# Knowledge, Myths and Practices of Teething among Nigerian Mothers in a Rural Area

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#### **ABSTRACT**

**Background:** Teething is a normal physiological process which involves the eruption of primary teeth into the oral cavity with minimal local symptoms, but no severe systemic involvement. However, Mothers worldwide associate different severe systemic symptoms with teething and indulge in different teething practices. This misconception leads to delays in prompt diagnosis and treatment of some childhood diseases. Moreover, some of these teething practices are harmful to the children.

**Objective:** To assess the knowledge, myths, and practices of teething among Nigerian mothers in Pakoto, a rural Local government area in Ogun State.

**Methods:** This was a cross-sectional study conducted at Pakoto Primary Health Care Centre, Ifo Local Government Area (LGA). Ogun State, Nigeria. Participants were mothers who attended the immunization clinic. Knowledge, myths, and practices for teething in the participants were assessed using a well-structured, pretested, open-ended, interviewer-administered questionnaire.

**Results:** One hundred mothers participated in this study. The mothers' ages ranged from 19-51 years. The majority (65%) of the mothers had a fair knowledge of teething and the level of knowledge of teething increased with increasing level of education. 81% of the mothers attributed systemic symptoms with teething. Fever (58%) was the most associated symptom and medication (75%) was the most common teething remedy used by the mothers. These remedies were either self-prescribed or prescribed by nurses in the community.

**Conclusion:** Very few mothers have good knowledge of teething, most of the mothers have misconceptions about teething and various practices are being done as remedies for teething. Therefore, proper education is required among these mothers.

**Key words:** Teething, myths, practices, mothers.

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#### INTRODUCTION

Tooth eruption is a normal physiological process whereby a tooth moves from within the jaw in the pre-eruptive position to the oral cavity. Teething can be defined as the eruption of primary teeth in infancy; this usually starts around four to ten months after birth.2 Subsequent eruption continues at an approximate rate of one tooth per month until the full complement of the primary dentition is completed at about thirty months of age.3 Normally, tooth eruption sequence in primary dentition begins with the lower central incisor, followed by upper central incisor, upper lateral incisor, lower lateral incisor, upper first molar, lower fist molar, upper canine, lower canine, lower second molar and finally the upper second molar.3 The timing of eruption varies in different children, this is controlled mainly by genetics, but it is also minimally influenced by the environment.4

Teething is considered an important episode of the growth and development of a child by lots of parents.<sup>5</sup> Teething may occur with minimal local disturbances, such as pain, irritation of the gums, drooling of saliva, swelling of the gums, and mild systemic manifestations such as irritability, sleep disturbances, loss of appetite and a mild temperature rise on the day of the eruption, but with no associated severe systemic disorders.<sup>6</sup>

Historically, there have been misconceptions about teething, attributing almost all childhood diseases to teething. Different remedies have been used in its treatment and have led to the death of children past. Many of these historical misconceptions about teething and the related dangerous remedies still exist.7 Hippocrates, an early scientist, believed that teething was associated with itching gum, diarrhoea and fever.8,9 The symptoms mostly attributed to teething are fever, diarrhoea, vomiting, weight loss, convulsion, headache, cough, conjunctivitis, ear infection, rashes and refusal to eat.5,10 Several studies reported mothers attributing systemic symptoms to teething. A study in Lagos, Nigeria, shows that most mothers attribute several systemic symptoms to teething. Fever and diarrhoea were the most common symptoms reported. This study also shows that mothers across all socioeconomic statuses, educational levels, age groups and ethnic groups believe that teething causes serious symptoms. 11 This misconception by mothers interferes with prompt diagnosis and treatment of diseases.4 Many healthcare providers also attribute a lot of symptoms to teething, thereby increasing the possibility of overlooking some severe underlying medical conditions. 4 During this period of teething in an infant's life, passive immunity wanes, and this

exposes the child to a wide variety of childhood diseases. In addition, at this period, crawling children pick up and put contaminated things in the mouth, which makes them prone to diarrhea.<sup>12</sup>

