International Journal of Science and Research (IJSR)
ISSN (Online): 2319-7064
Index Copernicus Value (2016): 79.57 | Impact Factor (2017): 7.296

Awareness among Pregnant Patients about Endodontic Treatment

Teertha Shetty, Kimaya Havle

Abstract: ***Pregnancy is a major event in a woman's life. It is a time where the human female body undergoes many physical, psychological and physiological changes. With continuous fluctuations in the hormone levels the body is under constant changes. As we know the oral cavity is the mirror and one of the first mediums which reflects the alterations taking place. The pregnant mother is more susceptible to diseases of the oral cavity in such a condition, special care must be taken to away from any infection which may affect the health of the mother and the developing foetus. As pregnancy is a delicate phase the patients are usually apprehensive of undergoing any sort of treatment not directly related to the pregnancy. Thus it is of utmost importance to first understand the views of the patients regarding pregnant patients regarding oral health care during pregnancy. The aim of this study was to help in evaluating the behaviour, attitude and knowledge among pregnant patients about endodontic treatment and interpret the degree of awareness. A thorough knowledge of the views of pregnant patients regarding oral healthcare and treatments will help is assessing the need to bring about awareness among population and clear misconceptions associated with it. Oral and dental problems have a higher prevalence but are also easily preventable. Awareness among the population gives better opportunities to provide healthcare facilities which will potentially reduce the complications faced by gestating mothers. A survey was conducted in the outpatient department for the Department of Gynaecology of Krishna Institute of Medical sciences to evaluate the degree of awareness among the population and the results were analysed.***

Keywords: Pregnancy, Endodontic treatment

1. Introduction

The female human body goes through many physical transitions during pregnancy. Pregnancy is a major event in any woman's life and is associated with physiological changes affecting especially the endocrine, cardiovascular and haematological systems, and often attitude, mood or behavior.[1] Pregnant women are particularly susceptible to gingival and periodontal disease. In this context, different oral lesions are reported to be common during pregnancy. In effect, an increased prevalence of dental alterations have also been documented, including particularly caries and erosions.[2] The biochemical and hormonal changes of pregnancy enhance the risk.

Since the old wives' tale of "the loss of a tooth for every pregnancy," oral health during pregnancy has long been a focus of interest.[3] Pregnancy is characterized by complex physical and physiological changes that have significant impact on almost every organ system of the body, including the oral cavity. Hormonal, immunologic, dietary, and behavioural changes associated with pregnancy are believed to be the contributing factors. Increased levels of sex hormones, oestrogen and progesterone, are related to increased permeability of oral vasculatures and decreased host immunocompetency. This would then increase the tendency and severity of oral inflammation in reaction to bacterial, physical and chemical irritations[4,5,6].

Changes in the oral cavity during pregnancy, particularly those involving the periodontium, have been well documented.[7,8] As pregnancy is a delicate condition, the pregnant mother is most of the times apprehensive of taking any sort of treatment not directly related to her pregnancy. The pregnant mother is more susceptible to diseases of the oral cavity in such a condition, special care must be taken to away from any infection which may affect the health of the mother and the developing foetus. Oral changes due to the complex physiologic alterations occurring in pregnancy are believed to be related to fluctuations in levels of oestrogen and progesterone, leading to an increase in oral vasculature permeability and a decrease in host immune competence, thereby increasing susceptibility to oral infections.[9]

The purpose of this study is to better understand the views of pregnant patients regarding oral health care during pregnancy. This study will help in evaluating the behaviour, attitude and knowledge among pregnant patients about endodontic treatment and interpret the degree of awareness. Reduced risks of adverse outcomes due to utilization of oral health care facilities have been documented in many intervention studies. Several reasons had been cited as barriers to seeking oral health care services among antenatal mothers. These include fear and anxiety of the treatment, low perception for dental problems and treatment, and misconception regarding effects of dental treatment on the developing foetus.[10,11,12]

A thorough knowledge of the views of pregnant patients regarding oral healthcare and treatments will help is assessing the need to bring about awareness among population and clear misconceptions associated with it. Oral and dental problems have a higher prevalence but are also easily preventable. Awareness among the population will give better opportunities to provide healthcare facilities which will potentially reduce the complications faced by gestating mothers.

