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Research Article

### KNOWLEDGE AND PRACTICE OF GYNECOLOGISTS IN RELATION TO DENTAL AND ORAL HEALTHCARE DURING PREGNANCY

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**Abstract:**

**Objective:** To assess the knowledge and practice of gynecologists in relation to dental and oral healthcare during pregnancy.

**Material and methods:** This cross sectional survey was conducted among gynecologists of Lahore and Bahawalpur from 13-08-19 to 21-08-19. Total 200 gynecologists (from private and government hospitals) were selected for this study. A self-structured questionnaire was distributed to all the selected gynecologists and then collected 3-4 days after the first visit. Knowledge and practice of gynecologists in relation to dental and oral healthcare during pregnancy was assessed.

**Results:** In present study, mean age of the gynecologists was 47.25 years. Total 126 (63%) gynecologists were between 41-50 years. Total 86 (43%) having experience >10 years. About 64% gynecologists agreed that pregnancy increases the likelihood of gingival inflammation. 72% reported that their patients come with bleeding gums, small swelling, and tooth mobility during pregnancy. About 27% gynecologists believe that local anesthetic solution containing vasoconstrictor for pregnant patients is safe. Gingival periodontal inflammation can affect the outcome of pregnancy believed by 63% respondents.

**Conclusion:** Results of present study revealed that majority of gynecologists were having good knowledge, attitude and practices but still there is a need for active participation and more involvement of medical specialists like gynecologists and pediatricians, in continuing education programs and forums on dentistry.

**Keywords:** Oral health, low birth weight, pregnancy, gynecologist.

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**INTRODUCTION:**

Physical and psychological changes occur in a woman during pregnancy which includes changes in dental and oral cavity. Cardiovascular and endocrine including respiratory, blood, urinary tract and digestive changes are basic physiological changes. [1-2] A raise in hormones like estrogen and progesterone is a major change. Progression in periodontal disease is due to increase in hormone levels which raises vascular permeability and changes in blood vessel occur. The gingival inflammatory reaction is more critical in the presence of a dental plaque. Gingivitis is reported to have a prevalence of 30–100% during pregnancy. [3] Preeclampsia, low birth-weight or preterm birth. Periodontal diseases have been seen in many studies as a potential cause for low birth weight or premature birth, as well as an increased risk of preeclampsia. [4-5]

Dental decay may be induced by pregnancy. The development of dental decay is based on different variables, such as diet, glucose and acidic compounds (deficiencies during pregnancy) related to the morning sickness. Such problem can be avoided by proper oral hygiene. [6]

Diseases that are infectious can cause fever and thus encourage miscarriage. It is therefore advisable to immediately treat odontogenic infections and periodontitis. Super-scaling and polishing should be carried out where necessary. If necessary. For mothers and fetuses, prevention of plaque growth during pregnancy is significant, in particular in the first half. [7]

Including dental plaque prevention, there should be no specific dental treatment because the baby may be fragile during the first trimester. The second quarter is the best time for dental practice. [8] Gingivitis,

particularly in the second quarter, is the most frequent oral complication in childbirth. [9]

Although radiotherapy is administered in pregnant women according to certain conditions, the possible side effects on the child are always concerned. [10] The sensitivity of pregnant women and their families leads to an unwarranted fear of dental treatments in these people. Lack of sufficient knowledge makes pregnant women concerned about any treatment or care for themselves and their fetal health. In this regard, the role of gynecologists as their doctors is very important because changing this inaccurate attitude is tightly correlated to the knowledge given by the specialist physician to the patients. This requires gynecologists to have enough knowledge of dental and oral changes during pregnancy. [11] Therefore, this study aimed to assess the knowledge and practice of gynecologists in relation to dental and oral healthcare during pregnancy.

**MATERIAL AND METHODS:**

This cross sectional survey was conducted among gynecologists of Lahore and Bahawalpur from 13-08-19 to 21-08-19. Total 200 gynecologists (from private and government hospitals) were selected for this study. A self-structured questionnaire was distributed to all the selected gynecologists and then collected 3–4 days after the first visit. All the gynecologists returned completely filled questionnaires. Demographic profile all the selected gynecologists was entered on proforma. Years in practice was also noted.

