

Perceived oral health, oral self-care habits and dental attendance among pregnant women in Benin-City, Nigeria

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Abstract

Objective: To assess the perceived oral health, oral self-care habits, dental visit and self-reported oral health problems among pregnant women in Benin-City, Nigeria. **Methods:** This cross-sectional study was conducted among pregnant women attending antenatal clinic of University of Benin Teaching Hospital, Nigeria. An interviewer-administered questionnaire, containing open and closed questions was used for data collection. **Results:** The majority of the respondents (81.7%) rated their oral health as excellent/good using the global oral health rating scale. Seventy one percent of the respondents did not change their oral self-care during pregnancy. Twice-daily tooth cleaning or more was reported by 56.9% of the respondents. Medium texture toothbrush was reported by 156 (39.6%) while 1-3 minutes tooth brushing duration was reported by 160 (40.6%) of the respondents respectively. A total of 78 (19.8%) of the respondents had visited the dentist. More than one-third 138 (35.0%) of the respondents have experienced oral health problem and 64 (46.4%) and 28 (13.0%) of them had tooth decay and halitosis respectively. Identified reasons for not visiting a dentist were; no dental problem 250 (63.5%), no time 38 (9.6%), no money 28 (7.1%) fear of dentist 14 (3.6%) and non-availability of dental clinic 10 (2.5%). **Conclusion:** Over 50% reported to brush their teeth twice or more daily. All participants reported to brush for more than one minute. One third reported to have had oral health problem and about 20% had visited a dentist. More than 80% considered themselves to have excellent or good oral health status. Professional oral care of pregnant women should be included in the free maternal services to improve oral health of pregnant women.

Keywords: tooth brushing, oral health problem, barriers, pregnant women

Running title: Oral health problem and oral health practices

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Introduction

The concern about oral diseases in pregnancy is due to but not limited to its negative impacts on the oral, general, and reproductive health of women, their quality of life, and the oral health of their children (1, 2). Some authors have reported dental caries and periodontal diseases to be more common among pregnant women than the non-pregnant (3, 4). Pregnant women with poor oral hygiene status, inadequate knowledge of dental health care, and poor oral hygiene practices were found to be two to three times more at risk of developing dental diseases than the non-pregnant women (4). The Decayed Missing and Filled Teeth (DMFT) recorded among pregnant women in Nigeria was 1.54 which is relatively high in comparison with low caries prevalence in developing countries (5).

Oral diseases have been shown to be associated with systemic diseases such as atherosclerosis (6),

rheumatoid arthritis (7), and diabetes (8). In addition, the oral diseases in pregnant women increase the risk of adverse pregnant outcome such as pre-term birth and low birth weight (9, 10). However, adherence to adequate oral hygiene practices and regular dental check-up help in the prevention of oral diseases and its sequale in pregnant women. The most important objective of dental health care in pregnancy is to establish a healthy environment through adequate plaque control by brushing, flossing and professional prophylaxis including scaling, root planing and polishing (11).

Although, the importance of oral health among pregnant women has been documented a long time ago, recent literature on maternal oral health and adverse pregnancy outcomes like preterm babies, low birth weight babies, gestational diabetes has enhanced and accentuated the noted importance (9, 12-14).

Previous studies on oral hygiene practices among pregnant women in developing countries revealed suboptimal tooth cleaning, negative attitude and poor dental visits (15, 16). Currently, Nigeria has no comprehensive preventive programmes for oral health care for pregnant women. In order to have an effective comprehensive preventive programme, baseline data on oral health practices, self reported problems and barriers to dental attendance among pregnant women is essential. Therefore, the objective of the current study was to assess the perceived oral health, oral self-care habits, dental visit and self-reported oral health problems among pregnant women in Benin-City, Nigeria.

Materials and Methods

This cross-sectional study was conducted among pregnant women attending antenatal clinic of University of Benin Teaching Hospital, Nigeria. Pregnant women previously diagnosed as being diabetic or HIV-positive were excluded in the study because these disease conditions are associated with increased occurrence of oral diseases. A systematic random sampling technique was used by recruiting every third registered pregnant woman until the minimum sample size was achieved. The sample was determined using the formula: $N = Z^2 Pq/d^2$, (17) which gave a minimum sample of 384.

An interviewer-administered questionnaire, containing open and closed questions was used for data collection. The questionnaire was developed and pre-tested before use. The questionnaire elicited information on participants' demographic

characteristics, perceived oral health status, self-reported oral health problem and oral self-care habits. The perceived oral health was assessed by global oral health rating question, that is; how would you rate the health of your mouth? The responses to the question were excellent, good, fair and poor. Self-reported oral health problem was assessed by a question on do you have oral health problem? The response was yes/no. Oral self-care habits investigated included, frequency and duration of tooth brushing, texture of toothbrush used, tooth brush renewal and utilization of dental services. Informed consent was obtained from participants after being educated on the study and its objectives. Ethical approval was obtained from University of Benin Teaching Hospital Ethics and Research Committee. Data collected was analyzed using Statistical Package for Social Science (SPSS) version 15.0. Frequencies were generated.

Results

A total of 410 pregnant women attending Antenatal Clinic of University of Benin Teaching Hospital, Benin City in Nigeria participated in the study. However 394 of them completed the study giving an overall response of 96.1%. The age range of the respondents was 18-50 years with a mean age of 28.2 ± 5.3 years. Majority 246 (62.4%) of the respondents were in the 21-30 years age group. A total of 384 (97.5%) and 10 (2.5%) of the respondents were married and single respectively. More than half 204 (51.8%) of the respondents were of *Binis* tribe. Seventy three percent of the respondents did not change their self oral care during pregnancy.

