

# Oral-health awareness among pregnant women in the region of Republika Srpska

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## SUMMARY

**Introduction** Oral diseases during pregnancy are an important reason for enhanced dental care of this vulnerable population. The aim of this study was to determine the degree of oral health awareness among pregnant women and examine their oral hygiene habits, attitudes and behaviors in relation to the professional qualification.

**Material and methods** The study was conducted in Foča, East Sarajevo, Bijeljina and Pale (Republika Srpska, Bosnia and Herzegovina). A total of 198 respondents voluntarily filled an anonymous survey, specially created for this research.

**Results** In addition to toothbrush and toothpaste, 39.8% of pregnant women did not use any additional oral hygiene resources. When brushing their teeth, 60.1% of pregnant women had bleeding gums. Also, 54.1% of pregnant women visited dentist, while 34.3% did not. Obstetrician did not advise 69.7% of respondents that they should visit dentist during pregnancy. Furthermore, 80.8% of pregnant women thought that they were more susceptible to pregnancy caries, and 29.6% of them thought that caries is disease that cannot be prevented. Respondents with university education understood that minerals from the mother's teeth were not lost during pregnancy, which was statistically significant compared to pregnant women with secondary education.

**Conclusion** The level of oral health awareness of pregnant women is low. It is important that all women perform regular dental examination during pregnancy, as they will receive useful information from their dentist how to prevent oral diseases.

**Keywords:** pregnancy; oral health; primary prevention; oral hygiene

## INTRODUCTION

Pregnancy is dynamic period in the life of a woman followed by numerous physiological and emotional changes. A healthy lifestyle and proper nutrition in pregnancy play a key role in general health of women, as well as proper growth and development of a child. Oral diseases during pregnancy are an important reason for enhanced dental care of this vulnerable population [1]. During pregnancy the level of sex hormones (estrogen and progesterone) is significantly increased in relation to non-pregnant women [2]. As result of a hormonal disbalance soft tissue changes in mouth are visible and followed by various degrees of tissue inflammation and bleeding marginal gingiva [3].

Periodontal diseases during pregnancy can be associated with preeclampsia, premature birth, and birth of a baby with low body weight [4]. Literature data indicate that transfer of cariogenic microorganisms from mother to child is one of the key factors in development of children's decay [5]. Modern dentistry aims to promote health and favors preventive over curative measures [6, 7]. Prophylactic-preventive measures in pregnant women have dual function: create optimal conditions for intra-

uterine formation and teeth development and prevent the occurrence of oral diseases in pregnant women. However, the fact is that only when a disease occurs, future mothers show interest in prevention [8]. Therefore, it is especially important that dentists insist on applying timely preventive measures in the period of early pregnancy.

The American Academy of Dentistry recommends that oral health care in children should begin in prenatal period by their parents oral health improvement [9]. A large number of pregnant women have not developed awareness of the impact of their own oral health and poor oral hygiene during pregnancy on the child's oral health. It is the fact that pregnant women, in most cases, have need for frequent and increased intake of sweet or sour food and beverages and ignore oral hygiene habits [8].

Parents play an important role in children's life, therefore their oral health knowledge and attitudes have major impact on the child's behavior model [10]. Many women during pregnancy are not visiting dentists. Literary evidence show that dental services are provided to low number of pregnant women even in industrialized countries: USA (23–49%), Great Britain (33–64%) and Greece (27%) [11]. During pregnancy, dental visits should be obligatory with the goal to obtain adequate information on how to

preserve oral health of a child [12]. Advices should be understandable and practically applicable so that future mothers could easily implement their knowledge toward oral and general health [13].

The aim of the study was to determine the degree of oral health awareness among pregnant women as well as oral hygiene habits, attitudes and behaviors in relation to the professional qualifications.

## MATERIALS AND METHODS

The study was conducted in 4 municipalities: Foča, Istočno Sarajevo, Bijeljina and Pale (Republika Srpska, B&H). Criteria for inclusion in the study were pregnant women regardless of age, education and social status chosen by random selection in obstetrical ambulances during regular checkups. All respondents gave written consent to participate in research. A total of 198 subjects, who were examined in the period from 8th to 38th week of gestation, voluntarily filled an anonymous survey, specially created for this research. The questionnaire consisted of 25 questions in order to receive the following information: socio-demographic data, oral hygiene habits of pregnant women, acquired knowledge and patterns of behavior during pregnancy as well as perception of pregnant woman about the harmfulness of dental interventions and medications on fetus. The obtained data were numerically processed using standard statistical procedures in statistical program SPSS 19.0 for Windows. Chi-square test was used to test the difference between the survey responses. Values  $p/q < 0.05$  were considered statistically significant.