This self-structured, closed-ended questionnaire containing 22 questions. The principal investigator approached the gynecologists personally and distributed the questionnaire after obtaining their informed consent. Their confidentiality was assured. Questions are summarized in table below:

Sr.#	Question	Reply
1.	Do you agree pregnancy increases the likelihood of gingival inflammation?	Yes/No
2.	Have your patients reported with bleeding gums, small swelling, and tooth mobility during pregnancy?	Yes/No
3.	Do you advise pregnant women to delay dental visit after pregnancy?	Yes/No
4.	Do you believe it is safe to use the regular local anesthetic solution containing vasoconstrictor for pregnant patients?	Yes/No
5.	Do you agree dental radiograph to be safe during pregnancy?	Yes/No
6.	Do you believe that gingival periodontal inflammation can affect the outcome of pregnancy?	Yes/No
7.	Do you think periodontal disease can lead to preterm birth/low birth weight?	Yes/No
8.	Advising patient to visit dentist during pregnancy?	Yes/No
9.	Do you know about oral manifestations caused by hormonal changes, which are specifically related to pregnancy?	Yes/No
10.	Have you ever given any advice to a patient regarding any changes in oral cavity during pregnancy?	Yes/No
11.	Have you ever advised pregnant women to maintain good oral hygiene and get routine dental check-up done?	Yes/No
12.	Do you feel examination of oral cavity should be integral part of maternal health?	Yes/No
13.	Do you check oral cavity of expectant mothers?	Yes/No
14.	Do you advise major/minor surgery during pregnancy?	Yes/No
15.	Do you think updating yourself with latest technology related to dentistry will benefit you?	Yes/No
16.	Do you think attending conference on oral health is useful?	Yes/No
17.	Do you advise patient to quit tobacco/alcohol?	Yes/No
18.	Can gum disease in the mother affect the birth weight of child?	Yes/No
19.	Do you think that patient's attitude toward dental care is related to dental health?	Yes/No
20.	Do you advise your patient to use fluoridated tooth paste?	Yes/No
21.	Do you think dental care is important for your patient?	Yes/No
22.	Which trimester you think that is safe for dental treatment?	
	I.First	Yes/No
	II.Second	Yes/No
	III.Third	Yes/No

After collecting the filled questionnaire, all the data was entered in SPSS version 18 and analyzed. Mean and SD was calculated for age, years in practice. Frequencies and percentages were calculated for each question in term of Yes/No.

### RESULTS:

In present study, mean age of the gynecologists was 47.25 years. Selected gynecologists were divided into 4 age groups, age group  $\leq 40$  years, age group 41-50 years and age group  $> 50$  years. Total 48 (24%)

gynecologists having age  $\leq 40$  years, total 126 (63%) gynecologists were between 41-50 years and 26 (13%) gynecologists were  $>$  years. (Fig. 1) Selected gynecologists were divided into 3 groups according to years in practice i.e.  $\leq 5$  years group, 5-10 years group and  $> 10$  years group. Total 52 (25%) gynecologists were belonged to  $\leq 5$  years group followed by 64 (32%) to 5-10 years group and 86 (43%) to  $> 10$  years group. (Fig. 2)

Response of the respondents was shown in table below:

