

Perception of child oral health needs by antenatal clinic attenders in Ibadan, Nigeria.

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Summary

One hundred and eighty-three women, attending government owned antenatal clinics in Ibadan, a metropolitan city in the south western part of Nigeria participated in a questionnaire- based survey. The women's opinions on the oral health needs of their children were sought. These included the time of commencement of tooth-cleaning, types of materials recommended for cleaning at different ages, frequency of cleaning children's teeth as well as the perceived effects of certain food items and drugs on the teeth. The results showed that 140 (76.5%) of the respondents advised the use of cotton wool for cleaning babies mouths before the age of 6 months while 12 (6.6%) mentioned the use of polystyrene foam. One hundred and sixty six women (90.7%) felt that children's-teeth should be cleaned with toothbrush between the ages of 2 years and 6 years. On the knowledge of the effects of drugs on the teeth, 11 (62.8%) believed that the ingestion of certain drugs, particularly tetracycline, in pregnancy could have adverse effects on the teeth. These findings showed that the majority of those in the study population had appreciable, though inaccurate knowledge of children's oral health needs. Nevertheless, the authors propose a programme of education on oral health for pregnant women which should enlighten them in the prevention disease of the oral cavity in themselves and their children.

Keywords: *Child dental health, Oral health awareness in pregnancy.*

Résumé

Cent-quatre-vingt-trois femmes, participant aux cliniques prénatale gouvernementales à Ibadan, une cité métropolitaine dans la partie Sud-Quest du Nigeria ont participées à une investigation basée sur un séminaire. Les opinions orale des femmes sur les besoins de santé de leur enfants avait été demandés. Ceux-ci incluait le dubt du brossage des dents, les types d'instruments recommandés pour le nettoyage des dents à des âges différents, in fréquence de nettoyage des dents à des âges différents, la fréquence de nettoyage des dents des enfants aussi bien que leur perception de l'action de certains produits alimentaires et medicamente sur les dents. Les resultats ont montrés que 140 (76.5%) des repondants conseillent l'usage du cotton pour le nettoyage des dents des enfants avant l'âge de-mois lorsque 12 (6.6%) ont mentionés l'usage de l'éponge en polystyrene. Cent saixante six femmes (90.7%) ont été de l'opinion selon laquelle les dents des enfants de Vraient etre nettoyés avec une brosse à dent entre l' âge de 2 et 6 ans. Concernant leur connaissance sur l'effect des medicaments sur les dents, 115 (62.8%) ont reconnuent

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que la prise de certains medicaments, particulièrement la tetracycline, pendant la grossesse pouvait avoir un mauvais effet sur les dents. Ces resultats ont montrés que la majorité des femmes dans la population étudiéont une connaissance appreciable, quoique inexacts des besoins necessaire pour la sante orale des enfants. Neanmoins, les auteurs proposent un programme d'éducation pour las sante orale aux femmes enceintes. Ces programmes devraient eclaire les femmes dans la preventions contre les maladies de la cavite orale sur eux elle meme et leurs enfants.

Introduction

Investigation into people's attitudes towards dentistry, their knowledge and habits, is a recent phenomenon in Nigeria. There is also limited research into the oral health behavior in the maternal and child population. The need to strive at attaining a state of sound oral health in children, especially for those under the age of five years cannot be overemphasised. Many diseases can be prevented at this tender age, rather than attempting to treat lesions in the grown up [1]. Since the establishment and maintenance of good oral health status in young children depend almost entirely on the mothers [2,3], preventive measures targeted at this group should rightly be directed at the mothers. Pregnant women occupy a unique and strategic position in family health matters. By the very nature of their condition, pregnant women identify themselves as mothers, modeling their behavior on motherhood and eagerly seeking knowledge on child rearing. This process is termed anticipatory socialisation [4]. The interest and concern demonstrated by expectant mothers at this stage are likely to enhance learning and as such expectant mothers should be considered another important group in health education. In spite of this potential of mothers in oral health, it seems that in Nigeria, women might not be adequately skilled to function properly in that capacity. Jeboda *et al.* [5], observed absolute lack of knowledge on matters of oral health among nursing mothers studied in Lagos. This study aims at assessing the knowledge and attitudes of pregnant women in Ibadan, about the oral health status of children.

