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Original Article

Mothers' Beliefs And Knowledge Of Teething In Benin City

Mike Eghosa OGBEIDE[1,3], Eseosa Hope OSADIAYE [2]

AFFILIATION

[1]Department Of Dental And Maxillofacial Surgery, Usmanu Danfodiyo Univerzsity Teaching Hospital, Sokoto, Sokoto State, Nigeria. ORCID- Https://orcid.org/0000-0002-3117-1027

[2]Department Of Preventive Dentistry, University Of Benin Teaching Hospital, Benin City, Edo State, Nigeria. ORCID- Https://orcid.org/0006-6634-3753

[3] Department Of Oral Diagnosis & Radiology, University Of Benin, Benin City, Edo State, Nigeria.

CORRESPONDING AUTHOR

Dr. Mike Eghosa Ogbeide,
Department of Dental and Maxillofacial Surgery, Usmanu Danfodiyo University Teaching Hospital, Sokoto, Sokoto State, Nigeria. E-mail: miketop247@gmail.com

ABSTRACT

Background

Several myths and beliefs have accompanied the teething process for ages. While some extreme conditions and deaths are no longer linked to teething, the teething process is still surrounded by some controversies to date.

Objective

To assess mothers' beliefs and knowledge of teething.

Methods

The study was designed as a descriptive cross-sectional survey. The participants were mothers, selected via a systematic sampling technique. Their socio-demographics, beliefs, and knowledge of teething were evaluated with the aid of a questionnaire. Furthermore, their knowledge was scored and graded. Version 21 of IBM SPSS Armonk, NY, USA, was used for data analysis. Results were presented using frequency tables and charts. The level of significance was set at $p \leq 0.05$.

Results

A total of 120 mothers took part in the study. Most of the mothers (86.7%; n=104) believed diarrhea was a symptom of teething, and close to half (49.2%; n=59) believed fever was a symptom. Half of the participants 50.0% (n=60) reported parents as the source of their information. Only one-sixth of the participants (16.7%; n=20) had a good knowledge of teething. Knowledge of teething was found to be related to the level of education. However, the association was not statistically significant ($p = 0.77$)

Conclusion

There is a need for public enlightenment programs to correct some observed teething misconceptions, improve the teething awareness level, and close the gap in the knowledge of teething of this study population.

Keywords

Teething; beliefs; knowledge; mothers; Benin city

INTRODUCTION

Teething is the process that involves the eruption of the teeth from the alveolar bone into the oral cavity via the gingiva. [1] This physiological process is viewed as an important developmental event for the child by most parents, as such, it is usually anxiously awaited by them.[1-3]

Several myths and beliefs have accompanied the teething process for ages. Hippocrates,[4] believed teething causes itching gums, diarrhea, fever, and drooling of saliva. The propensity to ascribe serious diseases to teething was so common in the earlier centuries that several deaths of children below 3 years in the year 1842 were reported to be due to teething.[4] While some extreme conditions and deaths are no longer linked to teething, the teething process is still surrounded by some controversies to date.

Studies worldwide have reported the beliefs of parents about teething. [1-2,5-10] A study in Mysore, India, carried out among nursing mothers, reported diarrhoea, fever, irritability, drooling of saliva, and finger sucking as the symptoms perceived by most mothers to be associated with teething. [9] In another study conducted in Lagos, Nigeria, [1] most mothers perceived headaches, and vomiting as major symptoms of teething in addition to the symptoms listed above.

Awareness of mothers about teething has been credited to various sources. [10] The main sources of teething information by mothers in Mansoura, Egypt [10] were from relatives/friends and Health care workers. In another study, 95% of the mothers received their information either from their own mothers or neighbours with only 5% receiving such information from the paediatrician and none from the dentist. [9] Awareness is very important as it gives an individual insight into their beliefs and the opportunity to reflect on them.

Knowledge is said to be 'power' because it can among other capabilities, influence one's decision-making. [11] Similarly, adequate knowledge about teething among mothers could help impact positively how they handle their teething child. Many studies have assessed parents' knowledge, particularly mothers about teething. [12-18]

In most cases, the knowledge level of mothers about teething varied from one such study to another. This may be related to differences in the mothers' educational levels, the study location, and the impact of other socio-demographic characteristics. According to a study conducted in India,[7] 71.4% of the respondents were found to be knowledgeable about teething. Their level of knowledge was reported to be significantly associated with income, education, and occupation. However, in another study in Taif, Saudi Arabia, only 18.5% of respondents had adequate knowledge about teething.

