



RESEARCH ARTICLE

KNOWLEDGE, ATTITUDE AND AWARENESS OF ORAL HEALTH PRACTICES OF PREGNANT WOMEN IN PATIALA: A CROSS SECTIONAL STUDY

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ABSTRACT

Objective: This study aimed to evaluate the knowledge attitude and awareness of oral health practices of pregnant women of Patiala.

Materials and methods: The study population comprised of 100 pregnant women and 100 same aged non pregnant women. Data related to knowledge, attitude and awareness of oral health practice assessed through self-structured questionnaire administered among 100 pregnant women. Clinical examination was conducted among both pregnant and non-pregnant women.

Results: 69 % of pregnant women faced dental problem during their pregnancy. Bleeding from gum was the most prevalent problem faced by pregnant women (51%). 54% pregnant women complained that their dental problem caused interference with regular eating habit. Statistical Analysis was conducted using IBM SPSS STATISTICS (version 22.0). Mean OHIS score of pregnant women was $3.12 \pm .55$, while non-pregnant women was $1.9 \pm .49$. The difference was statistically highly significant (p value $< .05$). OHIS score was increased from 1st trimester to 3rd trimester. (Mean OHIS score of pregnant women of 1st, 2nd, 3rd was $2.8 \pm .47$, $3.11 \pm .41$, $3.3 \pm .59$). The difference was also statistically significant (p value $< .05$)

Conclusion: This study concluded the knowledge among pregnant women about the importance of practicing the oral hygiene practice in pregnancy is less. Hence routine dental checkup should be included in the antenatal care for pregnant women.

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INTRODUCTION

Pregnancy-related physiological variations have been considered to affect oral health. During pregnancy, the changes in hormone levels promote an inflammatory response that increases the risk of developing gingivitis and periodontitis. Pregnancy gingivitis generally manifests during the second and eighth months of pregnancy and is considered as a consequence of the increased levels of the hormones progesterone and oestrogen, which can affect small blood vessels of the gingiva, making it more permeable. Even with good plaque control, 50%-70% of all women will develop gingivitis during their pregnancy (Albert et al., 2011; Jensen et al., 1981). Pregnant women often have myths and misconceptions about oral health during pregnancy which prevents them from seeking dental care.

Oral condition of pregnant females drawn considerable attention since many researches suggests that the maternal periodontitis has been associated with adverse pregnancy outcomes such as preterm birth (Offenbacher et al., 1996; Offenbacher et al., 2011; Jeffcoat et al., 2001), preeclampsia (Boggess et al., 2003), and fetal loss (Boggess and Edelstein, 2006; Moore et al., 2004). Therefore, it is important to understand pregnant women's oral health knowledge, attitude and awareness to identify barriers to accessing care and practicing good oral hygiene. Further, improved efforts are needed to communicate oral health information to women before, during, and after pregnancy.

MATERIALS AND METHODS

The study population was comprised of 100 randomly selected pregnant females between 19-37 years of age (mean age 27.13) visiting the gynaecology opd at government medical college Patiala. Pregnant women were categorised according to the stage of pregnancy as first (30) second (32) third (38) trimester of pregnancy.

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Control group comprised of 100 non pregnant females between age 19- 37 (mean age 27.11) who accompanied pregnant women. Informed written consent was obtained from all participants of the study. OHIS score of all pregnant and non-pregnant women was assessed. Knowledge, attitude and awareness of oral health practices all pregnant women was assessed through self-structured questionnaire. Questionnaire consisted of General information (Name, age, address), Month of pregnancy, Questions related to oral hygiene habits(8 questions), Questions related to oral health in pregnancy (3 questions), Questions related to attitude towards maintenance of oral health in pregnancy (4 questions).

RESULTS

First part of the questionnaire was knowledge of pregnant women regarding oral hygiene practices. It was consisted of 8 questions(Q1 Cleaning of teeth regularly, Q2 Frequency of brushing, Q3 brushing restriction myth in pregnancy, Q4 oral hygiene aid used for tooth cleaning, Q5 frequency of tooth brush changing,Q6 tongue cleaning habit, Q7 rinsing after each meal,Q8 use of tobacco). 91% of females used to brush regularly, while 9% not. 28% females were heard about the brushing restriction myth in pregnancy. Only 6% pregnant women used to rinse after each meal, while 94% were not used to rinse after each meal. 96% never used tobacco, while 4% used tobacco. 94.8% used to change tooth brush after 1 year or more, 3.8% used to change tooth brush in 6 months, only .12% used to change brush monthly(Fig 1). 67% of pregnant never used to clean their tongue. 12% used to clean their tongue occasionally. Only 21% used to clean their tongue daily (fig 2). 78% pregnant women used tooth paste and brush, 11% used finger instead of brush, 2% used tooth powder and 9% used daatun (Fig 3).

