

Periodontal Health Awareness and Oral Hygiene Practice among Pregnant Women at Prince Hashem bin Abdullah II Hospital

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ABSTRACT

Objectives: The purpose of this study was to assess periodontal health awareness and oral hygiene practices among pregnant women.

Methods: A quantitative and cross-sectional research design was employed. A sample of 200 pregnant women attending Prince Hashem bin Abdullah II Hospital completed the study. Women completed questionnaires regarding their socio-demographic characteristics and the level of periodontal health awareness and oral health care practices. Descriptive statistics and Chi-square tests were used to analyze the data.

Results: Only 26.5% of women believe that gum disease could harm infants. In addition, 75.5% believe that pregnancy is a common cause of teeth loss. About 42.5% believe that it is normal to lose one tooth during pregnancy. Furthermore, only 39.5% visited a dental clinic during pregnancy. Age, number of children, and level of education were associated with some items related to periodontal health knowledge and oral care practices ($P < .05$). The most commonly reported reasons for not visiting a dentist were the belief that there is no need to visit a dentist (39.5%) and the belief that dental treatment could harm the fetus (30.5%).

Conclusions: Unhealthy self-care practices and Knowledge deficit regarding some aspects of periodontal health were evident in the current study. It is important to address these oral health practices by dental and medical health providers when providing follow-up services.

Keywords: Health Knowledge, Practice, Periodontal Diseases, Pregnancy.

JRMS December 2020; 27(3): 10.12816/0057189

Introduction

Hormonal changes are likely to affect the immune system and contribute to changes in cellular metabolism which may increase the risk for infection in the essential organs and tissues. Previous research has shown that periodontium is one of these tissues that are affected by such hormonal changes.⁽¹⁻³⁾ Due to hormonal changes during pregnancy, pregnant women may be at a high risk of gingivitis or other pathological conditions that affect teeth.

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⁽⁴⁾ Besides, literature shows that there is a possible association between periodontitis and

pregnancy adverse outcomes. ^(3, 5) Research has shown that pregnant women with periodontitis have a higher risk of preterm labor and low birth weight babies than those with healthy periodontium. ^(1-2, 5-6) Preterm birth and low birth weight could increase the risk of infant mortality. ⁽⁷⁾ Therefore, in order to reduce the risks of adverse pregnancy outcomes, it is important to address knowledge deficit and poor oral care practices among pregnant women.

There are some myths surrounding dental treatment for pregnant women. Many pregnant women refrain from utilizing dental care services, believing that dental treatment could harm the fetus. ⁽⁸⁾ Pregnant women are generally interested in visiting gynecologist who rarely advises them to go to the dental clinic during pregnancy. ^(1, 9) This could be related to the miscommunication between gynecologists and dentists. ^(1, 9) Further, many gynecologists have a low perception regarding the effects of periodontitis on pregnancy outcomes. ^(1, 9)

To the best of our knowledge, no previous study has investigated the level of periodontal health awareness and oral hygiene practices among Jordanian pregnant women. Investigating this topic is of special importance to provide baseline data that can be helpful to develop future interventions that can reduce the negative impacts of poor oral health among pregnant women. Therefore, this study aimed to assess the level of periodontal health awareness and oral hygiene practices and their associated factors among pregnant women.

Materials and Methods

Research design

A quantitative, descriptive, correlational, and cross-sectional research design was employed. This research design was helpful to meet the study purpose since data were collected using self-administered questionnaires at one point in time.

Sample and setting

The study was conducted in the Prince Hashem bin Abdullah II Hospital. The target population was all pregnant women attending the obstetrics and gynecological clinic in the Prince Hashem bin Abdullah II Hospital to receive antenatal care. Data collection was conducted in 2019 from April through May.