Sr.#	Question	Yes	%	No	%
1.	Do you agree pregnancy increases the likelihood of gingival inflammation?	128	64	72	36
2.	Have your patients reported with bleeding gums, small swelling, and tooth mobility during pregnancy?	144	72	56	28
3.	Do you advise pregnant women to delay dental visit after pregnancy?	20	10	180	90
4	Do you believe it is safe to use the regular local anesthetic solution containing vasoconstrictor for pregnant patients	54	27	146	73
5.	Do you agree dental radiograph to be safe during pregnancy?	44	22	156	78
6.	Do you believe that gingival periodontal inflammation can affect the outcome of pregnancy?	126	63	74	37
7.	Do you think periodontal disease can lead to preterm birth/low birth weight?	134	67	66	33
8.	Advising patient to visit dentist during pregnancy?	134	67	66	33
9.	Do you know about oral manifestations caused by hormonal changes, which are specifically related to pregnancy?	104	52	96	48
10.	Have you ever given any advice to a patient regarding any changes in oral cavity during pregnancy?	138	69	62	31
11.	Have you ever advised pregnant women to maintain good oral hygiene and get routine dental check-up done?	146	73	54	27
12.	Do you feel examination of oral cavity should be integral part of maternal health?	182	91	18	9
13.	Do you check oral cavity of expectant mothers?	126	63	74	37
14.	Do you advise major/minor surgery during pregnancy?	60	30	140	70
15.	Do you think updating yourself with latest technology related to dentistry will benefit you?	176	88	24	12
16.	Do you think attending conference on oral health is useful?	180	90	20	10
17.	Do you advise patient to quit tobacco/alcohol?	106	53	94	47
18.	Can gum disease in the mother affect the birth weight of child?	126	63	74	37
19.	Do you think that patient's attitude toward dental care is related to dental health?	192	96	8	4
20.	Do you advise your patient to use fluoridated tooth paste?	98	49	102	51
21.	Do you think dental reference is important for your patient?	148	74	52	26
22.	Which trimester you think that is safe for dental treatment?				
	I.First	48	24	152	76
	II.Second	148	74	52	26
	III.Third	4	2	196	98

Fig. 1: Age distribution of gynecologists

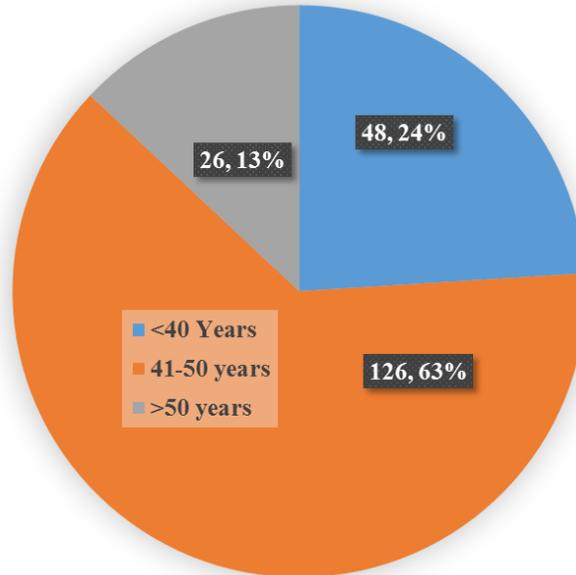
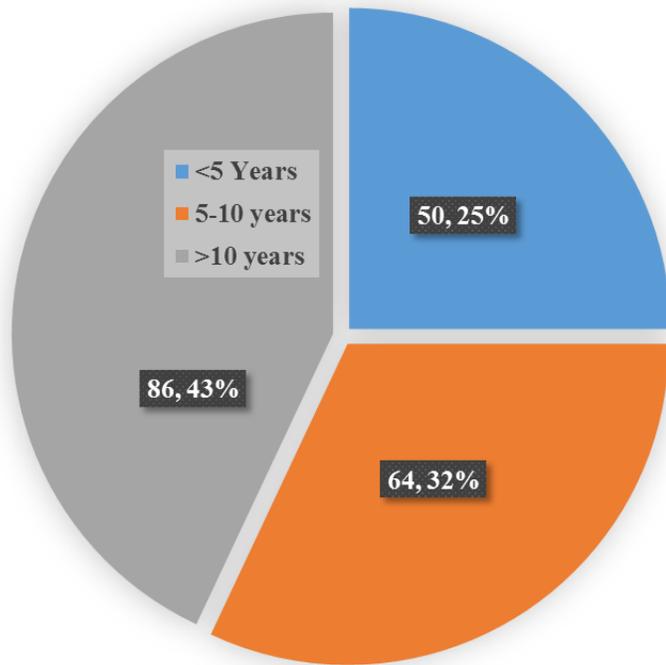


