



# ASSESSMENT OF KNOWLEDGE AND AWARENESS ABOUT PERIODONTAL ORAL HEALTH AMONG PREGNANT WOMEN- A QUESTIONNAIRE STUDY

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## ABSTRACT

**Background:** Periodontal diseases and systemic diseases are having association and various studies have been done to assess the scientific evidence. There are a lot of scientific data available to explain the association between periodontal diseases, adverse pregnancy outcomes such as preeclampsia and preterm low birth weight deliveries. It is also linked with stillbirth, miscarriage, intrauterine growth retardation. Pregnancy can influence gingival health and also the changes in the hormone level during pregnancy promote inflammation termed as Pregnant Gingivitis and it occurs without any changes in the plaque level.

**Aim and Objective:** To assess and compare the level of knowledge and attitude towards periodontal oral health among pregnant women.

**Materials and Methods:** Awareness of the relationship between oral health and pregnancy, demographics, oral health knowledge, oral hygiene, and dental visits during pregnancy and their willingness for treatment to be surveyed by self administered questionnaire from 100 pregnant females. The data was collected, summarized and statistically analyzed.

**Results:** Knowledge and awareness regarding periodontal disease, and its effect on the pregnancy and birth outcome is very limited. Knowledge and awareness about use of interdental aids, extra care during pregnancy and about premature labour and low birth babies are correlated with periodontal oral health.

**Conclusion:** Most pregnant women need more information about oral health, and prevention of gingival and periodontal diseases as they are more concern about general health and less aware and concern about dental health.

**Key Words:** Pregnancy, Periodontitis, Oral health

## INTRODUCTION

“Periodontal Disease” is a destructive inflammatory disorder of the hard and soft tissues surrounding teeth. Preterm birth, also known as premature birth, is the birth of a baby at less than 37 weeks gestational age(1).

The infected periodontium can represent an endocrine like source of potentially deleterious cytokines and lipid mediators which may increase the likelihood of adverse pregnancy outcomes. Pregnancy can influence gingival health. Changes in hormone levels during pregnancy promote an inflammation termed pregnancy gingivitis. This type of gingivitis may occur without changes in plaque levels. Furthermore, pregnancy increases the onset of new periodontal disease. If the

pre-existing periodontal disease becomes active during the pregnancy, it may pose a significant concomitant infectious or inflammatory exposure and it can lead to preterm delivery of low birth weight babies(2).

Pregnancy is a unique period during a woman’s life and is characterised by complex physiological changes, which may adversely affect oral health. Women’s life cycle changes presents unique challenges to the oral health care profession. Hormonal influences associated with the reproductive process alter periodontal and oral tissue responses to local factors creating diagnostic and therapeutic dilemmas. It is imperative, therefore, that clinician recognise, customise and vary periodontal therapy, according to an individual female and the stage of her life cycle(3-5).

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Maintenance of oral health during pregnancy has been recognised as an important public health issue worldwide. A number of statements and guidelines have been published emphasising improved oral health care during pregnancy. Hormonal changes in pregnancy combined with neglected oral hygiene tend to increase the incidence of oral diseases like gingivitis(6-8).

The present study was conducted to assess knowledge and awareness regarding oral health among pregnant women in India. Relevant cross-sectional observational studies were included in the systematic review to assess the level of knowledge and awareness regarding oral health among pregnant women in Chennai. The results obtained would serve as baseline information for planning an oral health education program aimed at improving the oral health of pregnant women receiving care in the hospital. Specifically, it would identify areas of deficiency in the women’s knowledge and this would be helpful in formulating the content of the oral health messages(9-10).

## MATERIALS AND METHODS

A questionnaire based study was conducted by assessing the responses to selected basic questions about periodontal oral health in the Gynaecology department of shifa hospital, Chennai. The subjects were informed about the purpose of the study and ethical approval was obtained from the chief of the Hospital.

