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A survey of the knowledge, attitude and practices of antenatal mothers in Lagos, Nigeria about the primary teeth

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Summary

To assess the knowledge, attitude and practices of antenatal mothers about the primary dentition. This cross-sectional study was carried out in Lagos. It assessed the knowledge, attitude and practices of 464 Nigerian mothers about the primary teeth. All the mothers were seen at the antenatal clinics of the Lagos University Teaching Hospital and primary health centres in the local government area of the teaching hospital. The mothers' knowledge of the 2 most commonly presenting oral conditions: bleeding gums and dental caries were evaluated. Results of the study showed that approximately 36.7% of the mothers had received information on oral health care from a dentist. About seventy percent (71.33%) reported that primary teeth were important and 79.31% agreed with the statement that tooth decay was preventable. However, only 8% of the mothers used toothbrush and toothpaste for cleaning their children's teeth. Only 37(7.97%) of the mothers had taken their children to a dentist before. The visits were for symptoms of pain and tooth decay. There was a statistically significant association between educational status and knowledge of primary teeth, (p=0.003308). Over half (51.3%) of the study sample associated caries with consumption of sugars. There was a statistically significant association between perceived aetiology of caries and educational status, p=0.00000. There was a statistically significant association between mother's past dental visit and child's past dental visit, p=0.000000005. The findings of the study show that oral health knowledge of the primary teeth by this group of Nigerian mothers is rather diffuse. It is recommended that medical professionals; obstetricians, gynaecologists and paediatricians encourage mothers to seek professional oral health counselling as soon as possible especially as soon as or before the primary teeth start to erupt. In addition, regular dental visits will ensure that the child benefits from age-specific information that is readily available to the mother.

Keywords: Mothers, knowledge, practices, primary teeth

Résumé

L'etiologie du cancer ovarien a beaucoup de postulats qui incluent une ovulation incessante. Les femmes qui allaitent de plus doivent etre protégées contre la maladie. Les malades du cancer ovariens dans le monde en voie de

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development sont de plus grande parite que les cancariennes. Notre etude a comparer la longeur de la carriere reproductrice (LCR), l'ovulation de la periode libre physiologique (PLP) et la periode d'ovulation totale (POT), parmi les maladies du cancer ovarien qui ont ete confirmes histologiquement. C'est une etude des questionnaires de 21 malades du cancer ovarien que l'on a fait pendant la periode du 1, Decembre 1998-31 Juillet 2002. 42 malades gynecoloques n'avaient pas le cancer ovarien L'age moyen parmi les maladies etait 4,7+ 16,9 ans alors que parmi les controles, c'etait 45.4 4+16,1 ans. La parite moyenne des maladies etait 3.6 + 2,2 comparee a 3,4+2,0 dans les controles. Les malades avaient un LCR moyen de 23 23,8 + 11,8 + 11,2 ans alors que dans les controles, c'etait 25,5+ 10,8 ans. Le PLP moyen des malades etait 7,4+5,6 ans pour les controles 7,1 + 6,5 ans . Les malades avaient un POT moyen de 15,8 + 8,8 ans alors que c'etait 18,6 + 8, 1 ans pour les controles. Aucune de ces differences n'etait statistique considerable. Notre etude n'a revele aucune difference statistiquement considerablement dans les periodes totales d'ovulation entre les malades du cancer ovarien et l'age a egale les controles. Des etudes supplementaires seront necessaries.

Introduction

The diagnosis and the treatment of oral diseases are entirely the dentists' responsibility. However, the maintenance of good oral health is much more than a dentists' problem [1]. It is the responsibility and the concern of the entire community and should therefore be approached as such. Dentists, especially in developing countries such as Nigeria must take advantage of every opportunity to promote oral health in the community so that the public will have a better understanding of the significance of good oral health [2].

In most Western industrialised countries, the prevalence of dental caries in children and adolescents has declined significantly over the past decades [3,4]. However, in most developing countries, especially in those countries where preventive programmes have not been established, increase in the level of dental caries has been reported [5-7].

In Nigeria, studies on dental caries in recent years have reported on the increasing trend when compared with earlier reports [8,9]. The oral health services in Nigeria are generally oriented towards treatment and are mostly delivered from hospitals or health care centres [10]. Programmes on preventive oral health care and oral health education to improve oral health behaviour of the public are organised from time to time by various health organisations in the country.

