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ANALYSIS OF AWARENESS LEVEL OF DENTAL HEALTH IN PREGNANT WOMEN: A QUESTIONNAIRE STUDY

Dentistry

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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 200 pregnant females. The data was collected, summarised and statistically analyzed.**Results:** Knowledge and awareness regarding periodontal disease, and its maintenance of oral hygiene is moderate. Awareness about dental checkup and dental treatments during pregnancy is low. **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.

KEYWORDS

Pregnancy, Periodontitis, Oral health

Oral health is an essential component of health throughout life. The mouth is an obvious portal of entry to the body, and oral health reflects and influences general health and well being.[1]Maintaining proper oral hygiene and promoting swift treatment of various oral conditions have a positive impact in this regard. Poor oral health and untreated oral diseases and conditions can have a significant impact on quality of life.[2]

However, special consideration is required in terms of oral health in women. The presence of different physiological states such as puberty, pregnancy and menopause should be given added consideration, because these conditions are known to modify the overall health status in women. The importance of oral health in pregnant women is of paramount significance, since it not only has a direct effect on the expecting mother but also on the future of the child.[3]

Pregnancy is a transient physiological state that brings the storm of hormones which induced changes in the mother's body. An increase in the secretion of the female sex hormones, oestrogen by 10 fold and progesterone by 30 fold, is important for the normal progression of a pregnancy. The increased hormonal secretion and the foetal growth induce several systemic, as well as local physiologic and physical changes in a pregnant woman. The main systemic changes occur in the cardiovascular, haematological, respiratory, renal, gastrointestinal, endocrine, and genitourinary systems. The local physical changes occur in different parts of the body, the oral cavity is no exception.[4]

The oral changes which are seen in pregnancy include gingivitis, gingival hyperplasia, pyogenic granuloma, and salivary changes.

Elevated levels of the circulating oestrogen, which cause an increased capillary permeability, predispose the pregnant women to gingivitis and gingival hyperplasia . Pregnancy gingivitis usually affects the marginal and the interdental papilla and it is related to the preexisting gingivitis.

In 1877, Pinard recorded the first case of 'pregnancy gingivitis'. The occurrence of pregnancy gingivitis is extremely common, occurring in 30 to 100% of all pregnant women. It is characterized by erythema, edema, hyperplasia, pain and increased bleeding. Cases range from mild to severe inflammation that can manifest as either marginal enlargement or tumour like enlargement. High levels of progesterone cause an imbalance that may enhance the growth of the oral bacteria that can cause gingivitis.[5]

Good oral hygiene can help in preventing or reducing the severity of the hormone mediated inflammatory oral changes.

Pyogenic granulomas (pregnancy tumours) occur in about 1% to 5% of the pregnant women. Increased angiogenesis, which is caused by sex hormones, coupled with gingival irritation which is caused by local factors such as plaque, is believed to cause pyogenic granuloma.[6] It occurs mainly on the labial aspect of the interdental papilla. It can happen at any time during a pregnancy, but it is reported to be most common in the first pregnancies, during the first and the second trimesters and it may regress after the child's birth. Although it is uncommon, it is known that the tooth mobility may increase during a late pregnancy. The increased mobility probably results from the changes in the lamina dura, the changes in the attachment apparatus, or from the underlying pathology which is unrelated to the pregnancy.[7]

This tooth decay does not occur in most of the patients. The main salivary changes in pregnancy involve its flow, composition, pH and hormone levels. Cross sectional studies have shown a reduced, whole stimulated salivary flow rate in pregnant women, The salivary oestrogen increases the proliferation and desquamation of the oral mucosa and also an increase in the subgingival crevicular fluid levels. The desquamating cells provide a suitable environment for bacterial growth by providing nutrition, thus predisposing the pregnant women to dental caries.[8]

The recent studies have suggested a link between periodontal disease and preterm low birth weight. A possible justification is based on an increased gingival fluid from gingival inflammation, blood-borne inflammation mediators reaching the placental membranes and inducing premature labor. New evidence suggests that the association of maternal periodontal disease and prematurity may be better indicated by the levels of inflammation mediators such as prostaglandin E2 (PGE2) and interleukin 1 beta (IL- 1β) in the gingival fluid.[9]

Better knowledge about these scenarios among women would go a long way toward avoiding or minimizing these adverse outcomes. There are many myths surrounding pregnancy and what is safe and

what is not during pregnancy. For example, many women believe they should not go to the dentist during pregnancy, although this is a myth.[10] Health education is an important tool in creating awareness among pregnant women regarding improvement of their oral health.

