ORIGINAL RESEARCH

Oral Health Coalition: Knowledge, Attitude, Practice Behaviours among Gynaecologists and Dental Practitioners

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ABSTRACT

Objectives: Every expectant mother should receive a comprehensive oral health education & risk assessment. Numerous reports have shown association between oral diseases and preterm, low birth weight and gestational diabetes. The purpose of this study is to understand the attitude, knowledge regarding prenatal and perinatal oral health care among obstetricians and knowledge, attitude & practice skills of dental professionals.

Materials and Methods: The study involved a survey of 36 each gynaecologists and general dental practitioners. The pre tested questionnaire on oral health for expectant mothers was used to collect data related. The data collected was subjected to statistical analysis using frequency of responses and standard deviation.

Results: Analysis of data demonstrated that 98% of general dental practitioners felt that delay in dental treatment effect both the mother and the child. 85.7% ($p>0.05$) of gynaecologist never examined the oral cavity of the patient during routine checkup.

Conclusion: The findings of this survey with dentists and gynaecologists showed that dental management during pregnancy still presents some deviations from scientific literature recommendations, indicating the need to update these health care professionals in order to establish guidelines for prenatal dental care.

Keywords: pregnancy, knowledge, barrier, general dental practitioners, oral health.

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Introduction

Most women do not access oral health care during pregnancy despite evidence that poor oral health can have an adverse impact on the health of a pregnant woman and her child.

During the past few years, there has been increasing interest in the oral health of pregnant patients. One reason is the reported association between maternal periodontal infection during pregnancy and obstetric complications including preeclampsia and premature birth.[1] A second reason for interest in oral health and pregnancy is a concern for women's health as a goal in itself. Even among healthy women, the physiological changes that accompany pregnancy can lead to gingivitis, periodontitis and benign lesions (pregnancy tumors). Hormonal changes, along

with modifications in diet and frequency of eating can increase the risk of developing tooth decay.[1,2]

The purpose of this study is to evaluate the knowledge, attitude, practice behaviors and barriers regarding prenatal oral health care among gynecologists and general dental practitioners.

Materials & Methods

We used simple randomized sampling method to survey general dentists and gynecologists in Bangalore city. We personally visited all respondents to be get filled the pre tested questionnaire based on Lickert's scale and which was analyzed qualitatively using SPSS Version 10.0. The survey included 40 questions for general dentists and 20 questions for gynecologists developed by the study teams (staff members of KLES dental sciences Bangalore) and from previous studies published in various journals.

In the survey, we asked for demographic information about all participants, and Knowledge, attitude, practice behaviours (KAP) about preventive care, routine and emergency treatment, and prescribing medications to pregnant patients.

For dentist to differentiate knowledge from attitude & current practice, we asked 3 sets of questions about eight routine procedures: performing scaling and root planing, obtaining a single periapical radiograph, obtaining full-mouth radiographs, performing a single tooth extraction, performing endodontic therapy, placing resin based composite restorations, administering local anesthetic injections and type of LA used. Questions are also asked how often dentists prescribed or recommended pharmaceuticals to patients to control pain or treat infection. We asked specifically about paracetamol, ibuprofen, nimesulide, aspirin nonsteroidal anti-inflammatory drugs (NSAIDs) and specific antibiotic agents such as doxycycline, penicillin, ciprofloxacin, and metronidazole. We asked 10 questions to determine dentists knowledge such as delaying the necessary treatment could result in harm to mother & indirectly to the foetus, untreated oral disease can compromise on nutritional intake of mother, periodontal disease can cause preterm birth, low birth weight, gestation diabetes, fluctuating hormonal changes may increase susceptibility to oral infections such as periodontal diseases, hormonal changes hinder the body's ability to repair & maintain soft tissues in the oral cavity, untreated pregnancy gingivitis can lead to periodontitis, dental treatment can be delivered safely at any time during pregnancy, ideal time to provide routine preventive dental care for pregnant woman, elective restorative treatment should be delayed until delivery, Pregnant women should receive only emergency dental care.

Finally we asked 11 additional questions to determine dentist attitude such as Dental treatment should be the part of prenatal care, Pregnant women are more likely to seek dental care if their gynecologist recommend, gynecologists are better than dentist to counsel & convince the patient regarding oral health care during prenatal period, practice is too busy to counsel pregnant patient, worth their time to counsel pregnant patient about the affect of oral disease, skills for prenatal oral health counseling, Cost factor for patient is a barrier for counseling, concerned about being used if something goes wrong during pregnancy, their interest in receiving patient ducation materials or receiving CDE and talking skills on prenatal health.

