Knowledge, Attitude and Practices of Oral Hygiene among Pregnant Women attending Antenatal Clinics in Nigeria: Evidence from Ogun State

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Summary

INTRODUCTION

Changes in oral cavity during pregnancy may result in oral problems including periodontal diseases. Poor oral hygiene has been shown to increase the risk of acquiring periodontal disease more in pregnant women in developing countries like Nigeria. This study examined the knowledge, attitude and practices of oral hygiene among pregnant women attending antenatal clinics in Ijebu North east, Ogun State.

MATERIALS AND METHODS

Responses were obtained from 385 pregnant women attending six primary health care centers in Ijebu, North East LGA, Ogun State using convenience sampling. Data collected was subjected to appropriate statistical analysis using the Statistical Package for Social Sciences (SPSS ver. 21). All analyses were done at P≤0.05.

RESULTS

Findings from this study showed that majority (65%) of the respondents had low knowledge of oral hygiene. Some 56% of the respondents had positive attitude towards oral hygiene and 85% of the respondents had poor oral hygiene practices. There was an association between trimester and knowledge of pregnant women and a relationship between trimester and oral hygiene practices of pregnant women.

CONCLUSION

Findings from the study showed that dissemination information on oral hygiene will help increase knowledge and enhance good practice and improve the positive attitude of pregnant women.

***Keywords**: Oral Hygiene, Knowledge, Attitude, Practices.*

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Introduction

Oral health is a major public health issue affecting all groups of the people. It is also known to be an essential part of the overall wellbeing of a person. A good oral hygiene status is, thus, a necessary fulfilment of optimal general health conditions of an individual that are to be attained [1].

Oral hygiene is the practice of keeping the mouth and teeth clean to prevent dental problems, most commonly dental cavities, gingivitis, periodontal (gum) disease and bad breadth [2]. The World Health Organization (WHO) emphasizes on the impact of oral hygiene on an individual's health and to the population as a whole.

Pregnancy is a unique time in a woman's life accompanied by a variety of physiological, anatomical and hormonal changes that bring about various changes in the oral cavity, including the other physiological changes that take place throughout the female body [3]. Due to pregnancy hormones like oestrogen circulating in the body at a very high levels, pregnant women are likely to manifest some oral health conditions of which gingivitis and periodontal diseases are the most common. One of the factors that contribute to the occurrence of gingivitis and periodontitis is poor oral hygiene.

As a result of immuniological and hormonal changes, up to 75% of pregnant women are at risk of having pregnancy gingivitis which can lead to periodontitis and pregnancy granuloma, an enlarged lump on the gum that can be painful, make eating, difficult, and lead to complications due to uncontrollable bleeding [4].

Maintaining oral hygiene during pregnancy has been recognized as a public health issue worldwide. It was first reported in 1996 that periodontal disease was a potential risk factor for preterm birth [5]. Studies have shown evidence linking poor maternal oral health, pregnancy outcomes and the child's dental health. The undesirable pregnancy outcomes may include preterm delivery, low birth weight and higher risk of early caries among infants [6].

A research conducted in Lagos State University Teaching Hospital recorded only 36.7% of pregnant women are reported to have information on oral hygiene [7]. Therefore, this study aims to assess the knowledge, attitude and practices of pregnant women attending the selected primary health care clinics towards their oral hygiene.

Gingivitis and Periodontal Disease and Pregnancy

Studies have shown that there is higher incidence of gingivitis and periodontal diseases in pregnant women than non-pregnant women. During pregnancy, women are relatively immuno-compromised therefore resulting in their higher susceptibility to oral infections. Age, poor education, and unemployment can increase the extent of disease.

Hormonal changes in pregnancy combined with neglected oral hygiene tend to increase the incidence of oral diseases like gingivitis. High levels of circulating progesterone lead to pregnancy gingivitis which is characterized by increased, redness, oedema and higher tendency toward bleeding [8]. Previous reports have documented a high prevalence of gingivitis among pregnant women.