Aim:
To assess awareness level of dental health in pregnant women.

Objectives:
- To assess practices of oral hygiene in pregnant women.
- To assess the knowledge of pregnant women about periodontal health and its effect during pregnancy
- Assess the awareness about periodontal health and pregnancy outcomes.

MATERIALS AND METHODS:
This is prospective cross sectional study will be conducted in department of obstetrics and gynecology , Shantabaa medical college and general hospital, Amreli, Gujarat. After ethics committee approval, sample consisting of 200 pregnant women reporting to the department will be asked to fill up a specially formulated objective type of questionnaire consisting of close ended questions.

There is no universally accepted or recommended index/ inventory to measure oral health knowledge and awareness. The Hiroshima University- Dental Behavioral Inventory (HU-DBI) questionnaire developed by Kawamura has been demonstrated to be reliable for assessing patient´s perceptions and oral health behavior and is widely used all around.[6]

Inclusion criteria:
- Pregnant woman in any trimester.

Exclusion criteria:
- Pregnant woman with systemic illness
- Uncooperative/not willing to give consent
- Who will not respond/not return the questionnaires during the stipulated time period will be excluded from the study.

This study specific questionnaire consisted of 22 questions-
- personal data, stage of pregnancy, number of pregnancy
- General questions which include daily oral health, practices and the changes seen in gingiva during pregnancy.
- Knowledge about changes in oral health during pregnancy and their effect on pregnancy outcomes.
- Awareness about oral health and pregnancy outcomes.

The questionnaires were distributed to the subjects who came to the department of obstetrics and gynecology of Shantabaa medical college and general hospital, Amreli. It took the majority of the participants 5–10 min to complete the questionnaires. The filled responses were then transferred to the microsoft excel sheet for appropriate statistical analysis.

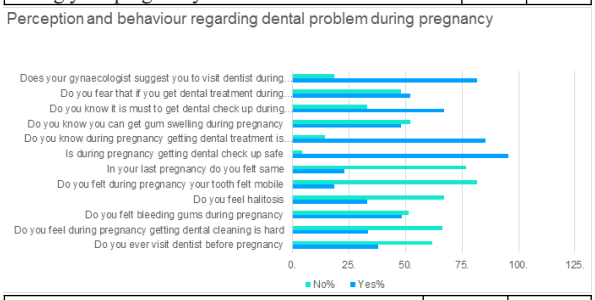
Statistical Analysis:-
Collected data was analysed by frequency percentage and chi- square test. The analysis was carried out by SPSS software.

ANALYSIS OF AWARENESS LEVEL OF DENTAL HEALTH IN PREGNANCY WOMEN: A QUESTIONNAIRE STUDY"				
Age:-	18-20:- 19	21-30:-132	31-40:-46	41-50:-3
Education	Literate:- 131	Illiterate:- 69		
Social economics status	Lower:-103	Middle:-57	Upper:-40	
Tool use for tooth cleaning	Tooth brush:-142	Finger:-53	Datun:-5	
Is brushing necessory	Yes:-192	No:-8		
Do you gargle	Yes:-197	No:-3		
Do you clean your tounge	Yes:-187	No:-13		
When you change your tooth brush	Never:-0	One month:-14	Three month:-129	One year:-57
Do you have any habit	Yes:-154	No:-27	If yes, Tobacco:-21 Betal nut:-	Blank-19
			6 Others:-	
Do you ever visit dentist before pregnancy	Yes:- 76	No:-124		
Do you feel during pregnancy getting dental cleaning is hard	Yes:- 67	No:-133		
Do you felt bleeding gums during pregnancy	Yes:-97	No:-103		
Do you feel halitosis	Yes:-66	No:-134		
Do you felt during pregnancy your tooth felt mobile	Yes:-37	No:-163		
In your last pregnancy do you felt same	Yes:-46	No:-154		
Is during pregnancy getting dental check up safe	Yes:-191	No:-9		
Do you know during pregnancy getting dental treatment is safe	Yes:-171	No:-26	Blank:-3	
Which is ideal period to get dental treatment done during pregnancy	1-3 months:-70	4-6 months:-121	7-9 months:- 9	
Do you know you can get gum swelling during pregnancy	Yes:-96	No:-104		
Do you know it is must to get dental check up during pregnancy	Yes:- 134	No:-66		
Do you fear that if you get dental treatment during pregnancy it might affect your child health	Yes:-104	No:-96		
Does your gynaecologist suggest you to visit dentist during your pregnancy	Yes:-163	No:-37		

