PREGNANCY AND ORAL HEALTH

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ORALNO ZDRAVLJE U TRUDNOCI

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ABSTRACT

Objective. This study investigated the presence of risk factors for oral disease by evaluating oral hygiene habits among pregnant women.

Methods. The study included 45 pregnant women during the 8th-38th weeks of gestation that answered a questionnaire about the habits in oral hygiene. The obtained data were processed by using descriptive statistics.

Results. Eighty percent of pregnant women maintained their oral hygiene, out of which 64% used only the basic measures and the remaining 36% used some of the additional treatment strategies (different types of mouthwash, dental floss or interdental brushes). As much as 69% of women attended the dentist only when necessary, only when a problem occurred (pain, swelling). The habit of teeth brushing immediately after vomiting was found in 69% of women. The total of 45% of women took less than three minutes a day to maintain their oral hygiene. Approximately 60% of women noticed gum bleeding at the teeth brush during pregnancy. The total of 27% of women confirmed to have taken less attention to oral health during their pregnancy. Only 60% of pregnant women were informed about the importance of oral health during pregnancy and 40% of them had not been informed about the importance of oral health.

Conclusion. There should be a continuous process of application of prophylactic and therapeutic, as well as educational and health procedures, in dealing with pregnant women. When it comes to maintaining oral health, it is vital to inform pregnant women using comprehensible and practically applicable advice that will improve their awareness about the importance of oral hygiene.

Key words: oral health; pregnancy; primary prevention.

INTRODUCTION

The prevalence of periodontal diseases iCpregCagCcy iC developed couCtries is over 90%; iC the U.S. eted States of America (USA) the prevalence is 35-100% (1, 2). AmericaC authors state that preterm birth as a complication of periodontal disease happeCeS iC 12% (3). For the Republic of Serbia, there are Ce systematized data oC the prevalence of periodontal disease iC pregCagCy women. The World Health OrgaNCitiatioN (WHO) deNifis oral health as a staNdard for health of oral tissue as well as tissue related to it, which eCables aCC iCvidual to eat, speak aCmuCCicate with the eCViroCmeCt without sigCeS of acute illCess, iCcoVeCebCce or iCterfeCbeCce, aC which coCtributes to the geERAL state of health aC well-beiCg (4). PregCagCcy is a period of life wheCe dCaC care Ceeds to be takeCc to the gExc tLev. To begiN with, there are chaCges (hemogCaal status, chaCges iCPH values of saliva, eatiCg habits...) which iCrease the risk of dCaC disease. aCother importaCt reasoNC is the proper iCtreaureiCe deveNopCe of the mouth aCtal teeth of a fetus. The deveNopCe of oral cavity starts iC the third week of pregCaCcy. MiGeralizaCioN, iCother words, calciNieCtioN of deciduous teeth begiNCes beCweCe the 12th aCtal 16th week of gestaCioN. The deveNopCe of permaCeC teeth, that is the
first permanent molar, starts in the 14th week of gestation; incisors develop in the 21st week of intrauterine fetal life and a period of calcification starts around the term of birth (5). Recent research in this area has shown that pregnant women are uninformed about dental care and its importance, which is paradoxical in relation to their expressed interest in the future child’s health. The measures to protect the oral health of pregnant women are numerous and are contained in the National Program of Preventive Dental Care, which includes regular dental checkups, the use of fluorides, dietary measures, and advice on the field of oral hygiene (6). The research objective is to elucidate the pregestational risk factors for oral disease by tracking the oral hygiene habits among the examined pregnant women.

**SUBJECTS AND METHOD**

The study included 45 pregnant women hospitalized in the Ward of PregCaCys Pathology, GyCecology aC Odd Obstetrics CliGeC, CliGeal CeCer “Kragujevac”, Kragujevac, with gestational age of 8-38 weeks, during the year 2012. After the completion of preliminary questioning and detailed explanation of the purpose and objective of this study, the examined women anonymously completed the questionnaire which had been previously created. The questionnaire had 10 questions as follows:

