

## Oral Health Care in Pregnancy: A Collaborative Effort by Health Care Professionals.

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#### ABSTRACT

Pregnancy is a unique state where an expecting mother undergoes profound physiological as well as psychological changes. The woman is more receptive so it is an opportune time for making healthy lifestyle and behavioral changes. The various professionals those are associated in providing health care to pregnant women are gynecologists, dentists and dieticians. Proper knowledge regarding oral care in pregnancy amongst them is obligatory.

#### INTRODUCTION

Pregnancy is a crisis period involving profound physical, social and psychological changes in a woman. Providing comprehensive care to a pregnant woman is a massive task that requires collaborative efforts of various health care providers such as gynecologists, dentists and dieticians. A Pregnant woman first visits gynecologist as they are the primary health service providers' for them. Oral and general health of pregnant women is imperative for good quality of life of the newborn child and mother. Many women do not seek dental care during their pregnancy [1, 2]. Dental diseases has the potential to affect pregnancy outcomes. It has been found that periodontal disease may be associated with adverse pregnancy outcomes in humans such as preterm deliveries, low birth weight babies, and preeclampsia [3].

During pregnancy hormonal changes, mood alterations and increase consumption of sugar are common. Any increase in tooth decay during pregnancy may be a result of changes in diet and oral hygiene [4]. Frequent snacking increases the risk of developing dental caries, which is caused by plaque, a sticky film of bacteria that forms constantly on teeth. Diet plays an important role for the overall health of a pregnant woman and the developing embryo. Dietician plays a major role in providing diet counseling and designing the diet plan fulfilling the nutritive requirements of the expecting mother.

The perinatal period is an opportune time to educate and perform dental treatment on expectant mothers [5]. It offers an opportunity to educate women regarding oral health by providing a "teachable moment" in self-care and future child-care [6]. Early intervention and counseling during the perinatal period from all health care providers are essential to ensure good oral health for the mother and infant [7]. Hence this review discusses the collaborative care that needs to be taken by the gynecologists, dentists and dieticians in providing comprehensive oral health care.

#### ROLE OF GYNECOLOGISTS AND OBSTETRICIANS

It has been recognized that oral health plays an important role in overall health, well being and quality of life of the expecting mother and the future child. Recent studies have reported associations between oral diseases, particularly periodontal disease, and an increased risk for poor birth and pregnancy outcomes such as preterm birth, low birth weight, and gestational diabetes [8,9,10]. In the literature it has been shown that uptake of oral health care services among the antenatal mothers has been unsatisfactory [11,12]. In a study done by Shenoy R and co-workers in India, only 23.5% of pregnant women who had dental pain visited the dentist for treatment [13].

## **Prenatal counseling**

The goal of every pregnant woman and her doctor is the birth of a healthy baby. The pregnant woman should be made aware of the implications of oral diseases and adverse pregnancy outcomes and the preventive measures that can be taken to deter them. It has been found that a failure to communicate oral health information has been shown to significantly reduce the likelihood that a pregnant woman will seek dental care<sup>[14]</sup>.

## **Anticipatory guidance**

The expecting mother should be advised to maintain good oral health by using fluoridated toothpastes, flossing to dislodge food particles and reduce bacterial plaque level, which is to be followed by rinsing with an alcohol free mouth wash containing 0.05% sodium fluoride once a day or 0.02% sodium fluoride rinse twice a day<sup>[15]</sup>. Modification of the mother's oral hygiene can have a significant effect on the *Mutans Streptococci* (MS) levels and correspondingly the infant's caries rate<sup>[16,17,18,19]</sup>.

## **Oral examination and referral to the dentist**

The evaluation of oral health status should be done by clinical oral examination so as to check for any dental problem and if required the patient is to be referred to the dentist for further treatment.