Different cultures have different practices towards teething. "Old remedies to teething includes blistering, bleeding, placing leeches on the gum, applying cautery to the back of the head and lancing- a method where lancet is used to cut the gum to hasten the eruption of the tooth." These mothers believe that such practices prevent the death of the child"13 In Northern Uganda, primary canines were extracted due to their traditional beliefs that teething causes illnesses. Regrettably, these extractions are carried out under crude conditions, with unclean tools. 4 In Sudan 5, infant oral mutilation is done by enucleation of primary canine tooth germs of the infants and is believed to alleviate the symptoms of teething. Studies from Nigeria reported several teething remedies such as teething powder, teething concoctions, teething soaps, teething syrup, and incisions<sup>16,17</sup> administration of some teething medications are harmful to the child. An example of such medications is diethylene glycol found in teething syrup that caused the 'my pikin' tragedy which led to the death of 84 children in Nigeria. 18

Several studies have been carried out about the knowledge and perception of teething among mothers in Nigeria, but only a few studies explored the cultural practices carried out during teething, hence this study. This study aims to assess the knowledge, myths and practices concerning teething in a group of mothers in Ogun State.

## **METHODOLOGY**

A cross-sectional study to assess the knowledge, myths, and practices of teething among consenting nursing mothers attending the immunization clinic at Pakoto Primary Health Care Centre, Ifo LGA. Ogun State, Nigeria. Ethical approval was obtained from the Health Research Ethics Committee (HREC) of Lagos University Teaching Hospital (Protocol Number: ADM/DSCST/HREC/APP/4651).

Informed consent (verbal and written) was obtained from all participants.

The inclusion criteria were consenting mothers aged 19 years and above with children who have erupted at least one primary tooth. Exclusion criteria were non-consenting mothers.

A consecutive sampling method was used to recruit participants in the study. All the mothers who came to the clinic who met the study criteria were recruited until the sample size was reached.

### Sample size determination

Sample size calculation for cross-sectional studies was used with the formula:

 $n = Z^2P (1-P)/d^2$ 

Where n=Sample size

Z is the statistic corresponding to a level of confidence =1.96

P is expected prevalence = 95.2%, obtained from a previous study conducted in Nigeria by Uti *et al* <sup>11</sup> on maternal beliefs about infant teething.

d is precision or absolute error =0.05

The estimated sample size at 95% confidence level and 5% precision level is given as:

 $1.96^2 \times 0.952 \times (1 - 0.952) / 0.05^2 = 3.8416 \times 0.952 \times 0.048 / 0.0025 = 70.$ 

A 20 % non-response rate was used=70+14=84 Therefore, the minimum sample size was 84 participants. However, the sample size was rounded up to 100 participants.

### Method of data collection:

The data was collected using a structured, pretested, open-ended, self-administered questionnaire.(Appendix I) The questionnaire included a section on socio-demographic characteristics such as age, gender, educational level, marital status, and employment status. There was also a section on the knowledge of teething, perception of teething and teething practices.

A pre-test on the questionnaires was conducted on ten randomly selected females in Mushin LGA in Lagos state, South-West Nigeria to assess the validity and needful changes were made as necessary.

The section in the questionnaire, which consisted of knowledge of teething, had five questions. As was done in a study by Egbunah et al., the right responses were assigned a score of 1, while wrong or no or "I don't know" responses were given a score of o. The respondents were categorised as having either poor, fair or good knowledge of teething based on their responses to the knowledge questions. Obtaining a score of o-1 was classified as poor knowledge, obtaining a score of 2-3 was classified as fair knowledge and obtaining a score of 4-5 was classified as good knowledge.

### Statistical analysis

Data entry, analysis and validation were performed using the Statistical Package for Social Sciences for Windows, version 23.0 software package (IBM SPSS Version 23.0. Armonk, NY: IBM Corp.). Descriptive analysis was carried out using frequency and proportion for categorical variables and mean and standard deviation for numeric variables. Data was analyzed using Pearson's chisquare test and Fisher's exact test, where

applicable, to test for association. A preset level of significance of p<0.05 was adopted.

### **RESULTS**

# Socio-demographic profile of the study population

One hundred mothers participated in this study. The mother's ages ranged from 19-51 years with a mean age of 31.21 (SD 7.016). Most of the mothers were within the range of 31-40years. The majorityS 92(92%) were Yoruba by tribe, and 67(67%) of the mothers were Christians. All the mothers had some level of education with 73(73%) of the mothers having secondary school education. Eighty-one per cent of the mothers were self-employed and 43(43%) had two children (Table 1).