## RESULTS

The average age of examined subjects was 33.3 years. Most pregnant women (67.7%) had secondary education; slightly more than half of them were unemployed. 39.9% of respondents were pregnant for the first time (Table 1).

Table 2 shows oral hygiene habits and behavior of pregnant women. In addition to toothbrushes and toothpastes, 39.8% subjects did not use any other oral hygiene resources. More than three-quarters of pregnant women (76.9%) with university education used additional oral hygiene resources and that was significantly different from pregnant women with secondary education, ( $p < 0.05$ ). When brushing teeth, 60.1% of pregnant women had bleeding gums, while nausea and vomiting were present in 55.0%. The survey showed that 15.1% of respondents would eat at nighttime, 13.6% were smokers, and 2.0% pregnant women consumed alcohol. One third of respondents (30.6%) had fear of dental intervention. More than half of respondents (54.1%) visited dentist during pregnancy, while 34.3% declared that they did not have any intention to do so. The survey showed that 69.7% of obstetricians did not advise women to visit dentists during pregnancy (Table 2).

Table 3 shows level of knowledge, behavior and opinion of pregnant women about the impact of dental interven-

**Table 1.** Socio-demographic characteristics of respondents

**Tabela 1.** Sociodemografske karakteristike ispitanica

General Generalije		n	%	SS SZ
Age Godine starosti	< 30 years < 30 godina	78	39.4	p < 0.05
	> 31 years > 31 godine	120	60.6	
Education Obrazovanje	Secondary education Srednja stručna sprema	134	67.7	p < 0.05
	University education Visoka stručna sprema	64	32.3	
Employment status Radni status	Employed Zaposlena	97	48.1	p > 0.05
	Unemployed Nezaposlena	101	51.9	
Pregnancy number Redosled trudnoće	First Prva	79	39.9	p < 0.05
	Second and more Druga ili više	119	60.1	
Months of pregnancy Meseći trudnoće	≤ 4 months ≤ 4 meseca	46	23.3	p < 0.01
	> 4 months > 4 meseca	152	76.7	

n – number of respondents; SSS – secondary education; VSS – university education; SS – statistical significance

n – broj ispitanica; SSS – srednja stručna sprema, VSS – visoka stručna sprema;

SZ – statistička značajnost

tion on the fetus. About two-thirds of pregnant women thought that during pregnancy they should not remove or treat unhealthy teeth, and they should not receive local anesthetic. Also, 80.8% of pregnant women thought that pregnancy makes teeth more susceptible to decay, and almost one third (29.6%) believed that caries is disease that cannot be prevented. Respondents with university education in a significantly higher percentage considered that minerals from mother's teeth couldn't be lost during pregnancy ( $p < 0.05$ ) (Table 3).

## DISCUSSION

Research of oral hygiene habits, knowledge and behavior of pregnant women in our areas are very scarce. This study was conducted with the aim of gaining information about knowledge of pregnant women about oral health, in order to develop adequate preventive measures and raise awareness of oral health importance. Pregnancy is period when women are highly motivated to acquire knowledge in order to improve both their own and their child's health. Therefore this period is suitable for identifying existing risk factors, educating women (future mothers) to be conscious that oral health can be preserved and improved.

Adequate oral hygiene is a prerequisite for teeth and complete mouth health. Pregnant women are usually occupied by their condition and positive habits may be ignored. There is no doubt that eating habits change during pregnancy, but the question is which bad habits may increase incidence of dental diseases. Good oral-hygiene habits are result of good oral health education. In

**Table 2.** Oral hygiene habits and behavior during pregnancy  
**Tabela 2.** Oralnihigijenske navike i ponašanje u toku trudnoće