## **ROLE OF DENTISTS**

Physiologic changes during pregnancy may result in noticeable changes in the oral cavity<sup>[5,6, 20]</sup>. These changes include pregnancy gingivitis, benign oral gingival lesions, tooth mobility, tooth erosion, dental caries, and periodontitis. Before a woman gets pregnant she should visit a dentist so that the careful examination and treatment of oral problems can be done in advance of pregnancy. Dentists often hesitate to provide care to pregnant woman because they have misperceptions about the safety of providing dental care during the perinatal period. Necessary treatment can be provided throughout pregnancy; however the second trimester is the best time to provide treatment as in first trimester organogenesis takes place and in third trimester there is positional discomfort and the risk of compression of the venacava<sup>[21]</sup>. Some common oral problems during pregnancy and their treatment are as follows:

### **Preventive measures**

Every pregnant woman should be assessed for dental hygiene habit. If the expecting mother has no oral problems, then she should be advised for maintaining good oral hygiene, topical fluoride application, consumption of healthy food and regular dental checkups should be done to avoid any future oral problems at early stage.

### **Diagnosis**

Proper diagnosis is very important before starting any treatment. Dental radiograph can be taken during pregnancy for emergency purposes with the use of lead aprons and thyroid shields, collimators, E-speed films. Moreover, avoidance of retakes will reduce the risk of radiation exposure.

### **Dental caries**

Dental caries is a common chronic infectious transmissible disease resulting from tooth-adherent specific bacteria, primarily MS, that metabolize sugars to produce acid which, over time, demineralizes tooth structure<sup>[22]</sup>. Due to various hormonal changes, craving of consuming snacks with more amount of sugar and decrease attention to perinatal oral health maintenance by the pregnant woman are the reasons for being more susceptible to caries. Over 74.0% of pregnant women had caries compared to non-pregnant woman<sup>[23]</sup>. Caries can be treated by choosing appropriate restorative materials like dental amalgam, composite or glass ionomer cement, etc. In amalgam due to release of mercury as vapour that can possibly be ingested or inhaled so it is not much preferred in pregnant woman. But there is no published evidence that amalgam exposure during pregnancy have deleterious effect such as spontaneous abortions or birth defects<sup>[24]</sup>. In a longitudinal evaluation of filling materials on caries-active expectant mothers, it was concluded that highly viscous glass ionomer cement can be a material of choice in minimally invasive cavity preparations and composite restorations can be used for anterior teeth<sup>[25]</sup>.

### **Pregnancy gingivitis**

During pregnancy, gingivitis is a common oral disease due to increased hormonal level, alteration in oral flora and decreased reduced immune response<sup>[26]</sup>. Over 86.2% pregnant woman had gingivitis<sup>[23]</sup>. Taking proper oral hygiene measures like tooth brushing, flossing and using mouthwash would minimize the severity of gingivitis and that should be deeply instilled in expecting mothers mind.

## **Tooth erosion**

Tooth erosion is a common problem which occurs during pregnancy. Morning sickness and frequent vomiting are common which increases the amount gastric acid in oral cavity which leads to erosion of teeth. Tooth erosion can be prevented by rinsing the mouth with fluoridated mouthwash or mixing baking soda with water or applying tooth mousse on the teeth to neutralize the acid content. Expectant mother should be counselled not to brush their teeth immediately after vomiting. They should also be instructed to use soft or super soft (paediatric) tooth brush to avoid further damage to the gastric acid exposed enamel<sup>[21]</sup>.

## **Tooth mobility**

Tooth mobility is highest during the last month of pregnancy. Increase of mobility during pregnancy is apparently caused by alterations of the periodontal membrane and not of the alveolar socket bone<sup>[27]</sup>. In such instances; the dentist can assure the patients that it is a transient condition and would return to normal soon after delivery<sup>[5]</sup>.

## **Periodontitis**

Periodontitis is a destructive inflammation of the periodontium affecting approximately 30% of women of childbearing age this occurs due to hormonal changes<sup>[28]</sup>. Periodontitis is managed by early diagnosis and deep root scaling. Recent studies have reported no harm to the mother or fetus from treatment of maternal periodontal conditions<sup>[5]</sup>. It has been found that with deep root scaling, patient education, regular plaque removal, and routine chlorhexidine rinses, a risk reduction of 0.18 in the incidence of preterm low birth weight is seen<sup>[29]</sup>.