2. Materials and Methods

The reference population for this study were the antenatal mothers visiting the Gynaecology Department of KIMSDU of KARAD area in District Satara of Maharashtra State, India.

Patients reporting to Department of Gynaecology were selected at random for the study. The questionnaire based study was conducted after due approval by the ethical

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committee. The questions asked were divided to assess the attitude, knowledge and behaviour regarding prenatal health care which were framed from reference articles and studies.

Sample sizes of 500 pregnant women were selected. The patients were guaranteed that the purpose of the study was to better understand the perception of pregnant patients towards oral healthcare during pregnancy and to evaluate the degree of awareness and that the information collected will remain confidential. All the patients who were approached, willing participated in the study with a response rate of 100%.

The questionnaire was framed in the local language of Marathi, to better communicate with the patients. Each question was explained to get a clear view of the patient. As the questions were asked many doubts were answered regarding the various norms to be followed during pregnancy.A structured, self-administeredquestionnaire was used in gathering information. Inclusion criteria: Pregnant patients in any of the trimesters of pregnancy visiting the outpatient department. The sample size included patients between the age groups of 18-32 with an average age of 22 years.

The results of the study were calculated using ANNOVA test.

3. Results

All the patients approached to participate in the study were willing to give their views and opinion without refusal from any patient. Most of the patients participating were in the 2nd and 3rd trimester of their pregnancy.None of the patients participating in the survey had received any sort of prior education.

Attitude towards dental treatment during pregnancy

- 66.8% felt that dental treatment should be a part of routine check-up while 33.2% felt oral check-up need not be given priority during pregnancy.
- 45.8% felt that poor oral health may lead to premature birth while 54.2%felt that it does not affect the delivery of the child.
- 67.2% were of the opinion that undergoing endodontic treatment will be an emotional experience, while 32.8% felt that they will not be emotionally stressed.

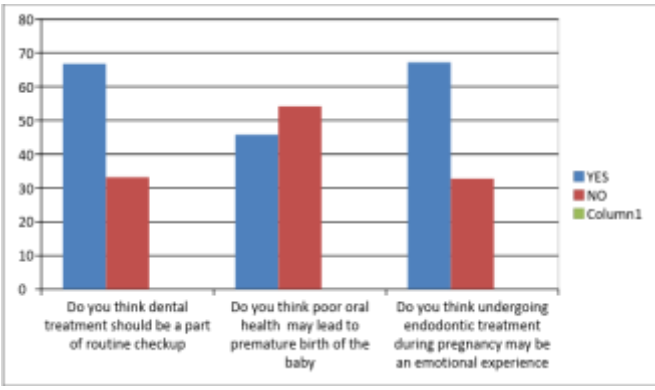


Figure 1: Attitude towards dental treatment during pregnancy

Perception of pregnant patients regarding dental treatment

- 64.8% felt that endodontic treatment during pregnancy is unsafe. While 35.2% felt that there is no harm in undergoing treatment.
- 59.6% were of the opinion that dental treatment can be done during pregnancy while 40.8% disagreed with this.
- 65.2% felt that dental treatment may harm the foetus, while 34.8 felt that there is no danger to the foetus.
- 83.6% felt that education about root canal treatment is required for future awareness among pregnant patients.

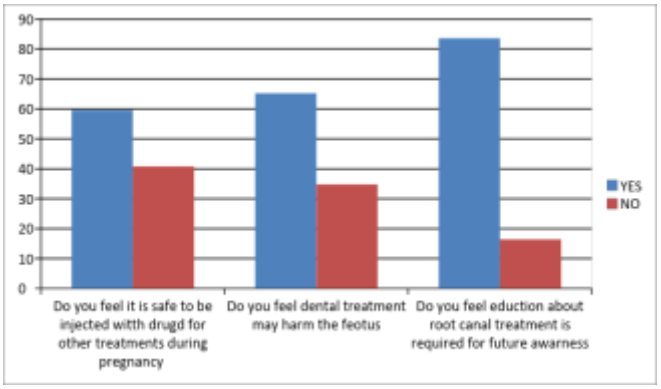


Figure 2: Graphical representation showing perception of pregnant patients regarding dental treatment.