Questions Pitanja	Answer Odgovor	Total Ukupno %	Education Obrazovanje		SS SZ
			SSS Secondary education (%)	VSS University education (%)	
How often do you brush your teeth? Koliko često perete zube?	1-2 times 1-2 puta	23.0	18.2	2.9	p<0.001 q<0.05
	>2 times >2 puta	77.0	81.8	97.1	
Do your gums bleed while brushing your teeth? Da li vam desni krvare prilikom pranja zuba?	Yes Da	60.1	65.2	50.0	p<0.01 q>0.05
	No Ne	39.9	34.8	50.0	
Do you use some additional means of maintaining oral hygiene in addition to brushes and pastes? Osim četkice i paste, da li koristite neka dodatna sredstva za održavanje oralne higijene?	Yes Da	60.2	54.2	76.9	p<0.05 q<0.01
	No Ne	39.8	45.8	23.1	
Do you smoke during pregnancy? Da li pušite u toku trudnoće?	Yes Da	13.6	19.7	5.9	p<0.001 q>0.05
	No Ne	86.4	80.3	94.1	
Do you consume alcohol during pregnancy? Da li konzumirate alkohol u toku trudnoće?	Yes Da	2.0	4.0	5.9	p<0.001 q>0.05
	No Ne	98.0	96.0	94.1	
Do you get up at night to eat? Da li ustajete noću radi konzumiranja hrane?	Yes Da	15.1	19.7	5.9	p<0.001 q>0.05
	No Ne	84.9	80.3	94.1	
Do you have nausea and vomiting during pregnancy? Da li imate mučninu i povraćanje tokom trudnoće?	Yes Da	55.0	57.6	50.0	P>0.05 q>0.05
	No Ne	45.0	42.4	50.0	
If this is not your first pregnancy, have you changed your oral hygiene habits in relation to previous pregnancies? Ako vam ovo nije prva trudnoća, da li ste promenili svoje oralnihigijenske navike u odnosu na prethodne trudnoće?	Yes Da	47.5	52.6	39.1	p>0.05 q>0.05
	No Ne	52.5	47.4	60.9	
Did you visit a dentist during your pregnancy? Da li ste u trudnoći posetili stomatologa?	Yes Da	54.1	51.4	61.5	p>0.05 q>0.05
	No Ne	45.9	48.6	38.5	
Do you intend to visit a dentist during pregnancy? Da li nameravate posetiti stomatologa tokom trudnoće?	Yes Da	65.7	63.9	69.2	p<0.001 q>0.05
	No Ne	34.3	36.1	30.8	
Did your obstetrician advise you to visit a dentist? Da li vam je ginekolog savetovao da posetite stomatologa?	Yes Da	30.3	31.9	26.9	p<0.001 q>0.05
	No Ne	69.7	68.1	73.1	
Do you have any fear of visiting a dentist during pregnancy? Da li imate strah od posete stomatologu tokom trudnoće?	Yes Da	30.6	36.1	15.4	p<0.001 q<0.05
	No Ne	69.4	63.9	84.6	

SSS – secondary education; VSS – university education; SZ – statistical significance; p – statistical significance in responses when the whole sample of respondents concerned; q – statistical significance in responses in relation to the professional qualifications of respondents

SSS – srednja stručna sprema, VSS – visoka stručna sprema, SZ – statistička značajnost; p – statistička značajnost u odgovorima kada je celokupan uzorak ispitanica u pitanju; q – statistička značajnost u odgovorima u odnosu na stručnu spremu ispitanica

this study, 77.0% of pregnant women brushed their teeth after each meal, while the remaining 23.0% brushed teeth 1-2 times a day. Similar results were obtained by Nogueira et al. [8] where 75.5% of pregnant women brushed their teeth after every meal, while in the study Shabir et al. [14] 98.5% of pregnant women brushed their teeth 1-2 times a day. Thomas et al. [15] indicated that the frequency of brushing teeth and use of additional means of maintain-

ing oral hygiene is in correlation with professional qualifications. This research showed that pregnant women with university education brushed their teeth more often and that they used other oral hygiene products.

Gingivitis is one of the most common oral complications during pregnancy. It usually occurs after the second month of pregnancy and is followed by the most common bleeding gums during brushing teeth. This research showed that

**Table 3.** Knowledge and attitudes of pregnant women about the influence of dental interventions on the fetus  
**Tabela 3.** Znanje i stavovi trudnica o uticaju stomatoloških intervencija na fetus