Similarly questions are divided into KAP for gynecologist, 9 questions about knowledge such as oral health as a part of prenatal care, comprehensive periodontal evaluation carried out by a dental surgeon, irritation of the smooth muscles of uterus from immunoinflammatory reactions of periodontal tissue, preeclampsia, rupture of chorioamniotic membrane, premature

Table 1: Gynaecologists' oral health knowledge and attitude			
Variables	**Agree (%)**	**Not sure (%)**	**Disagree (%)**
Oral health as a part of prenatal care	94.4	4.16	1.38
Periodic oral examination on regular basis	59.25	17.59	22.22
If patient mention a problem, professional examine the oral cavity	75	5.55	19.44
Knowledge about negative effect of active periodontitis on birth outcomes like pre ecclampsia, irritation to smooth muscles of uterus and premature delivery	59.44	33.88	6.67
New found eating habits and increase risk to dental caries and periodontal diseases	83.33	16.67	
Increase in periodontal diseases with increase maternal age	47.22	50	2.77
Importance of oral health and referral of pregnant women to dental resources	70.83	13.88	5.27

delivery, due to periodontal infections, periodontal disease tend to increase with the increased maternal child bearing age and eating habits decrease the pH in oral cavity due to indigestion & morning sickness that can increase a pregnant woman's risk for dental caries and periodontal disease. [3] questions about attitude such as obstetricians are often the first health professionals to consult by expectant parents, and whether they are looking in to the patients mouth at the first visit for early signs of inflammation and finally 3 questions regarding practice where they are looking into patients mouth regular basis or only after patients complaint and referrals for oral screening during pregnancy.

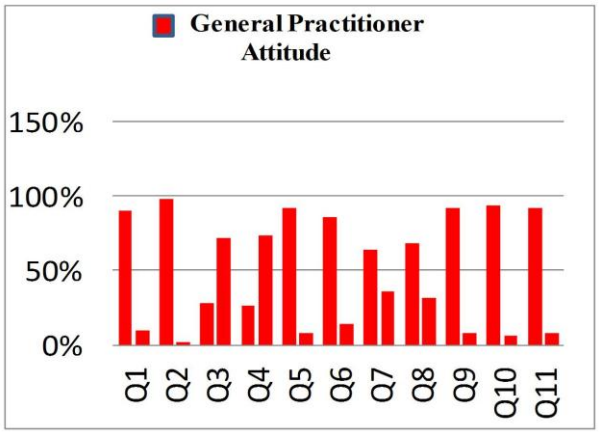
In our survey we examined 4 perceived barriers to provide care such as lack of knowledge, time or demand for service and legal risk associated with negative out comes with all respondents.

Results

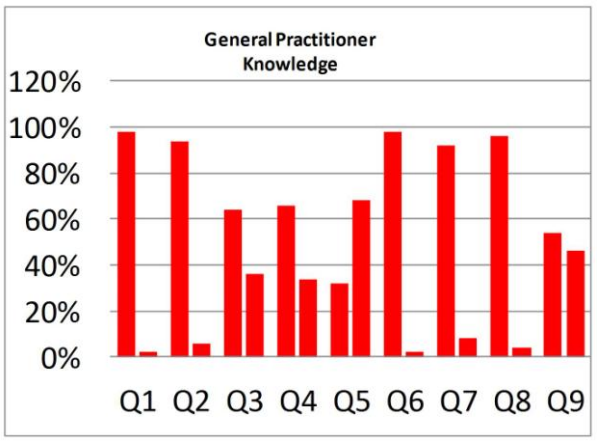
The gynaecologists' knowledge of the possible association between pregnancy outcomes and oral health was recorded (Table – 1). We found that gynaecologists' with lack of knowledge and time regarding outcomes of poor oral health (38.8%, 27.7%) respectively were less likely to refer for comprehensive oral care services for pregnant patients. (Table – 2). 85.7% ($p>0.05$) of gynecologist never examined the oral cavity of the patient during routine checkup. Findings suggest that attitudes are significant determinant of accurate

Table 2: Barriers among Gynaecologists for inappropriate oral health care of pregnant patients			
Variables	**Always (%)**	**Sometimes (%)**	**Never (%)**
Lack of knowledge regarding outcomes of poor oral health	38.8	55.5	55.5
Limited access to oral health care professionals	30.55	52.5	16.66
Lack of time for prenatal oral health counselling	27.77	55.55	16.66
Lack of demand for service	38.88	55.55	5.55

knowledge and current practice. The knowledge of appropriateness among gynecologist, general dental practitioners in prenatal dental sciences is



Graph 1a: General Dental Practitoners' Attitudes



Graph 1b: General Dental Practitoners' Knowledge

of the same level.