Table 1: Sociodemographic profile of the study population

Demographic	Frequency	Percentage
characteristics	n= 100	(%)
Age		
≤ 30	41	41.0
31-40	43	43.0
≥41	16	16.0
Tribe		
Yoruba	92	92.0
Igbo	6	6.0
Edo	2	2.0
Religion		
Christianity	67	67.0
Islam	33	33.0
Level of		
education		
Primary school	1	1.0
Secondary school	73	73.0
Tertiary	26	26.0
institution		
Occupation		
Unemployed	4	4.0
Self employed	81	81.0
Civil servant	15	15.0
Number of		
children		
1	12	12.0
2	43	43.0
3	24	24.0
>3	21	21.0

### Knowledge of the mothers about tooth eruption

Only thirty-seven (37%) of the respondents were aware that tooth eruption usually commences from six to seven months, while 17(17%) don't know when tooth eruption commences. Most of the respondents 87(87%) know that tooth eruption usually begins with the lower central incisors. Only

20(20%) of the respondents said there is full complement of primary teeth by two to three years of age. Most of the respondents 85(85%) don't know what can cause delay in tooth eruption and 61(61%) said the appropriate time to start cleaning baby's teeth is when teeth begin to erupt (Table 2). On overall level of knowledge, 28(28%) of the respondents attained a score of 0-1 representing poor knowledge on teething, 65(65%) of the respondents attained a score of 2-3 representing fair knowledge and 7(7%) of the respondents attained a score of 4-5 representing good knowledge on teething. (Figure 1)