Previous studies in Nigeria about teething beliefs and knowledge of mothers were conducted at institutions attended by mothers (such as primary health care centers, Outpatient clinics of teaching hospitals, and infant immunization clinics). To our knowledge, this is the first study carried out at the residence of participants. This study, therefore, has the advantage of presenting a more representative sample of the target population and thus a better reflection of the population characteristics. Hence, this study aims to assess mothers' beliefs and knowledge of teething.

MATERIALS AND METHOD

The study was carried out among mothers in Benin City, Nigeria. The city is comprised mainly of Ikpoba-Okha, Oredo, and Egor local government areas (LGA), with a 2016 population prediction of over 1.4 million. [19] The study was designed as a community-based descriptive cross-sectional

survey. It was conducted from March and May 2016

All available and willing breastfeeding mothers who gave consent were included in the study. Sample size was determined using Cochran's formula for a cross-sectional study. [20] Applying a prevalence of 92.8% from a previous study carried out in 2015 in North-Western Nigeria, [6] and a 15% non-response adjustment, the calculated sample size was 120 for this study.

Sampling technique

The streets used for this study were chosen via a systematic sampling technique. Ten streets were chosen per LGA, making it 30 streets in total. The sample frame consisted of all the registered streets in Ikpoba-Okha, Oredo, and Egor LGA. The total streets in the LGA were divided by the number of streets to be used (to get the sampling interval for that LGA). A randomly selected street was used as the starting point for each LGA, and every n^{th} (sampling interval) street from the frame was used until each LGA estimated sample size was reached. A similar protocol as above was used to select the (calculated) 4 mothers per street.

The mothers' socio-demographics, beliefs, awareness, and knowledge of teething were evaluated with the aid of an anonymous (i.e., excluding the identifying names of participants) pre-tested interviewer-administered structured questionnaire adopted from a previous similar study.[6] In addition, mothers' knowledge was further scored as shown below.

Knowledge score

Knowledge was assessed using six questions. Appropriate responses were given a score of 1 and wrong answers were given a score of 0. Cumulative scores were obtained from the addition of the appropriate and incorrect responses. It was then converted to a percentage and classified thus by authors:

- 0.0 - 39.9% = Poor knowledge score
- 40.0 - 59.9% = Fair knowledge score
- 60.0 - 100% = Good knowledge score

Statistical analysis

Version 21 of IBM SPSS Armonk, NY, USA was used for univariate and bivariate data analysis. The test for association was done using chi-square or Fischer exact where necessary. The level of significance was set at $p \leq 0.05$. Data was presented in tables and a chart

A limitation of the study is the possibility of recall bias which questionnaire surveys are reportedly prone to. [21] To minimize however the chances of such bias, a structured questionnaire was used in this study. [22]

Ethical consideration

The University of Benin Ethics Committee gave ethical approval for the study, the various community/street heads gave permission for the study. Each participant submitted a written informed consent form before they were administered a questionnaire.

RESULTS

Socio-demographics

One hundred and twenty mothers took part in the study. Half of them (50.0%; n=60) were in the age group 20-30 years. Mean age was 28.5 ± 2.3 (years). A majority of the respondents were married, (89.2%; n=107), had secondary education (85.8%; n=103), were of the Benin ethnic group (65.0%; n=78), and were Christians (94.2%; n=113). One-quarter of the mothers' 'last-child' was 0-6 months old (25.0%; n=30). Table 1

TABLE 1: PARTICIPANTS' SOCIODEMOGRAPHIC CHARACTERISTICS

Variables	Frequency (n=120)	Percentage
Age (Years)		
≤30	60	50.0
31-40	45	37.5
>40	15	12.5
Marital status		
Single	5	4.1
Married	107	89.2
Separated/divorced	3	2.5
Cohabiting	3	2.5
Widowed	2	1.7
Level of education		
No formal education	2	1.7
Primary	10	8.3
Secondary	103	85.8
Tertiary	5	4.2
Religion		
Christianity	113	94.1
Islam	2	1.7
Others	5	4.2
Ethnic group		
Benin	78	65.0
Esan	13	10.8
Ibo	9	7.5
Yoruba	4	3.3
Others	16	13.4
Age of the last child (months)		
≤6	30	25.0
7-12	20	16.7
≥13	70	58.3

Mothers' Beliefs about Teething

Most of the mothers (86.7%; n=104) believed diarrhea was a symptom of teething, and close to half (49.2%; n=59) believed fever was a symptom. Vomiting was the symptom least believed to be associated with teething (4.2%; n=5). Table 2

