PERIODONTAL HEALTH IN A GROUP OF PREGNANT WOMEN

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Keywords: Abstract: The purpose of this study is to assess the oral hygiene status, prevalence and severity of oral periodontal disease for pregnant women and also to determine whether there was any association hygiene, oral health, pregnancy between age and oral hygiene status of pregnant women examined. Material and methods. The prevalence and severity of periodontal disease was evaluated using CPITN index, gingival index of Loe-Silness (GI) and oral hygiene index OHI-S. The number of pregnant women examined, aged 18-34 years, was 75.Results. The prevalence of periodontal diseases was 93.33%; 50.67% of all pregnant women examined had bacterial plaque, supra-and subgingival calculus and marginal irritation factors. 17.33% had periodontal pockets up to 5 mm, and 5.33% had periodontal pockets deeper than 6 mm. Conclusions. The results of this study show that dental-periodontal indications are not influenced by the age of pregnant women. The oral hygiene of the pregnant women examined is unsatisfactory, most of them (50.67%) had moderate gingivitis. Cuvinte cheie: igiena Rezumat: Scopul acestui studiu este de a evalua starea de igienă orală, prevalența și severitatea bolii parodontale în rândul femeilor gravide și, de asemenea, de a determina dacă există asociere între starea

orală, sănătatea orală, graviditate

de igienă orală și vârsta gravidelor examinate. Material și metodă. Prevalenta bolilor parodontale și gradul de severitate a fost evaluată cu ajutorul indicilor CPITN, indicelui gingival Löe – Silness (IG) și indicelui de igienă orală OHI-S. Numărul gravidelor examinate a fost 75 cu vârsta cuprinsă între 18-34 ani. Rezultate. Prevalența bolilor parodontale a fost de 93,33%; 50,67% din totalul gravidelor examinate prezentau placă bacteriană, tartru supra și subgingival și factori de iritație marginală. 17,33% prezentau pungi parodontale de până la 5 mm, iar 5,33% prezentau pungi parodontale mai adânci de 6 mm. Concluzii. Rezultatele acestui studiu arată că indicii dento-parodontali nu sunt influențați de vârsta gravidelor. Igiena orală a gravidelor examinate este nesatisfăcătoare, majoritatea gravidelor (50,67%) prezentau gingivită moderată.

INTRODUCTION

Pregnancy is a particular physiological condition, characterized by numerous metabolic and hormonal changes, considered to be related to fluctuations in estrogen and progesterone levels leading to increased vascular permeability and a decrease in host immunity, favoring increased sensitivity to oral infections. [1]

Reports in the periodontal changes that occur during pregnancy are numerous and varied. A number of authors believe that pregnancy favors the appearance of periodontal changes especially in the second half of pregnancy when over the main factor, the bacterial plaque, overlap the hormone secretion changes which leads to periodontal disease and bleeding due to increased capillary permeability. [2] Thus, performing oral hygiene becomes complicated and the progress of dental caries and periodontal disease is more rapid. Seit believes that during pregnancy the changes of dental structure that favors the occurrence of simple and complicated dental caries, and the inflammatory pain is part of dental pain domain.

Some authors believe that pregnancy is not an etiologic factor of dental caries, however, pregnancy may adversely affect periodontal dental system either by neglecting the oral hygiene or by susceptibility to gingivitis. [3]

With all the efforts undertaken so far the relationship between pregnancy and diseases that can occur in the periodontal system is insufficiently studied; this issue is represents an interest to a large number of dentists, gynecologists, endocrinologists, microbiologists.[4]

THE AIM OF THE STUDY

The present study aims to assess the health of periodontal tissues and oral hygiene for pregnant women and to observe a link between their age and the periodontal disease.

MATERIAL AND METHOD

The study was conducted on a total number of 75 women aged 18-35 years, divided into three age groups: Group I aged 18-22 years (M = 20.65 SD = 1.335), group II aged 23-27 years (M = 25.07 SD = 1.357), group III aged 28-35 years (M = 29.4 SD = 1.225). Exclusion criteria were presence of chronic diseases or age over 35 years.

Oral health status was determined using CPITN index, GI and OHI-S.

CPITN index was used to determine periodontal status. Depending on the health of periodontium were determined the treatment needs:

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- TN 0 do not require treatment;
- TN I requires training the patient in bacterial plaque control;
- TN II bacterial plaque control, scaling, removing excess fillings;
- TN III requires a "comprehensive treatment", scaling, curettage or other surgical interventions.

Gingival index (GI) was found to be representative teeth (Ramfjord). The examination included each gingival unit around these teeth

Oral hygiene was assessed using the OHI-S index consists of two components PI (plaque index) and IT (index scale). OHI index value was obtained by adding IP and IT. For index computation the labial surface of teeth 16, 26, 11 and the lingual surface of teeth 36, 46 and 31 were examined. Interpretation of results was done according to the following scale: Excellent 0; Right from 0.1 to 1.2; Satisfactory 1.3 to 3.0; Unsatisfactory 3.1 to 6.

The recorded data were statistically analyzed using GraphPad Instat program. Identification and elimination of anomalous data was obtained using Grubbs test. To see whether the data have a Gaussian distribution we applied the Kolmogorov-Smirnov test. Statistical analysis was performed by applying Kruskal-Wallis test (nonparametric version of ANOVA). The statistical comparison we considered the mean and standard deviation with a p higher than 0.05.