The demographic data and a questionnaire with 20 structured questions regarding the knowledge and awareness of periodontal oral health were given to all consenting pregnant women who attended the clinic during the study period. The first section contained questions on the respondent’s socio- demographic characteristics such as age, occupation, monthly income and educational status. The second section comprised of fifteen questions pertaining to awareness of relationship between oral health and pregnancy, oral health knowledge, oral hygiene, dental visits during pregnancy, advice about dental health requirements during pregnancy, history of bleeding gums and what, if any, actions were sought to treat perceived gingival problems and their willingness for treatment.

### Questionnaire

Name:

Age:

Address:

Occupation:

Education:

Monthly income:

Habits if any:

Gestational age:

Oral Hygiene Status:

- 1) Do you brush your teeth?  
A. Yes                      B. No
- 2) If no, then do you use any other oral hygiene method? \_\_\_\_\_
- 3) Do you brush your teeth after every meal?  
A. Yes                      B. No
- 4) Do you use interdental cleaning aids?  
A. Yes                      B. No
- 5) Do you think that extra care of oral hygiene is needed during pregnancy?  
A. Yes                      B. No
- 5) Are you aware that dental disease and pregnancy are related ?  
A. Yes                      B. No
- 7) Do you know that Cavities (tooth decay) and gum disease are caused by infection in the mouth?  
A. Yes                      B. No
- 8) Do you know about Premature labour and low birth babies ?  
A. Yes                      B. No
- 9) Premature labour means how many months early ? \_\_\_\_\_
- 10) What will be the weight of low birth babies? \_\_\_\_\_
- 11) What do you think is the ideal weight of new born ?  
a) 2kg  
b) 2.5kg  
c) 3kg  
d) 4 -6kg
- 12) Have you ever suffered from premature labor or low birth weight babies in the past?  
A. Yes                      B. No
- 13) Are you aware that gum disease are related with premature labor and low birth weight babies?  
A. Yes                      B. No
- 14) Have you ever visited a dentist during or before your pregnancy?  
A. Yes                      B. No
- 15) Do you know that Pregnancy makes your gums bleed, swell, become red?  
A. Yes                      B. No
- 16) Do your gums bleed during tooth brushing after conception?  
A. Yes                      B. No
- 17) If you are found to have periodontal disease (gum disease) now during pregnancy ,will you undergo treatment for the same?  
A. Yes                      B. No
- 18) If you are diagnosed with periodontal disease (gum disease) after delivery ,will you undergo treatment ?  
A. Yes                      B. No

19) Did your gynaecologist recommended oral check up before or during pregnancy?  
 A. Yes B. No

### RESULTS

The data was collected and the results were tabulated .

The results obtained from the periodontal health awareness questionnaire were compiled and were tabulated and graphically represented.

Descriptivetabulations were done by age, education and occupation. For the purpose of analysis the level of education was categorised as low (primary education only), middle (secondary education) and tertiary (post secondary education). Thus the results were analyzed.

**Table 1: Socio-Demographic data**

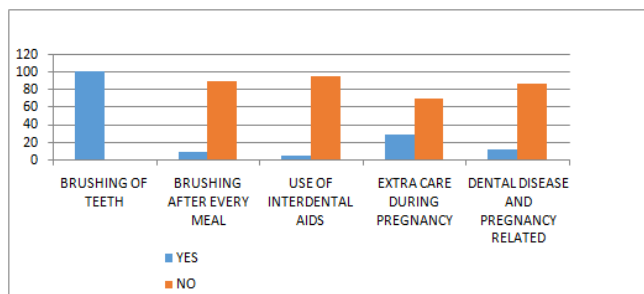
Age	No. of pregnant females
18-25	60
26-30	30
Above 30	10