Table 2: Mothers' knowledge about teething

When do babies' teeth start to erupt?         <6months       30(30.0%)         6-7months       37(37.0%)         >7months       16(16.0%)         Don't know       17(17.0%)         Which teeth erupt first?         Lower central incisors       7(7.0%)         Don't know       6(6.0%)         At what age do baby teeth form completely?         <2years       10(10.0%)         2-3years       20(20.0%)         >3years       13(13.0%)         Don't know       57(57.0%)         What can cause baby teeth not to erupt on time?       Nature         Nature       9(9.0%)         Mothers hand       2(2.0%)         Iron spoon       1(1.0%)         Fruits       2(2.0%)         Drugs       1(1.0%)         Don't know       85(85.0%)         When is the appropriate time to start cleaning baby's teeth?         When do teeth start to erupt?       61(61.0%)         1year       23(23.0%)         2years       3(3.0%)         Don't know       13(13.0%)	Questions	Frequency (%)
6-ymonths >ymonths 16(16.0%) Don't know 17(17.0%)  Which teeth erupt first?  Lower central incisors Upper central incisors Don't know At what age do baby teeth form completely? <2years 20(20.0%) >3years 13(13.0%) Don't know What can cause baby teeth not to erupt on time?  Nature Nature Mothers hand Iron spoon Fruits Don't know Fruits Don't know When is the appropriate time to start cleaning baby's teeth?  When do teeth start to erupt? 16(61.0%) 1year 2years 3(3.0%)		3,433 3,77
>7months 16(16.0%) Don't know 17(17.0%)  Which teeth erupt first?  Lower central incisors 87(87.0%) Upper central incisors 7(7.0%) Don't know 6(6.0%)  At what age do baby teeth form completely?  <2years 10(10.0%) 2-3years 20(20.0%) >3years 13(13.0%) Don't know 57(57.0%)  What can cause baby teeth not to erupt on time?  Nature 9(9.0%) Mothers hand 2(2.0%) Iron spoon 1(1.0%) Fruits 2(2.0%) Drugs 1(1.0%) Don't know 85(85.0%)  When is the appropriate time to start cleaning baby's teeth?  When do teeth start to erupt? 61(61.0%) 1year 23(23.0%) 2years 3(3.0%)	<6months	30(30.0%)
Don't know       17(17.0%)         Which teeth erupt first?       87(87.0%)         Lower central incisors       7(7.0%)         Don't know       6(6.0%)         At what age do baby teeth form completely?       10(10.0%)         2-3years       20(20.0%)         >3years       13(13.0%)         Don't know       57(57.0%)         What can cause baby teeth not to erupt on time?       9(9.0%)         Nature       9(9.0%)         Mothers hand       2(2.0%)         Iron spoon       1(1.0%)         Fruits       2(2.0%)         Drugs       1(1.0%)         Don't know       85(85.0%)         When is the appropriate time to start cleaning baby's teeth?         When do teeth start to erupt?       61(61.0%)         1year       23(23.0%)         2years       3(3.0%)	6-7months	37(37.0%)
Which teeth erupt first?  Lower central incisors 87(87.0%)  Upper central incisors 7(7.0%)  Don't know 6(6.0%)  At what age do baby teeth form completely?  <2years 10(10.0%) 2-3years 20(20.0%) >3years 13(13.0%)  Don't know 57(57.0%)  What can cause baby teeth not to erupt on time?  Nature 9(9.0%)  Mothers hand 2(2.0%)  Iron spoon 1(1.0%)  Fruits 2(2.0%)  Drugs 1(1.0%)  Drugs 1(1.0%)  Don't know 85(85.0%)  When is the appropriate time to start cleaning baby's teeth?  When do teeth start to erupt? 61(61.0%) 1year 23(23.0%) 2years 3(3.0%)	>7months	16(16.0%)
Lower central incisors 87(87.0%) Upper central incisors 7(7.0%) Don't know 6(6.0%)  At what age do baby teeth form completely?  <2years 10(10.0%) 2-3years 20(20.0%) >3years 13(13.0%) Don't know 57(57.0%)  What can cause baby teeth not to erupt on time?  Nature 9(9.0%) Mothers hand 2(2.0%) Iron spoon 1(1.0%) Fruits 2(2.0%) Drugs 1(1.0%) Don't know 85(85.0%)  When is the appropriate time to start cleaning baby's teeth?  When do teeth start to erupt? 61(61.0%) 1year 23(23.0%) 2years 3(3.0%)	Don't know	17(17.0%)
Upper central incisors 7(7.0%)  Don't know 6(6.0%)  At what age do baby teeth form completely?  <2years 10(10.0%) 2-3years 20(20.0%) >3years 13(13.0%)  Don't know 57(57.0%)  What can cause baby teeth not to erupt on time?  Nature 9(9.0%)  Mothers hand 2(2.0%)  Iron spoon 1(1.0%)  Fruits 2(2.0%)  Drugs 1(1.0%)  Don't know 85(85.0%)  When is the appropriate time to start cleaning baby's teeth?  When do teeth start to erupt? 61(61.0%) 1year 23(23.0%) 2years 3(3.0%)	Which teeth erupt first?	