Questions Pitanja	Answer Odgovor	Total Ukupno %	Education Obrazovanje		SS SZ
			SSS Secondary education (%)	VSS University education (%)	
Do you think that extracting and treating your teeth is safe during pregnancy? Da li smatrate da su vađenje i lečenje zuba sigurni tokom trudnoće?	Yes Da	33.0	37.9	23.5	p<0.001 q>0.05
	No Ne	67.0	62.1	76.5	
Do you think anesthesia can be received during pregnancy? Da li smatrate da se anestezija može primiti u toku trudnoće?	Yes Da	28.0	27.3	29.4	p<0.001 q>0.05
	No Ne	72.0	72.7	70.6	
Do you think that teeth in pregnancy are more susceptible to caries? Da li smatrate da su zubi u trudnoći podložniji karijesu?	Yes Da	80.8	81.9	77.9	p<0.001 q>0.05
	No Ne	19.2	18.1	22.1	
Do you know that caries can be prevented? Da li znate da se nastanak karijesa može sprečiti?	Yes Da	70.4	69.4	73.1	p<0.001 q>0.05
	No Ne	29.6	30.6	26.9	
Do you think that the mother's teeth can affect the early development of caries in children? Da li smatrate da oboleli zubi kod majke mogu uticati na rani nastanak karijesa kod dece?	Yes Da	60.2	54.2	76.9	p<0.05 q<0.05
	No Ne	39.8	45.8	23.1	
Have you received instructions from a professional about maintaining oral hygiene for baby? Da li ste dobili uputstvo od stručnog lica o održavanju oralne higijene bebe?	Yes Da	26.6	23.6	38.5	p<0.001 q<0.05
	No Ne	73.4	76.4	61.5	
Do you know that there are gels, varnishes and fissure sealants for the prevention of caries in children? Da li znate da postoje gelovi, lakovi i zalivači koji služe za prevenciju karijesa kod dece?	Yes Da	79.8	83.3	69.2	p<0.001 q>0.05
	No Ne	20.2	16.7	30.8	
Do you consider that pregnancy as a condition affects the loss of calcium from the mother's teeth? Da li smatrate da trudnoća kao stanje utiče na gubitak kalcijuma iz zuba majke?	Yes Da	58.0	65.2	44.1	p>0.05 q<0.05
	No Ne	42.0	34.8	55.9	

SSS – secondary education; VSS – university education; SS – statistical significance; p – statistical significance in responses when the whole sample of respondents concerned; q – statistical significance in relation to the professional qualifications of the respondents

SSS – srednja stručna sprema; VSS – visoka stručna sprema; SZ – statistička značajnost; p – statistička značajnost u odgovorima kada je celokupan uzorak ispitanica u pitanju; q – statistička značajnost u odnosu na stručnu spremlu ispitanica

60.1% of subjects had bleeding gums while brushing their teeth. Bleeding can be reason for not maintaining proper oral hygiene, causing rapid development of caries and teeth loss [16]. Factors such as tobacco and alcohol increase the risk of low body weight in newborns, premature birth and other complications [17]. The results of this research showed that 13.6% of pregnant women smoked during pregnancy, while 2% of them consumed alcohol. Results of Esposito et al. [17] showed that 22.3% of women in Italy smoked during pregnancy, while 28.9% consumed alcohol before pregnancy, and 7.2% of them continued using alcohol during pregnancy. These numbers are significantly higher compared to our results. On the other hand research from United States and Great Britain showed that 57.4%, and 46.0% of pregnant women, respectively, were consuming cigarettes during pregnancy [17, 18].

There is no known relation between pregnancy and decay. However, in our study, as many as 80.8% of respondents considered that teeth in pregnancy were more susceptible to decay. Even though there is belief that “every pregnancy is taking one tooth”, no data actually

confirmed this thesis. Increased risk of developing caries lesions, gingivitis and periodontal diseases during pregnancy is primarily due to the change in hormonal status and change in eating habits [1]. In our study it was found that pregnant women with secondary education in higher percentage contemplated that every pregnancy resulted in a loss of minerals from the mother's teeth. Loss of teeth during pregnancy is primarily consequence of continuation of poor oral or hygienic habits that existed even before pregnancy.

Dental interventions (restorations, endodontic treatment and tooth extraction) can be safely administered in any trimester of pregnancy, while more complex and time-consuming interventions are recommended after giving birth [15]. In the current study, large percentage of pregnant women (67.0%) considered that dental interventions are not safe during pregnancy. When it comes to receiving local anesthesia 72.0% said that it was not recommended.

Different factors influenced dental visits of pregnant women: material status, lack of consciousness about the

importance of teeth health, biases about the impact of pregnancy on teeth and concern about safety of fetus during dental treatment [8]. In our study, 45.9% of respondents did not visit dentist, while 34.3% had no intention to do so. These values are slightly higher than results of Mangskau et al. [19] where 39% of pregnant women declared that they had not visited dentist during pregnancy. Hashim et al. [20] found that more than 40% of pregnant women did not visit dentist, even though dental interventions for pregnant women are free. Most of dental interventions in pregnant women happened due to certain painful conditions in the mouth. Also, more than half of pregnant women in Australia and USA did not visit dentist during pregnancy [15]. On the other hand, Christensen et al. [21] reported that 90% of Danish pregnant women visited dentists during pregnancy. In our study, significant difference in dental visits in relation to professional qualifications was not recorded.

