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Evaluation of Periodontal Health Knowledge, Attitude and Oral Hygiene Practice of Pregnant Women in Yazd in 2011

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Abstract

Background and aims. Periodontal disease is an inflammatory response in periodontal tissues, which results in tissue destruction, bone loss and eventually tooth loss. Periodontal disease has the potential to affect pregnancy outcomes such as premature birth, low birth weight and preeclampsia. The aim of this study was to assess periodontal health knowledge, attitude, and practice of pregnant women in relation to the association between periodontal disease and pregnancy outcomes in Yazd, Iran in 2011.

Materials and methods. A total of 149 pregnant women in different stages of pregnancy were randomly selected. A 23-item questionnaire was designed by authors to assess periodontal health knowledge, attitude and oral hygiene practice of pregnant women. Data were analyzed by ANOVA, chi-squared test and Pearson's correlation coefficient using SPSS statistical package.

Results. The results showed that 48.3% of women had moderate knowledge, 85.9% had moderate attitude and the majority of the women (49%) practiced oral hygiene in a moderate level. Among all the participants only 7.9% had been referred by gynecologists to dentists.

Conclusion. According to the results of this study the mean scores of periodontal health knowledge, attitude and oral hygiene practice were at moderate level.

Key words: ***Attitude, knowledge, General Practice, Dental, pregnancy.***

Introduction

Oral hygiene is one of the most important elements of general health. Dental health education is based on the community approach and the development of community health may hold promise for modifications and changes in health behavior. Personal knowledge combined with professional tooth brushing can reduce the progression of dental caries and periodontal disease.[1] Periodontal disease is

an inflammatory response in periodontal tissues, which results in tissue destruction, bone loss and eventually tooth loss.[2] Periodontal disease has the potential to affect pregnancy outcomes. Different studies have demonstrated that periodontal disease may be associated with adverse pregnancy outcomes such as premature birth, low birth weight and preeclampsia.[3,4] The incidence of periodontal disease has been positively correlated with lower educational achievement and lower socio-economic status.[5–7] Assessment of dental health knowledge of pregnant women in USA revealed that their dental health knowledge is not acceptable and must be improved.[8] One problem of our society is a lack of sufficient knowledge regarding dental and oral health, resulting in inappropriate hygiene behavior.[10]

The aim of this study was to assess periodontal health knowledge, attitude, and practice of pregnant women in relation to the association between periodontal disease and pregnancy outcomes in Yazd, Iran in 2011

Materials and Methods

This cross-sectional study was carried out using a self-administered questionnaire, filled by expecting mothers during 2011. A total of 149 pregnant women in different stages of pregnancy were randomly selected. A questionnaire was designed by authors, which included demographic data, their oral hygiene practices (by asking about the frequency of tooth brushing, use of other dental hygiene aids and how often they visited a dentist), their attitude and knowledge about periodontal health and its relation with pregnancy outcomes (Tables 1 and 2). Other questions about the cause of their last dental visit, their gingival bleeding and if they had been referred by their gynecologist were also included in this questionnaire. The validity and reliability of the questionnaire was tested before use. The study was approved by the Ethics Committee. After collecting the questionnaires, a coding system was employed for questions. The periodontal health knowledge, attitude and oral hygiene practice of participants were classified as follows: poor (0−30%), moderate (31−70%), and good (71−100%). Data were analyzed by ANOVA, chi-squared test, and Pearson's correlation coefficient using SPSS statistical package. Statistical significance was set at $P< 0.05$.

Results

In this study, 149 pregnant women with a mean age of 26.3±5.6 year were evaluated. The demographic data is listed in Table 3.

Periodontal health knowledge

Assessment of knowledge revealed that 38.9% of women had poor knowledge, 48.3% had moderate knowledge and only 12.8% had good knowledge. The mean score for periodontal health knowledge of pregnant was 57.6. The degree of knowledge was higher in >35 year-olds, but the differences in relation to their ages were not statistically significant (P=0.605). Although knowledge was higher in women with BSc degrees and in those in technical fields, their differences were not statistically significant (P=0.96). Considering the frequency of pregnancy the differences in knowledge scores were not statistically significant (P=0.2).

Periodontal health attitude

The results showed that 2% of women had poor attitude, 85.9% had moderate attitude and 12.1% had good attitude. The mean score of periodontal health among pregnant women was 57.9. The mean value for attitude increased with age and the differences in relation to age were statistically significant (P=0.009). Educated women (those holding BSc and MSc degrees) gained higher scores for attitude, but the differences between educational levels were not statistically significant (P=0.058). Women with more than 2 pregnancies had higher scores for attitude compared to others, but their attitude differences in

Table 1. The questions for assessing periodontal health knowledge of pregnant women

1. Can gum disease cause preterm birth?	Yes	No	
2. Can gum disease threatening pregnant woman health?	Yes	No	
3. Can gum disease cause low birth weight child?	Yes	No	
4 Does oral health care affect mother and child health?	Yes	No	
5. If you need dental treatment during pregnancy, which semester do you choose?	first	second	third

Table 2. The questions for assessing periodontal health attitude of pregnant women

	fully agree	**agree**	**I don't have any idea**	**disagree**	**fully disagree**
Scaling in harmful for dental and gum Health.					
Oral health is as important as general Health.					
Pregnancy can cause gum bleeding.					
Pregnancy can cause gum swelling.					
Pregnancy can cause oral bad odor.					