Don't know       6(6.0%)         At what age do baby teeth form completely?       10(10.0%)         2-3years       20(20.0%)         >3years       13(13.0%)         Don't know       57(57.0%)         What can cause baby teeth not to erupt on time?       9(9.0%)         Mothers hand       2(2.0%)         Iron spoon       1(1.0%)         Fruits       2(2.0%)         Drugs       1(1.0%)         Don't know       85(85.0%)         When is the appropriate time to start cleaning baby's teeth?       61(61.0%)         When do teeth start to erupt?       61(61.0%)         1year       23(23.0%)         2years       3(3.0%)	Lower central incisors	87(87.0%)
At what age do baby teeth form completely?  <2years	Upper central incisors	7(7.0%)
form completely?         <2years	Don't know	6(6.0%)
2-3years 20(20.0%) >3years 13(13.0%)  Don't know 57(57.0%)  What can cause baby teeth not to erupt on time?  Nature 9(9.0%)  Mothers hand 2(2.0%)  Iron spoon 1(1.0%)  Fruits 2(2.0%)  Drugs 1(1.0%)  Don't know 85(85.0%)  When is the appropriate time to start cleaning baby's teeth?  When do teeth start to erupt? 61(61.0%) 1year 23(23.0%) 2years 3(3.0%)	-	
>3years 13(13.0%)  Don't know 57(57.0%)  What can cause baby teeth not to erupt on time?  Nature 9(9.0%)  Mothers hand 2(2.0%)  Iron spoon 1(1.0%)  Fruits 2(2.0%)  Drugs 1(1.0%)  Don't know 85(85.0%)  When is the appropriate time to start cleaning baby's teeth?  When do teeth start to erupt? 61(61.0%)  1year 23(23.0%)  2years 3(3.0%)	<2years	10(10.0%)
Don't know  What can cause baby teeth not to erupt on time?  Nature  Mothers hand  Iron spoon  Fruits  Drugs  Don't know  When is the appropriate time to start cleaning baby's teeth?  When do teeth start to erupt?  101.0%  61(61.0%)  112.0%  61(61.0%)  112.0%  61(61.0%)  61(61.0%)  61(61.0%)  61(61.0%)  61(61.0%)  61(61.0%)  61(61.0%)  61(61.0%)  61(61.0%)  61(61.0%)  61(61.0%)  61(61.0%)  61(61.0%)  61(61.0%)  61(61.0%)  61(61.0%)  61(61.0%)	2-3years	20(20.0%)
What can cause baby teeth not to erupt on time?  Nature 9(9.0%)  Mothers hand 2(2.0%)  Iron spoon 1(1.0%)  Fruits 2(2.0%)  Drugs 1(1.0%)  Don't know 85(85.0%)  When is the appropriate time to start cleaning baby's teeth?  When do teeth start to erupt? 61(61.0%)  1year 23(23.0%)  2years 3(3.0%)	>3years	13(13.0%)
not to erupt on time?         Nature       9(9.0%)         Mothers hand       2(2.0%)         Iron spoon       1(1.0%)         Fruits       2(2.0%)         Drugs       1(1.0%)         Don't know       85(85.0%)         When is the appropriate time to start cleaning baby's teeth?         When do teeth start to erupt?       61(61.0%)         1year       23(23.0%)         2years       3(3.0%)	Don't know	57(57.0%)
Mothers hand 2(2.0%)  Iron spoon 1(1.0%)  Fruits 2(2.0%)  Drugs 1(1.0%)  Don't know 85(85.0%)  When is the appropriate time to start cleaning baby's teeth?  When do teeth start to erupt? 61(61.0%)  1year 23(23.0%)  2years 3(3.0%)	•	
Iron spoon       1(1.0%)         Fruits       2(2.0%)         Drugs       1(1.0%)         Don't know       85(85.0%)         When is the appropriate time to start cleaning baby's teeth?         When do teeth start to erupt?       61(61.0%)         1year       23(23.0%)         2years       3(3.0%)	Nature	9(9.0%)
Fruits 2(2.0%) Drugs 1(1.0%) Don't know 85(85.0%) When is the appropriate time to start cleaning baby's teeth?  When do teeth start to erupt? 61(61.0%) 1year 23(23.0%) 2years 3(3.0%)	Mothers hand	2(2.0%)
Drugs 1(1.0%)  Don't know 85(85.0%)  When is the appropriate time to start cleaning baby's teeth?  When do teeth start to erupt? 61(61.0%) 1year 23(23.0%) 2years 3(3.0%)	Iron spoon	1(1.0%)
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When is the appropriate time to start cleaning baby's teeth?  When do teeth start to erupt? 61(61.0%)  1year 23(23.0%)  2years 3(3.0%)	Drugs	1(1.0%)
time to start cleaning baby's teeth?  When do teeth start to erupt? 61(61.0%)  1year 23(23.0%)  2years 3(3.0%)	Don't know	85(85.0%)
1year 23(23.0%) 2years 3(3.0%)	time to start cleaning baby's	
2years 3(3.0%)	When do teeth start to erupt?	61(61.0%)
,	ıyear	23(23.0%)
Don't know 13(13.0%)	·	
	Don't know	13(13.0%)