73.4% of pregnant women reported that they did not receive any advice related to maintenance of their oral health and oral health of children. Similar results were obtained in the research of Rogers et al. [22] and Gunay et al. [23], where it was shown that only less than one-third of respondents received advice about the effects of women's oral health on pregnancy and newborns. 69.7% of pregnant women reported that they did not receive advice from their obstetrician about dental visits. Research of Basser et al. [24] showed poor oral health knowledge among obstetricians, who first come in contact with pregnant women, providing them adequate medical care and advice. Similar results were shown in the studies of Zanata et al. [25] and Rocha et al. [26]. Therefore, education and motivation of health workers, in the first place obstetrician, is one of the possible preventive measures to improve oral health of pregnant women. Cardenas et al. [27] found in their research that knowledge of pregnant women was significantly improved after 10 minutes of oral health presentations by dentist and the same women 4 weeks after testing retained most of the informations.

It is necessary to emphasize that in the area where our study was conducted there is no organized counseling for pregnant women in which the dentist is involved. It is therefore desirable to achieve better cooperation with obstetrician, because teamwork is the guarantee of successful prevention.

## CONCLUSION

The level of oral health education among pregnant women is low. It is important that all women perform regular dental examinations during pregnancy even if they have healthy oral tissues. Dentist is important to spread useful information about the prevention of oral diseases that will contribute to improvement of pregnant women overall health as well as the health of a future child.

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# Oralnozdravstvena prosvেćenost kod trudnica na području Republike Srpske

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## KRATAK SADRŽAJ

**Uvod** Oralna oboljenja tokom trudnoće predstavljaju važan razlog za pojačanu stomatološku zaštitu ove vulnerabilne populacije. Cilj studije je bio da se utvrdi stepen oralnozdravstvene prosvеćenosti trudnica, kao i da se ispituju oralnohigijenske navike, stavovi i ponašanje u odnosu na stručnu spremu.

**Materijal i metode** Studija je sprovedena u Foči, Istočnom Sarajevu, Bijeljini i Palama (Republika Srpska, BiH). Ukupno 198 ispitanica dobrovoljno su ispunile anonimnu anketu, posebno kreiranu za ovo istraživanje.

**Rezultati** Osim četkice i paste za zube, 39,8% ispitanica za oralnu higijenu nije koristilo dodatna sredstva. Prilikom pranja zuba 60,1% trudnica je imalo krvarenje desni. Njih 54,1% su u toku trudnoće posetile stomatologa, dok se 34,3% izjasnilo da nema nameru da to učini. Ginekolog nije savetovao 69,7% ispitanica da posete stomatologa u toku trudnoće. Takođe, 80,8% trudnica bilo je mišljenja da su u trudnoći zubi podložniji karijesu, a 29,6% njih da je karijes oboljenje koje se ne može sprečiti. Ispitanice sa visokom stručnom spremom su smatrale da se u trudnoći ne gube minerali iz zuba majke, što je statistički značajna razlika u odnosu na trudnice sa srednjom stručnom spremom.

**Zaključak** Nivo zdravstvene prosvеćenosti trudnica o oralnom zdravlju je nizak. Važno je da sve žene u toku trudnoće obave redovan stomatološki pregled jer će od stomatologa dobiti korisne informacije o prevenciji oralnih oboljenja.

**Ključne reči:** trudnoća; oralno zdravlje; primarna prevencija; oralna higijena

## UVOD

Trudnoća je dinamičan period u životu žene praćen brojnim fiziološkim i emocionalnim promenama. Zdrav način života i pravilna ishrana u trudnoći imaju ključnu ulogu na opšte zdravlje žene, kao i na pravilan rast i razvoj budućeg deteta. Oralna oboljenja tokom trudnoće predstavljaju važan razlog za pojačanu stomatološku zaštitu ove vulnerabilne populacije [1]. U trudnoći je nivo polnih hormona (estrogen i progesteron) značajno povišen u odnosu na žene koje nisu u drugom stanju [2]. Kao posledica hormonskog disbalansa javljaju se promene na mekim tkivima u usnoj duplji, a praćene su rastresitošću tkiva, različitim stepenom inflamacije i krvarenjem marginalne gingive [3].

Parodontalna oboljenja tokom trudnoće mogu se dovesti u vezu sa preeklampsijom, prevremenim porođajem i rođenjem beba male telesne težine [4]. Podaci iz literature ukazuju da je prenos kariogenih mikroorganizama sa majke na dete jedan od ključnih faktora u razvoju karijesa kod dece [5]. Savremena stomatologija ima za cilj promovisanje zdravlja i favorizovanje preventivnih nad kurativnim merama [6, 7]. Profilaktičko-preventivne mere kod trudnica imaju dvojaku funkciju: da stvore optimalne uslove za razvoj i formiranje zuba intrauterino i da spreče nastanak oralnih oboljenja trudnice. Međutim, činjenica je da tek kad nastane oboljenje, buduće majke pokažu interes za primenu sredstava za prevenciju [8]. Zbog toga je posebno važno da stomatolozi insistiraju na primeni rane prevencije, koju je najbolje početi primenjivati još u periodu trudnoće.