- How often do you brush your teeth? (2 times a day, once a day, once a week)
- Which of the indicated do you use for oral hygiene? (toothbrush, toothpaste, interdental floss, interdental brush, mouthwash)
- How often do you visit a dentist? (once a year, twice a year, if necessary or if there is a problem)
- How much time a day do you set aside for the maintenance of oral hygiene? (up to 3 minutes, 3-6 minutes, more than 6 minutes)
- Have you known the impact of oral health on overall health? (yes, no)
- Do you think that you pay less attention to oral health during pregnancy? (yes, no)
- In your opinion, has your state of oral health changed during the pregnancy compared to the period before pregnancy? (it has deteriorated, hasn’t changed)
- Do you notice bleeding from the gums during brushing? (yes, I notice it in the course of pregnancy and in the pre-pregnancy period, yes, I notice it in the course of pregnancy, no, I don’t notice bleeding gums)
- Have you washed your teeth immediately after vomiting during pregnancy? (yes, no)
- Is your nutrition abundant with carbohydrates during pregnancy (sweets, juices ...)? (yes, no)

The obtained data were statistically processed by using a percentage calculation after the logical processing of answers.

**RESULTS**

Out of the total number of pregnant women examined 80% maintained oral hygiene (teeth brushing) twice a day, while the other 20% did it once a day. In fact, 64% of the examined women used only basic remedies (toothbrush and/or interdental floss), and the remaining 36% used some of the additional remedies (mouthwash and interdental brushes). EveC 69% of the women confirmed visiting the dentist only when necessary, that is only when a problem occurred (pain, swelling, bleeding gums), and 31% went to checkup once or twice a year. About 60% of them confirmed that they pay less attention to oral health during pregnancy. 69% of the women examined noted bleeding from the gums while brushing during pregnancy. Approximately 60% of the women confirmed to be teeth brushing immediately after vomiting (Table 1). 45% of all pregnant women took less than 3 minutes a day to maintain their oral hygiene, and 55% took more than 3 minutes, while only 1 out of 45 women examined took more than 6 minutes per day for oral hygiene.

Table 1. Habits of the examined pregnant women

<table>
<thead>
<tr>
<th>Visit to the dentist</th>
<th>Yearly control, 31%</th>
</tr>
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<tbody>
<tr>
<td>Frequency of brushing</td>
<td>Twice a day, 80%</td>
</tr>
<tr>
<td>Eating habits</td>
<td>Uses carbohydrates in nutrition, 60%</td>
</tr>
<tr>
<td>Habit of teeth brushing after vomiting</td>
<td>Washes teeth 30 minutes after vomiting, 31%</td>
</tr>
</tbody>
</table>

Table 2. Individual attitude towards oral health among the examined pregnant women

<table>
<thead>
<tr>
<th>Oral health care during pregnancy</th>
<th>Taking less care, 27%</th>
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</thead>
<tbody>
<tr>
<td>Changing state of oral health during pregnancy</td>
<td>No changes, 13%</td>
</tr>
<tr>
<td>Informing pregnant women about the importance of oral health in pregnancy</td>
<td>Not informed about the importance of oral health in pregnancy, 40%</td>
</tr>
<tr>
<td>The time devoted to oral health during the day</td>
<td>Less than 3 minutes a day for oral hygiene, 45%</td>
</tr>
<tr>
<td>Deterioration parameter of oral health during pregnancy-bleeding gums</td>
<td>Notices, 60%</td>
</tr>
</tbody>
</table>

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paying less attention to oral health during the pregnancy. 60% of women examined realized the importance of oral health during pregnancy, the pregnant women at 40% were not informed about the importance of oral health and its relation to the general health (Table 2).

**DISCUSSION**

Good oral health of a pregnant woman is highly desirable. It is known that good oral health is linked to a healthy pregnancy, and that as many as 54% of pregnant women have not been informed how to take care of their oral health during pregnancy. A high percentage of pregnant women surveyed, 60% of them brush their teeth twice a day, 55% of them spend more than three minutes a day brushing their teeth surfaces cannot be done effectively (4). Out of the 45 pregnant women examined, about 64% use toothbrush and toothpaste. Pregnant women who brush their teeth less than twice a day and use toothpaste showed a higher incidence of dental caries and gingivitis (5). By examining the habits of pregnant women surveyed, we learned that 60% of pregnant women have postponed going to scheduled annual dental checkups when the dentist or gynecologist requested that they come to the dental office to maintain their oral health. On the other hand, the incidence of preterm birth in pregnant women with septic or placental disease represents a statistically significant risk factor for the premature birth and inadequate fetal body weight; in fact mothers with periodontal disease are more likely to give birth prematurely or to give birth to a baby with a lower body weight (9).

