Package of Social Science (SPSS Version 17.0; Chicago Inc., USA). Significance level was fixed at $p \leq 0.05$.

Results :-

Table 1 presents in detail the demographic distribution of study population. Maximum (47%) of the subjects were between 20-24 years of age, were unemployed (94%), only had secondary education (60.7%), were in their second trimester (39%), and had been pregnant before (54%).

Table 2 presents the knowledge , attitude and practice of pregnant women regarding oral health. Majority of women did not know what gum disease was (58%), although they agreed that tooth brushing prevents decay(80%),they have not heard about any connection between oral health and pregnancy (77%), and didn't thought that gum problems could affect pregnancy outcomes (85.7%). Regarding attitude majority of women wanted to know how to keep teeth clean(52%), and wanted to receive information about the relationship between oral health & well being of their baby(52%). Only 36.7% of subjects were ready for dental examination or treatment. Almost half (53.3%) subjects perceived their oral health as "Good" , although majority reported to have never visited a dentist (65.7%). Most of the subjects brushed once daily (66.6%) and reported using horizontal technique for brushing.

Discussion:

The main aim of the present study was to asses the knowledge, attitude, practice of pregnant women with respect to oral hygiene and its association with adverse pregnancy outcomes. A mother's general and oral health habits, awareness and practices impacts the future health of babies. Current focus of the medical and dental fraternity should be on increasing awareness and promoting health so that the overall burden of diseases can be reduced.

Our study group majorly comprised of young mothers between 20-24 years of age, which is similar to studies done in Indonesia [7] & Brazil [8], where they also suggested that young mothers are more aware and are keen to learn more about the betterment of their babies. Our subjects were unemployed and only had secondary school level education, Our findings are in contrast with a recent study done in Indonesia [7] and accordance with previous study [6], where low socioeconomic cultural variables were reported to have a profound effect on the prevention of periodontal diseases, probably because it could never make it to priority list of health concerns, and limited sources of correct information. Also, a study conducted among Brazilian pregnant women stated that women with higher education qualification and greater access to information had better results in knowledge of oral health of their children. [9]

In questions related to **knowledge** majority (58%) of women had no idea what gum disease is similar to study done by Avula et al.[6] where 66% of women didn't know what gum disease is. In contrast almost 67% of the pregnant women had good knowledge and awareness regarding oral health in study findings of Pentapati et al [10] This could be due to lack of knowledge or absence of any debilitating oral findings related to periodontium. Efforts should be made to make women identify and understand the early signs of gingivitis and periodontal diseases, as its severity may increase in due course of time. Similar to previous study done by Avula et al.[6] our majority of subjects were aware of the benefits of tooth brushing. This positive attitude towards brushing should further be expanded to include interdental cleaning aids.

The effect of hormonal changes during pregnancy on oral health cannot be ignored. The increase in oestrogen levels during pregnancy leads to gingival sensitivity, swelling and bleeding, thereby increasing the pre-existing gum inflammation. The most important finding of the study is the unawareness of pregnant women regarding connection between oral health and pregnancy and its outcomes, which is similar to study done by Avula et al.[6]. This can be attributed to lack of education, information sources, and time constrains, as medical service providers are less focused towards the non-emergency association.

In questions pertaining to **attitude** almost half of subjects wanted to know ways to keep their teeth clean (52%) & wanted to receive information about the relationship between oral health & well being of their baby (52%) similar to previous study done by Avula et al.[6] (65.7%, 56.3%). We can infer that the attitude was positive among the pregnant women. Apart from knowledge, thoughts, and emotions also determine attitude formation. Emotions and beliefs compel a person to act. The good attitude of pregnant women can be attributed to the fact that they had the intention to improve their oral health, but had time constrain. Therefore when asked about whether they are ready for dental examination only 36.7% agreed similar to previous study done by Avula et al.[6] (36.8%).

In questions related to **practice** the subjects attended their prenatal appointments(72%) but had never visited the dentist (65.7%), similar to study done by Avula et al.[6] (91.9% & 58.2%). Only few subjects felt the need for dental visits during pregnancy in the study reports of Chacko et al. [11] This could be attributed to various factors like poor knowledge, poor education, limited access to dental care, as well as various sociocultural factors and perceptions among pregnant women in

India. This could be due to various reasons as time constrain, lack of oral problems, lack of awareness regarding oral health, lack of oral health care facilities nearby, and other socio-economic and socio-cultural factors.

The oral hygiene practices also showed limited knowledge where the pregnant women brushed only once (66.6%) similar to study done by Avula et al.[6] (79.1%) ; using horizontal method of brushing (37.7%) which is in majority but is still lesser compared to pregnant women in previous study[6] (77.1%).

The limitation of the present study is that it was a self-administered questionnaire which could have lead to bias. Another limitation could be time constrain due to which the participants might not have paid detailed attention to questions.

Health care workers and anganwadi workers come first in contact with pregnant women of low socio-economic status, they can be trained in improving the over all oral and general health among pregnant women. Tertiary hospitals should be equipped with health education materials which highlights relation between oral health and adverse pregnancy outcomes, so that the patient becomes self aware and visit the dentist for preventive treatments.

It can be concluded that the there is a need to improve knowledge among pregnant women and convert their good attitude and intentions into daily practice and lifelong behavior. These women in future will pave the road for a generation with better oral health knowledge and practices.

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