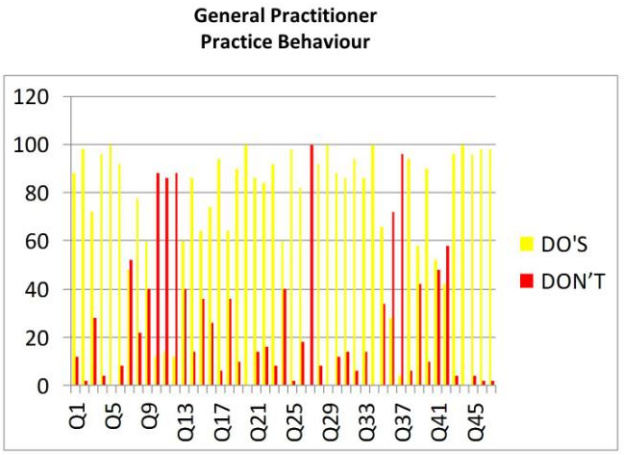
The general dentists' attitudes knowledge and practice behaviours were recorded. (Table – 3 and Graph - 1a, b, c). Analysis of data demonstrated that 98% of general dentists felt that delay in dental treatment effect both the mother and the child).

As to the indication of analgesics, paracetamol was the first choice of 52.77% general dentists. Nearly all professionals 88.8% contraindicated the use of aspirin during pregnancy. Regarding the prescription of antibiotics, Penicillin was selected as the first choice antibiotics drug by 58.33% dental professionals. Altogether 80.5% considered that previous consultation with patient's obstetrician was necessary. (Table – 4).

A total of 39% of general dentists cited limited knowledge on prenatal oral health care and 30.5% reported the legal risk associated with negative birth outcomes as a barrier for inappropriate oral health care of pregnant patients. (Table - 5)

Discussion

The level of obstetricians' and general dentists' awareness regarding the potential association



Graph 1c: General Dental Practitoners' Behaviours

between oral health and pregnancy outcomes may be drawn from our survey. The physical factors like hormonal and immunologic changes during the pregnancy increases susceptibility to oral infections including periodontal disease. Of all the periodontal changes, the ones most well written about is pregnancy gingivitis and pregnancy epulis (alternate names – pregnancy tumour, epulis gravidarum, pregnancy granuloma).[3] Epidemiological studies show the prevalence of pregnancy gingivitis ranging from 35% to 100%.[4] Adverse pregnancy outcomes include premature labour, low birth weight rarely leading to miscarriage.[5,6] Evidence of how periodontal disease affects birth outcomes and pregnant women's health still is not completely established.

Table 3: Dental Care during Pregnancy: General Dental Practitioners' Knowledge, Attitude, Practice Behaviours and Barriers		
Knowledge	**Score**	**Level of Significance**
Periodontal disease can cause preterm birth, low birth weight & gestation diabetes	66%	P = 0.05
Hormonal changes hinders the body ability for repair of soft tissue	92%	P = 0.05
Attitude		
Dental treatment can be delivered safely at any time during pregnancy	54%	P = 0.05
Gynecologists should refer the pregnant patient to dentist on observing any oral clinical findings	28%	P = 0.05
Practice Behaviours		
Timing of routine care and emergency treatment- IInd Trimester	64.7%	P = 0.05
Need for CDE program	92%	P = 0.05
Barriers		
Cost factor is a barrier for counseling.	26.4%	P = 0.05
Felt that they might be sued.	68%	P = 0.05

Table 4: Report of prescription and recommendation of pharmaceuticals for pregnant patients			
Drug Name	**Always (%)**	**Sometimes (%)**	**Never (%)**
Paracetamol	52.77	44.44	2.77
Ibuprofen	8.33	50	41.66
Aspirin	2.77	8.33	88.88
Doxycycline	5.77	55.55	39
Penicillin	58.33	30.55	11.11
Metronidazole	5.77	47.22	42.77
Consult a gynaecologist before prescribing any drug	80.55	19.44	0

