

ANETA KOMSTA, BARBARA HENDZEL

Analiza nawyków higienicznych i działań profilaktycznych stosowanych przez kobiety w ciąży

Analysis of hygienic habits and prophylactic measures applied by pregnant women

Streszczenie

Wstęp. Występowanie próchnicy zębów i chorób przyzębia jako zjawisk społecznych jest badane i monitorowane pod kątem różnych grup wiekowych, w zależności od płci, regionu zamieszkania i statusu społecznego badanych osób. Ocena stanu zdrowia jamy ustnej u kobiet w ciąży jest ważna, ponieważ dotyczy zdrowia kobiety w szczególnym okresie życia, jakim jest ciąża.

Cel. Celem pracy była analiza nawyków higienicznych oraz działań profilaktycznych stosowanych przez kobiety w ciąży.

Materiał i metody. Materiał badawczy stanowiły kobiety w ciąży, pacjentki Kliniki Położnictwa i Patologii Ciąży oraz Kliniki Stomatologii Zachowawczej Samodzielnego Publicznego Szpitala Klinicznego nr 1 Akademii Medycznej im. Prof. F. Skubiszewskiego w Lublinie. Badaniem objęto 325 kobiet ciężarnych, w wieku od 19 do 38 lat. Użyto metody wywiadu standaryzowanego z wykorzystaniem Kwestionariusza wywiadu, w którym zawarto pytania dane dotyczące wiedzy na temat prawidłowych zachowań zdrowotnych, o nawyki higieniczne oraz dietetyczne.

Wyniki. Spośród badanej populacji 17,2% osób korzystało z usług stomatologicznych rzadziej niż raz w roku. Tylko 34,5% pacjentek zgłaszało się przynajmniej raz w roku na wizytę do lekarza stomatologa. W grupie badanych pacjentek 58,8% podało, że myje zęby 2 razy dziennie, 29,8% osób – raz dziennie, a trzy razy dziennie myje zęby tylko 10,2% ankietowanych. Po każdym posiłku myje zęby jedynie 4,6% pacjentek, a aż 95,4% ankietowanych nie myje zębów po każdym posiłku. Dieta bogatocukrowa ma istotnie znaczenie na częstość występowania próchnicy zębów. Ponad połowa badanych kobiet (58,5%) podała, że spożywała słodkie częściej niż 4 razy w tygodniu, i nieco mniejsza grupa (35,4%) pacjentek spożywała słodkie 3-4 razy w tygodniu.

Większość badanych pacjentek (59,4%) podało, iż w czasie ciąży spożywała słodkie częściej niż przed tym okresem.

Wnioski. Wyniki badań wykazały nie przestrzeganie zasad higieny jamy ustnej oraz zachowań prozdrowotnych w badanej populacji kobiet w ciąży, co ma istotny wpływ na stan zdrowia narządu żucia i całego organizmu.

Słowa kluczowe: kobiety w ciąży, nawyki higieniczne, dieta bogato cukrowa.

Abstract

Introduction. The incidence of dental caries and periodontal diseases as social phenomena has been studied and monitored as for all sorts of age groups, depending on the sex, the region of living and the social status of the studied subjects. The evaluation of oral health in pregnant women is important, since it regards the health of the woman in this special period of her life.

Aim. The analysis of hygienic habits and preventive actions applied by pregnant women was a purpose of the work

Material and methods. There were 325 pregnant women aged 18-38 included in the research. They were the patients of the Department of Obstetrics and Pathology of Pregnancy and of Department of Conservative Dentistry of the Independent Public Clinical Hospital No. 1 of Medical University in Lublin. The methods of the standardized interview were used along with the interview questionnaire with questions concerning the knowledge of correct health behaviours, hygienic and dietary habits.

Results. Out of the studied population, 17.2% were using dental services less frequently than once a year. Only 34.5% of patients referred to the dentist at least once a year. In the group of the studied patients 58.8%, were brushing teeth twice a day, 29.8% of individuals – once a day, and three times a day was common with as little as 10.2% of the respondents. After each meal only 4.6% of patients brush their teeth and as much as 95.4% of respondents don't brush their teeth after each meal. The sugar-rich diet significantly influences the incidence of the dental caries. Over half of the studied women (58.5%) consumed sweets more often than 4 times during the week, and a little bit smaller group (35.4%) ate sweets 3-4 times during the week.