The primary teeth are important for the growth of the mouth and jaws and the development and eruption of the permanent teeth. The primary teeth are also necessary for speech, mastication and facial aesthetics. The health of the primary teeth is relevant in the total well being of the growing child [11]. The eruption of the primary teeth is completed by two and half to three years. Primary teeth are being replaced by permanent teeth from 6 years of age. By the age of 12 to 13 years, all the primary teeth are replaced by permanent teeth.

The "Infant Oral Health" program has been set up by the American Dental Association, American Association Of Paediatric Dentists (ADA, AAPD) to address the issue of the importance of the primary teeth [1]. The program advises that infants should be seen as soon as the first primary tooth erupts and no later than one year. In addition, different preventive strategies may be employed in children and these include; fluoride therapy, fissure sealants and recall visits every 6 months. However, in spite of this, primary teeth are still affected by dental diseases [1].

Since habits are formed in the early stages of life, it is advisable for children to learn good oral habits early. The immediate environment in which children develop plays an important role in this respect. Socialisation starts in the home when the child is still very young and is largely carried out by the parents. The mother is the first and most important socialising agent [12]. She spends most of the time with the babies and the children. Mothers have more early contacts with children than fathers. They are also more accessible to be involved in oral health education than fathers.12 Children learn by watching and imitating the parents. Studies have reported on parental influence on children's oral habits [2,6]. Behaviour modifications with respect to the child population may therefore be a family responsibility.

In the scientific literature, a number of studies have reported on the perceptions of children's oral health needs and dental awareness amongst mothers [13,14]. The present study assessed the oral health knowledge, attitudes and practices of mothers as regards the primary teeth of their children. The study also assessed socio-demographic factors that may influence mothers' attitude and practices. Traditionally, it is believed that primary teeth are not as important as the permanent teeth as they are only in the mouth for a short period, hence they are not willing to spend money and time in their maintenance [5,6]. It is hoped that the present study will provide additional information especially on the perceptions of mothers about the primary

survey of the knowledge, attitude and practices of antenatal dentition. This will be useful in the formulation and implementation of oral health education programmes for mothers in maternal and child health clinics. It is important that mothers have good knowledge of oral health and diseases so as to aid modification of oral health behaviour and health seeking behaviour.

Materials and methods

This cross-sectional survey was carried out on 464 consecutive Nigerian mothers attending the antenatal clinics of the Lagos University Teaching Hospital and antenatal clinics in primary health centres within the local government area of the Teaching Hospital.

A questionnaire-interview format was used for the survey. Interviews were conducted by the authors for mothers who could not read. The interviews were conducted in English or vernacular. The questions were designed to obtain information on:

- Knowledge of the primary teeth and its importance,
- Knowledge of the aetiological factors associated with the common oral conditions,
 - Attitude towards early loss of primary teeth through disease,
 - Oral health practices and sources of oral health information

The questionnaire was pre-tested on 20 mothers in a different location. All areas of ambiguity were corrected in the final questionnaire. Knowledge on the primary teeth was assessed based on the number of correct statements by the respondents where: 6,7 correct answers is regarded as having good knowledge, 4 to 5 correct answers imply fair knowledge and less than 4 correct answers imply poor knowledge.

Data on the completed questionnaires were analysed using the Epi-info 6 statistical software package. Data was validated visually and frequency tables generated. Associations were subjected to the Chi-square test and significance was defined as P < 0.05.

Results

Demographic characteristics

A total of 464 mothers of Nigerian descent were studied. The mean age of the mothers was 29.737 years \pm 4.729.

About one-third of the mothers, 162(35.0%) were of high educational standard and had a university degree. Only 25 (5.2%) had no formal education or were educated up to primary school level respectively. The majority, 277(59.8%) were of medium educational status, that is secondary school level. Twenty-nine percent (29%) of the mothers were housewives and 27.7% in senior or intermediate occupational groups. Many of the mothers had received information on oral health care from a health professional: dentists-36.7%, doctors-17.4% and nurse/inidwife-15.8%. (Table 1)

Characteristic	Variables	No. (%)		
1. Age	Mean age	29.737 Yrs +4 729		
2.Educational	High	162(35.0%)		
Status	Medium	277(59.8%)		
	Low	25 (5.2%)		
3.Occupational	Housewife/	119(25.8)		
Status	Unemployed			
	Unskilled	2(0.4%)		
	Semi-Skilled	134(29.0%)		
	Residual	79(17.1%)		
	Interm-Ediate	94(20.3%)		
	Senior	34(7.4%)		
4.Source of Informa-	Dentist	95(36.7%)		
tion On Oral Health	Doctor	45(17.4%)		
	Nurse/Midwife	41(15.8%)		
	Miscellaneous	78(30.1%)		