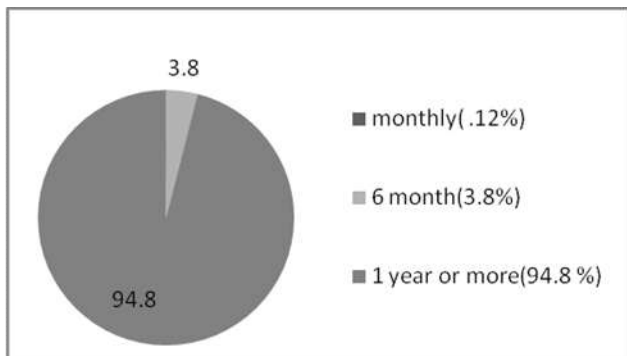


Figure 1. Frequency of Changing Tooth Brush

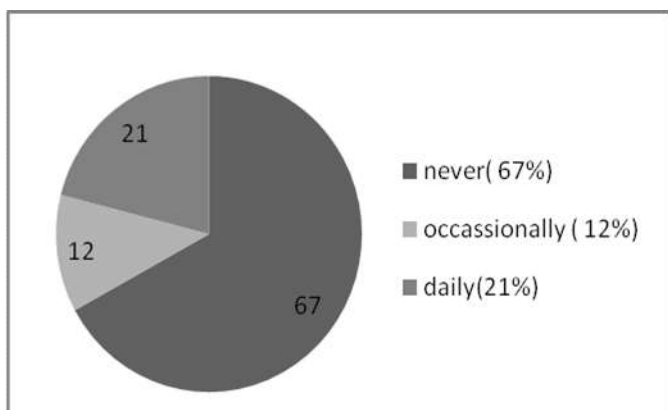


Figure 2. Tongue Cleaning Habit

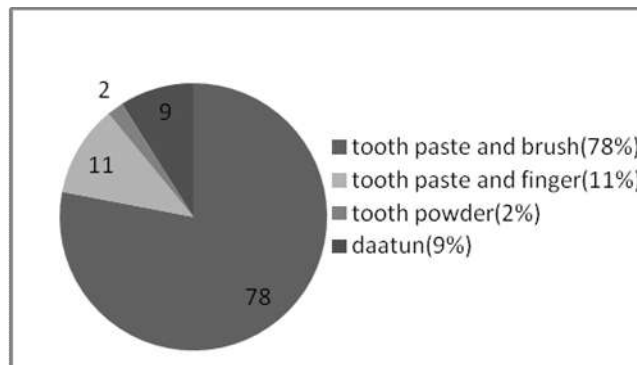


Figure 3. Oral Hygiene Aid Used By Pregnant Women

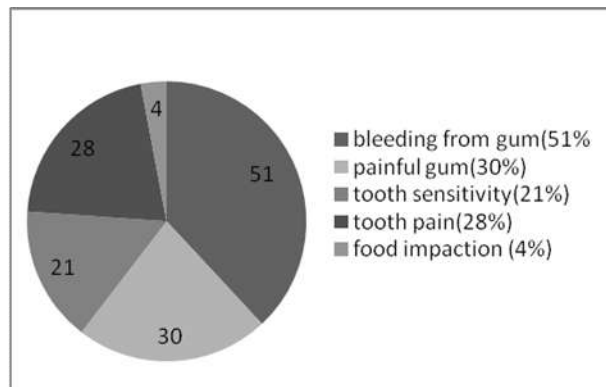


Figure 4. Dental Problems In Pregnancy

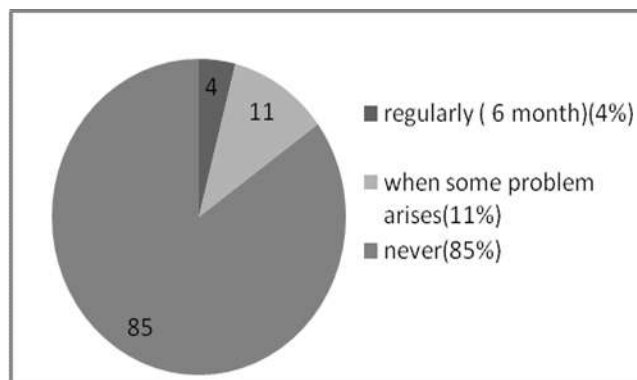


Figure 5. Frequency of Routine Dental Check Up

Second part of the questionnaire consisted of questions related to oral health in pregnancy(Q1any tooth related disease in pregnancy, Q2 mentioning that related complaint, Q3 whether this complaint prevented from having meal properly). 69% pregnant females complained that they suffered from tooth related problem in their pregnancy. Among the tooth related complaints 51% was bleeding from gum, 30% was painful gum, 21% was tooth sensitivity, 28% was tooth pain and 4% was food impaction. 54% complained that their tooth related problem prevented them from having meal properly (Fig 4). The third part of the questionnaire was the questions related to attitude towards prevention and treatment of oral health related problem in pregnancy (Q1 dental treatment in pregnancy, Q2 ever visited a dentist, Q3 frequency of dental check-up, Q4 oral hygiene advice from prenatal care providers). Only 9% pregnant women have taken dental treatment in pregnancy. 85% pregnant women never visited a dentist before. Only 4% pregnant females used to visit dentist regularly in 6 months.

