

Knowledge, Attitude, and Practices Related to the Oral Health among the Pregnant Women Attending a Government Hospital, Chennai

L. Leelavathi, T. Hepzibah Merlin¹, V. Ramani¹, R. Anita Suja¹, Chitraa R. Chandran²

Department of Public Health Dentistry, Saveetha Dental College, Departments of ¹Public Health Dentistry and ²Periodontics, Tagore Dental College, Chennai, Tamil Nadu, India

Abstract

Background: Good oral hygiene during pregnancy improves oral and general health of the mother, which in turn promotes oral and general health of the child. Hence, a study was done to assess knowledge and practices of pregnant woman regarding oral health. **Materials and Methods:** A cross-sectional survey was conducted among pregnant women attending a Government hospital, Chennai. A total of 500 samples were selected by convenience sampling technique. A questionnaire containing 16 close-ended questions related to knowledge, attitude, and practices pertaining to oral health during pregnancy along with demographic data was used for collecting baseline information. Descriptive statistics and Chi-square test were used to analyze the data. **Results:** Majority of the study participants (95%) were not aware that gum disease can cause preterm low birth weight babies. Most of them (93%) were not aware of safe period for undergoing dental treatment during pregnancy. Majority of the study participants (97.4%) used tooth brush and tooth paste to clean their teeth. Nearly half of the study participants (48.6%) replied that they consult dentist while experiencing dental problems. **Conclusion:** The knowledge related to oral health of pregnant women during pregnancy was found to be low and need to be improved. Oral health practice was not sufficient among the study participants and therefore proper health education is to be given to them regarding the importance of oral hygiene aids to maintain good oral health. Attitude toward dental visit has to be improved.

Keywords: Attitude, awareness, dental health, pregnancy

INTRODUCTION

Maintaining oral health during pregnancy has been recognized as an important public health issue worldwide. Research continues to show an association between periodontitis and adverse pregnancy outcomes such as low birth weight and premature births.^[1]

Many physiological conditions in women can bring some reversible changes in oral health. Conditions such as puberty, pregnancy, and menopause have a significant effect on the oral health of women. Pregnancy is a period of both joy and anxiety in a woman's life and is characterized by various physiological changes in her body brought about by the circulating female sex hormones. A number of oral changes are inevitable during pregnancy. Immunological, dietary, and behavioral factors associated with pregnancy are believed to be contributing factors.^[2]

Mothers with untreated dental caries will also pass on cariogenic bacteria to their children through inappropriate feeding practices.^[3,4] During pregnancy, physiological changes occur in body, which results in oral health problems such as caries, tooth mobility, and pregnancy gingivitis.^[5]

Unawareness of dental care importance is one of the factors challenging dental services during pregnancy. Nevertheless, most expecting women seek health care, and this period is an ideal time to offer a variety of health interventions. Moreover, oral health education during pregnancy can decrease the vertical transmission of microorganisms to infant's mouth.

Address for correspondence: Dr. L. Leelavathi,

Department of Public Health Dentistry, Saveetha Dental College, Chennai, Tamil Nadu, India.

E-mail: karleela81@gmail.com

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Thus, good oral hygiene during pregnancy not only improves oral and general health of the mother but also contributes to the oral and general health of the infant.^[6]

Hence, the study was conducted with an aim to assess the oral health-related knowledge, attitude, and practice among the pregnant women.

Objectives

The objectives of the survey are:

- To assess the awareness about oral health among the pregnant women attending the government hospital, Chennai
- To assess the attitude toward the oral health among the pregnant women attending the government hospital, Chennai
- To assess the practices related to oral health among pregnant women attending a government hospital, Chennai.