Subjects and methods

A questionnaire survey was conducted among pregnant women attending federal and state government-owned antenatal clinics in Ibadan, a city in the south-western part of Nigeria. Participating hospitals included the University College Hospital (UCH), Adeoyo Maternity Hospital and the Catholic Hospital at Oluyoro. These were the three major hospitals in the catchment area, with a large population of pregnant women. During the study period, all expectant mothers

attending the clinics were requested to complete formatted questionnaires administered by trained interviewers. The questionnaires sought information on respondents' age, parity and the age at first pregnancy. Other questions asked related to socioeconomic position, such as occupation and educational status. Questions on the perceived oral health needs of their children were also asked. These included time of commencement of tooth-cleaning, types of materials recommended at different ages as well as frequency of cleaning children's teeth. Some questions also assessed the level of awareness on the effect of food and drugs on the teeth.

A pretest was carried out on 20 interviewees at a different location and slight modifications of some questions followed. The final questionnaires were then administered to 210 consecutive clients of antenatal clinics of the various hospitals in Ibadan between February 1 and May 31 1997. Completed questionnaires were obtained from 183 women while 27 declined participation in the study, representing 87% response rate. Data on the completed questionnaires were analysed and frequency tables were generated. Chi-square test were performed to determine association between variables.

Results

A total of 183 pregnant women attending antenatal clinics in three state and federal government-owned hospitals were interviewed. Eighty-seven (47.6%) were within the age range 25 years to 29 years, 45 (24.6%) were aged 20-24 years, 37 (20.2%) were between the ages of 30 and 34 years, while 12 (6.6%) were 35 years and above. Only 2 (1.1%) of the participants were below the age of 19 years (Table 1).

Table 1: Age distribution of pregnant women in the study population

Age groups (Yrs)	Number of women	Percentages (%)
15-19	2	1.1
20-24	45	24.6
25-29	87	47.5
30-34	37	20.2
35 and above	12	6.6
Total	183	100

A high proportion (44.8%) of those interviewed were carrying their first pregnancies. Thirty-two (17.5%) had a parity of 1, while 36 (19.7%) for para 3 and 4, respectively. Six (3.3%) had had 5 or more children at the time of the study.

The Occupation of the women in the study is as shown in Table 2. Many of them were civil servants (27.9%), 41 (22.4%) were skilled workers, 43 (23.5%) petty traders and 28 (15.3%) claimed to be professionals. Seventeen (9.3%) were housewives.

Table 2: Occupation of the pregnant women interviewed.

Occupation	Number of women	Percentages(%)
Housewife	17	9.3
Petty trader	43	23.5
Skilled artisan	41	22.4
Civil servant	51	27.9
No response	3	1.6
Total	183	100

Many of the women in the study group (33.3%) reported having post-secondary qualifications. For (58 (31.7%),

secondary education was the highest education qualification attained, while 28 (15.3%) and 11 (6.0%) had university and postgraduate education, respectively. Those with primary education only, were 19 (10.4%) Only 4(2.2%) had no formal education and (1.1%) had received Arabic education only. (Table 3).

Table 3: Educational status of the pregnant women

Educational Status	No. of women	Percentages (%)
No formal education	2	1.1
Arabic education	4	2.2
Primary education	19	10.4
Secondary education	58	31.7
Post-secondary edu.	61	33.3
University education	28	15.3
Post-grad. Education	11	6.0
Total	183	100

On the question relating to the time of commencement of cleaning children's mouth 51. (27.9%) of the women responded that this should be at a birth. Another group of 51 (27.9%) believed that cleaning of the mouth should start between the age 1 and 3 months. Forty should commence between 4-6 months and after 6 months respectively. Only 5 (2.6%) had no idea of the age at which commencement was not related to the women's age, parity, occupation or the educational status.

With respect to the type of materials recommended for cleaning at different ages, 140 (76.5%) of all respondents advised use of cottonwool for babies below the age of 6 months and 2 years, cotton wool was the material recommended for use by 52 (28.4%) of the women and this was closely followed by the use of polystyrene foam, 50 (27.3%). As further shown in Table 4, between ages 2 – 6 years thought that children's teeth should be cleaned with toothbrush. Only 6 (3.3%) and 4 (2.2%) recommended the use of cotton wool and foam, respectively. The use of chewing stick for children at this age was expressed by only one of those interviewed. One hundred and fifty six (85.2%) toothbrush for children above the age of 6 years, while in 19 (10.5%) of cases, chewing sticks were the prescribed implement of the same age group. Only 1 person said cotton-wool should be used in this age group. (Table 4).