RESULTS

After the determination of CPITN index it was found that 9.33% of pregnant women participating in this study present a healthy periodontal, 17.33% have bleeding on probing. Most pregnant women, 50.67%, show the supra-or subgingival calculus, marginal irritant factors. 17.33% of all pregnant women have periodontal pockets up to 5 mm, and 5.33% presented periodontal pockets deeper than 6 mm. (Table 1)

Applying Kruskal-Wallis test, with a p 0.4038, and Kruskal-Wallis index of 1.814 we demonstrated that variance between the medians is not significant in the three age groups for CPITN index. Using Dunn's multiple comparison tests with p > 0.05 showed that there are not significant differences between the three age groups. However, the data show a slight

Table no. 1. CPITN index

Age group	Code 0		Code 1		Code 2		Code 3		Code 4	
	no.	%	no.	%	no.		no.	%	no.	%
Ι	2	8,70%	5	21,74%	12	52,17%	3	13,04%	1	4,35%
II	3	11,11%	5	18,52%	14	51,85%	4	14,81%	1	3,70%
III	2	8,00%	3	12,00%	12	48,00%	6	24,00%	2	8,00%
Total	7	9,33%	13	17,33%	38	50,67%	13	17,33%	4	5,33%

Tabel no. 2. IG idex

	Score 0		•	Score 1		Score 2	Scor e3		
Age grup	nr.	%	nr.	%	nr.	nr. %		%	
Ι	2	8,70%	5	21,74%	12	52,17%	4	17,39%	
II	2	7,41%	6	22,22%	15	55,56%	4	14,81%	
III	1	4,00%	7	28,00%	11	44,00%	6	24,00%	
Total	5	6,67%	18	24,00%	38	50,67%	14	18,67%	

Table no. 3. OHI-S index

	Exce	elent 0	Goo	d 0,1-1,2	Satisfa	ying 1,3-3,0	Unsatisfaying3,1-6		
Age grup	nr.	%	nr.	%	nr.	%	nr.	%	
Ι	1	4,35%	6	26,09%	13	56,52%	3	13,04%	
II	1	3,70%	5	18,52%	19	70,37%	2	7,41%	
III	1	4,00%	3	12,00%	15	60,00%	6	24,00%	
Total	3	4,00%	14	18,67%	47	62,67%	11	14,67%	

Figure no.1. The mean and standard deviation in CPITN index (A= age group I; D= age group II; G= age group III)

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After assessing the health of the gums with gingival index we found that the vast majority of pregnant women (50.67%) present moderate gingivitis, slight edema and bleeding on probe. (Table 2)





The mean of gingival index in the first group of pregnant women was 1.782 \pm 0.85; in the second group 1.77 \pm 0.8, and the third group the mean was 1.88 ± 0.832 with a p of 0.9210 we did not observed a variation between the parameters studied (Kruskal-Wallis index 0.1646). As concluded for IG index there was a slight increment of the index in the third age group. (Fig. 2) Oral hygiene was assessed using the OHI-S index and the results of the examination show that only 4% (n = 3) of the participating pregnant women have a perfect oral hygiene, 18.67% have a good oral hygiene. Most of the women examined (n = 47) ie 62.67% have a good oral hygiene, and 14.67% have a poor oral hygiene. (Table 3). The mean of OHI-S index in the first group of pregnant women was 1.807 ± 1.203 , the second group 1.75 ± 0.977 , while for third group was 1.959 \pm 1.112, means and medians recorded did not differ significantly (p = 0.8684 Kruaskal Wallis index 0.2823). (Fig. 3)





DISCUSSION

Many studies have investigated the oral health in pregnancy, but very few have tried to make a connection between the oral health of pregnant women and their age. It is known that poor oral hygiene increases the plaque index and the acceleration of the periodontal disease in the last trimester of pregnancy. [5] In this study pregnant women were divide by age, the last group standing at the age of 35 years. Periodontium may be affected in addition to certain states of the body such as pregnancy and the patient's age. After 35 years of age-related regressive changes in the periodontium may coexist with pregnancy, therefore the maximum age was set at this level.

The results show that there is a slight increase in the indices assessed in the third group of pregnant women examined (28 -35 years). Ingrida Vasiliauskiene [6] in a study of 1070 pregnant women found that dental periodontal indices increase with age. Age of pregnant women in this study ranged between 15 and 45 years. The results of this study show that most pregnant women have moderate gingivitis; these data being related to findings of other authors. [7,8,9]

After the analysis of 664 pregnant women, Bakhmudova and Bakhmudov [2] have noted that oral hygiene was poor in early pregnancy and after trainings in terms of oral health, the oral status was improved, and concluded the treatment need for pregnant women. Good results can be obtained through collaboration between dentist - gynecologist, resulting in improved status of pregnant women and reduced risk of dental-periodontal disease. [10,11,12]

Taking into account these results we found that a small percentage of all pregnant women examined, 9.33%, has a healthy periodontium, requiring only training on oral hygiene, while the majority of pregnant women examined, meaning

50.67%, present over-and subgingival calculus, factors of marginal irritation, requiring training for improving oral hygiene, scaling and removing the irritation factor. These results are consistent with the results obtained by other authors. [2,6]

CONCLUSIONS

- 1. The results of this study show that there is not a significant variation between the medians of the indices studied in three age groups.
- 2. Oral hygiene of pregnant women is considered unsatisfactory translated by plaque, calculus and bleeding in periodontal probe examination.
- 3. The prevalence of periodontal disease is 93.33%, and most of the examined pregnant women (50.67%) had moderate gingivitis.
- 4. The results obtained after the determination and interpretation of indices showed that the vast majority of pregnant women need trainings for improving oral hygiene, scaling and removing local iritative factors.
- 5. This study shows that there is a lack of complementary means usage to combat the bacterial plaque in most pregnancies.

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