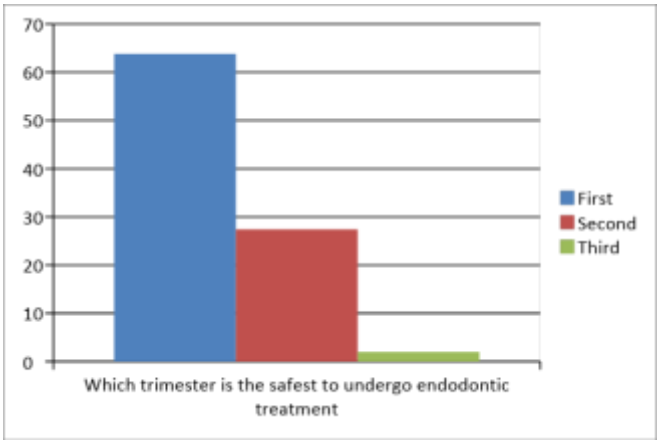


Figure 3: Graphical representation showing safest month to undergo endodontic treatment according to pregnant patients

Knowledge regarding endodontic treatment

- 63.8% felt that first trimester is the safest, 27.4 felt that second trimester is safest and 9.2% felt that trimester is the safest to undergo any dental treatment.
- 58.2% were of the opinion it is safe to get injected with local anaesthesia during pregnancy while 42.8% were of the opinion it is unsafe.
- 68.4% felt that it is unsafe to take any kind of medication.
- 58.6 %were aware of the position to sit on the dental chair during pregnancy while 41.4 %were not aware of the different positions to sit in during pregnancy.

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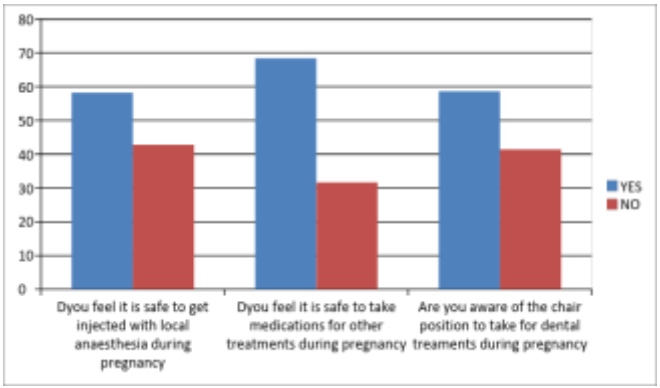


Figure 4: Graphical representation showing Knowledge among pregnant patients regarding endodontic treatment.