TABLE 2: MOTHERS' PERCEIVED SYMPTOMS OF TEETHING

Perceived teething symptom*	Frequency (n=120)	Percentage
Diarrhea	104	86.7
Fever	57	49.2
Cough	50	41.7
Irritability/Crying	23	19.2
Drooling of saliva	16	13..3
Conjunctivitis	15	12 .5
Sleep disturbance	14	11.7
Rashes	14	11.7
Convulsion	13	10.8
Headache	9	7.5
Vomiting	5	4.2

***Multiple responses**

Mothers' Source of Information about Teething
Assessing the source of information on teething, 50.0% (n=60) of the participants reported their parents as being the source of their information, while 42.5% (n=51) reported the dentist as their source of information. The doctors and the nurses were the least sources of information (10.8%; n=13). Table 3

TABLE 3: MOTHERS' SOURCE OF INFORMATION ABOUT TEETHING

Source of information*	Frequency	Percentage
Parents	60	50.0
Dentist	51	42.5
Neighbor	33	27.5
Doctor	13	10.8
Nurse	13	10.8
Radio/TV	11	9.2

***Multiple responses**

Mothers' Knowledge of Teething:
Six questions among which are: First tooth to erupt? At what age does the first tooth erupt? What do you understand by teething? Etc. were used to assess mothers' knowledge of teething. Responses were scored and graded (Fig 1). More than half (55.0%; n=66) of the participants had a fair knowledge of teething, and only one-sixth (16.7%; n=20) had a good knowledge of teething.

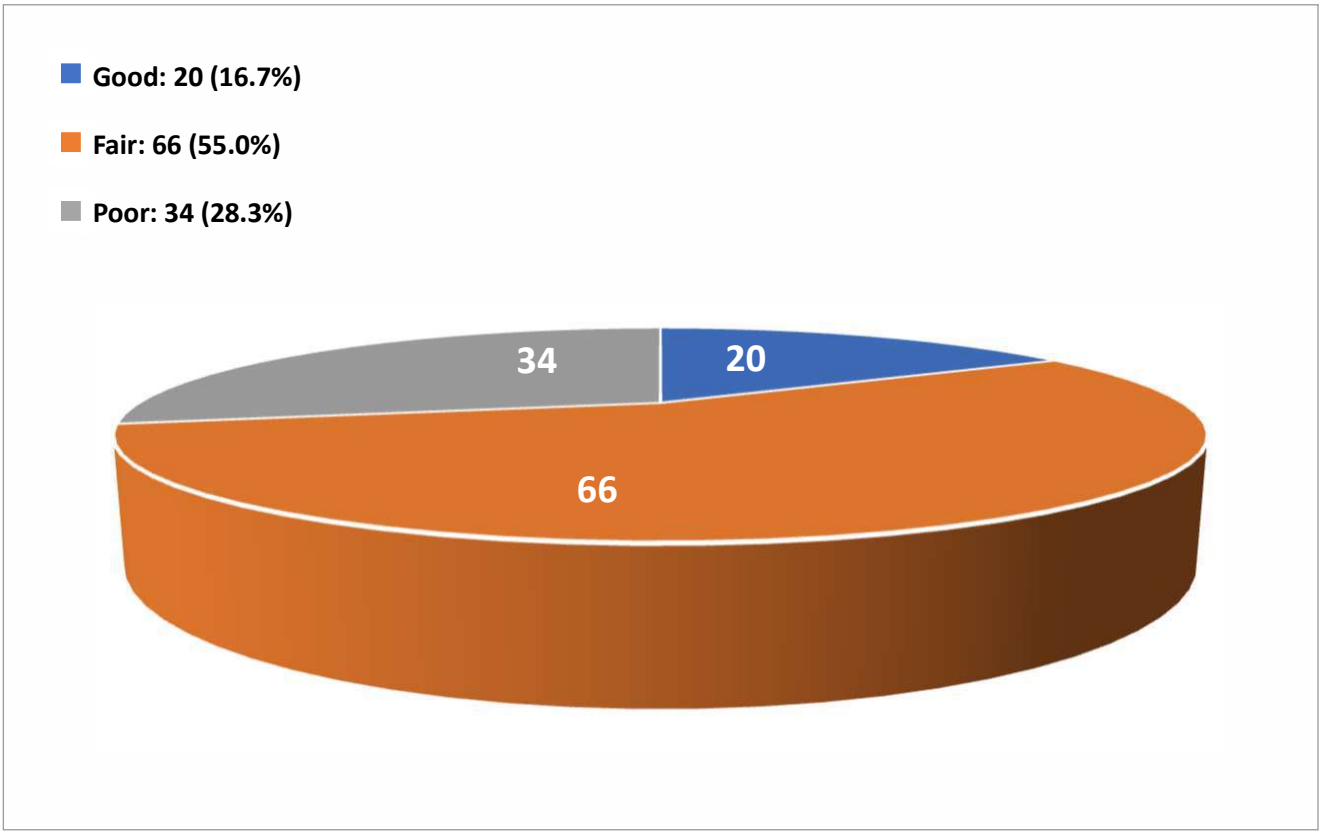

Fig 1: Knowledge Grade of Mothers Regarding Teething

Table 4 shows mothers' knowledge of teething was related to their level of education, with 60% of mothers who had a tertiary level of education having good knowledge of teething, and none (0.0%) of the mothers who had no formal education having good knowledge of teething. The association was not statistically significant (p=0.77).