Majority of the studied patients (59.4%) reported that during pregnancy they had eaten sweets more often than before this period.

Conclusions. The findings showed no adherence to the principles of the dental hygiene or to pro-health behaviours in the studied population of pregnant women which has significant influence on the medical condition of the stomatognathic system and the whole body.

Key words: pregnant women, hygienic factors, rich-sugar diet.

INTRODUCTION

Pregnancy is a period of the increased risk of intensification of the factors favouring the occurrence of tooth decay. The level of metabolism of estrogens and the progesterone in the second month of pregnancy triggers the prostaglandin synthesis, which leads to the increase of the permeability of blood vessels, which can take effect as increased in pregnancy incidence of inflammation of the gums. It is manifested by increased sensitivity of gums to mechanical injury, their swelling and bleeding. These manifestations can discourage a pregnant woman from systematic and correct implementation of hygienic procedures in the oral cavity. This also results in limiting the frequency of tooth brushing, replacing it with only rinsing of the oral cavity, but in extreme cases, even with temporary omission of hygienic procedures.

Such a disadvantageous change of hygienic habits of pregnant women causes the increased accretion of the dental plaque. Simultaneously the increase in the level of gonadotrophins in the first term of pregnancy causes development of the morning sickness and vomiting, additionally worsening the effectiveness of hygienic procedures [1-3].

The stomach and intestines of the expectant mother are being moved by the expanding womb laterally and upwards, which causes the regression of chyme to the gulle, and sometimes even to the oral cavity. Findings of many studies confirm the influence of reflux on the pH level of saliva and indirectly on the development of the dental caries. Lowering of the pH of the oral cavity in the period of pregnancy is supporting demineralization of hard tissues of teeth, as well as the occurrence of coarsenesses of so far smooth surfaces [3].

Bacteria from the *Streptococcus mutans* group, having their contribution to the etiopathogenesis of the carious process, demonstrate the elevated adhesion to so just lumpy, hydrophilic area of tissues and fillings due to the the maximum value of the surface free energy (SFR) [4].

Other factor increasing the risk of the development of the tooth decay is a change of eating habits in the period of pregnancy. Both more frequent meals, as well as increasing the amount of consumed carbohydrates along with nibbling between main meals support intensifying of carious processes [5].

AIM

The research aimed at analysis of hygienic habits and preventive actions applied by pregnant women.

MATERIALS AND METHODS

Pregnant women (325) who were the patients of the Department of Obstetrics and Pathology of Pregnancy and of the Department of Conservative Dentistry of the Independent Public Clinical Hospital No.1 of Medical University in Lublin constituted the research material. They were aged 19-38. The methods of the standardized interview were used along with the interview questionnaire including questions concerning the knowledge of correct health behaviours, hygienic habits and dietary inclinations.

RESULTS

The sugar-rich diet significantly influences the incidence of the dental caries (Table 1).

TABLE 1. Frequency of consumption of sweets.

	Specification	Number	%
How often in a week do you eat sweets?	I don't eat sweets at all	0	0,0
	Less frequently than once a week	8	2.5
	1-2 times a week	12	3.7
	3-4 times a week	115	35.4
	More frequently than 4 times a week	190	58.5
Do you have more sweets in pregnancy than before?	Yes	193	59.4
	No	132	40.6

Over half of the studied women (58.5%) consumed sweets more often than 4 times during the week, and a little bit smaller group (35.4%) ate sweets 3-4 times during the week (Table 2).

TABLE 2. The types of eaten sweets.

Specification	Number	%
Chocolate	19	5.8
Cookies	137	42.2
Halva	0	0
Sweets	105	32.3
Bars	103	31.7

* % doesn't sum up to 100% due to the possibility of choosing several variants of the answer.

Majority of the studied patients (59.4%) reported that during pregnancy they ate sweets more often than before this period. The patients listed cookies (42.2%), sweets (32.3%) and bars of chocolate (31.7%) being the most often eaten kinds of sweets.

Protection of the health of teeth and the oral mucosa is the aim of numerous actions of systematically conducted preventive and hygienic procedures (Table 3).