Table 1 .Group Statistics

	Group	N	Mean	Std. Deviation	Std. Error Mean
OHIS SCORE	Pregnant women	100	3.128	.5525	.0553
	Non pregnant women	100	1.900	.4969	.0497

Table 2 OHIS Score

	N	Mean	Std. Deviation	Std. Error
1	30	2.800	.4472	.0816
2	32	3.116	.4190	.0741
3	38	3.397	.5925	.0961
Total	100	3.128	.5525	.0553

Table 3 Independent Samples Test

		t-test for Equality of Means						
		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
OHIS SCORE	Equal variances assumed	16.526	198	<.001**	1.2280	.0743	1.0815	1.3745

Means of 3 TRIMESRES were compared using One-Way ANOVA followed by PostHoc Multiple Comparisons test (Table 4, Table 5)

Table 4 Anova OHIS score

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.990	2	2.995	11.988	<.001**
Within Groups	24.232	97	.250		
Total	30.222	99			

Table 5 Multiple Comparisons (post hoc test) Dependent Variable: OHIS SCORE Bonferroni

(I) Trimester	(J) Trimester	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-.3156(*)	.1270	.044*	-.625	-.006
	3	-.5974(*)	.1221	<.001**	-.895	-.300
2	1	.3156(*)	.1270	.044*	.006	.625
	3	-.2817	.1199	.062	-.574	.010
3	1	.5974(*)	.1221	<.001**	.300	.895
	2	.2817	.1199	.062	-.010	.574

* The mean difference is significant at the .05 level.

11 % used visit when some problem arises. 85% never used to visit dentist (Fig. 5). Only 1% of pregnant females received oral hygiene advice from prenatal care providers. OHIS score of pregnant women was $3.1 \pm .55$, non-pregnant was $1.9 \pm .49$ (Table 1). Student t-test was applied to compare 2 groups. The difference was statistically significant (Table 3). OHIS score of pregnant women was increased from 1st to 3rd trimester (OHIS score of 1st trimester was $2.8 \pm .44$, 2nd trimester was $3.11 \pm .41$, 3rd trimester was $3.3 \pm .59$ Table 2). Means of 3 TRIMESRES were compared using One-Way ANOVA followed by Post Hoc Multiple Comparisons test (Table 4, Table 5)

DISCUSSION

In this survey 69% pregnant females complained that they have suffered from tooth related problems in pregnancy. Most prevalent dental complaint among pregnant women was bleeding from gum (51%) followed by, painful gum (30%), tooth sensitivity (21%), tooth pain (28%) and 4% was food impaction. Yet only 9% have visited dentist in their pregnancy. This raises serious concerns about dental awareness and care of pregnant females. Most problems related to oral health during pregnancy can be simply prevented by regular dental check-ups. Pregnant women often have misconceptions about oral health during pregnancy which prevents them from seeking dental care.

This kind of Misperceptions and erroneous beliefs contribute to the low rate of oral health maintenance during pregnancy. In the current study only 1% of pregnant females received oral hygiene advice from prenatal care providers. There is a gap in receiving oral health information. Most pregnant women do not receive information about oral health and the importance of dental care prior to and during pregnancy. One main reason for this is the lack of oral health advice from prenatal care providers. Many prenatal care providers do not regard oral health care as an essential part of prenatal care, and most of them do not routinely advise their prenatal patients to seek dental care. Comparing with the similar studies conducted in central India by Payal *et al* found similar results (60%) pregnant females had some dental problem during pregnancy while 72.81% of pregnant females accepted that they never attended the dentist⁸. Researches conducted in many parts of the world have shown the correlation between oral health and pregnancy outcome. In 1996, researchers first reported a relationship between maternal periodontal disease and the delivery of a preterm infant. The 1996 study by Offenbacher and colleagues suggested that maternal periodontal disease could lead to a seven-fold increased risk of delivering a PLBW infant (Offenbacher *et al.*, 2001). Studies showed that periodontal therapy provided to women with periodontitis or gingivitis during pregnancy reduced the incidence of preterm low birth weight compared to those whose treatment was

delayed until after birth⁵. Another study reported that significantly reduced rates of preterm births and low birth weight infants were observed for pregnant women who received plaque control instructions and scaling and root planning (Offenbacher *et al.*, 2001). A three-year retrospective examination of a large insurance company database suggested that receiving preventive dental treatment is associated with a lower incidence of adverse birth outcomes compared with instances in which no dental services are delivered (Tarannum and Faizuddin, 2007).

Conclusion

Good oral health during pregnancy can not only improve the quality of life of the pregnant mother, but also potentially reduce complications during pregnancy. Oral care and prenatal care providers should address the myths and misconceptions many women have about oral health during pregnancy. Pregnant females should be educated and motivated to maintain good oral hygiene.

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