Table 3. Demographic data of the pregnant women

Demographic data	index	Percentage(%)
Age (years)	≤ 24	40
	25 - 34	49
	≥ 35	11
occupation	Housewife	70.1
	Employed	16.4
	Student	9
	others	4.5
Education	Under High school graduate	11
	High school graduate	50
	Technician	10.3
	Bachelor of science	26
	Master of science	2.7

relation to the frequency of pregnancies were not statistically significant (P=0.114).

Oral hygiene practice

The majority of the women (49%) practiced oral hygiene in a moderate level, 45% had poor practice, and 6% had good practice. The mean score for oral hygiene practice of pregnant women was 38.7. ANOVA revealed that the score of practice was higher for 24−35 year-olds, but the differences in relation to age were not statistically significant (P=0.53). Educated women (those with MSc degrees) had higher scores for practice, but women with more than 3 pregnancies showed lower scores compared to others. The differences in oral hygiene practice in relation to the level of education or frequency of pregnancy were not statistically significant (P=0.88, P=0.2)

The correlation between practice and attitude was not statistically significant (P=0.512, r=0.057), but there was a linear significant correlation between attitude and knowledge (P=0.022, r=0.193).

Dental attendance and dental problems

In assessing gingival bleeding during toothbrushing 34.9% of pregnant women reported this sign, 68.8% had bleeding before pregnancy, while 19.6% had developed it during pregnancy and 11.8% of women had bleeding before pregnancy, but it had become more severe during pregnancy. The majority of expecting mothers brushed their teeth once a day (69%), 11% brushed 2−3 times a day, 19% brushed sporadically and 1% never brushed their teeth.

The last dental visit was mostly (58.7%) due to toothache, 18.8% for routine examinations, 3.6% for gingival bleeding and 18.8% for other reasons. The causes for last dental visit of the participants are listed in Table 4.

Discussion

In the present study the mean scores of periodontal health knowledge (57.6), attitude (57.9) and oral hygiene practice (38.7) were at moderate level (30−70%). Hajikazemi et al[11] reported that oral care knowledge in 65.9% of pregnant women was at a moderate level, which is consistent with this study. In a study by Thomas et al[12] in Australia, although the majority of women (94%) had information about dental plaque, 82% of them did not know about periodontal disease. Alwaeli and Aljundi[13] studied pregnant women in Jordan and reported that 56% of pregnant women were not aware of the necessity of increasing frequency of toothbrushing during pregnancy. These discrepancies might be related to different societies.

Our study revealed that mean scores of knowledge, attitude and practice increase with higher education, but their differences were not statistically significant. In Thomas et al[12] study better knowledge of dental hygiene and practice were found in women who had some form of tertiary education and were from a higher socio-economic status.

Although the differences in knowledge and practice were not statistically significant in relation to the frequency of pregnancy, the mean scores of them were higher in the second pregnancy and it decreased by third or more pregnancies. This increase in the second pregnancy is reasonable, but since the majority of educated parents are employed and have fewer children, this reduction by third and more pregnancies can be expected.

Of all the pregnant women, only 7.9% had been referred by gynecologist to dentists, which is a very low rate, indicating the necessity of greater attention by gynecologists to periodontal diseases and their effects on preterm low birth weight and the importance of early treatment.

In a study by Keirse,[14] 18% of women had gingival bleeding before pregnancy and 41% experienced that during pregnancy. Naumah and Annan[15,16] reported that the prevalence rates of gingival bleeding were 89% in 1998 and 1% in 2005, respectively. In the present study, 68.6% of women had gingival bleeding before pregnancy, 19.6% experienced it during pregnancy and 11.8% had gingival bleeding before

Table 4. Causes for the last dental visit of pregnant women

Percentage	The last dental visit
11.9 %	During pregnancy for preventive care
9.8 %	During pregnancy because of dental or gingival problems
14 %	Before pregnancy for preventive care
32.9 %	Before pregnancy because of dental or gingival problems
31.5 %	Don't remember

pregnancy, which aggravated during pregnancy. The wide variation in gingival bleeding among pregnant women may be attributed to the fact that apart from hormonal changes, the presence and duration of plaque levels or other irritants are important in determining the severity of gingival bleeding.

This study revealed that 1% of women never brushed their tooth, 19% brushed intermittently, 69% brushed once a day and 11% brushed 2-3 times a day. However, in Honaka et al[17] study 94% of women brushed their teeth at least once a day, in Hullan et al[18] study 73% brushed their teeth twice a day and in Boggess[19] study 83% brushed 1-2 times a day. Although these discrepancies can be attributed to cultural differences between societies around the world, most is the effect of preventive oral health care programs accomplished in order to increase the awareness and knowledge of people about caries and periodontal diseases and methods used to prevent them.

In a study by Honakala[17] half of the pregnant women had visited a dentist mostly because of toothache. In Keirse and Gaffield[7,14] study dental care during pregnancy was 35% and 44−54%, respectively. This study showed that 20.7% of women had visited a dentist during pregnancy, with 11.9% for preventive care and 9.8% for dental or periodontal problems. However, it is recommended that pregnant women visit a dentist for examination and oral health care at least once during their pregnancy.

In an unpublished study[9] carried out 11 years ago in Yazd with the same title, 19% of pregnant women had poor knowledge, 53% had moderate and 27% had good knowledge. They had moderate periodontal health knowledge and their practice was at poor level. During an interval of 11 years the periodontal health knowledge of pregnant women was maintained at moderate level but their oral hygiene practice improved from poor to moderate.

Conclusion

According to this study the mean scores of periodontal health knowledge, attitude and oral hygiene practice were at moderate level.

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