From among the studied patients 58.8% reported tooth brushing twice a day, 29.8% of individuals – once a day and only a 10.2% of respondents reported tooth brushing three times per day. After each meal – only 4.6% of patients brush their teeth, and as much as 95.4% of respondents don't brush teeth after each meal.

The use of different dental hygiene preparations is necessary for correct and effective conducting of oral cavity hygiene. All of the studied patients used a toothbrush (including the 14.2% of individuals who relied on electric brush) and fluoride toothpaste. Apart from the basic set consisting of toothbrush and toothpaste the studied women also applied: dental floss (51.1% of patients), rinsing fluid of the oral cavity (mouthwash) (11.1% of patients), toothpick (3.1% of patients) as well as brush for interdental spaces (0.3% of patients). Sugar-free chewing gum after every meal, when it isn't possible to brush teeth, was applied by 9.5% of respondents and sporadically by 10.8% of individuals.

Basic preventive actions, such as the selection of the appropriate toothbrushes and brushing method as well as the

need for the replacement of the brush for a new one, on average every 3 months, prevent the occurrence of the tooth decay and of periodontal diseases. Amongst 325 questioned women 63.1% said that they replaced a toothbrush every 3 months, and 30.8% of the studied individuals changed their toothbrush every 6 months.

Apart from hygienic procedures conducted at home independently by patients, a number of preventive methods are available in the dentist's surgery. Treatment, such as removing dental deposit and tartar and varnishing of teeth, were common only with 27.1% of the studied women (Table 4).

TABLE 3. Hygienic habits.

		Number	%
How often do you brush your teeth?	3 times daily	33	10.2
	2 times daily	191	58.8
	Once daily	97	29.8
	More rarely than once a day	4	1.2
Do you brush teeth after every meal?	Yes	15	4.6
	No	310	95.4
What type of means do you use for everyday oral hygiene?*	Ordinary toothbrush	279	85.8
	Electric toothbrush	46	14.2
	Toothpaste	325	100
	Mouthwash	36	11.1
	Dental floss	166	51.1
	Toothpick	10	3.1
	Interdental toothbrush	1	0.3
	Sugar-free cewing gum	35	10.8
	Sugar-free gum after every meal	31	9.5
	Once a month and more frequent	8	2.5
How often do you change the toothbrush?	Once in 3 months	205	63.1
	Once in 6 months	100	30.8
	Once in 12 months and more rarely	12	3.7

* % doesn't sum up to 100% due to the possibility of choosing a few variants of the answer..

TABLE 4. Prophylactic procedures conducted in dental surgery.

		Number	%
Do you take advantage of dental procedures in the dental surgery?	Yes	88	27.1
	No	237	72.9
The types of dental procedures performed in the dental surgery	Removing the dental plaque	33	37.5
	Removing the tartar	81	92.0
	Tooth varnishing	24	27.3
	Tooth sealing	0	0.0
	Toothbrush	325	100
	Mouthwash	36	11.1

* % doesn't sum up to 100% due to the possibility of choosing several variants of the answer.

In the study, the frequency of using dental services was reported at the same level during pregnancy as well as in the past. Attention was devoted to the type of performed treatments during the last visit at the dental surgeon.

The frequency of using dental surgeon services was determined on the annual basis; 17.2% of individuals reported dental treatment more rarely than once a year and 24.9% women reported an appointment with the dentist or dental surgeon at least once a year. During current pregnancy, 33.1% of the studied women visited dental surgeon. The most numerous group (65.3%) of patients were women in the first three months of pregnancy. The necessity of the dental caries treatment at the dentist was reported by 60.4% of patients. In terms of the frequency of appointments, the second place was taken by a group of women whose main purpose of the appointment was control of the medical condition of teeth (25.7% of respondents). Least numerous group (5.0%) included women who had the extraction done.

The frequency of using dental services was determined on annual basis; 17.2% of individuals reported to have less frequently than the once a year a visit for the dental treatment and 24.9% – at least once a year. Graphical presentation of the percentage distribution of the answers to a question concerning the frequency of using services of the dentist are described in Figure 1.(Table 5,6)

TABLE 5. Frequency of taking advantage of dental treatment.