Some of these reports have associated the occurrence of periodontal diseases in pregnant women with an increased risk for poor pregnancy outcome. Physiologic changes such as pregnancy alter women's body response to external stimuli. In the mouth, the main effect of pregnancy is usually identified in the gums. The main cause of gingivitis both in the pregnant and non- pregnant state is dental plaque, soft creamy film which is

adherent to the teeth and houses the majority of between 300 to 500 different bacterial species found in the mouth. The higher concentration of oestrogen and progesterone during pregnancy especially in the presence of plaque has been implicated in the pathophysiology of pregnancy gingivitis [9].

Knowledge, Attitude and Practice of Oral Hygiene

A study carried out in Nigeria Teaching Hospitals reports that participants had little knowledge about oral hygiene. A small proportion of the respondents had heard about oral hygiene as regards to periodontal disease but only few of these women knew the term gum disease [10].

A study reviewed that majority of the participants, which is more than 70% revealed good oral health knowledge related to pregnancy and infancy. This reasonable level of knowledge may be due to the fact that one-third of women relied on dentists as a source of oral health information. Some participants had poor knowledge, which may be attributed to their educational level because only one-third had a university degree. This study also highlighted the role of dentists and mass media in providing oral health information [11].

Specific Objectives

The specific objectives of this study were to:

1. Assess the knowledge of pregnant women attending primary health care centre in Ijebu North East local government area, Ogun State, Nigeria on oral hygiene.
2. Assess the attitude of pregnant women attending antenatal clinics in the primary health care centres in Ijebu North East local government area, Ogun State, Nigeria towards oral hygiene.
3. Identify the oral hygiene practices of pregnant women attending antenatal clinics in selected primary health care centre in Ijebu North East local government area, Nigeria.

Materials and Methods

A descriptive cross sectional design was employed for this study.

This study was carried out in Ijebu North East local government Ogun state. Ogun state is a state in south-western Nigeria created in 1976. It borders Lagos state to the south, Osun state to the north, Ondo state to the east and Republic of Benin to the west. Abeokuta is the capital and largest city in the state.

Ijebu North East is a local government area in Ogun State, Nigeria. Ijebu North East local government is surrounded by Ijebu East local government in the east, Ijebu North local government in the north, Ijebu-Ode local government in the south and Odogbolu local government in the west. Its headquarters are in the town of Atan which is about 20kms from Ijebu ode and about100kms from Abeokuta, the capital of Ogun State.

Ijebu North East has 10 political wards. There are 30 Primary Health Care Centres in Ijebu North East local government area, 26 are functional. Six out of these Primary Health Care centres were employed in this study.

Convenience sampling was employed to select the 400 participants from the 6 primary health care centres (see distribution in Table 1). However, responses from 385 respondents were found useful for analysis.

Table 1: Sampling Procedure

S/N	Name of Primary Health Care Centre	Sample Population
1	Atan	133
2	Erunwon	62
3	Igbeba	76
4	Ijari	51
5	Ilese	40
6	Isoyin	38
	TOTAL	400

Source: PHC Centres in Ijebu

Data Analysis

The self-developed questionnaire which had been previously tested for validity and reliability was used to collect data for this study. Result of the analysis showed that the average Cronbach's alpha value for the reliability of the constructs of the instrument was 0.719, which is appropriate.

The instrument was designed, in line with the objective, to collect data on respondents' demography, knowledge, attitude and practices of oral hygiene. The questionnaire consisted of 46 items. The copies of the questionnaire were coded and analysed using the Statistical Package for Social Sciences (SPSS) version 21.

Ethical clearance was obtained from Babcock University Health Research Ethic Committee (BUHREC), Ilishan Remo, Ogun Sate. Also, Informed consent forms were filled by all participants.

Results and Discussion

Demography of Respondents

Table 2 revealed that majority (51.9%) of respondents were between the ages categories of 25 to 34 years of age. Most of the respondents (80.5%) were married. Furthermore, about 48.1 % of the respondents were Muslims with more than half (52.2%) of the respondents having secondary level of education. Majority of the respondents (40.3%) were also in their second trimester and largely Yoruba (69.4%).