Figure 1: Level of knowledge of mothers on teething

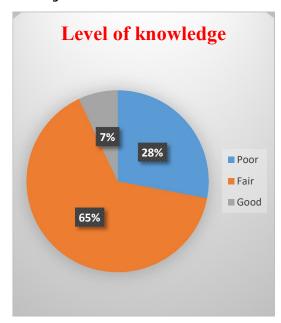


Figure 1: Level of knowledge of mothers on teething

# Myths associated with teething by the mothers

Systemic teething symptoms in children were reported by 81(81%) of the respondents. Among these respondents, fever 58(58%) was most associated with teething, followed by catarrh 34(34%), cough 29(29%) and diarrhoea 25(25%). Table 3 summarizes the symptoms attributed to teething by the respondents. Forty percent of the respondents do not have an idea of symptoms associated with teething other than the symptoms experienced by their children while only 19(19%) of respondents attributed no symptom with teething.

Table 3: Symptoms that mothers associate with teething in their children

Teething	Frequency (%)	
Symptoms		_
Fever	58(58.0%)	
Cough	29(29.0%)	
Catarrh	34(34.0%)	
Diarrhoea	25(25.0%)	
Vomiting	7(7.0%)	
Headache	6(6.0%)	
Body pains	2(2.0%)	
Weakness	2(2.0%)	
Not eating	2(2.0%)	
Gum pain	1(1.0%)	
Hot head	3(3.0%)	
Boil	4(4.0%)	
No symptoms	19(19%)	

## Teething practices by mothers

Most of the respondents, 75(75%), give their children medications which were mostly prescribed by nurses, and some were self-prescribed These medications include Babyrest syrup which contains Simeticone (anti-foaming, anti-flatulence agent) as the active ingredient; Bonababe syrup (contains chlorpheniramine maleate, concentrated dill water and paracetamol as active ingredients); paracetamol; Piccan (contains diphenhydramine HCL and paracetamol as active ingredients) and multivitamins.

Respondents also reported using some non-medication remedies such as teething powder, teething bangles, native black soap, tepid-sponging, and honey (Table 4). They also reported that they have heard of the use of herbs, gum incisions and teething bangles as remedies for teething.

Table 4: Teething practices by mothers

Teething Practices	Frequency (%)
Medications	75(75.0%)
Teething powder	14(14.0%)
Teething bangle	2(2.0%)
Tepid sponging	5(5.0%)
Black soap	1(1.0%)
Honey	1(1.0%)

# Association between mothers' knowledge of teething with their age, education, and number of children

There was no statistically significant relationship between the respondents' knowledge of teething and their age and number of children; however, there was a statistically significant relationship between the respondents' knowledge of teething and their level of education (p=0.000) as seen in Table 5. Only 7(7%) of respondents have good knowledge of teething. This group of respondents have tertiary education.

Table 5: Association of mothers' knowledge with age, education, and number of children.

Variables		Mothers' knowledge				Statistics & p- value
		Poor (%)	Fair (%)	Good (%)	Total (%)	
Age						
≤30		15(36.6%)	24(58.5%)	2(4.9%)	41(100.0%)	X <sup>2</sup> =5.147
31-40		9(20.9%)	29(67.4%)	5(11.6%)	43(100.0%)	
≥41		4(25.0%)	12(75.0%)	0(0.0%)	16(100.0%)	P=0.273
Level education	of					
Primary		0(0.0%)	1(100.0%)	0(0.0%)	1(100.0%)	X <sup>2</sup> =21.901
Secondary		22(30.1%)	51(69.9%)	0(0.0%)	73(100.0%)	
Tertiary		6(23.1%)	13(50.0%)	7(26.9%)	27(100.0%)	*P=0.000
Number children	of					
1		5(41.7%)	6(50.0%)	1(8.3%)	12(100.0%)	
2		15(34.9%)	24(55.8%)	4(9.3%)	43(100.0%)	X <sup>2</sup> =7.282
3		4(16.7%)	18(75.0%)	2(8.3%)	24(100.0%)	
>3		4(19.0%)	17(81.0%)	0(0.0%)	21(100.0%)	P=0.296

<sup>\*</sup> p<0.05

# Association of mothers' knowledge with teething practices

A significant relationship was found between the mothers' knowledge about teething and some teething practices (medications with p=0.036 and tepid sponging with p=0.001) as seen in Table 6.

Seventy-point-seven percent of the respondents who use medications as remedies for systemic teething symptoms have a fair knowledge of teething, and all the respondents who use tepid sponging as a remedy for systemic teething symptoms have poor knowledge.