MATERIALS AND METHODS

A descriptive cross-sectional study was conducted at a government hospital, Chennai, to assess the oral health-related knowledge, attitude, and practice among the pregnant women. The study was conducted among pregnant women in Egmore Government Gynaecology and Obstetrics hospital, Chennai. The study was conducted among 500 pregnant women in Egmore Government Gynaecology and Obstetrics hospital, Chennai. Ethical clearance to conduct the study was obtained from the Institution Review Board. Further, permission was also obtained from the Government hospital where the study was carried out. Informed consent was collected from individuals after explaining the purpose of the study. Convenient sampling methodology was followed to select the study samples. Data were collected by three of the authors using a survey pro forma which comprised of a questionnaire. Questions in the questionnaire used were selected from national and international surveys. The questionnaire was distributed to study participants and asked to complete in front of the investigator. For those who were illiterate, the questionnaire was explained by the investigators and answers elicited.

A pretested questionnaire was used to assess the oral hygiene practices, knowledge about oral health diseases, and their attitude toward oral health. Data were analyzed by Chi-squared test using SPSS statistical package. Statistical significance was set at $P < 0.05$.

RESULTS

A cross-sectional study was conducted among 500 pregnant women at a government hospital, Chennai, to assess the oral health-related knowledge, attitude, and practice.

Demographic characteristics

Out of 500 study participants, 91 (18.2%) were in the first trimester of pregnancy, 145 (29%) were in the second trimester, and 264 (52.8%) were in the third trimester of pregnancy.

Among the 500 study participants, 28 (6%) were illiterate, 118 (23.4%) completed secondary education, 178 (35.6%) completed higher secondary education, and 176 (35%) were degree holders [Table 1].

Oral health knowledge of study participants

Out of 500 study participants, 70 (14%) reported that they noticed changes in their gums (like bleeding gums) during their pregnancy and 341 (68.2%) reported that there was no change in their gums. Majority of the study participants that is 459 (91.8%) were not aware that frequent vomiting can erode the enamel. Most of the study participants were not aware about the relation between oral health and pregnancy [Table 2]. Majority of the study participants, that is, 486 (97.2%) were not aware that smoking (passive smoking) during pregnancy can lead to stillbirth, preterm delivery, low birth weight delivery, cleft lip and cleft palate, asthma, etc., Most of the study participants, i.e. 465 (93%) reported that they were not aware about the safe period for undergoing a surgical dental treatment during pregnancy [Figure 1]. Only 11 of the study participants were aware about the safe period for undergoing a surgical dental treatment during pregnancy. Among those

Table 1: Distribution of study population based on their demographic characteristics

Demographic characters of study participants	Total number of study participants (%)
Age of study participants (years)	
<21	27 (5.4)
21-30	442 (88.4)
31-40	31 (6.2)
Education of study participants	
Illiterate	30 (6)
Secondary education	117 (23.4)
Higher secondary education	178 (35.6)
Degree holders	175 (35)
Pregnancy status of study participants	
First trimester	91 (18.2)
Second trimester	145 (29)
Third trimester	264 (52.8)

Table 2: Distribution of study participants based on their responses related to oral health and pregnancy

Statements related to oral health and pregnancy	Responses given by study participants	Frequency of responses given by study participants (%)
Have you received any oral health information	Yes	202 (40.4)
	No	298 (59.6)
Systemic diseases can reflect in the oral cavity	Yes	237 (47.4)
	No	78 (15.6)
	Don't know	185 (37)
Oral health can be affected during pregnancy	Yes	17 (3.4)
	No	177 (35.4)
	Don't know	306 (61.2)

who were aware, 1 (9%) was illiterate, 3 (27.3%) completed secondary education, 3 (27.3%) completed higher secondary education, and 4 (36.4%) were degree holders. However, this difference was not statistically significant. Most of the study participants (80.2%) were unaware that exposure to radiation is harmful during pregnancy. Majority of the study participants, that is, 475 (95%) were not aware that gum disease can travel through uterus and can cause preterm low birth weight babies. There was no difference in the responses based on the level of education [Table 3].

Oral health practice of study participants

More than half, i.e. 304 (60.8%) of the study participants replied that they brushed their teeth once daily, 184 (36.8%) brushed twice daily, and 12 (2.4%) brushed less than once in a day. More than half of the graduates reported to brush twice daily which was found to be higher than the study participants with lesser levels of education, and this difference was found to be statistically very highly significant [Table 4]. Majority of the study participants, i.e. 487 (97.4%) used toothbrush and toothpaste to clean their teeth, 9 (1.8%) used toothbrush and tooth powder, and about 4 (0.8%) used their fingers to clean their teeth. Most of the study participants (82.2%) have not used any interdental cleaning aids for maintaining their oral health.