Table 5: Perceived barriers by general dental practitioners' for inappropriate oral health care of pregnant patients			
Variables	**Always (%)**	**Sometimes (%)**	**Never (%)**
Lack of knowledge on prenatal oral health	39	44.44	16.66
Lack of time for counselling	22.22	58.33	19.44
Lack of demand for the service	63.88	25	11.11
Legal risk associated with negative birth outcomes	30.55	52.77	16.66

It has been demonstrated that the induction of high levels of prostaglandins by periodontal infection would disrupts the hormonal homeostasis.[1]

Overall, the knowledge scores in the present survey reflected general dental practioners' familiarity with various pregnancy related oral health topics which is in accordance to previous studies.[7] However in contrary to this, gynaecologists' agreed that oral screening should be the part of prenatal care, rarely they refer the pregnant patients to dental care. The previous studies demonstrate that dental care is only indicated in the presence of patient's complaint. This can be attributed to difficulties such as high cost and difficult access to the treatment; cultural beliefs that dental care would pose risk to the baby and thus impair the search for care.[1]

The respondents in our study reported that lack of knowledge and time for prenatal oral health counselling created barriers to provide dental care to pregnant patient as reported previously. In addition to lack of practice standards, barriers to dental care during pregnancy include persistent myths about the effect of pregnancy on dental health and concerns for fetal safety during dental treatment. This may be due to inadequate information and training about prenatal and infant oral health.[1, 8] Despite many concerns, most dentists agreed that it is important to counsel pregnant woman about the risk of adverse outcome due to periodontal disease and transmission of oral bacteria to their children.

Appropriate dental care and prevention during pregnancy may reduce poor prenatal outcomes and decrease infant caries. The oral lesions, such as gingivitis and pregnancy tumors are benign and require only reassurance and monitoring. Dental procedures such as diagnostic procedure, periodontal treatment, restorations and extractions are safe and are best performed during the second trimester when the organogenesis is complete.[9, 10] Dental radiographs are safe at any time during pregnancy as long as the dental team follows basic guidelines of radiation exposure. Emergency dental care can be performed at any gestational age. The third trimester presents the additional problems of positional discomfort and the risk of vena caval compression. These conditions can be resolved by propping the woman on the left side to move the uterus off the vena cava and placing a pillow under the patient's right hip.[11]

The FDA classifies drugs into four categories (A-D) of safety for use during pregnancy.[11] The majority of drugs belong in category C or B . Paracetamol is classified under Category B (No evidence of risk in humans; animal studies show risk but human findings do not; or animal findings are negative and no adequate human studies have been performed), Ibuprofen in B, D (Positive evidence of risk; investigational or post-marketing data show risk to fetus; however, potential benefits may outweigh risks (as with some anticonvulsive medications), hence it should be avoided in first and third trimester and used only for 24 – 72 hours. Aspirin is categorized under group C (Human studies are lacking and animal studies are either lacking or test positive for fetal risk; however, potential benefits may justify the risk). For the antibiotics usually prescribed by the dental professionals, Penicillin is Category B, Doxycycline and Metronidazole are under risk category D. Metronidazole should be used with caution in first trimester. Most dental professionals were insecure to prescribe the systemic drugs and referred the patients to obstetricians before any routine intervention.

To increase the awareness of the importance of prenatal oral health care services during pregnancy we proposed the constructive team comprised of gynaecologists and dental practitioners. The dental professional plays a

crucial role in infant oral health care and thus in parental and prenatal counselling. The prenatal care team can be very influential in encouraging women to maintain a high level of oral hygiene, to visit an oral health professional, and to promote completion of all needed treatment during the pregnancy.

Encourage the patient to seek professional dental care prior to become pregnant and at least once a trimester during pregnancy. Preventive measures such as frequent updating of medical records, consulting with her obstetrician, reinforcing oral hygiene behaviours may reduce the risk of dental emergencies during pregnancy. Strategies to change the perceptions of health care professionals include dental health education to be integrated into prenatal health care professionals. Moreover, updating health curricula and continuing education courses, training health care and to make appropriate referrals and promoting interdisciplinary training in counseling patients about how to reduce risk factors common to oral and general health.

Conclusion and Clinical Implication: Oral health professionals need pregnancy specific education to provide appropriate preventive and curative care to pregnant patients. Maternal health care professionals can play a vital role in promoting good oral health by connecting pregnant woman to the source of dental care.

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