4. Discussion

The secretion of the female sex hormones oestrogen and progesterone increase by 10 fold for the normal progression of pregnancy.This storm of hormones causes many physiological and psychological changesin the expectant mother and the oral cavity is no exception. Pregnancy is a sensitive period with physiologic changes that influence the formation of a new life, Special care and precautions must be taken to safeguard the health of the antennal mother and the foetus. Prenatal health is very much influenced by maternal oral health, and hence consistent and timely dental care is mandatory in a pregnant patient[13]. The purpose of this study was to evaluate the degree of awareness and barriers present in seeking oral health care by gestating mothers. Several reasons had been cited as barriers to seeking oral health care services among antenatal mothers. These include fear and anxiety of the treatment, low perception for dental problems and treatment, and misconception regarding effects of dental treatment on the developing foetus.[10,11,12] .Majority of the population were of the opinion that dental treatment must be made a part of routine treatment. The oral cavity is a mirror of the general health of the human body. Any physiological changes taking place can easily be diagnosed in the oral cavity. Preterm birth, delivery at less than 37 weeks' gestation, occurs in approximately 12% of all births.[18,19] Prematurity is the leading cause of neonatal morbidity and mortality in non-anomalous infants.[14] Logistic regression indicated that mothers with 'healthy gingiva' were at lower risk for low birth weight infants.[15] The motive of this study was to understand the views of pregnant mothers regarding endodontic treatment, most of the mothers approached were of the view that it is unsafe to undergo treatment during pregnancy. Oral hygiene habits, oral problems such as dental caries and gingivitis and the access to oral care should be assessed for every pregnant women.[16] Most of the mothers felt that dental treatment can be performed during pregnancy.The mothers health directly affects it's child. The expecting mother is asked to take special care during the 9 months as any physical or mental trauma has an impact on the growing foetus. Similarly participants of this study felt that endodontic treatment may cause trauma to the foetus. During the first trimester, it is recommended that the patients be scheduled to assess their current dental health, to inform them of the changes that they should expect during their pregnancies, and to discuss on how to avoid maternal dental problems that may arise from these changes. It is not recommended that the procedures may be done at this time. The concern about doing procedures during the first trimester is twofold. First, the developing child is at a greatest risk which is posed by teratogens during organogenesis, and second, during the first trimester, it is known that as many as one in five pregnancies undergo spontaneous abortions[17,18].By the second trimester, the organogenesis is complete, and the risk to the foetus is low. The mother has also had time to adjust to her pregnancy, and the foetus has not grown to a potentially uncomfortable size that would make it difficult for the mother to remain still for long periods.[18,19] Participants of this study felt that the first trimester is the safest followed by the second and then third. Local anaesthetics are relatively safe when administered properly and in the correct amount during pregnancy [20].The quantity of anaesthetic agent administered could bea probable cause for concern among endodontists. Thismay be because of the uncertainty of the initial dose administered being ineffective in achieving anaesthesia, thus requiring an additional anaesthetic agent to make the patientfeel more comfortable. Pain incurred during treatment may induce stress which could be more damaging to the foetusthan the effect (s) of additional quantities of anaestheticagent. Most anaesthetic agents contain the vasoconstrictorepinephrine which is a category C drug. This drug hasbeen studied in amount of up to 0.1 mg added to local anaesthetics. No unusual side effects or complications were reported following its use for epidural anaesthesia during labor.[21] More than half of the mothers felt that getting injected could be unsafe for the child. Another concern is the prescribing and administration of drugs. The most obvious concern is that the drug will cross the placental barrier and cause teratogenic effects to the foetus. The majority of the other commonly prescribed analgesics are in pregnancy risk category C. It should be remembered that although category C drugs are generally safe, information from well-controlled human studies is not available. Therefore, prescriptions for these drugs should specify the most effective therapeutic dose for the shortest time. Ibuprofen is a category B analgesic in the first and second trimesters, but it is a category D drug during the third trimester because it has been associated with lower levels of amniotic fluid, premature closure of the foetal ductus arteriosus and inhibition of labour that it is unsafe to take any medication without prior consultation from their doctors and every patient must give a detailed history to the dentist while taking prescription for drugs for dental treatments. The positioning of the pregnant patients is important, especially during the third trimester. As the uterus expands with the growing foetus and the placenta, it comes to lie directly over the inferior vena cava, the femoral vessels, and the aorta. If the mother is positioned supine for the procedures, the weight of the gravid uterus could apply enough pressure to impede a blood flow through these major vessels and to cause a condition which is called supine hypotension. In this condition, the blood pressure drops secondary to the impeded blood flow, which causes a syncopal or a near-syncopal episode. This situation is easily remedied by a proper positioning of the patient on her left side and elevating the head of the chair, to avoid compression of the major blood vessels[18,19]. The knowledge about the chair position for dental treatments was divided, close to 50% of

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the population were aware that care must be taken in the manner in which one sits on the dental chair during pregnancy and that it affects the growing foetus. The 9 months of pregnancy are an emotional journey that the mother goes through. The gestating mother is mentally fragile and goes through many fluctuations in moods and feeling. Most of the mothers felt going through endodontic treatment during such times could be an overwhelming experience and mentally hamper the patient. The general view of the patients were that increase in education regarding awareness about the this issue will encouraged as the there are many doubts which will be cleared through public education and better help in bringing about a change in the attitude, knowledge and behaviour of pregnant patients towards endodontic treatment.

5. Conclusion

Promoting preventive healthcare and healthy behaviours with antenatal care has long been endorsed to promote and improve pregnancy outcomes. Prenatal oral health counselling for parents is an important factor because infant oral health begins at this stage. The main goal is to create awareness among the expectant mothers about the importance of prevention of dental disease by means of oral prophylaxis and restoring carious teeth. These procedures will decrease the micro-organisms in the oral cavity of the mother thereby reducing transmission to the child.[22]

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