Table 1: Socio-Demographic details of mothers studied (N=464)

Knowledge of primary teeth

About sixty percent (61.1%) of mothers expected that the primary teeth should erupt between 4 to 6 months and 11.2

(1.4%)	Knowledge of caries/gingivilis
(36.7%)	Many mothers, 51.3% knew that c
(17.4%)	caused by sugars. Other reasons giv
(15.8%)	hygiene-20.7%, germs/ bacteria 2.6%.
(30.1%)	1.3%. Almost a quarter (22.4 %) of t
	idea of the actiology of caries. The

Answers to statements on primary teeth by mothers Table 2:

Answers Don't Know Total Wrong Right Statements Ch No. 5% % No. % No. No. 65 14.01 464 100.00 14.65 68 331 71.33 1.Primary teeth are not important, as they will fall out. 464 100.00 86 18.53 57.76 110 23.71 268 2. When a baby has a painful tooth, it is best to remove it 39.22 99 21.34 464 100.00 182 39.44 183 3. When a primary tooth has a hole in it, it is best to remove it. 92 19.83 464 100.00 22.84 106 57.33 266 4. It is a waste of time and money to fill primary teeth. 41 8.83 464 100.00 13.59 77.59 63 360 5.It is unnecessary to clean baby's teeth since he/she is not eating real food. 80 17.24 464 100.00 36.85 171 45.91 213 6.A baby's teeth are needed for talking. 156 33.62 464 100.00 129 27.80 38.58 179 7.Removing baby's teeth does not affect the adult teeth. 60 14.87 464 100.00 27 5.81 79.31 8. Tooth decay can be prevented. 368 18.90 217 46.8 464 100.00 88 34.30 159 9.Number of teeth in primary dentition 27.5 52 11.20 464 100.00 61.10 128 284 10. Time of eruption of primary teeth

% reported that they did not know the time of eruption of the primary teeth. (Table 2).

no knowledge of the causes of bleeding gums. (Table 4.)

Table 2 shows the ratings for responses to statements about the primary teeth. For each of the statements almost half of the respondents got the correct answers. Over seventy percent (71.33%) agreed that primary teeth were important and 79.31% also agreed with the statement that tooth decay is preventable. Only 34.3% of the respondents knew the correct number of teeth in the primary dentition.

When level of knowledge was rated as good, fair and poor, only 95(20.3%) of the mothers had good knowledge of the primary teeth. There was a statistically significant association between educational status and knowledge on primary teeth, P=0.003308. (Table 3)

aries was largely en were poor oral and leftover foodhe mothers had no reasons given by mothers for bleeding gums were poor oral hygiene-13.1%, hard brushing-12.5% and bacteria-9.1%. However, approximately a third of the mothers, 39.7% had

Table 5. Those of a contraction between careta			E al a state of the state						
Level of			D STREET	Educationa	l status				
knowledge			Medium		Low		Total	tal	
	Hig	h			No.	%	No.	%	
	No.	%	No.	%	110.	10.5	05	20.7	
Good 44 27.2	27.2	48 1	17.3	7.3 4	12.5	198	42.8		
Fair	76	46.9	114	41.2	12	54.2	170	36.7	
Poor	42	25.9	115	41.5	15	100.00	464	100.00	
Total % Total	162 35.0	100.00	00 277 59.8	100.00	25 5.2	100,000	100.00		

 Table 3:
 Association between educational status of mothers studied and level of knowledge of primary teeth

Out of the 464 mothers studied, 95(20.3%) had good knowledge of the primary teeth. The association between educational status of mothers and knowledge of the primary teeth was statistically significant.

 $X^2 = 15.79$, df = 4 and p = 0.003308

Table 4:	Perceived aetiology	of caries and bleeding gums	by mothers studied
Table 4.	referred aethology	of calles and biccumg guine	

Perceived Aetiology	Caries No.	%	Perceived Aetiology	Bleeding Gums No.	%
Sugar	238	51.3	Lack of Vitamin C	14	3.0
Worms	3	0.6	Poor oral hygiene	61	13.1
Poor oral hygiene	96	20.7	Bacteria	42	9.1
Bacteria	12	2.6	Sharp objects	58	12.5
Leftover food	6	1.3	Sweet things	25	5.4
Miscellaneous	5	1.10	Hard brushing	39	8.4
Don't know	104	22.4	Worms	4	0.9
Total	464	100.00	Miscellaneous	37	8.0
Total			Don't know	184	39.75
		P. P. Ball	Total	464	100.00