Table 4: Materials recommended by pregnant women for cleaning children's teeth at various ages

Time	Tooth cleaning materials							Total
	Nothing	Foam	Cottonwool	Toothpaste	Chewing stick	Others	Don't know	
Before 6 months	25 (13.7)	12 (6.6)	140 (76.5)	-	-	4 (2.1)	2 (2.1)	183
6 months – 2 years	2 (1.1)	50 (27.3)	71 (38.8)	52 (28.4)	1 (0.5)	7 (3.9)	-	183
2 – 6 years	-	4 (2.2)	6 (3.3)	166 (90.7)	1 (0.5)	-	6 (3.3)	183
> 6 years	-	-	1 (0.5)	156 (85.2)	19 (10.5)	7 (3.8)	-	183

Concerning the perceived frequency of cleaning children's teeth, 114 (62.3%) of the expectant mothers were of the impression that this should be done more than once-a-day. On the other hand, 6 (3.1%) thought teeth should be cleaned only once a day.

The majority of the respondents were aware that certain foods could be damaging to the teeth. Out of these, 159 (95.2%) mentioned the consumption of sweets and chewing gums as being most damaging. Other food items implicated included sweet cereals and beverages. Even though knowledge of the effects of foods on teeth was not related to occupation or educational background ($P < 0.05$), it was strongly influenced by parity. Nulliparous women were found to possess less knowledge on this subject than those who already had children. ($P < 0.05$).

On the knowledge of the effects of drugs on teeth, 11 (62.8%) believed that the ingestion of some drugs in pregnancy as well as in childhood could have adverse effects on the teeth. When asked to specify the drugs, 68 (57.6%) mentioned tetracyclines, 11 (9.3%) blood tonics, while 9 (7.6%) mentioned native herbal preparations. The remaining 30 (25.5%) could not specify the drugs even though they were aware of the possibility of such damage. Awareness of the effect of drug ingestion on teeth was not related to age and parity ($P > 0.05$), but was significantly associated with occupation and educational status ($P < 0.05$) as shown in Tables 5 and 6.

Table 5: Awareness of pregnant women about the possible effect of drugs on children's teeth as related to their educational status

Education of women	Awareness		& No idea	Total
	Yes	& No		
*No Formal Ed.	1 (25)	2 (50.0)	1 (25)	4 ()
*Arabic Ed.	0 (0)	2 (100)	0 (0)	2 ()
Primary Ed.	8 (42.1)	11 (57.9)	0 (0)	19 ()
Secondary Ed.	34 (58.6)	24 (41.4)	0 (0)	58 ()
Post Sec. Ed.	39 (63.9)	22 (36.1)	0 (0)	61 ()
+University Ed.	24 (85.7)	4 (14.3)	0 (0)	28 ()
+Postgrad. Ed.	9 (81.8)	2 (18.2)	0 (0)	11 ()
Total	115 (62.8)	67 (36.6)	1 (0.6)	183 (100)

$X^2 = 17.37$ df = 4

$P < 0.05$

++, **, Rows merged in computing X^2
&& Columns merged in computing X^2

Discussion

In this study, it was revealed that the majority of pregnant women attending government hospitals in Ibadan during the study period were educated. At least 54% had post-secondary qualifications. Those with primary and

secondary education were 42.1%. Of the 183 women interviewed, only 4 (2.2%) were illiterates. Similarly, records of their occupation revealed that about 44% were professionals and civil servants while 22.4% were skilled workers. It would thus appear that this study population consists mainly of people in the middle or higher socioeconomic strata of the society.

The findings further showed that a high proportion of the respondents; 178 (97.4%) believed that cleaning of children's mouths should begin early in life. Only 5 (2.6%) had no idea of the age at which to commence. This would suggest that many of these mothers appreciated the importance of children's teeth and of oral cleanliness. This is contrary to the findings of Jeboda *et al.* [5] in which women with less education were found to have little or no knowledge about child oral health issues. It is believed that the high level of education recorded among this study population may explain to a large extent, their increased level of awareness.