Table 2: Distribution of Respondents by Socio-Demographic Characteristics

Variables	**Frequency (N = 385)**	**Percentages (%)**
Age		
15-24 years	99	25.7
25-34 years	200	51.9
35-44 years	86	22.3
Marital Status		
Single	33	8.6
Married	310	80.5
Divorced	42	10.9
Religion		
Christianity	147	38.2
Islam	185	48.1
Traditional	53	13.8

Table 2: Distribution of Respondents by Socio-Demographic Characteristics Continued

Variables	Frequency (N = 385)	Percentages (%)
Education		
Primary	70	18.2
Secondary	201	52.2
Tertiary	114	29.6
Trimester		
First	115	29.9
Second	155	40.3
Third	115	29.9
Ethnicity		
Igbo	66	17.1
Yoruba	267	69.4
Hausa	52	13.5
Occupation		
Trader	183	47.5
Civil servant	64	16.6
Self employed	103	26.8
Student	35	9.1
Source: Computed from field survey, 2019		

Knowledge of Oral Hygiene

The results in Table 3 show that the majority of the respondents (59.7%) indicated that they know about oral hygiene; 89.9% indicated that oral hygiene involves brushing the teeth regularly and 31.9 % indicated that oral hygiene means to be healthy. Furthermore, 47.3% of the respondents indicated that the appropriate time to visit the dentist was every year, 58.2% of the respondent indicated that bad oral hygiene cannot affect a person's general health.

More than half of the respondents (60.3%) did not know that their oral hygiene can affect their baby. Similarly, the respondents (65.5%) did not know that their oral health can influence their child's oral health when he or she is born. However, more than half of the respondents (54.8%) indicated that it is good to brush your teeth twice a day and but many (66.5%) did not know that poor oral hygiene can lead to low birth weight.

Table 3: Knowledge of Respondents on Oral Hygiene

Variables	Categories	Frequency (n=385)	Percentage (%)
Do you know about oral hygiene?	Yes	230	59.7
	No	155	40.3
If yes, what is oral hygiene?	Cleaning our mouth and teeth daily	165	42.9
	Prevention of teeth from germs	26	6.8
	Way of taking care of mouth	7	1.8
	I don't know	187	48.6

Table 3: Knowledge of Respondents on Oral Hygiene Continued

Variables	Categories	Frequency (n=385)	Percent age (%)
Oral hygiene involves the following	Brushing your teeth regularly	375	97.5
	Flossing	83	21.6
	Visiting the dentist	85	22.1
	Using chewing stick	183	47.5
	Making use of tooth pick	13	3.4
Why do you need to maintain good oral hygiene?	To keep the mouth clean	117	30
	To keep the teeth clean	91	24.4
	To prevent dental problems	27	7.1
	To be healthy	123	31.9
	To prevent bad breath	19	4.7
	Because it is required of us	8	2.07
Can oral hygiene affect a person's general health?	Yes	161	41.8
	No	224	58.2
Can your oral hygiene affect your baby?	Yes	153	39.7
	No	232	60.3
Do you know that oral health can influence your child's oral health when he or she born?	Yes	127	33
	No	252	65.5
Do you know that you are to brush your teeth twice a day?	Yes	212	55.1
	No	173	44.9
When is the appropriate time to visit the dentist?	Before 6 months	43	11.2
	Every 6 months	35	9.1
	Every year	182	47.3
	I don't know at all	125	32.5
Can your poor hygiene lead to low birth weight?	Yes	129	33.5
	No	256	66.5