Table 5: Association between educational status and perceived aetiology of caries by mothers studied

Perceived aetiology	Charles and the	and solar th	Educat	ional status	lorishe			
of caries	High		Medium		Low		Total	
ail ta t	No.	%	No.	%	No.	%	No.	%
Sugar	89	54.9	137	49.5	12	50.00	238	51.4
Worms/	0	00.00	1	0.4	2	8.3	3	0.6
Poor Oral Hygiene	34	21.00	59	21.3	3	12.5	96	20.7
Bacteria/Germs	8	4.9	4	1.4	0	0.00	12	2.6
Leftover Food	4	2.5	2	0.7	0	0.00	6	1.3
Miscellaneous	5	3.1	0	0.00	0	0.00	5	1.1
Don't Know	22	13.6	74	26.7	8	26.7	104	22.2
Total	162	100.00	277	100.00	24	100.00	464	100.00
% Total	35.00	12th Array	<u>59.8</u>	Per stand	5.2		100.00	

The association was statistically significant; $X^2 = 50.69$, df = 12 and P = 0.000000.

There was a statistically significant association between educational status and the perceived aetiology of caries. $X^2 = 50.69$, df=12 and P=0.00000000. (Table 5.)

Oral health practices for primary teeth

Cotton wool with water-34.4% and glycerine- 32.6% were the commonest tooth cleaning methods used by the moth-

A.Mothers level of knowledge		Child's				
	Y	Yes		No		al
antine find handpart fell Be	No.	%	No.	%	No.	%
Good	11	29.73	85	19.91	96	20.7
Fair	6	16.22	192	44.96	198	42.7
Poor	20	54.05	150	35.13	170	36.6
Total	37	100.00	427	100.00	464	100.00
% Total	7.97	100.00	92.03	100.00	100.00	100.00
B.Mothers' Past			92.05		100.00	
Dental visit						
Yes	25	67.6	107	25.06	132	28.45
No	12	32.4	320	74.94	332	71.55
Total	37	100.00	427	100.00	161	100,00
% Total	7.97		92.03	100.00	100.00	100.00

Table 6: A. Association between child's past dental visit and mother's level of knowledge of primary teet	h
B. Assocation between chid's past dental visit and mother's past dental visit	

Table 6A. Association was not significant: X²=5.44, Df=2 And P=0.06595615.

Table 6B. The association was statistically significant: Mantel-Hanzel P=0.000000005.

ers for the primary teeth. Only 8.0% of the mothers used toothbrush and toothpaste for baby's teeth. A few mothers (6.4%) did not clean their baby's teeth at all. (Fig 1.)





Fig. 2: Reasons given for past dental visit.

Fig.1: Tooth cleaning methods used for baby's teeth by mothers

Pain-35.1% and hole in tooth-32.4% were the commonest reasons given for visit to dentists, by respondents who had taken their children to the dentist. (Fig 2.)

There was no statistically significant association between child's past dental history and mothers knowledge of the primary teeth, p=0.06596115. There was however a statistically significant association between child's past dental visit and mother's past dental visit, P=0.0000000005. (Table 6A/B.)

Discussion

The present survey gives a report on the oral health knowledge, attitude and practices of a group of mothers with reference to the primary teeth. It also assessed the knowledge of mothers on the aetiology of the two most common oral conditions: dental caries and periodontal disease commonly presenting as bleeding gums.

Over two-thirds of the mothers in the present study confirmed that the primary teeth were important for speech and mastication. They were also of the opinion that it was necessary to clean baby's teeth. Baby's teeth were commonly cleaned using cotton wool with water or glycerine alone. However, only 8% of the mothers cleaned the primary teeth of their children with toothbrush and toothpaste. Similar reports on materials used for cleaning of primary teeth have been reported in the literature [11, 13-15]. The long use of glycerine for cleaning of primary teeth is widely reported and this may be one of the old wives' theories. Glycerine is likely to impact a shine on the tooth surfaces therefore making them attractive. Mothers also are of the opinion that since babies are mainly fed on liquids or fluid diet and their oral structures are still very tender the use of abrasives may not be necessary for the cleaning of their teeth. The implication of this may be that the teeth are not properly cleaned and therefore likelihood of developing poor oral hygiene. Further studies are however indicated to evaluate the effectiveness and use of glycerine as a tooth cleaning material.

On the timing of eruption of the primary teeth, 61.1% of the mothers knew that the eruption of the primary teeth starts about the age of 6months, while only about a third of the mothers were correct on the number of teeth in the primary dentition being 20 in number.