Measures

Data were collected using two measures (Appendix 1). One of them was used to collect the basic demographic data from the participants including age, occupation, education level, number of children, and oral care habits. The second measure was designed to assess the level of periodontal health awareness among pregnant women and their oral health care practices. This measure was translated and modified from the work of Singh and her colleagues which was published in 2015 to assess knowledge and awareness about oral periodontal health among Indian pregnant women. ⁽¹⁰⁾ The translation and modification of the tool were performed to assure that the items of the scale are appropriate to be used in the current sample. The modified version included 12 yes/no questions and two additional questions regarding visiting the dental clinic. The permission to translate and modify the tool was officially granted by the original author of the tool. The translated version was reviewed by three experts who assured its content validity. The Cronbach's alpha of the 12 items that include yes/no questions was found to equal 0.70

Data collection

Before collecting data, authors obtained the ethical approval from the research ethics committee of the royal medical services. Pregnant women were invited to participate in the study during their visit to the obstetric and gynecological clinic at Prince Hashem bin Abdullah II Hospital in Aqaba. A total of 200 participants were enrolled in the study. The consent form was signed by all participants before taking part in the study. The aim of the study was explained to all participants. In addition, all participants voluntarily completed the study questionnaires and they were allowed to withdraw from the study at any time they want. Further, the confidentiality of participants' information was assured.

Data analysis

Data were analyzed by IBM SPSS software version 24. Descriptive statistics were used to describe the sample characteristics and present the responses of the participants to the items of the questionnaire. A chi-square test was conducted to examine the differences in participants' responses to the questionnaire items based on their demographic characteristics.

Results

Patient Demographics

A total of 200 pregnant women completed the study, 94 (47%) of them aged 30 years or more. More than half of the participants (55%) had a baccalaureate degree. In addition, 104 (52%) participants were currently employed. Regarding the number of children, it was found that 104 (52%) participants had no children, 91 (45.5%) had 1-3 children, and only 5 (2.5%) had 4 to 7 children (Table I).

Table I Socio-Demographic Characteristics of the Study Participants

Variable	Categories	Frequency	Percent (%)
<i>Age</i>	Less than 30	106	53.0
	30 or more	94	47.0
<i>Education level</i>	Illiterate	13	6.5
	Less than secondary	18	9.0
	Secondary	59	29.5
	BSC	110	55.0
<i>Employment</i>	Employed	104	52.0
	Not employed	96	48.0
<i>Number of children</i>	No Children	104	52.0
	3 Children or less	91	45.5
	4 to 7 Children	5	2.5

Periodontal Health Awareness and Oral Hygiene Practices among Pregnant Women

(Table II) presents periodontal health awareness and oral hygiene practices among pregnant women. About 90% of the study participants reported that they brush their teeth daily, 62 % brush their teeth two or more times per day, 68.5% do not use extra care methods (i.e. flossing) to maintain adequate teeth hygiene, and 88.5% believe that there is a need for extra oral care during pregnancy. Nearly three-quarters of women increased oral practices during pregnancy. Only 26.5% of women believe that gum disease could contribute to preterm birth and low birth weight infants. In addition, 77.5% of the participants think that pregnancy is associated with gum bleeding, 75.5% believe that pregnancy is a common cause of teeth loss, and 42.5% believe that it is normal for pregnant women to lose one of her teeth during pregnancy. About 83% of the participants believe that gum disease can be preventable during pregnancy. Regarding visiting a dental clinic, about 62% of the participant reported that they visited a dental clinic last year, but only 39.5% visited a dental clinic during pregnancy (Figure 1).

Table II: Periodontal Health Awareness and Oral Hygiene Practices among Pregnant Women

Variable	Categories	Frequency	Percent (%)
Brushing Teeth Daily?	YES	179	89.5
	NO	21	10.5
Brushing Two Or More Times Per Day?	Yes	124	62.0
	No	76	38.0
Using Extra Care Methods?	YES	63	31.5
	NO	137	68.5
Do You Think That Extra Oral Care Is Needed During Pregnancy?	YES	177	88.5
	NO	23	11.5
Did You Increase Oral practices During Pregnancy?	YES	150	75.0
	NO	50	25.0
Do You Think That Gum Disease Could Have A Relation With Premature Labor And Low Birth Weight Babies?	YES	53	26.5
	NO	147	73.5
Do You Think That It Is Normal To Lose One Tooth During Pregnancy	YES	85	42.5
	NO	115	57.5
Do You Think That Pregnancy Is A Cause Of Teeth Loss?	YES	151	75.5
	NO	49	24.5
Do You Believe That Pregnancy Is A Cause Of Gum Bleeding?	YES	155	77.5
	NO	45	22.5
Is It Possible To Prevent Gum Disease During Pregnancy	YES	166	83.0
	NO	34	17.0
Did You Visit Your Dentist Last Year?	YES	122	61.0
	NO	78	39.0
Did You Visit Your Dentist During The Current Pregnancy?	YES	79	39.5
	NO	121	60.5