Source: Computed from field survey, 2019

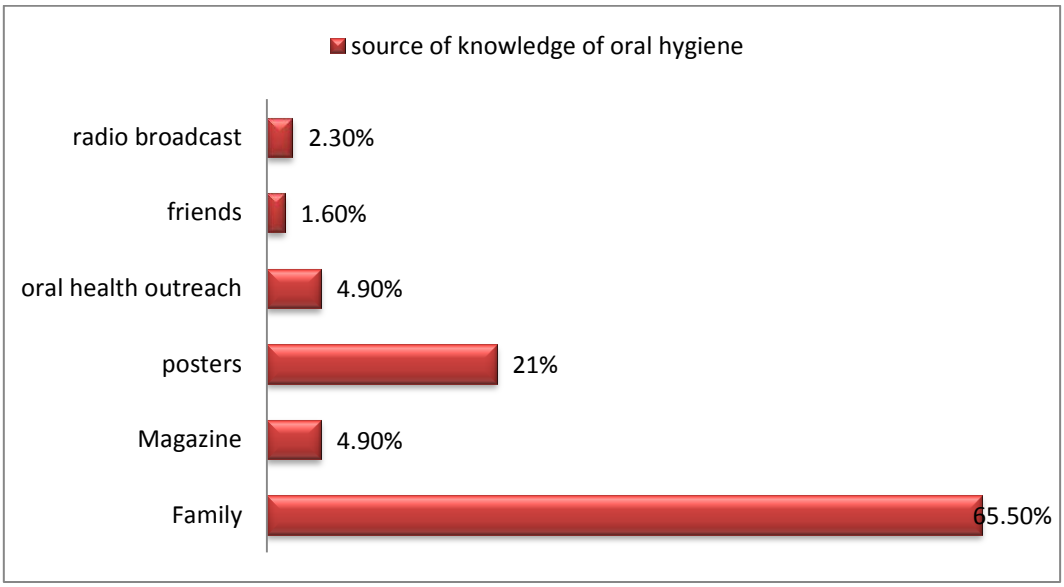

Figure 1 Source of Knowledge on Oral Hygiene (Source: Computed from field survey, 2019)

Attitude towards Oral Hygiene

Table 3 reveals that more than half of the respondent (65.5%) indicated that they were willing to seek dental care because of changes during pregnancy that may lead to gum problems, 59.3 % disagreed, saying that dental visits were not necessary during pregnancy and 37.6 % disagreed that they needed to maintain good oral hygiene to prevent tooth loss. Many of the respondents (64.5%) agreed that fruit and vegetables have no effect on teeth and gums, 41.3 % disagreed that visiting dentist while pregnant is harmful to unborn child and 49 % of the respondents agreed that brushing is only important after taking sugary foods or drinks.

Table 4: Attitude towards Oral Hygiene

Variables	**Frequency (%)**	
	Agree	**Disagree**
I am willing to seek dental health care because of changes in my body during pregnancy may lead to gum problems	252(65.5%)	133 (34.6%)
I don't need to visit the dental clinic while I'm pregnancy	157 (40.8%)	228 (59.3%)
I need to maintain good oral hygiene because my pregnancy may lead to tooth loss	240 (62.4%)	145 (37.6%)
I don't need fruits and vegetables because they have no effect on my teeth and gums and are natural	247 (64.5%)	138 (37.6%)
I don't need to visit the dentist while I'm pregnant because it is harmful to my unborn child	137 (35.6%)	248 (64.4%)
I only need to brush my teeth after taking sugary food and drinks	255 (49%)	130 (33.7%)

Source: Computed from field survey, 2019

Oral Hygiene Practices

As presented on Table 4, more than half of the respondents (70.9%) brushed their teeth at least once in a day and others (29.1%) brushed twice daily. A greater number (70%) of the respondents brushed their teeth in the morning, 48.3% did not floss during pregnancy and 56.8% of pregnant women did not use mouth rinse products.

Only less than half (21%) of the respondents visited the dentist and out of that, 62.9% of them visited once and 37% visited twice. For respondents who had morning sickness, 25.9% did not do anything, 14.3% brushed their teeth, 23.4% rinsed mouth with water, and 7.79 % used mouth rinse products.

Table 5: Oral Hygiene Practices

Variable	Frequency (%)
How often do you brush your teeth during this pregnancy?	
Once daily	273 (70.9%)
2 times daily	112 (29.1%)
At what time of the day do you usually brush your teeth?	
In the morning	273(70.9%)
In the morning and at night	112(29.1)
How often do you floss your teeth during this pregnancy?	
Twice or more a day	35 (9.1%)
Once a day	102 (26.5%)
Not every day	62 (16.1%)
Never	186 (48.3%)
Do you use mouth wash/rinse?	
Yes	173 (43.3%)
No	227 (56.8%)
If yes, how often?	
Most times	71 (41.0%)
Sometimes	102(58.9%)
Do you visit the dentist?	
Yes	81 (21.0%)
No	304 (79.0%)
If yes, how many times did you visit the dentist in the last 12 months?	
Once	51 (62.9%)
Twice	30 (37.0%)
If you had morning sickness or vomiting during this pregnancy, what did you do straight after the vomiting had stopped?	
Brush my teeth	55 (14.3%)
Rinsed my mouth with water	90 (23.4%)
Rinsed my mouth with mouth rinse products	30 (7.79%)
I did not do anything	100(25.97%)
I drank water	25(6.49)
No vomiting	85 (22.08%)

Source: Field work, 2017

Conclusion

This study assessed the knowledge, attitude and practices of pregnant women in Ijebu North East local government area, Ogun State, Nigeria. Four hundred respondents were selected from 6 out of 14 health centres in the local government area. Demographic factors of the respondents including age, religion, educational status, marital status, ethnicity, occupation and trimester were examined.