Attitude related to oral health of study participants

Nearly half of the study participants, i.e. 243 (48.6%) replied that they consult dentist while experiencing dental problems

and about 212 (42.4%) reported that they consult nearby pharmacist [Figure 2].

DISCUSSION

A large proportion of pregnant women report oral health problems involving hard and soft tissues during pregnancy. Majority of women believe that such problems are normal to occur in pregnancy and would disappear after birth. As a result of this, most pregnant women either do not seek professional dental care or are reluctant to undergo certain dental procedures during pregnancy with fear of possible harm to themselves or their babies. Studies have reported that good oral health in pregnancy is advantageous to both the mother and her baby. Maternal periodontal disease has been linked to preterm birth, low birth weight, and preterm low birth weight.^[7]

Pregnant women being one of the target groups for oral healthcare, utilization of oral health-care services among them should be surveyed. Several reasons had been cited to prevent them to avail dental treatment such as fear and anxiety of the treatment, low perception for dental problems, and misconception regarding effects of dental treatment on the developing fetus.^[8]

There is limited literature concerning the oral health knowledge, attitude, and practice by pregnant women, and hence, a cross-sectional study was done among pregnant

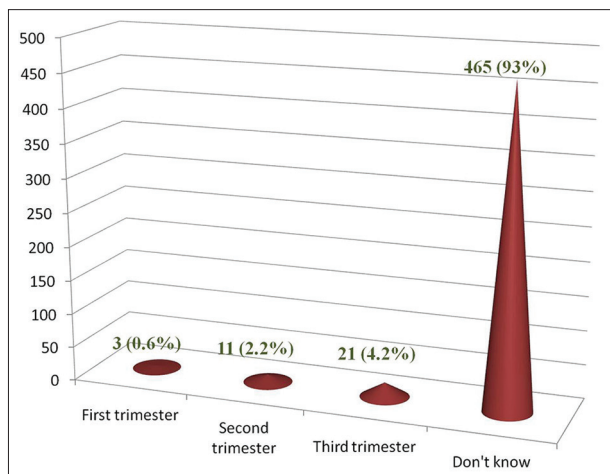


Figure 1: Distribution of study participants based on responses related to the safe period for surgical dental procedures

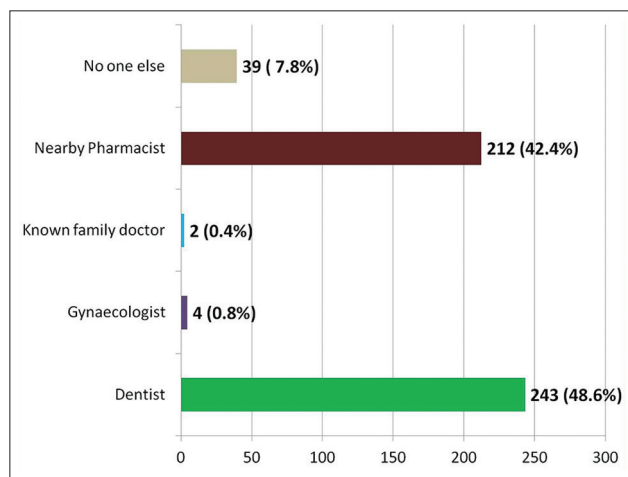


Figure 2: Distribution of study participants based on responses related to the question, "whom do you consult when you encountered dental problem"

Table 3: Distribution of study participants with different levels of education for the question, "gum disease can travel through uterus and can cause preterm low birth weight"

	Level of education of study participants				P
	Illiterate (%)	Secondary education (%)	Higher secondary education (%)	Graduates (%)	
Responses of study participants					
Yes	0 (0)	1 (0.8)	0 (0)	1 (0.6)	0.895
No	1 (3.6)	5 (4.2)	10 (5.6)	7 (3.9)	
Don't know	27 (96.4)	112 (95)	168 (94.4)	168 (95.5)	