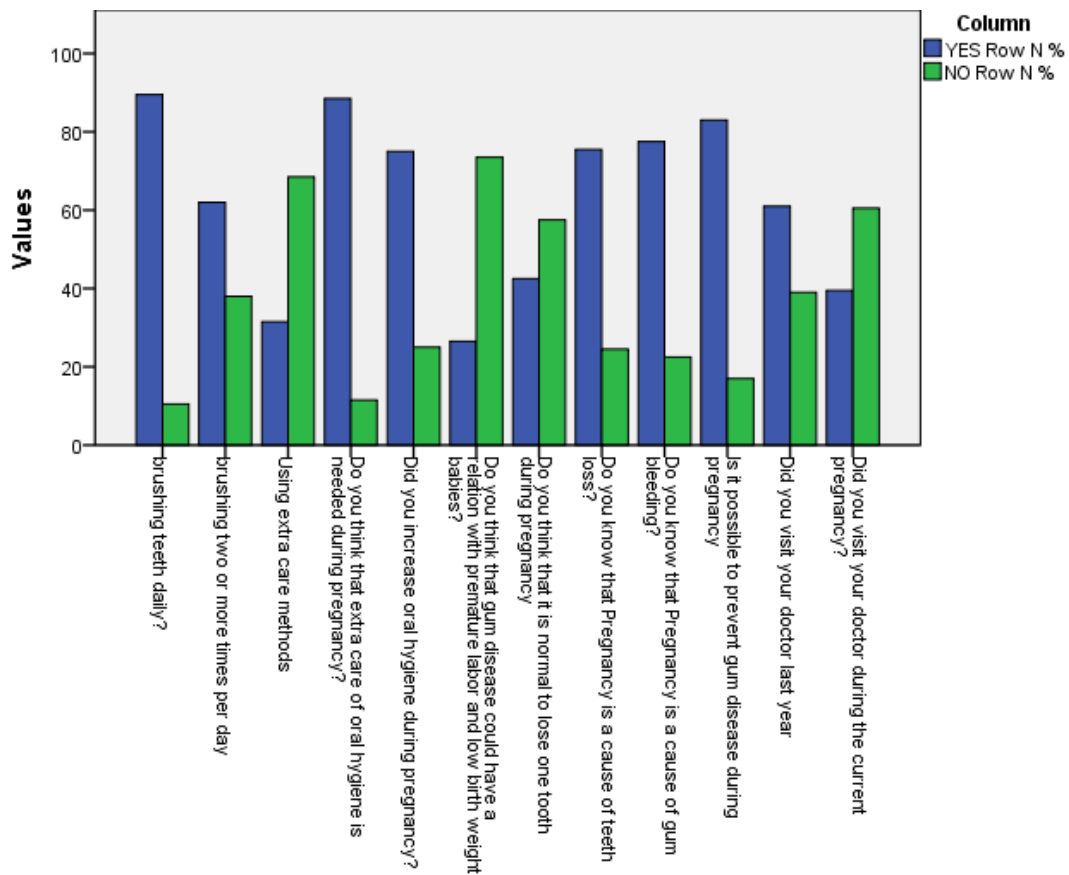


Figure 1: Periodontal Health Awareness and Oral Hygiene Practices among Pregnant Women

The Common Reasons for Visiting/Not Visiting a Dentist

The common reasons for visiting/not visiting a dentist among the study participants are presented in (Table III). The most commonly reported reasons for visiting a dentist were related to pain (49.0%), routine care (22.0%), and restorative treatment (15.5%). The most commonly reported reasons for not visiting a dentist were the belief that there is no need to visit a dentist (39.5%), the belief that dental treatment could harm the fetus (30.5%) and having no time to visit a dentist (17%).