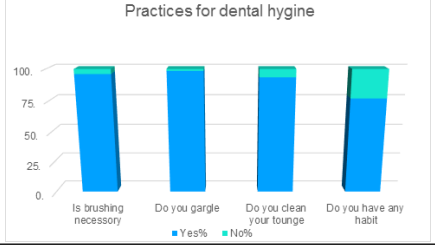
RESULTS:-
The results showed women had moderate knowledge, and the majority of the women practiced oral hygiene. Knowledge and awareness about dental checkup and dental treatments during pregnancy is low.

Variable	Yes %	No %
Do you ever visit dentist before pregnancy	38	62
Do you feel during pregnancy getting dental cleaning is hard	33.5	66.5
Do you felt bleeding gums during pregnancy	48.5	51.5
Do you feel halitosis	33	67
Do you felt during pregnancy your tooth felt mobile	18.5	81.5
In your last pregnancy do you felt same	23	77
Is during pregnancy getting dental check up safe	95.5	4.5
Do you know during pregnancy getting dental treatment is safe	85.5	14.5
Do you know you can get gum swelling during pregnancy	48	52
Do you know it is must to get dental check up during pregnancy	67	33

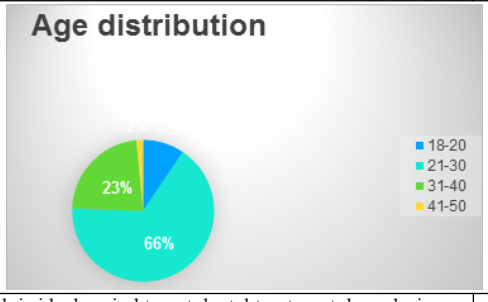
Do you fear that if you get dental treatment during pregnancy it might affect your child health	52	48
Does your gynaecologist suggest you to visit dentist during your pregnancy	81.5	18.5



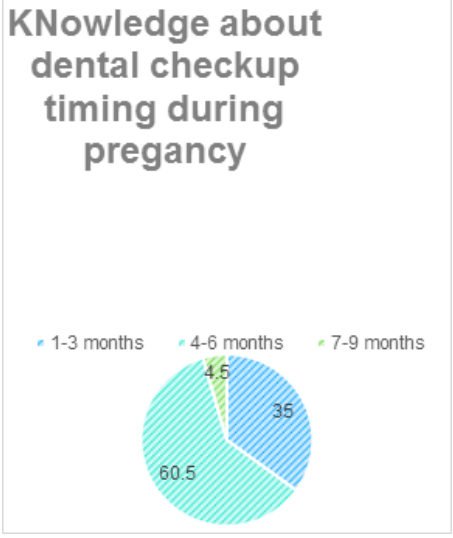
Practices for dental hygine	Yes %	No %
Is brushing necessory	96	4
Do you gargle	98.5	1.5
Do you clean your tounge	93.5	6.5
Do you have any habit	77	23



Age group	%
18-20	9.5
21-30	66
31-40	23
41-50	1.5



Which is ideal period to get dental treatment done during pregnancy	
1-3 months	35
4-6 months	60.5
7-9 months	4.5



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.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 dis-ease 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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