## **Pregnancy tumor**

Pregnancy oral tumor occurs in up to 5% of pregnancies and is indistinguishable from pyogenic granuloma<sup>[5]</sup>. Increased hormone (progesterone) levels along with bacteria and local irritants (calculus) are the major reason for such a growth to occur<sup>[21]</sup>. Lesions are typically erythematous, smooth, and lobulated; they are located primarily on the gingiva. The tongue, palate or buccal mucosa may also be involved. Pregnancy tumors are most common after the first trimester, grow rapidly, and typically recede after delivery<sup>[30]</sup>. If they do not recede then they should be surgically removed.

## **ROLE OF DIETICIANS**

Diet of an expecting mother is of great importance for better health of both mother and the future child. Diet plays a key role in the physical growth and development of the child. Inappropriate diet may lead to many complications during pregnancy and at the time of birth of child. To avoid such complications proper diet counseling and planning is very essential.

### **Diet counseling and planning**

It is critical that an adequate amount of nutrients and energy is consumed. The frequent consumption of nutritious foods helps prevent nausea, vomiting, and cramps. Intake of foods rich in folic acid, such as oranges and dark green leafy vegetables helps prevent neural tube birth defects in the baby. Consuming foods rich in iron such as lean red meat and beans help prevent anemia and ensure adequate oxygen for the baby. Taking prenatal vitamins ensures a healthy baby. Vitamins include folic acid, iodine, iron, vitamin A, vitamin D, zinc and calcium<sup>[31]</sup>. Excessive amounts of alcohol have been proven to cause fetal alcohol syndrome. The World Health Organization recommends that alcohol should be avoided entirely during pregnancy.

In a study done by Hook E. regarding dietary cravings during pregnancy it has been found that 66.4% women reported cravings for chocolates, ice creams, cookies, candies and sweets<sup>[32]</sup>. All these food items are cariogenic. Dietary modifications are required to prevent caries. Improving the diet of an expecting mother means not only a healthier baby, but long-term health benefits for the mother as well.

## **CONCLUSION**

Oral health and systemic health are interlinked. A collaborative effort by gynecologist, dentist and dietician will lead to provision of comprehensive oral care by means of timely preventing as well as curing dental diseases benefitting the overall health of pregnant woman and her future child. (Figure 1)

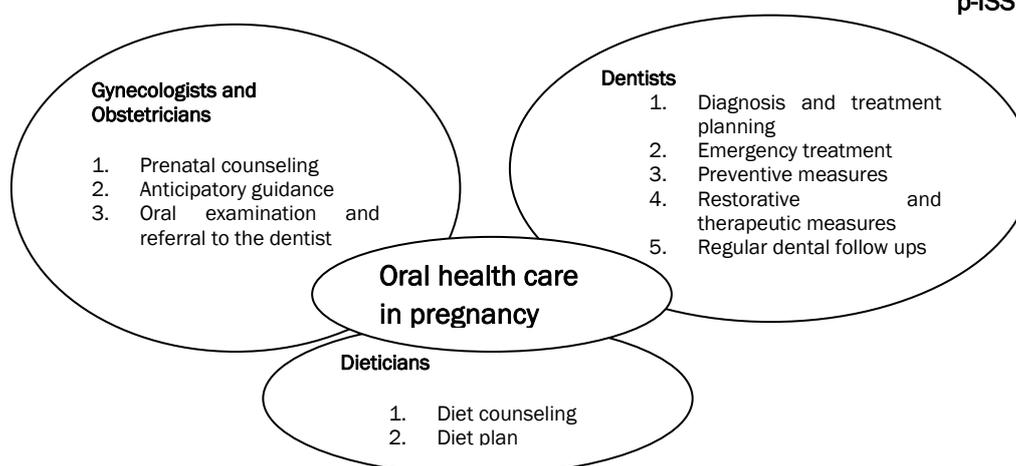


Figure 1: Collaborative effort of health care professionals in delivering oral care in pregnancy.

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