

Original Article

ATTITUDES AND TREATMENT PRACTICES OF MOTHERS REGARDING TEETHING

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Abstract

Background: Generally, mothers are saddled with early childcare responsibilities. Therefore, their attitude, practice, and care toward events occurring in early childhood including teething are important.

Objective: To evaluate the attitudes and treatment practices of mothers regarding teething.

Materials and Methods: The study is a descriptive cross-sectional survey. A systematic random sampling technique was utilized in selecting the participants for this study. Socio-demographics, attitudes, and treatment practices of mothers regarding teething were obtained via an interviewer-administered structured questionnaire. IBM SPSS, Version 21.0. was used for data analysis. The level of significance was set at $p=0.05$

Results: A total of 120 mothers participated in the study. The participants in the age group of 20-30 years were in the majority. A majority (86.7%; $n=104$) strongly agreed that mothers have a role to play in the management of teething. On the other hand, less than half (41.7%; $n=50$) strongly agreed that doctors have a role to play in the management of teething. Of the 103 mothers who practice self-medication, over 85% (85.4%; $n=87$) use teething syrup, 63.1% ($n=65$) sometimes use antibiotics, 80.6% ($n=82$) use analgesics, and 68.0% ($n=70$) always use herbal mixtures. The study further revealed a negative grade for attitude and a fair grade for practice

Conclusion: Though the attitude level of mothers towards teething in this study was more negative, their treatment practices were nonetheless fair. We recommend educational programs that aim to improve the observed areas of negative attitudes and practices of the study population.

Keywords: Teething, Mothers, Attitude, Practice.

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INTRODUCTION

Most parents consider the eruption of the primary tooth in a child as a landmark developmental milestone event.^{1,2} This physiological process is known as teething, and may sometimes, however, be accompanied by painful and discomforting symptoms.^{3,4} Some of the reported signs and symptoms associated with teething include gingiva inflammation of the associated tooth, fever, fussiness, irritability, crying, diarrhea, drooling, increased biting, rhinorrhea, loss of appetite, gingiva irritation, and sleep disturbances.^{3,5-9}

Several studies¹⁰⁻¹³ however, have reported that most of the perceived systemic symptoms associated with teething are due to other causes such as a decrease in maternal antibodies,^{8,14} bacterial and viral infections among others.¹⁵⁻¹⁷

Generally, mothers are saddled with early childcare responsibilities.¹⁸ Therefore, their attitude, practice, and care toward events occurring in early childhood including teething are important. These attitudes and practices may have either a positive or negative/deleterious impact on the teething child.

In a study conducted in two North-Western States of Nigeria¹⁹ among nursing mothers, a majority (92.8%, n=208) admitted visiting the hospital for their children's teething symptoms, with only a minority (7.2%, n=16) preferring home treatment. Similarly, in a study in Udaipur, India,²⁰ most mothers (86.4%) viewed teething problems as an appropriate reason to visit a healthcare provider. However, in another study among mothers in Lagos, south-western Nigeria,²¹ as high as 47.7% of mothers view teething symptoms as not serious and claim they will not seek medical help.

Treatment practices for teething symptoms by mothers are available in the literature.^{19,20,22} They include the use of teething powder, teething syrup, traditional herbs, and no treatment.¹⁹ Others include the nightly use of bottle feeding or breastfeeding as teething symptoms pacifier, tepid sponging, biting on chilled objects, teething toys, use of systemic and/or topical analgesics, and dehydration prevention through high intake of fluids.^{20,22} Some of these treatment practices for perceived teething symptoms are not beneficial and may even be harmful to the child.²³

Several studies in Nigeria on teething are available in the literature, and they mainly focused on the beliefs, perceptions, and myths associated with teething.^{19,21-23} There is however a dearth of studies in Nigeria that specifically looked at the attitudes and practices of mothers regarding teething. Considering the detrimental impact of negative attitudes and wrong treatment practices on the teething child, this study, therefore, aims to evaluate the attitudes and treatment practices of mothers regarding teething, as this information will serve as a useful tool for the design of targeted healthcare programs for this population.