Američka akademija za dečju stomatologiju preporučuje da briga o oralnom zdravlju dece započne još u prenatalnom periodu oralnozdravstvenim prosvеćivanjem roditelja [9]. Kod većeg broja trudnica ne postoji razvijena svest o uticaju sopstvenog oralnog zdravlja i loše oralne higijene tokom trudnoće na oralno zdravlje deteta. Činjenice pokazuju da žene u trudnoći,

u većini slučajeva, ispunjavaju potrebe za čestim i povećanim unošenjem slatke ili kisele hrane i pića, a zanemaruju oralno-higijenske navike [8].

Roditelji igraju važnu ulogu u životu deteta, tako da će njihovo znanje i stavovi o oralnom zdravlju imati veliki uticaj na model ponašanja deteta [10]. Mnoge žene u toku trudnoće ne posećuju stomatologa. Literaturni navodi pokazuju da je korišćenje stomatološke službe tokom trudnoće na niskom nivou i u industrijski razvijenim zemljama: SAD (23–49%), Velikoj Britaniji (33–64%) i Grčkoj (27%) [11]. U toku trudnoće posete stomatologu bi trebale biti obavezne u cilju dobijanja adekvatnih informacija kako na najbolji način sačuvati oralno zdravlje svog deteta [12]. Saveti treba da budu razumljivi i praktično primenljivi kako bi budućim majkama poboljšali svest o značaju kako oralnog tako i celokupnog zdravlja [13].

Cilj studije bio je da se utvrdi stepen oralnozdravstvene prosvеćenosti trudnica, kao i da se ispituju oralnohigijenske navike, stavovi i ponašanje u odnosu na stručnu spremu.

## MATERIJAL I METODE

Studija je sprovedena u četiri opštine: Foča, Istočno Sarajevo, Bijeljina i Pale (Republika Srpska, BiH). U studiju su bile uključene trudnice bez obzira na starost, obrazovanje i materijalni status, koje su odabrane metodom slučajnog izbora u ginekološkim ambulanzama tokom redovne kontrole. Sve ispitanice su dale pisanu saglasnost za učešće u istraživanju. Ukupno 198 ispitanica, koje su bile u periodu od 8. do 38. nedelje gestacije, dobrovoljno su ispunile anonimnu anketu, posebno kreiranu za ovo istraživanje. Anketa je sastavljena od 25 pitanja kako bi se dobile sledeće informacije: sociodemografski podaci, oralno-higijenske navike trudnica, stečena znanja i obrasci ponašanja u trudnoći, kao i percepcija trudnica o štetnosti stomatoloških

intervencija i medikamentata na fetus. Dobijeni podaci su numerički obrađeni standardnim statističkim procedurama u statističkom programu SPSS 19,0 za Windows. Za testiranje razlike između anketnih odgovora upotrebljen je  $\chi^2$  test. Vrednosti  $p/q < 0,05$  smatrane su statistički značajnim.

## REZULTATI

Sve trudnice odgovorile su na ponuđena pitanja. Prosečna starost ispitanica bila je 33,3 godine. Većina trudnica (67,7%) imala je srednju stručnu spremu, nešto više od polovine njih je nezaposleno, dok je kod 39,9% ispitanica konstatovana prva trudnoća (Tabela 1).

Iz Tabele 2 može se videti koje oralnohigijenske navike su imale i kakvo je ponašanje ispitanica tokom trudnoće. Osim četkice i paste za zube, 39,8 % ispitanica za oralnu higijenu nije koristilo dodatna sredstva. Više od tri četvrtine trudnica (76,9%) sa visokom stručnom spremom upotrebljavale su dodatna sredstva, što je u odnosu na trudnice sa srednjom stručnom spremom statistički značajna razlika ( $q < 0,05$ ). Prilikom pranja zuba 60,1% trudnica je imalo krvarenje desni, dok je mučninu i povraćanje navelo njih 55%. Anketa je pokazala da je 15,1% ispitanica ustajalo noću kako bi konzumirale hranu, 13,6% su pušači, a 2% trudnica je konzumiralo alkohol. U ovoj studiji trećina ispitanica (30,6%) imala je strah od stomatoloških intervencija. Više od polovine anketiranih (54,1%) posetile su stomatologa u toku trudnoće, dok se 34,3% izjasnilo da nema nameru da to učini. Anketa je pokazala da 69,7% ispitanica ginekolog nije savetovao da posete stomatologa u toku trudnoće (Tabela 2).