Specification	Number	%
More rarely than once a year	145	44.6
Once a year	81	24.9
Twice a year	32	9.8
More frequently than twice a year	67	20.6

TABLE 6. Frequency of taking advantage of dental treatment in current pregnancy.

		Number	%
Did you make an appointment at a dental surgery in your current pregnancy?	Yes	101	31,1
	No	224	68.9
In which month of pregnancy did you visit the dental surgery?	Between 1-4 month in pregnancy	66	65.3
	Between 4-7 month in pregnancy	31	30.7
	Between 7-9 month in pregnancy	4	4.0
The reasons for reporting at the dental surgery	Control	26	25.7
	Tooth treatment	61	60.4
	Prophylactic treatment	9	8.9
	Extraction	5	4.5

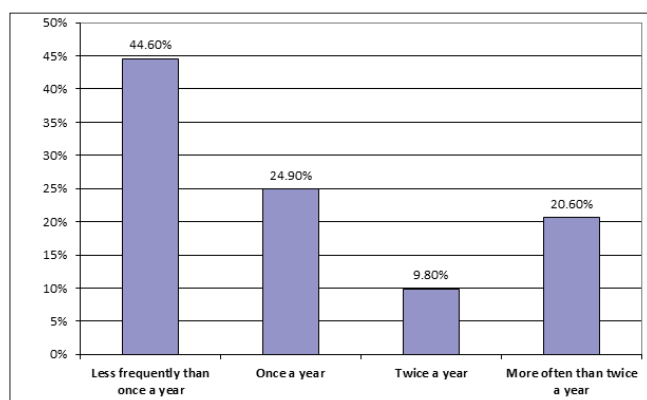


FIGURE 1. The structure of the studied individuals according to the frequency of taking advantage of the services of dental surgery.

DISCUSSION

Keeping the appropriate level of the dental hygiene prevents the occurrence of the tooth decay, dental complications and periodontal diseases [6]. Additionally in accordance with the views of some authors, improvement in the dental hygiene and the fluoride prevention considerably influence the reduction in the incidence and intensity of tooth decay [4,6,7].

The period of pregnancy often supports the disadvantageous change of dietetic habits which manifests itself in increasing the number of eaten meals containing carbohydrates [8]. This is an additional factor influencing the development of dental caries. New eating habits, such as increased consumption of sweets and more frequent meals with simultaneous neglecting everyday hygienic procedures (limiting the frequency of brushing or replacing this treatment with only mouth washing of the oral cavity) result in increased accumulation of the bacterial plaque and can favour activating and increasing of carious processes [5,7].

Over half of the studied women (58.5%) reported eating sweets more often than 4 times during the week, and a smaller group (35.4%) ate sweets 3-4 times during the week. Majority of the studied patients (59.4%) revealed that during pregnancy more often than before they had sweets. In studies conducted by Chłapowska, half out of 60 respondents of pregnant women stated that their appetite for sweets increased [9]. Other researchers showed that only 38% of women were caring about actually balanced diet during pregnancy [10]. In examinations conducted by Dubielecka et al, 71.05% of pregnant women with the secondary education and with the higher education had snacks rich in carbohydrates between main meals and it was confirmed by 56.64% of such women [7].

Dental hygiene, besides correct nutrition, has a significant effect on the state of teeth. Out of studied patients, 58.8% reported brushing teeth twice a day, 29.8% of individuals - once a day, and three times per day was reported by 10.2% of respondents. After every meal only 4.6% of patients brush their teeth, and as much as 95.4% of respondents don't brush teeth after every meal. Taking different dental hygiene preparations is necessary for correct and effective conducting hygienic procedures. All of the studied patients used a toothbrush (including the 14.2% of individuals who used electric brush) and fluoride toothpaste. Apart from the basic tooth-

brush and a toothpaste the studied women applied: dental floss (51.1%), liquid for rinsing of the oral cavity - mouthwash (11.1%), toothpick (3.1%) as well as brush for interdental spaces (0.3%). Sugar-free chewing gum after every meal, when it isn't possible to brush teeth, was applied by 9.5% of respondents, occasionally by 10.8% of individuals.