Based on the results 65% of the respondents had low level of knowledge while 35% had high level of knowledge of oral hygiene. Majority (56%) of the respondents had positive attitudes towards oral hygiene during pregnancy while 44% had negative attitude. Furthermore, 15% had good oral hygiene practices; however, 85% had bad oral hygiene practices. The results also showed the relationship between trimester and knowledge and also the relationship between the trimester and practices.

However, effective maternal and child oral health services, programs and interventions could help enhance the knowledge, attitude and practices of pregnant women. Also, trainings including workshops, seminars could be conducted for public and medical health workers for additional

knowledge on advantages of maternal and child oral health.

Conflict of Interest

No conflict of interest, this paper is an original work of the authors.

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Appendix
Data Collection Tool

A. What questions were asked to the mothers attending the antenatal clinics in assessing oral health?

PRACTICE QUESTIONS

Instructions: Kindly tick √ the appropriate action or fill in your response in the spaces

1. How often do you brush your teeth during this pregnancy?

(a) Once daily ☐ (b) 2 times daily ☐ (c) 3 times daily ☐

2. At what time of the day do you usually brush your teeth?

(a) In the morning ☐ (b) Before each meal ☐ (c) After each meal ☐
(d) Before bed time ☐

3. How often do you floss your teeth during this pregnancy?

(a) Twice or more a day ☐ (b) Once a day ☐ (c) Not every day ☐
(d) Never ☐

4. Do you use mouth wash/rinse? (a) Yes ☐ (b) No ☐
5. If yes, how often? (a) most times ☐ (b) sometimes ☐
6. Do you visit the dentist? (a) Yes ☐ (b) No ☐
7. If yes, how many times did you visit the dentist in the last 12 months?

(a) once ☐ (b) twice ☐ (c) thrice ☐ (d) others? Please specify _____

8. If you had morning sickness or vomiting during this pregnancy, what did you do straight after the vomiting had stopped? (please tick as many boxes as necessary)

(a)Brushed my teeth ☐ (b) Rinsed my mouth with water ☐

(c) Rinsed my mouth with mouth rinse products ☐

(d)I did not do anything ☐ (e) I drank water ☐ Others? Please specify_____

B. What were the clinical features looked for in assessing oral health?

9. Do you know about oral hygiene? (a) Yes ☐ (b) No ☐
10. If yes, what is oral hygiene? _____
11. What is the source of knowledge? (a) radio broadcast ☐ (b)family ☐

(c) newspapers ☐ (d) magazines ☐ (e) posters ☐ (f) oral health outreach ☐
(g) friends ☐

12. Oral hygiene involves the following (you can tick more than one answer)

(a) Brushing your teeth regularly ☐ (b) Flossing ☐ (c) visiting the dentist ☐
(d) using chewing stick ☐

(e) making use of tooth pick ☐

13. Why do you need to maintain good oral hygiene? (you can tick as more than one answer)

(a) To keep the mouth clean ☐ (b) To keep the teeth clean ☐

(c) To prevent dental problems ☐ (d) Because it is required of us ☐

(e)To be healthy ☐ (f) Prevent bad breadth ☐

14. Can oral hygiene affect a person's general health? (a) Yes ☐ (b) No ☐
15. Can your oral hygiene affect your baby?

(a) Yes ☐ (b) No ☐

16. Do you know that your oral health can influence your child's oral health when he or she born?
    (a) Yes ☐ (b) No ☐
17. Do you know that you are to brush your teeth twice a day?

(a) Yes ☐ (b) No ☐

18. When is the appropriate time to visit the dentist?

(a) Before 6 months ☐ (b) Every 6 months ☐ (c) Every year ☐

(d) others? Please specify _____

19. Can your poor oral hygiene lead to low birth weight? (a) Yes ☐ (b) No ☐