Tabela 3 pokazuje nivo znanja, ponašanje kao i mišljenja trudnica o uticaju stomatoloških intervencija na fetus. Oko dve trećine trudnica je smatralo da u toku trudnoće ne bi trebalo lečiti i vaditi zube, kao i da ne mogu primiti anesteziju. Takođe, 80,8% trudnica bilo je mišljenja da su u trudnoći zubi podložniji karijesu, a skoro trećina (29,6%) da je karijes oboljenje koje se ne može sprečiti. Ispitanice sa visokom stručnom spremom u značajno većem procentu su smatrale da se u trudnoći ne gube minerali iz zuba majke u odnosu na trudnice sa srednjom stručnom spremom ( $q < 0,05$ ) (Tabela 3).

## DISKUSIJA

Istraživanja o oralnohigijenskim navikama, znanju i ponašanju trudnica na našim prostorima su vrlo oskudna. Ova studija je sprovedena sa ciljem da se stekne uvid u oralnozdravstvenu prosvetćenost trudnica, kako bi se adekvatnim preventivnim merama delovalo na podizanje nivoa svesti o oralnom zdravlju. Trudnoća je period kada su žene izuzetno motivisane za usvajanje znanja u cilju unapređenja kako svog, tako i detetovog zdravlja. To čini ovaj period pogodnim za identifikaciju postojećih faktora rizika, edukaciju žena (budućih majki) i podizanje svesti da se zdravlje očuva i unapredi.

Adekvatna oralna higijena je preduslov za zdravlje usta i zuba. Trudnice su obično okupirane svojim stanjem tako da može doći do zanemarivanja pozitivnih navika koje nisu od primarnog značaja. Nesumnjivo je da se navike u ishrani tokom trudnoće menjaju, ali pitanje je koja od loših navika utiče na povećanje incidence stomatoloških oboljenja. Dobre oralnohi-

gijenske navike su rezultat dobre oralnozdravstvene prosvetćenosti. U ovom istraživanju učestalost pranja zuba posle svakog obroka navelo je 77% trudnica, dok je preostalih 23% to činilo 1-2 puta dnevno. Slične rezultate dobili su Nogueira i sar. [8], u kojima je 75,5% trudnica zube pralo posle svakog jela, dok u drugoj studiji Shabirra i sar. [14] 98,5% njih je navelo da zube pere 1-2 puta na dan. Thomas i sar. navode da su učestalost pranja zuba i korišćenje dodatnih sredstava za održavanje oralne higijene u korelaciji sa stručnom spremom [15]. U ovom istraživanju trudnice sa visokom stručnom spremom češće su prale zube i značajno više upotrebljavale ostala sredstva za oralnu higijenu.

Gingivitis predstavlja jednu od najčešćih oralnih komplikacija tokom trudnoće. Obično se javlja posle drugog meseca i najčešće je praćen krvarenjem desni prilikom pranja zuba. Ovo istraživanje je pokazalo da kod 60,1% ispitanica desni krvare prilikom pranja zuba. Krvarenje može da doprinese da se zapostavi oralna higijena, što uslovljava ubrzan razvoj karijesa i gubitak zuba [16].

Faktori kao što su duvan i alkohol povećavaju rizik od niske telesne težine novorođenčeta, prevremenog poroda i drugih komplikacija [17]. Rezultati ovog istraživanja su pokazali da je 13,6% trudnica pušilo tokom trudnoće, dok je 2% njih konzumiralo alkohol. Rezultati studije Esposito i sar. [17] pokazali su da je 22,3% žena u Italiji pušilo tokom trudnoće, dok je 28,9% konzumiralo alkohol pre trudnoće, a u trudnoći njih 7,2%. Ove vrednosti su po autorima bile značajno veće u odnosu na ranija istraživanja. Naši rezultati u pogledu navedenih faktora rizika su bolji od istih dobijenih u studijama sprovedenim u SAD i Velikoj Britaniji, gde se 57,4%, odnosno 46% trudnica izjasnilo da konzumira cigarete tokom trudnoće [17, 18].