Table 6: Association of knowledge with teething practices

Variables	Knowledge				Statistics & p- value
	Poor (%)	Fair (%)	Good (%)	Total (%)	
Medications					X <sup>2=</sup> 6.673
Yes	16(21.3%)	53(70.7%)	6(8.0%)	75(100.0%)	
No	12(48.0%)	12(48.0%)	1(4.0%)	25(100.0%)	*P=0.036
Teething					X <sup>2</sup> =1.555
powder					
Yes	2(14.3%)	11(78.6%)	1(7.1%)	14(100.0%)	
No	26(30.2%)	54(62.8%)	6(7.0%)	86(100.0%)	P=0.459
Teething			•		X²=1.099
bangle					
Yes	0(0.0%)	2(100.0%)	0(0.0%)	2(100.0%)	
No	28(28.6%)	63(64.3%)	7(7.1%)	98(100.0%)	P=0.577
Honey				_	X <sup>2</sup> =0.544
Yes	0(0.0%)	1(100.0%)	0(0.0%)	1(100.0%)	
No	28(28.3%)	64(64.6%)	7(7.1%)	99(100.0%)	P=0.762
Tepid					X <sup>2</sup> =13.534
sponging					
Yes	5(100.0%)	0(0.0%)	0(0.0%)	5(100.0%)	
No	23(24.2%)	65(68.4%)	7(7.4%)	95(100.0%)	*P=0.001
Black soap				'	X <sup>2</sup> =0.544
Yes	0(0.0%)	1(100.0%)	0(0.0%)	1(100.0%)	
No	28(28.3%)	64(64.6%)	7(7.1%)	99(100.0%)	P=0.762

# Association of mothers' perception of systemic teething symptoms with their age, education, and occupation

There is no statistically significant relationship between the respondents' age and their perception of the systemic symptoms of teething (p-value =0.291). There is also no statistically significant relationship between the respondents' level of education and their belief with regard to teething (p-value=0.888). No statistically significant relationship was found between the occupation of the respondents and their teething beliefs.

## **DISCUSSION**

Teething is usually not associated with severe systemic symptoms. However, mothers wrongly attribute lots of systemic symptoms to teething as these symptoms occur around the time teething starts.<sup>20</sup> These symptoms may be associated with the waning of the maternally acquired immunity around this time, coupled with the fact that

children, during teething, tend to pick up anything from the floor to the mouth in order to soothe the local gum discomfort. In addition, In tropical countries, such as Nigeria, this period also tallies with the first clinical malaria infection in children. All these make children prone to getting serious illnesses at this age which have nothing to do with the eruption of teeth. For these reasons the populace has erroneously associated teething with a whole array of symptoms such as high-grade fever (temperature of 38°C or higher), diarrhoea, vomiting, cough, colds/catarrh, ear infection, boils, weight loss, eye infection and headache.

In this study, about a fifth of the mothers did not associate any systemic symptom with teething. This finding is similar to those of some Nigerian studies by Ige et al<sup>4</sup> and Paul et al<sup>13</sup> but different from that of Uti et al<sup>12</sup> where a smaller fraction was reported. The increase in the fraction of mothers who did not associate systemic symptoms with

teething may suggest an improvement in the knowledge of mothers with regards to teething over the years.

Among the symptoms reported by the mothers, fever, catarrh, cough, and diarrhea were the most prevalent finding. This is similar to those reported by More *et al*<sup>5</sup>, Uti *et al*<sup>12</sup> and Paul *et al*<sup>13</sup> This could be due to the reduced immunity in the child, thereby predisposing the child to certain infections.

There are varied reports on the association between demographic characteristics knowledge of teething. In this study, there was no association between age, level of education, and occupation with perceived teething symptoms, this is similar to some Nigerian studies<sup>11,13</sup> However, a study in Nigeria reported that more younger mothers tend to attribute symptoms to teething than older mothers.4 Other Nigerian study also reported that more mothers in the low socio-economic group attributed symptoms to teething.4,22 In Egypt, mothers of higher educational levels (>secondary school) and mothers from urban areas significantly have good knowledge about the symptoms associated with teething.23 This may be attributed to different levels of exposure to maternal and infant oral health education as well as differences in the population groups studied.