Table 4: Distribution of study participants based on their tooth brushing frequency and educational level

Level of education of study participants	Tooth brushing frequency			P
	Once daily (%)	Twice daily (%)	Less than once daily (%)	
Illiterate	25 (89.3)	2 (7.1)	1 (3.6)	<0.001
Secondary education	89 (75.4)	21 (17.8)	8 (6.8)	
Higher secondary education	109 (61.2)	66 (37.1)	3 (1.9)	
Graduates	81 (46)	95 (54)	0 (0)	

women attending a government hospital in Chennai. In the present study, more than half of the study participants brushed their tooth once daily which is similar to the study conducted by Sajjan *et al.*, 2015^[2] among the pregnant women of Bagalkot District. This is also similar to the study conducted by Moghadam *et al.*, 2011^[9] among pregnant women to assess periodontal health knowledge, attitude, and practice in Yazd, Iran. The study results are in contrast to the study conducted by George *et al.*, 2013^[4] among pregnant women attending a hospital in South-western Sydney in which majority brushed twice daily. Whereas in a study conducted by Boggess *et al.*, 2010^[10] among pregnant women, it was reported that 83% brushed 1–2 times a day. Although these differences can be attributed to cultural variation between societies around the world, most is the effect of preventive oral health care programs accomplished to increase the awareness and knowledge of people about oral diseases and methods used to prevent them. In the present study, majority of the study participants used toothpaste. This is similar to the study conducted by George *et al.*, 2013^[4] among pregnant women attending a hospital in South-western Sydney. Most of the study participants in the present study have not used dental floss for interdental cleaning whereas in a study conducted by Bamanikar and Kee, 2013^[11] among pregnant women in Brunei, Darussalam, nearly half of the study participants reported to use dental floss.

In the present study, less than half of the study participants visited their dentist which is lesser than the dental attendance among pregnant women in Qazvin Province, Central Iran where fifty-six percent of patients visited their dentist when they have problem^[12] whereas in a study conducted by Sajjan *et al.*, 2015,^[2] nearly 40% of individuals said that they reported to dentists when they experience any dental problems. Another contributing factor to the low uptake of dental services is the lack of awareness among pregnant women about the importance of maternal oral health. It was reported in previous studies that those with higher education and employment expressed better knowledge.^[11] About 93% of the study participants in the present study were not aware of safe period for undergoing dental treatment during pregnancy which is higher than the study done by Sajjan *et al.*, 2015^[2] in

which 73.07% were not aware of safe period for undergoing dental treatment during pregnancy.

More than half of the respondents have not received any oral health information in the present study. This is similar to the study conducted by Braimoh Omoigberai Bashiru and Ilochonwu Nzube Anthony among pregnant women attending antenatal clinic at the University of Port Harcourt Teaching Hospital, Rivers State Nigeria.^[7] Pregnancy is a time when women may be more motivated to make health changes. Therefore, maintaining good oral health during pregnancy is important, apart from reducing the risk of adverse pregnancy outcomes, but it also improves general health of both the mother and her infants.^[13] It is therefore the responsibility of health-care providers to create awareness about oral health and its relation with the systemic health among the expectant mothers.

One of the limitations of the study was the convenience sampling technique, and hence, generalizability of the present study results should be done with caution.

CONCLUSION

The knowledge related to oral health of pregnant women during pregnancy was found to be low and needs to be improved. Oral health practice was not sufficient and proper health education is to be given. Attitude toward dental visit has to be improved. Regular oral screening and health education is needed to improve oral health status in pregnancy. Guidelines to be formulated to promote visit of pregnant women for dental consultation. Expectant mothers have limited access to affordable and accessible dental care facilities and services. Further, they are not receiving adequate information about oral health care through their antenatal care providers, and hence, they are not aware of its importance. There is an immediate need for researchers, clinicians, and policymakers to develop effective strategies to address this important yet neglected aspect of oral care.

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Conflicts of interest

There are no conflicts of interest.

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