It is recommended to wash the teeth with toothpaste and brush thoroughly with a toothbrush to prevent plaque build-up. Pregnant women should be advised to avoid tooth brushing right after eating acidic foods or beverages, because the sugar in the mouth can adhere to the tooth surface and provide a substrate for bacterial growth. Brushing can also cause the exposure of dentin, which can be a consequence of the exposed dentin (9). Based on the results of this study, it may be concluded that the full effect of oral hygiene is achieved if it is combined with adequate fluoride intake. The use of fluorides in a suitable form and frequent oral hygiene practices is recommended to prevent dental caries and periodontal disease. The use of fluoride toothpaste and mouthwash can help prevent caries and gingivitis. The effectiveness of fluoride therapy depends on the frequency and duration of fluoride exposure (4).

Periodontal disease can have the same effect on pregCaCgy as smoking (9). Changes in the gingiva can impair the occurrence of gingivitis which may be macroscopic as bleeding from the gums, usually starts during pregnancy. A high percentage of pregnant women surveyed, 80% of them brush their teeth more than twice a day and at the same time spend less than three minutes a day brushing their teeth surfaces. Pregnant women who brush their teeth twice a day and use a toothbrush and toothpaste showed a higher incidence of dental caries and gingivitis (4). The data from 1996 indicate that periodontal disease is a statistically significant risk factor for the premature birth and inadequate fetal body weight. The results of this study have not reached the expected level (7).

**CONCLUSION**

Pregnancy is associated with changes in oral health. Pregnant women surveyed, 60% of them brush their teeth twice a day and at the same time spend less than three minutes a day brushing their teeth surfaces. Pregnant women who brush their teeth less than twice a day and use toothpaste showed a higher incidence of dental caries and gingivitis (5). By examining the habits of pregnant women surveyed, we learned that 60% of pregnant women have postpone going to scheduled annual dental checkups when the dentist or gynecologist requested that they come to the dental office to maintain their oral health. On the other hand, the incidence of preterm birth in pregnant women with septic or placental disease represents a statistically significant risk factor for the premature birth and inadequate fetal body weight; in fact mothers with periodontal disease are more likely to give birth prematurely or to give birth to a baby with a lower body weight (9).

Oral hygiene is essential for the health of pregnant women. It is recommended to wash the teeth with toothpaste and brush thoroughly with a toothbrush to prevent plaque build-up. Pregnant women should be advised to avoid tooth brushing right after eating acidic foods or beverages, because the sugar in the mouth can adhere to the tooth surface and provide a substrate for bacterial growth. Brushing can also cause the exposure of dentin, which can be a consequence of the exposed dentin (9). Based on the results of this study, it may be concluded that the full effect of oral hygiene is achieved if it is combined with adequate fluoride intake. The use of fluorides in a suitable form and frequent oral hygiene practices is recommended to prevent dental caries and periodontal disease. The use of fluoride toothpaste and mouthwash can help prevent caries and gingivitis. The effectiveness of fluoride therapy depends on the frequency and duration of fluoride exposure (4).
to brushing already demineralized enamel. Also, consuming acidic fruits and carbonated beverages should be avoided to minimize the possibility of contact between acid and tooth tissue (9). Periodontal infection increases the risk of premature birth by stimulating the production of prostaglandin E2 (PGE2). The analysis of amniotic fluid of pregnant women with periodontal disease showed the presence of various bacterial products such as lipopolysaccharides and gram negative bacterial enzymes, which are known to stimulate the production of proinflammatory cytokines. This results in increased concentrations of tumor necrosis factor (TNF), interleukin 1-beta (IL1-beta), interleukin 6 (IL 6) and PGE2, which increases the risk of premature birth (11).

In conclusion, a continuous process of application of modern prophylactic and therapeutic, as well as educational and health procedures in dealing with pregnant women is a requisite. When it comes to maintaining oral health, it is vital to inform pregnant women using comprehensible and practically applicable advice that will improve their awareness of the importance of oral hygiene.

REFERENCES