Table III: The common reasons for visiting/not visiting a dentist

		Frequency	Percent
The common reasons for visiting a dentist	<i>Routine</i>	44	22.0
	<i>Bleeding</i>	23	11.5
	<i>Pain</i>	98	49.0
	<i>Restorative Treatment</i>	31	15.5
	<i>Extraction</i>	4	2.0
The common reasons for not visiting a dentist	<i>Fear</i>	61	30.5
	<i>Pain</i>	12	6.0
	<i>No Need</i>	79	39.5
	<i>No Time</i>	34	17.0
	<i>Medical Advice</i>	14	7.0

Differences in Periodontal Health Awareness and Oral Hygiene Practice Based On Their Demographic Characteristics

Chi-square tests were conducted to identify the differences in the participants' responses to the 12 items related to periodontal health awareness and oral hygiene practice based on age, education, employment, and the number of children. The analysis revealed that those who aged less than 30 years visited the dentist in the last year more frequently than those aged more than 30 years ($P=.045$). In addition, those with a higher level of education were more likely to believe that pregnancy is a cause of gum bleeding than those with low education levels ($P=.044$). Furthermore, the increased number of children was associated with less likelihood to pay attention to oral hygiene during pregnancy. No other items differed significantly according to age, education, employment, and the number of children of the study participants. The significant differences are shown in (Table IV).

Table IV: Differences in Periodontal Health Awareness and Oral Hygiene Practice Based On Their Demographic Characteristics.

Variable	Categories	Did you increase oral hygiene during pregnancy?		P-value
		YES	NO	
Number of children	No Children	72 (69.2%)	32 (30.8%)	.013
	3 Or Less	76 (83.5%)	15 (16.5%)	
	4 To 7	2 (40.0%)	3 (60.0%)	
Do you believe that pregnancy is a cause of gum bleeding?				
Education	Illiterate	7 (53.8%)	6 (46.2%)	.044
	Less Than	12 (66.7%)	6 (33.3%)	
	Secondary			

	Secondary	51(86.4%)	8 (13.6%)	
	Bsc	85 (77.3%)	25 (22.7%)	
Did you visit your doctor last year?				
		YES	NO	
Age	Less Than 30	71 (67.0%)	35 (33.0%)	.045
	30 Or More	51(54.3%)	43(45.7%)	

Discussion

The current study examined the level of periodontal health awareness and oral hygiene practices and their associated factors among pregnant women in a military hospital in the Aqaba city. This is an important topic since many negative consequences of oral disease during pregnancy such as preterm birth and low birth weight could be prevented by regular dental care or tooth-brushing. In the current study, most pregnant women visited a dentist because of pain and restorative treatment. This outcome was reported by the previous studies which revealed that pregnant women usually visit dental clinics to address acute problems such as pain, bleeding or extraction. ⁽¹⁰⁻¹³⁾

In regard to oral hygiene practices, although a large percent of the participants brush their teeth daily, only 31.5% of them use extra tooth care methods. In this study, only 39.5% of women visited a dental clinic during pregnancy and only 22% of them visited a dental clinic to receive routine care and evaluation. Similar findings were reported by Thomas et al who reported that only 14% of the pregnant female visited a dental clinic to receive routine care. ⁽¹⁴⁾ The lack of interest in receiving routine care by pregnant women could be due to the community beliefs and attitudes toward visiting dental clinics as shown by the previous research. ^(12, 14) Women may believe that visiting a dental clinic for routine care during the antenatal period is not required. This is reported by previous research which shows a lack of awareness among pregnant females about the importance of routine dental care during pregnancy. ^(12, 14)

In regard to oral hygiene awareness, about one-third of the participants believe that dental treatment could harm the fetus. This belief prevented them from visiting a dentist. Similar outcomes were reported by the previous research which shows that pregnant women avoid visiting a dentist because of the fear of negative impacts of anesthesia or antibiotics on the health of the fetus. ^(9, 12, 14) Besides, only 26.5% of the participants believe that gum disease could increase the risk of preterm labor and having low birth weight babies. Furthermore, 42.5% of the participants believe that it is normal to lose one tooth during pregnancy. These outcomes indicate a need for providing women with accurate information about their periodontal health and modifying their oral self-care practices during pregnancy. Poor periodontal health knowledge was reported in samples of pregnant women in Arab countries. For example, a study conducted in Saudi Arabia found that pregnant women are unaware about causes, consequences, treatment, and preventive measures of pregnancy gingivitis. ⁽¹⁵⁾

Some demographic characteristics (i.e. age, number of children, and level of education) were associated with aspects related to periodontal health knowledge and oral care practices among women.