METHODOLOGY

Study Design and Setting

This study was a descriptive cross-sectional survey conducted in Benin City, Edo State, Nigeria. Benin City mainly comprises Ikpoba-Okha, Egor, and Oredo local government areas (LGA).²⁴ It has a 2016 projected population of 1,433,620.²⁴

Study Population

The study was carried out among mothers in Benin City, Edo State, Nigeria.

Inclusion Criteria

All mothers who were available at the time of the study and were willing, and in addition gave consent to participate in the study were included in the study.

Sample Size Determination

Using Cochran's formula²⁵ for minimum sample size determination in a cross-sectional study

$$n = \frac{z^2 pq}{d^2},$$

Where n= minimum sample size when the population is >10,000, Z= standard normal deviate set at 1.96 corresponding to 95% confidence Interval, d= Degree of accuracy or error margin = 5%, p= Prevalence in the target population estimated to have a particular characteristic set at 92.8% from a previous Nigeria study,¹⁹ and q= 1.0 – p. The calculated minimum sample size for mothers plus adjustments for 15% non-response, for this study, was 120.

Sampling Method

Systematic random sampling technique was utilized in selecting the streets visited for this study. 10 streets were decided per LGA, giving a total of 30 streets

A list of registered streets in Egor, Ikpoba-Okha, and Oredo LGA constituted the sample frame. The number of streets in the LGA was divided by no of streets to be visited to get the sampling interval for that LGA. For each LGA, a random pick of a street was used as the starting point for that street and every nth (sampling interval) street from the frame was selected until the required sample size for that LGA was achieved.

To select participants from the individual houses, the total sample size for this study was divided by the three (LGA) for equal representation, i.e., 120/3=40 mothers in each LGA. The number of mothers per street, therefore, was (40 mothers in each LGA/ no of streets) 40/10 = 4 mothers per street. The number of houses in the street was divided by number of mothers to be visited to get the sampling interval for that street. For each street, a random pick of a numbered house was used as the starting point for that street and every nth (sampling interval) house from the frame was selected until the required sample size for that street was achieved. Where no mother was found the next house was used.

Data Collection Instrument

An anonymous pre-tested interviewer-administered structured questionnaire was utilized. The questionnaire comprised information on Socio-demographic characteristics, attitudes, and treatment practices of mothers towards teething. Questions on the attitudes of mothers towards teething were assessed using 5 item Likert scale of strongly agree, agree, indifferent, disagree, and strongly

disagree. The highest score was '5' while the lowest was '1'. There were ten questions assessed. The obtained total score was converted to a percentage and graded thus: those having less than 50% were graded as having Negative attitudes and those having 50% or more were graded as having Positive attitudes. Fourteen questions were used to assess practices towards teething. The expected responses were, Always, Sometimes, Rarely, or Never. A score of 3 was given for always, 2 for sometimes, 1 for rarely, and 0 for never. The obtained total score was converted to a percentage and graded thus: poor practice grade = those having between 0-49.9%, fair practice grade = those having between 50 - 69.9% and good practice grade = those having 70% and above

Data Analysis

IBM SPSS Statistics for Windows, Version 21.0. Armonk, NY, USA was used for data analysis. Results were presented using frequency tables and charts. A descriptive analysis (Measure of frequency) of participants with negative and

positive attitudes was carried out. Similarly, a descriptive analysis (Measure of frequency) of participants with poor, fair, and good practices was also carried out. The level of significance was set at $p=0.05$.

RESULTS

Socio-demographic characteristics

A total of 120 mothers participated in the study. The participants in the age group of 20-30 years were in the majority, accounting for half of the total participants (50.0%; $n=60$). Age group >40 accounted for the least number of participants (12.5%; $n=15$). The mean age of participants was 28.5 ± 2.3 years. Most of the respondents (89.2%; $n=107$) were married. Bini was the predominant ethnic group, accounting for 65.0% ($n=78$) of the total participants. Most of the respondents 113 (94.2%) were Christians. A quarter of the mothers had their last child within the 0-6 months age group; Table 1.