In this study, less than half of the mothers know that tooth eruption usually commences between 6-7 months, and the majority of the mothers know that the lower central incisor is usually the first to erupt. Only a fifth of the mothers know that the eruption of primary teeth is completed within 2-3 years. The majority of the mothers have no idea of what can cause a delay in tooth eruption. This is similar to some studies which showed a majority of mothers were aware that the lower central incisors are first to erupt in children, but differ from these studies with regards to knowledge of the onset of tooth eruption and completion of tooth eruption. 1,5,7

The lack of knowledge of the unset and completion of tooth eruption in this study could be due to ignorance, as the study was carried out in a rural community and majority of the respondents have only secondary school education. The good knowledge of lower central incisors erupting first among the respondents could be because the tooth will be in the mouth for some time before other teeth start to erupt. This is usually obvious to everyone around the child.

Medication is the most common remedy for teething symptoms by these mothers. Majority of the respondents use different classes of medications for their babies, ranging from anti-

flatulence drugs to sedatives, analgesics and multivitamins. Noteworthy, however, is that these drugs were self-medications encouraged by the easy access to drugs over the counter in Nigeria. Eruption of teeth (teething) can cause some discomfort, irritability, and low-grade/mild fever (Temperature less than 38°C). Though it is desirable to keep body temperatures low, analgesics may further mask more serious underlying diseases giving a distorted clinical picture. The danger of such practice was seen in the loss of 84 children from 2008 to 2009 due to the consumption of teething syrup contaminated with diethylene glycol, which is a chemical used in antifreeze and brake fluid. 18 The finding in this study is similar to that of Egypt, where medications (antibiotics and antipyretics) were the treatment of choice. Only a small proportion of the women give herbs and other traditional medicine,23 and also a study in Sudan showed that antibiotics and analgesics were majorly given. This similarity may be due to ongoing global awareness of the risks of the use of traditional medications.

#### CONCLUSION

This study shows that most mothers have a fair knowledge of the teething process. The majority of mothers' associate teething with several symptoms irrespective of their age group, educational status and occupation. Due to this misconception, prompt and proper attention is not sought for these systemic symptoms. In addition, most of the mothers practice self-medication. Therefore, there is still a need for Community oral health education to enlighten these mothers on the need and importance of prompt consultation and the dangers of self-medication. Moreover, oral health talks on teething can be incorporated into regular health talks at antenatal clinics and immunization clinics within hospitals and other health facilities in the community.

### Limitations of the study

The limitation of the study is the small sample size and the single location of the sample. A small sample may not accurately represent the entire community, and limiting the sample to a single location may have biased the outcome of the study.

Further studies can be done with a larger sample size and data can be collected from both urban and rural settings and compared.

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# Appendix I

# QUESTIONNAIRE

# SECTION ONE: SOCIO-DEMOGRAPHIC DETAILS

1.	Age
2.	Tribe
3.	Religion
	a. Christianity ( ) b. Islam( ) c. Others (please specify)
4.	Marital status
	a. Single ( ) b. Married ( ) c. divorced ( ) d. widow ( )
5.	Educational status:
	a. No formal education ( ) b. Primary ( ) c. Secondary ( ) d. Tertiary ( ) e. others (please specify)
6.	Occupation:
	a. Unemployed ( ) b. Employed (please specify)
7.	Number of children
8.	What position is the child in the family?
	SECTION TWO MOTUFES (WHOW EDGE ADOLLT TEST UNG
	SECTION TWO: MOTHERS' KNOWLEDGE ABOUT TEETHING
	When do babies teeth start to erupt?
	Which teeth erupt first?
	At what age do baby teeth form completely?  What can cause baby teeth not to erupt on time?
	When is the appropriate time to start cleaning baby's teeth?
13.	When is the appropriate time to start cleaning baby's teeth:
	CECTION TURES COMPTONS ACCOUNTED WITH TESTURIS
	SECTION THREE: SYMPTOMS ASSOCIATED WITH TEETHING
14.	Does your child experience any symptoms during teething?
	a. Yes ( ) b. No ( )
	If yes to question 14, what symptoms did your child experience during teething?
	What did you do when your child was experiencing the teething symptoms?
17.	If no to question 14, what do you think are the symptoms experienced during
	teething?
	SECTION FOUR: REMEDIES TO TEETHING SYMPTOMS
18.	Do you take your child to the hospital during teething?
	a. Yes ( ) b. No ( )
19.	If no to question 18, where do you take your child to?
20.	What are the different things that can be done to treat children during
	teething?