Ne postoji uzajamna povezanost između trudnoće i karijesa. Međutim, u našem istraživanju čak 80,8% ispitanica je smatralo da su zubi u trudnoći podložniji karijesu. Iako je uvreženo mišljenje da „svaka trudnoća odnosi po jedan zub“, ne postoje literaturni podaci koji potvrđuju ovu tezu. Povećan rizik za nastanak karijesa, oboljenja gingive i parodonticijuma u trudnoći dešava se pre svega zbog promene hormonalnog statusa, promena navika u ishrani, kao i zbog okupiranosti trudnica stanjem u kom se nalaze [1]. U ovom istraživanju trudnice sa srednjim obrazovanjem u većem procentu su smatrale da svaka trudnoća dovodi do gubitka minerala iz zuba majke u odnosu na ispitanice sa visokom stručnom spremom. Gubitak zuba u trudnoći je prvenstveno posledica nastavka loših oralnohigijenskih navika koje su postojale i pre trudnoće.

Stomatološke intervencije (restauracija, endodontska terapija i ekstrakcija zuba) mogu se bezbedno sprovoditi u bilo kom trimestru trudnoće, dok se složeniji i dugotrajniji zahvati preporučuju nakon porođaja [15]. U ovom istraživanju veliki procenat trudnica (67%) smatrao je da pomenute intervencije nisu sigurne. Kada je u pitanju primanje lokalne anestezije, njih 72% je navelo da ona nije preporučljiva.

Različiti faktori utiču na posete trudnica stomatologu: materijalni status, nedostatak svesti o značaju zdravlja zuba, predrasude o uticaju trudnoće na zube, kao i zabrinutost za sigurnost fetusa tokom stomatološkog tretmana [8]. U ovom istraživanju 45,9% ispitanica se nije javilo stomatologu, dok se 34,3% izjasnilo da nema nameru da to učini. Ove vrednosti su nešto veće od rezultata koje imaju Mangskau i sar. [19], gde se 39% trudnica izjasnilo da nije posetilo stomatologa tokom



trudnoće. Hashim i sar. [20] navode da više od 40% trudnica nije posetilo stomatologa, iako su svi troškovi stomatoloških intervencija za trudnice besplatni, i da se najveći broj njih javljao uglavnom zbog određenih bolnih stanja u ustima. Takođe, više od polovine trudnica u Australiji i SAD nije posetilo stomatologa u trudnoći [15]. S druge strane, Christensen i sar. navode da je 90% danskih trudnica posetilo stomatologa tokom trudnoće, što je daleko bolji rezultat od istog u našem istraživanju [21]. U ovom istraživanju nije uočena značajnost razlike u posetama stomatologu u odnosu na stručnu spremu ispitanica.

Kada je u pitanju edukacija trudnica od strane stručnog lica, 73,4% trudnica se izjasnilo da nije dobilo savete vezane za održavanje oralnog zdravlja kod deteta. Slične rezultate dobili su u svojim istraživanjima Rogers i sar. [22] i Gunay i sar. [23], u kojima je takođe manje od jedne trećine ispitanica dobilo savete o uticaju oralnog zdravlja na trudnoću i novorođenče. Što se tiče saveta od strane ginekologa o poseti stomatologu, 69,7% trudnica je izjavilo da nisu dobili preporuku da to učine. Istraživanje Bassera i sar. [24] pokazalo je da je slaba oralnozdravstvena prosvেćenost među ginekolozima, koji prvi dolaze u kontakt sa trudnicama pružajući im adekvatnu medicinsku zaštitu i savete. Slično navode Zanata i sar. [25] i Rocha i sar. [26] u svojim stu-

dijama. Stoga su edukacija i motivacija zdravstvenih radnika, u prvom redu ginekologa, jedna od mogućih preventivnih mera kako bi se poboljšalo oralno zdravlje kod trudnica. Cardenas i sar. [27] u svom istraživanju su utvrdili da se znanje trudnica značajno poboljšalo nakon desetominutnih prezentacija o oralnom zdravlju od strane stomatologa i da su iste testiranjem posle četiri nedelje zadržale većinu usvojenih informacija.

Neophodno je istaći da na području na kojem je studija sprovedena ne postoji organizovano savetovalište za trudnice u koje je uključen stomatolog. Samim tim poželjno je ostvariti bolju saradnju sa ginekolozima, jer timski rad je garant uspešne prevencije.

## ZAKLJUČAK

Nivo zdravstvene prosvеćenosti trudnica o oralnom zdravlju je nizak. Važno je da sve žene u toku trudnoće obave redovan stomatološki pregled i ako imaju zdrava oralna tkiva. Nesumnjivo je da će od stomatologa dobiti korisne informacije o prevenciji oralnih oboljenja koje će doprineti poboljšanju njihovog celokupnog zdravlja, kao i zdravlja budućeg deteta.