Table 1: Sociodemographic Characteristics of Respondents

Variables	Frequency (n=120)	Percent (%)
Age (Years)		
20-30	60	50.0
31-40	45	37.5
>40	15	12.5
Marital status		
Single	5	4.1
Married	107	89.2
Separated	3	2.5
Cohabiting	3	2.5
Widowed	2	1.7
Religion		
Christianity	113	94.2
Islam	2	1.7
Others	5	4.2
Ethnic group		
Bini	78	65.0
Ibo	9	7.8
Yoruba	4	3.3
Others	29	24.2
Age of the last child (months)		
0-6	30	25.0
7-12	20	16.7
13 and above	70	58.3

Attitudes of Mothers Towards Teething

Over half, (59.2%; n=71) of the respondents strongly agreed that teething is a physiologic process. A majority (86.7%; n=104) strongly agreed that mothers have a role to play in the management of teething. On the other hand, less than half (41.7%; n=50) strongly agreed that doctors have a role to play in the management of teething. The same percentage of respondents i.e., 58.3% (n=70) were

indifferent to the use of an herbal mixture and the use of self-medication for the management of teething symptoms. Over 45% (48.3%; n=58) disagreed about the dentist being the best health professional to manage teething symptoms; Table 2.

Grading the attitude of the respondents showed that over 70% of them (72.5%; n=87) had negative attitudes towards teething; Figure 1.

Table 2: Attitude of respondents towards teething

Variables	Frequency (%)				
	n=120				
	Strongly agree	Agree	Indifferent	Disagree	Strongly disagree
Teething is physiological	71 (59.2)	18(15.0)	27(22.5)	4(3.3)	0(0.0)
Doctors have a role to play in the management of teething symptoms	50(41.7)	8(6.7)	17(14.2)	15(12.5)	30(25.0)
Mothers have a role to play in the management of teething symptoms	104(86.7)	4(3.3)	10(8.3)	1(0.8)	1(0.8)
The use of herbal mixtures is not advisable	20(16.7)	21(17.5)	70(58.3)	7(5.8)	2(1.7)
Dentists are the best professionals to visit during teething	26(21.7)	20(16.7)	4(3.3)	58(48.3)	12(10.0)
Self-medication is not always advisable	22 (18.3)	18(15.0)	70(58.3)	3(2.5)	7(5.8)
Teething syrup is not good for teething symptoms	30(25.0)	40(33.3)	40(33.3)	2(1.7)	8(6.7)