Table 1: Tooth brushing and toothbrush renewal characteristics pregnant women in Benin City, Nigeria

Response	Frequency (no.)	Percent (%)
The Texture of Toothbrush		
Medium	156	39.6
Soft	128	32.5
Hard	74	18.8
Don't know	36	9.1
Daily Tooth Cleaning Frequency		
Once	170	43.1
Twice	194	49.2
More than twice	30	7.6
Duration of Tooth brushing		
1-3 minutes	160	40.6
4-5 minutes	146	37.1
> 5 minutes	72	18.3
Unspecified	26	4.1
Toothbrush Renewal Frequency		
Every month	88	21.8
3 monthly	184	46.7
Total	394	100.0

Twice-daily tooth brushing or more was reported by 224 (56.9%) of the respondents. The 1-3 minutes tooth brushing duration was reported by 160 (40.6%) of the respondents. The rest reported to brush for more than 3 minutes. One hundred fifty six (39.6%) respondents reported to use medium texture toothbrush for tooth cleaning. A total of 184 (46.7%) of the respondents reported to replace their toothbrush every three months while 86 (21.8%) reported to replace their tooth brush on the monthly basis (Table 1).

More than one-third 138 (35.0%) of the respondents reported to have experienced oral health problem and 64 (46.4%) and 28 (13.0%) of them reported to have experienced tooth decay and halitosis respectively (Table 2).

A total of 78 (19.8%) respondents reported to have visited a dentist. The reported reasons for not visiting a dentist were *no dental problem* 250 (63.5%), *no time* 38 (9.6%), *no money* 28 (7.1%) *fear of dentist* 14 (3.6%) and *non-availability of dental clinic* 10 (2.5%) (Table 3).

More than 80% of the respondents reported to have excellent or good oral health status (Table 4).

Discussion

Pregnancy is the time when conscious approach to preventive oral care should be intensified (18) due to the likely adverse effects it may cause on pregnant woman’s oral health. Despite this fact, 73.1% of the respondents did not change their self-oral care during pregnancy. This is comparable to 65.8% documented among Saudi Arabian women (19) and among North London postnatal women (20).

Table 2: Prevalence and nature of self reported oral health problems among the pregnant women in Benin City, Nigeria

Problem	Frequency (no.)	Percent (%)
Yes	138	35.0
No	256	65.0
Total	394	100.0
Type of problem	Frequency (no.)	Percent (%)
Tooth decay	64	46.4
Food packing	30	21.7
Bleeding gums	26	18.8
Halitosis	18	13.0
Total	138	100.0

In this study, 56.9% brushed their teeth more than once daily. This is lower than the two-thirds of the pregnant women in Kuwait (21), 96% of pregnant women in Denmark (22), 73.7% of postnatal women in North London (20). However, the findings are

comparable to Mwaiswelo et al (16) finding among pregnant women in Kyela District, Mbeya, Tanzania where majority brushed their teeth once-daily. This could be due to low knowledge on oral health among residents of developing countries in comparison with developed countries.

Table 3: Dental visit and identified barriers to oral health utilization among pregnant women in Benin City, Nigeria

Dental visit	Frequency (no.)	Percent (%)
Yes	78	19.8
No	316	80.2
Total	394	100.0
Reasons for not visiting a dentist	Frequency (no.)	Percent (%)
No dental problem	250	63.5
No time	38	9.6
No money	28	7.1
Not bothered	22	5.6
Afraid of dentist	14	3.6
No dental clinic	10	2.5
Doctor advised against it	4	1.0
Unspecified	28	7.1
Total	394	100.0

All respondents reported to brush for more than one minute. This duration is adequate provided brushing is correctly done. In this study, 46.7% of the respondents changed their toothbrush every 3 months. There exist conflicting results in the literature about effectiveness of plaque removal with toothbrush wear. Studies show that dental practitioners in New Zealand Chicago-area of United States, Australia recommended three-month intervals replacement of toothbrushes and when bristles are bent or splayed (25-25). Tan and Daly in 2002 (26) found 3-month-old toothbrushes as effective as new brushes in plaque removal and Hogan et al (27) reported that bristle age and wear on a powered toothbrush may not impede the effectiveness of plaque removal while other studies reported that worn toothbrush is less effective than a new toothbrush for plaque removal and control of gingivitis and recommended that patients should replace their toothbrush regularly before the bristle wear becomes excessive (28, 29).

In this study, 138 (35.0%) of the respondents reported having one form of oral health problem or the other dental caries being the most commonly reported problem. This is lower than 59.7% reported in Malaysian pregnant women (30) but higher than 12.2% to 25.4% reported in the United States of

America (31). Only 78 (19.8%) of the respondents had visited the dentist for care which in comparison with utilization of oral health care service in previous studies in United Kingdom (20), Kuwait (21), Nigeria (32) and Denmark (33). This is a reflection of low oral health awareness in Nigeria (34).

Table 4: Perceived oral health among pregnant women in Benin City, Nigeria

Rating	Frequency (no.)	Percent (%)
Excellent	112	28.4
Good	210	53.3
Fair	68	17.3
Poor	4	1.0
Total	394	100.0

The identified reasons for not visiting a dentist in the current study (no dental problem, no time, no money, fear of dentist and non availability of dental clinic) are similar to those reported in the literature (15, 30, 34-41). Therefore the interventions that have been shown to be effective elsewhere may also be considered in Nigeria for improving oral health among pregnant women.

Conclusion

Over 50% brushed reported to brush their teeth twice or more daily. All participants reported to brush for more than one minute. One third reported to have had oral health problem and about 20% had visited a dentist. More than 80% considered themselves to have excellent or good oral health status. Professional oral care of pregnant women should be included in the free maternal services to improve oral health of pregnant women.

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