This outcome was supported by the previous research which highlighted the role of socioeconomic status in prenatal oral health-care practices.⁽¹⁶⁾ This outcome indicates a need to pay special attention to the oral health of pregnant women with low education levels, a large number of children, and those who are older than 30 years.

Conclusion

The current study highlighted the importance of improving periodontitis awareness among pregnant and showed that pregnant women had a knowledge deficit in this regard. The current study revealed that there is knowledge deficit among a sample of pregnant women in the south of Jordan regarding oral hygiene practice in some aspects of periodontal health during pregnancy. Demographic variables that play a role in periodontal health knowledge and oral care practices among pregnant women should be considered when providing regular dental care by dentists. It is important to teach pregnant women that dental treatment does not harm the fetus, while dental disease can increase the risk of infant morbidity or mortality.

Recommendations

Military dental and medical practitioners in the south of Jordan should recognize the importance of oral health for pregnant women and provide them with accurate information about proper oral health practices and the importance of preventing periodontal disease and maintaining periodontal health during pregnancy.

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QUESTIONNAIRE

Periodontal health awareness and oral hygiene practice among pregnant women in Jordan

مستوى الوعي عن صحة اللثة وممارسات العناية بصحة الفم عند السيدات الحوامل في الاردن

الاسم:.....

الرقم الوطني/ الرقم العسكري.....

مقياس لقياس مستوى الوعي و الالتزام عند السيدات الحوامل عن صحة اللثة والعناية بالفم
- العمر:.....
- التعليم: ا- بلا ب- اساسي ج- ثانوي د- كلية/ جامعة
العمل: ا. موظفة ب. بلا وظيفة/ربة منزل
- عدد الاطفال:
ا. لا يوجد ب. ١-٣ ج. ٤-٧ د. اكبر من ٧
- هل تفرشين اسنانك بشكل يومي؟ ا. نعم ب. لا
- اذا كان الجواب نعم، هل تفرشين أسنانك مرتين أو أكثر يوميا : ا. نعم ب. لا
- هل تستخدمين وسائل تنظيف ما بين الاسنان/خييط الاسنان؟ ا. نعم ب. لا
- هل تعتقدن ان الاهتمام والعناية بنظافة الفم والاسنان يجب ان تزداد خلال الحمل؟ ا. نعم ب. لا
- اذا كانت الاجابة نعم، هل زادت عنايتك و اهتمامك بنظافة الفم والاسنان خلال الحمل؟ ا. نعم ب. لا
- هل تعتقدن ان امراض اللثة تسبب ولادة مبكرة ومنخفضة الوزن؟ ا. نعم ب. لا
- هل تعتقدن ان فرضية خسران ضرس او سن مع كل حمل صحيحة؟ ا. نعم ب. لا
- هل تعتقدن ان الحمل يعتبر سبب رئيسي لخلخلة الاسنان وفقدانها؟ ا. نعم ب. لا
- هل تعتقدن ان الحمل يؤثر على تطور امراض اللثة وجعلها اسوأ أو أكثر خطورة؟ ا. نعم ب. لا
- هل تعتقدن أن أمراض اللثة والنسج الداعمة للأسنان يمكن الوقاية منها أو معالجتها خلال الحمل؟ ا. نعم ب. لا
- هل قمتي بزيارة طبيب الاسنان على الاقل مرة واحدة خلال السنة التي سبقت الحمل؟ ا. نعم ب. لا

-هل قمتي بزيارة طبيب السنان على الاقل مرة واحدة خلال الحمل الحالي؟

أ.نعم ب.لا

- اذا كان الجواب نعم، ما السبب الرئيسي للشكوى؟

ا.للفحص/تقليل الاسنان

ب.نزف اللثة/ التهاب اللثة والنسج الداعمة للاسنان

ج. الالم

د.المعالجات الترميمية للأسنان

ه.قلع ضرس

- ما هو السبب الذي يمنعك من طلب المعالجة السنية خلال الحمل؟

ا.الخوف على سلامة الحمل او الجنين

ب. الالم او عدم الشعور بالراحة عند مراجعة طبيب الاسنان

ج.لا حاجة لمراجعة طبيب الاسنان

د.عدم توفر الوقت او الجهد اللازم لذلك

ه.تمت نصيحتك من قبل طبيب الاسنان او النسائية لتأجيل المعالجة لما بعد الولادة.