**Table 2: Level of education**

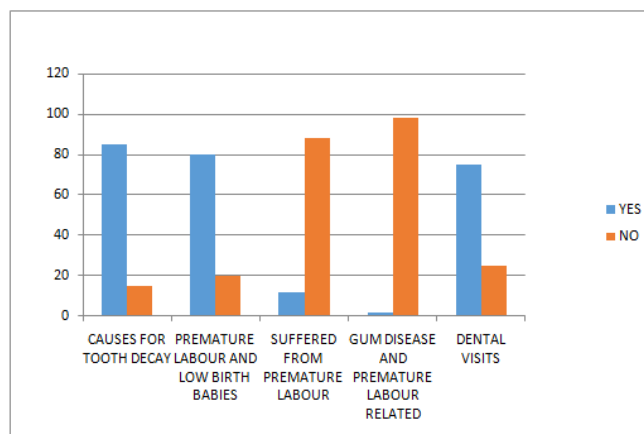
Level of education	No. of pregnant females
Primary	0
Secondary	0
Tertiary	40
University	60

**Table 3: Occupation**

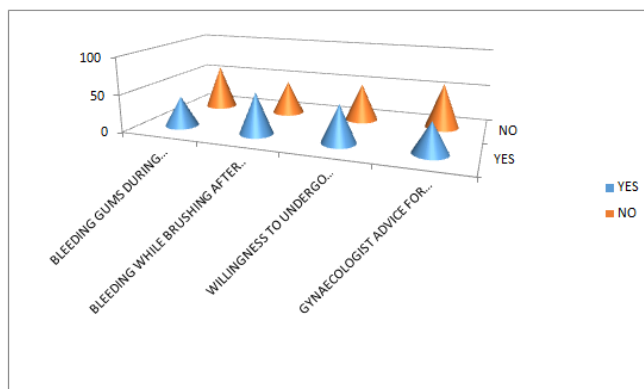
Occupation	No. of pregnant females
Employed	40
Unemployed	60



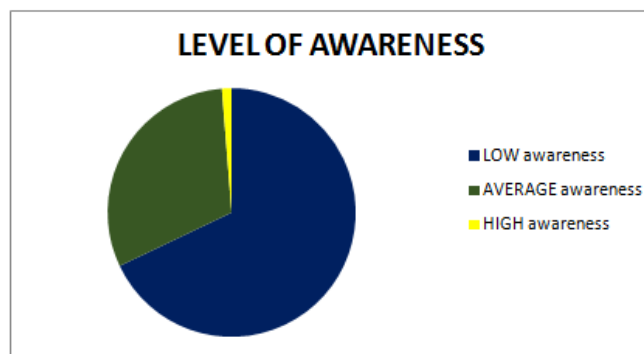
**Graph 1:** Graph 1 showing the results of awareness of oral hygiene measures among pregnant women.



**Graph 2:** Shows the awareness of premature labour in pregnant women.



**Graph 3:** Shows the awareness about gingival disease among pregnant women.



**Graph 4:** Graph 4 shows the overall awareness about oral health among pregnant women.

Level of awareness	
Low awareness	75
Average awareness	34
High awareness	1

The commonest oral disease during pregnancy (i.e. Periodontal disease) is preventable by the institution of simple measures such as regular tooth-brushing and flossing.(10-12) However such positive behaviour would be influenced by the individual's oral health knowledge and attitudes which in turn is influenced by the awareness of an individual. Thus, this study was designed to provide a view of periodontal awareness among pregnant females.

### CONCLUSION

A majority of the pregnant women has good knowledge and information about general health. But they have limited knowledge and awareness regarding periodontal disease, and its effect on the pregnancy and adverse pregnancy outcomes. Most pregnant women need more information about oral health, and prevention of gingival and periodontal diseases. (13,14) Longitudinal studies are needed to assess the long-term effect of oral health education programs in maternity care centers on dental health knowledge and behavior of pregnant women. Long term studies are required to determine if there is a strong correlation between periodontal disease and premature labor. Also further studies are required to check whether periodontal therapy or prevention can reduce the risk of premature labor. Studies to assess the role of dental hygienists in designing and promoting information regarding periodontal health awareness and practices among pregnant women in maternity care centers.

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