It is well known that organised training programmes have the ability to improve participants knowledge and practices on oral health matters. In a study among mothers attending maternal and child health clinics in Tanzania, it was reported that participants practised oral hygiene routine more frequently and used more correct techniques than those who did not attend regularly [6]. Similarly, Kabalo and Mosha [7] found that nursing mothers in Tanzania had sound knowledge on oral health even though they lacked the necessary techniques to treat and prevent diseases. Results from this study however do not support these earlier research findings. On the types of materials recommended for cleaning at different ages, 140 (76.5%) of all the respondents advised the use of cotton wool between the ages of 6 months and 2 years, a period during which toothbrush should ideally have been introduced. This finding indicates a lapse in the knowledge base on oral hygiene measures. It would therefore seem that some of the knowledge acquired by the mothers were from informal sources such as friends and relations, which may not necessarily have any scientific basis. Quite remarkably, majority of our respondents (91.3%) were aware that certain foods could be damaging to the teeth. Out of these, 159 (95.2%) knew that refined sugars were mostly damaging, however, this knowledge was not related to their occupation or educational status. This is contrary to the hypothesis that the attitudes of the mothers to child oral health are based on social class (8,9). A further analysis of the data revealed that nuliparous women in the study were less knowledgeable about the effect of foods on oral health relative to those who were already mothers. This may reflect the role of experience in child rearing even though this was not evident in other areas of knowledge tested. Likewise, a substantial number of our respondents 115 (62.8%) knew that some drugs could have adverse effects

on the teeth. Sixty-eight (57.6%) of them mentioned tetracyclines. The awareness of the effect of the ingestion of drugs on the teeth was significantly associated with occupational and educational status ($P < 0.05$). This level of knowledge in mothers, especially those with more education is not surprising since there is currently a widespread campaign programme against the indiscriminate use of drugs. It is possible that knowledge on the possible effects of drugs on teeth, displayed in this study, might have been acquired through this medium.

Results from this study has therefore revealed a considerably high level of awareness or perception of child dental health among pregnant women attending antenatal facilities in Nigeria, a finding which is at variance with previous reports [5]. Nevertheless, the authors found that the knowledge was incomplete and haphazard. One major problem is that teachers and health educators are themselves often unaware of oral health problems and their prevention [10]. As such, the advice given may be limited or at times incorrect. The authors recommend the establishment of dental health education sessions during pregnancy as this may enable women to prevent oral diseases both in themselves and their babies. There is also a need to educate health care providers in oral health to enable them to convey correct information to their patients.

References

1. Baric L, Blinkhorn AS and MacArthur C. A health education approach to nutrition and dental health education. *Health Edu J* 1974; 33: 79-90.
2. Blinkhorn A.S. Influence of social norms on toothbrushing behavior of preschool children. *Comm Dent Oral Epi* 1978; 6: 222-226.
3. Rayner JF. Socioeconomic status and factors influencing the dental health practices of mothers. *Am J Public Health* 1970; 60: 1250 - 1258.
4. Blinkhorn AS. Dental preventive advice for pregnant and nursing mothers —sociological implications. *Int Dent J* 1981; 31 (1) 14 - 22.
5. Jeboda SO, Salako NO, Bamigboye PO. Dental health awareness among Nigerian mothers. *Odontostomatol Trop* 1984; 4: 184 - 194.
6. Masalu J, Van Palenstein Helderma WH, Poulsen S. The effect of oral health education on dental knowledge, attitudes and behavior among mothers attending MCH clinic in Tanzania. *Odontostomatol Trop* 1995; 72: 9 - 12.
7. Kabalo JM and Mosha HJ. Dental awareness amongst mothers attending MCH clinics in Bagamoyo District Coast Region, Tanzania *Afr Dent J* 1988; 2: 65 - 68.
8. Beal JF, Dickson S. Differences in dental attitudes and behavior between West Midland mothers and various ethnic regions. *Pub Health* 1975; 89: 65 - 70.
9. Murtooma H. Toothbrushing in Finland. *Community Dent Oral Epidemiol* 1979; 7: 185 - 190.
10. King JM. The influence of maternal age on dental health behavior in infancy. *J Int Asso Dent Child* 1982; 13: 27 - 30.