The collected data concerning the use of preventive treatment were quite surprising. As much as 72.9% of the studied subjects reported not following preventive treatment in the dentist's surgery. This may indicate low general knowledge, as well as the need to use preventive treatment in the dentist's surgery. The findings revealed by other authors indicated that 78% of pregnant women brushed their teeth twice daily, 15% after every meal and only a 7% - once a day. Only 38.3% of the studied subjects used the dental floss and the 16.7% only applied disinfecting mouthwashes in everyday oral care [10]. Other authors showed that pregnant women with higher education more often and systematically applied dental floss compared with pregnant women with the secondary education [7].

Basing on the presented own findings it was stated that during current pregnancy 33.1% of studied women had an appointment with the dental surgeon. Treating teeth was the most frequent reason of referrals to a dental surgeon (60.4%) as well as control of the medical condition of the oral cavity (25.7%). Similar research of pregnant women revealed that 31% of respondents did not visit dental surgeon during pregnancy, 25% of the studied were only once at the dental surgeon, 17% twice and 27% more than twice [10]. The conducted examinations amongst pregnant women showed in Denmark that 9 in 10 of the studied women referred to the dental surgeon systematically [7].

CONCLUSIONS

Based on the findings on a group of 325 pregnant women, the lack of adherence to the principles of the dental hygiene was demonstrated. Only 4.6% of patients brushed teeth after every meal, but only 27.1% of them used preventive treatment in the dentist's surgery. The increase in the health awareness, the improvement in the effectiveness of conducted hygienic procedures and preserving correct dietary habits, will do good to the medical condition of the oral cavity of both mothers-to-be, and their children.

REFERENCES

1. Amar S, Hung KM. Influence of hormonal variation on the periodontium in women. *Periodontol.* 2000;1994(6):79.
2. Hugson A. Salivary secretion in pregnancy. A longitudinal study of flow rate, total protein, sodium, potassium and calcium concentration in parotid saliva from pregnant women. *Acta Odontol Scand.* 1972;30:49.
3. Malinowska S. Leczenie stomatologiczne w okresie ciąży - możliwości i ograniczenia. *Magazyn Stomat.* 1997;8:19-26.
4. Quirynen M. The clinical meaning of surface roughness and surface free energy of intra-oral hard substrata on the microbiology of the supra- and subgingival plaque: results of in vitro and vivo experiments. *J Dent.* 1994;22:13.
5. Dubielecka-Kittel M, Rusyan E. Stan próchnicy i potrzeby lecznicze kobiet w ciąży uczestniczących w kursach przygotowawczych szkoły rodzenia. *Stomat Współ.* 2002;9(6):41-5.

6. Ilewicz L, Pawlik A, Raczkowska A. Problem higieny jamy ustnej na podstawie badań wybranych grup pacjentów z Polski i Wielkiej Brytanii. *Mag Stom.* 1996;6(4):23-7.
7. Dubielecka M, Słotwińska SM, Rusyan E. Ocena zachowań prozdrowotnych i świadomości stanu zdrowia jamy ustnej kobiet w ciąży. *Mag Stom.* 2005;10:66-9.
8. Tymczyna B, Sarna-Boś K, Krochmalska E, Truszkowska A, Komorowska M, Skif F. Wiedza kobiet w ciąży na temat higieny jamy ustnej i profilaktyki próchnicy zębów. *Zdr Publ.* 2004;114(2):193-6.
9. Chłapowska J, Opydo-Szymaczek J. Analiza wpływu programu profilaktycznego na stan uzębienia i nawyki prozdrowotne kobiet ciężarnych – badania kliniczne i ankietowe. *Dent Med Prob.* 2006;43(1):59-64.
10. Czajkowski L. Świadomość profilaktyki próchnicy u kobiet po 28. tygodniu ciąży. *Prz Stom Wieku Rozwoj.* 2001;(3/4):113-6.

Informacje o Autorkach

Dr n. med. ANETA KOMSTA – asystent; lek. stom. BARBARA HENDZEL – asystent, Katedra i Zakład Stomatologii Zachowawczej, Uniwersytet Medyczny w Lublinie.

Adres do korespondencji

Aneta Komsta
Ul. Romera 77, 20-487 Lublin
tel. 606 837 856
e-mail: anetakomsta@vp.p