Fig. 2: Distribution of gynecologists according to years in practice



**DISCUSSION:**

The rush of hormones during pregnancy causes a myriad of changes in mother's body. The oral changes include gingivitis, gingival hyperplasia, pyogenic

granuloma, and salivary gland changes. Preeclampsia, fetal immune response and preterm birth are shown to be the adverse outcomes of oral conditions and pregnancy cohort study. [12-13] Gynecologists are a

part of the primary health care delivery system whereas dentists are not, but for an exception in few centers. Hence, gynecologists can fill the gap in the health care delivery system. The physiological changes due to pregnancy results in pregnancy gingivitis, benign oral gingival lesions, tooth mobility, tooth erosion, dental caries, and periodontitis in the oral cavity. [14] The general health and labor are negatively impacted by poor oral health maintenance. Gynecologists are in a strategic position providing the oral health-related information and also referral service to pregnant women. This demands good knowledge, right attitude, and favorable practices toward oral health on their part. This will reduce the practice-level barriers like long standing hours.

In present study, mean age of the gynecologists was 47.25 years.

In one study by Bakhsh et al, [15] total 380 gynecologists were selected to assess the knowledge regarding oral health in pregnant ladies. Mean age of the gynecologists was 45.69 years which is similar with our study. Similar mean age of the gynecologists was reported by Cohen et al and Wilder et al in their studies. [16-17]

In this study, selected gynecologists were divided into 3 groups according to years in practice i.e.  $\leq 5$  years group, 5-10 years group and  $>10$  years group. Total 52 (25%) gynecologists were belonged to  $\leq 5$  years group followed by 64 (32%) to 5-10 years group and 86 (43%) to  $>10$  years group.

In one study by Bakhsh et al, [15] more than half of the gynecologists had 15-33 years' work experience. In another study by Golkari et al [18] reported average experience of gynecologists as 23 years. Cohen et al [17] reported that 60.5% of gynecologists had experience over 10 years.

In present study, total 67% gynecologists agreed that periodontal disease in mothers may lead to pre term low birth weight babies. Similar (55%) findings were reported by Shenoy et al [19] in their study. Zanata et al [20] reported that periodontal infection was considered a serious risk factor for low birth weight by 66% gynecologists.

In our study 49% gynecologists advised fluoridated tooth paste to their patients. In one study by Subramaniam et al, [21] 48.1% of the gynecologists advised fluoridated tooth paste to their patients which is similar with our study.

Total 73% participant of our study believed that regular dental checkup and dental care are mandatory for pregnant women. Similar findings are reported by Shenoy et al<sup>17</sup> and Cohen et al<sup>19</sup> in their studies. Golkari et al [18] reported that 80% of obstetricians and gynecologists ask their patients to get oral health checkup during pregnancy.

The routine dental visit is important according to 93.9% of participants to prevent the oral diseases by Reddy et al. [22] Offenbache et al [23] reported that 95.7% of their respondents believed that regular dental checkup and dental care are mandatory for pregnant women. On the contrary, only 35% participants advised dental checkup. [24]

Total 64% of the gynecologists this study were aware that pregnancy could cause gingivitis and bleeding. This is consistent with Shenoy's study results, which reported 77% awareness.<sup>19</sup> In addition, Golkari et al. reported that a high percentage of gynecologists were aware that gingivitis (85%) and bleeding (95%) may occur during pregnancy.

In a study by Laslowski et al, [25] 97.5% respondents believe that there is a greater susceptibility to gingival inflammatory alterations during pregnancy.

Rahman et al [26] reported that 69% of the participants agreed that bleeding gum indicates gingival inflammation.

The use of vasoconstrictive local anesthetics is the most controversial subject when the dental treatment of pregnant women is discussed. In our study 27% gynecologists believe that local anesthetic solution containing vasoconstrictor for pregnant patients is safe. In a study by Laslowski et al, [25] 57.5% respondents believe that vasoconstrictive local anesthetics can be used during pregnancy without harming the pregnant women

### CONCLUSION:

Results of present study revealed that majority of gynecologists were having good knowledge, attitude and practices but still there is a need for active participation and more involvement of medical specialists like gynecologists and pediatricians, in continuing education programs and forums on dentistry.

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