It was further observed in the present study that only about one-third of the study sample knew that some conditions affecting the primary teeth could affect the permanent teeth. Overall, results on the statements about primary teeth showed that only 20.5% of the study sample had a good knowledge on the primary teeth. A large majority had fair knowledge having answered 4 to 5 of the questions correctly. There was a significant association between level of education and knowledge of primary teeth among the mothers studied, P=0.00342. There was also a significant association between level of education and the perceived aetiology of caries by the mothers studied, P=0.0000000. However, there was no such observation on the perceived causes of bleeding gums.

Approximately half of the mothers were correct on the aetiologic factors in dental caries being associated with the excessive consumption of sugars. This finding corroborates that of a similar study from Ibadan, Nigeria [14]. However, less than one-fifth of the mothers in the present study associated poor oral hygiene with bleeding gums or gingival problems. Both conditions, caries and bleeding gums were often explained within traditional beliefs; worms, leftover food or general illness. Similar findings on the perceived aetiology of these conditions have also been reported among mothers in some studies in the literature [11, 13-15]. Information in the literature abound on the role of Streptococcus mutans in the aetiology of caries [16]. It has also been proven that the organism is nearly always the same genotype as the mothers; and is probably passed by shared utensils, putting fingers in mothers' mouth, kissing, mothers licking pacifiers and so on. If present in high enough number, the Streptococcus mutans infection puts the child at high risk. One good way to minimize risk for the child is for the mother to keep her Streptococcus Mutans

count low by practicing good oral hygiene during pregnancy and post partum period. An expectant mother experiencing dental problems during pregnancy should seek professional advice.

Various myths and taboos are usually found within traditional societies on the eruption of primary teeth [17]. Among the Yoruba communities along the coast of West Africa, it is generally believed that erupting the maxillary primary incisors before the mandibular implies some negative attributes of the child, mother, or even the family [18]. When this situation occurs, mothers urgently seek the immediate extraction of the offending tooth to avoid embarrassments and unpleasant punishments which may be meted on them. The findings from the study show that 30.5% of the mothers studied felt that the condition was taboo and 11.1% said they would seek extraction of the maxillary primary incisor if it erupted before the mandibular primary incisor.

It is worth noting that despite the positive attitudes of the mothers, seeking professional care was infrequent and mostly due to symptoms or pain. Less than a third of the mothers reported having ever been for dental care and only 7.97% had taken their children for dental treatment. This may be due to tradition and or lack of formal oral health counselling. This observation is similar to reports in the literature from most developing countries [6,11,15]. The oral health practices of the mothers in the present study are below the expected, despite exhibiting some knowledge of care of primary teeth.

This study shows that knowledge of primary teeth by mothers is rather diffuse and there exists differences in the levels of knowledge. Parents represent the children's primary source of information about oral and general health. Oral health habits of parents especially mothers have a lot of influence on those of their children [6,11-16,19,20]. The present study found a significant association between past dental visit of mother and child's past dental visit. This corroborates other reports in the literature [6,11-16,19,20], that oral health behaviour of mothers is very relevant in children's oral health counselling and education. We also know that the more common oral conditions, caries and poor oral hygiene are largely under the control of the individual. Oral health education therefore serves, as the basis for their prevention [16,19,20] Oral health education programmes should be formulated to concentrate on formulating proper habits as well as demonstrating proper procedures. This should be a continuous process establishing a lifelong behavioural pattern. In order to create healthy habits rather than struggling to correct harmful habits, infancy is the best time to initiate programmes on early oral health promotion and disease prevention strategies.

In conclusion, it should be noted that the greatest benefits of a program of oral health maintenance are obtained when the 1st visit is between 6 and 12 months of age [1]. Early visits to the dentist give the parents an opportu-

8.

nity to learn the specifics of oral health care. Informed parents can deal effectively with behavioural and nutritional concerns that are the root of early dental decay [16,19]. They will also be prepared to make intelligent choices when it comes to other oral health issues such as proper hygiene practices, good nutrition, frequency of feeding, pacifiers and prevention of trauma.

It is recommended that other health professionals: obstetricians, gynaecologists and paediatricians encourage mothers to seek professional oral health counselling as soon as possible. Infants should visit the dentist as soon as the 1st tooth erupts. This is important as additional age-specific information (anticipatory guidance) will be readily available at the oral health clinics [16] from paediatric and preventive dentists.

Education generates prevention. Parents, especially mothers, must be educated about oral health so that they will become active participants in the preventive care of their children.

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