TABLE 4: RELATIONSHIP BETWEEN MOTHERS' LEVEL OF EDUCATION AND KNOWLEDGE OF TEETHING

Level of education	Knowledge of teething Frequency (%)			
	Good	**Fair**	**Poor**	**Total**
No formal education	0(0.0%)	2(100.0%)	0(0.0%)	2(100.0)
Primary	3(30.0%)	7(70.0%)	0(0.0%)	10(100.0)
Secondary	28(27.2%)	55(53.4%)	20(19.4%)	103(100.0)
Tertiary	3(60.0%)	2(40.0%)	0(0.0%)	5(100.0)

p= 0.77 Fischer exact= 5.00

DISCUSSION

Historically, and even to date, several erroneous perceptions have been associated with teething. Findings from our study revealed that most mothers associated teething with many symptoms of
childhood illnesses. This was in agreement with many other studies. [1,2,8,9,23] The perceived symptom most associated with teething by mothers in this study was diarrhoea. This is in tandem with Indira et al. [9] who also reported diarrhoea as the mothers' most associated medical symptom of teething. However, this finding was in contrast to several other studies that reported fever as the most associated symptom of teething perceived by mothers. [1.2,6,8,10] Other symptoms believed by mothers to be associated with teething in this study were fever, cough, irritability/crying, rashes, conjunctivitis, drooling of saliva, convulsion, sleep disturbances, headache, and vomiting.

While some studies [1,6,24] state that there is little or no clear-cut evidence that connects teething to many of the medical symptoms perceived by mothers, and that several of these symptoms may be due to alternative aetiologies, [1] others have postulated possible reasons why these symptoms tend to occur during teething. One such reason is the teething period coinciding with the waning period of maternal antibodies leading to a decrease in passive immunity, this may predispose the child to a host of childhood infections. [2,6,8] Another postulated reason is that children in an attempt to pacify irritating gums during teething, often place their fingers/objects in their mouth and may acquire infections in the process. [2] In a large prospective study carried out by Macknin et al., [25] several mild symptoms were reported to be briefly associated with teething.

Irrespective of whether these symptoms believed to be due to teething by mothers have an explainable link to teething or not, it is advisable nonetheless that they take the active step of presenting such a child with symptoms for medical help. This is because such symptoms may be related to other serious underlying ailments that may require urgent medical attention.

The mothers' main source of information about teething in this present study was from their parents. This was in concordance with that reported by Indira et al. [9] The possible reason for this may be connected to the traditional practice in Nigeria in which nursing mothers are visited by their own mothers for supportive care of the newborn. It may also be linked to another common Nigerian practice in which young mothers often depend on their own mothers for advice and guidance on child nursing.

The dentist was the second main source of awareness/information about teething in this study, accounting for approximately 43% of the total sources. This was at variance with that reported in another study in which none of the participants had their teething information from the dentist. [9] There is a need for the dentist and other related health professionals to intensify efforts at educating mothers about the teething process so as to reduce the possibility of misinformation by parents or other less credible sources.

The majority of mothers in this study had a fair knowledge of teething, this rating was in contrast to that reported by Kakatkar et al. [7] where a majority of their participants had good knowledge about teething. It was however in contrast to findings of some other studies [12,15] which reported poor knowledge about teething among the majority of mothers. A possible reason for the fair knowledge level among the majority of mothers in this present study may be related to the urban nature of the study area.

This current study shows that mothers' knowledge of teething was related to their level of education

though this association was not statistically significant. This finding was in tandem with other studies. [7,10] This underscores the part education plays in the improvement of knowledge, which may in turn improve the attitude and practices of such individuals.

CONCLUSION/ RECOMMENDATION

There is a need for public enlightenment programs aimed at

- correcting some observed teething misconceptions and beliefs in this study,
- improving the teething awareness level of this population, and
- closing the gap in their knowledge of teething.

CONFLICT OF INTERESTS

The Authors declare that there is no conflict of interest.

SOURCE OF FUNDING

None declared

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