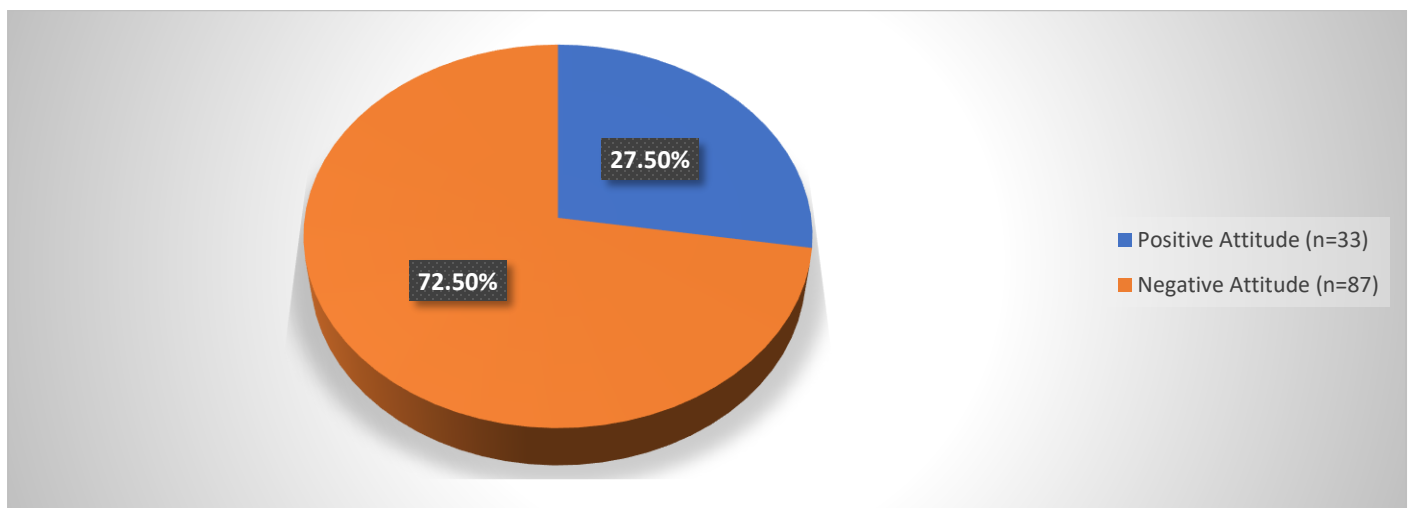


Fig 1: Attitude of Mothers Towards Teething

Practices of Mothers Regarding Teething:

About three-quarters of the mothers (74.2%; n=89) had never or rarely practiced self-treatment for teething symptoms. Most of the respondents visited health personnel such as dentists (85.0%; n=102), children's clinics (89.2%; n=107), medical doctors (93.3%; n=112), and pharmacists (91.7%; n=110) for their children's teething symptoms; Table 3.

Of the 103 (85.8%) mothers who practice self-medication, over 85% (87.5%; n=88) use teething syrup, 63.1% (n=65) sometimes use antibiotics, 80.6% (n=83) use analgesics, and 68.0% (n=70) always use herbal mixtures; Table 4.

Converting the practices of respondents to grades, 60.0%(n=72) had a fair practice grade, while 18.3% (n=22) had a poor practice grade; Table 5.

Table 3: Practices of Mothers During Teething

Teething practices	Frequency (%)				
	n=120				
	Always	Sometimes	Rarely	Never	Total
Self-treatment	17(14.2)	14(11.7)	72(60.0)	17(14.2)	120(100.0)
Visit to Dentist	14(11.7)	76(63.3)	12(10.0)	18(15.0)	120(100.0)
Visit to children's clinic	7(5.8)	80(66.7)	20(16.7)	13(10.8)	120 (100.0)
Visit a medical doctor	2(1.7)	87(72.5)	23(19.2)	8(6.7)	120 (100.0)
Visit to pharmacist	22(18.3)	86(71.7)	2(1.7)	10(8.3)	120(100.0)

Table 4: Self-Treatment Undertaken by Mothers During Teething

Self-Treatment practices	Frequency (%)				
	n= 103				
	Always	Sometimes	Rarely	Never	Total
Use of teething syrup	30((29.1)	54(53.4)	3(2.9)	15(12.5)	103(100.0)
Antibiotics	0(0.0)	65(63.1)	24(23.3)	14(13.7)	103(100.0)
Analgesics	8(7.8)	38(36.9)	37(35.9)	20(19.4)	103(100.0)
Herbal mixtures	70(68.0)	5(4.9)	16(15.5)	12(17.9)	103(100.0)
Teething toys	1(1.0)	26(25.2)	30(29.1)	46(44.7)	103(100.0)

Table 5: Teething Practice Grade Among Mothers

Teething practice grade	Frequency (n= 120)	Percent (%)
Good	26	21.7
Fair	72	60.0
Poor	22	18.3

DISCUSSION

The bulk of the study participants were below 40 years old. This was expected as it represents the childbearing age of most women, thus the likelihood of having more nursing mothers in this age group. This was similar to the findings of Aliyu et al.¹⁹ A majority of respondents agreed that they (mothers) have a role to play in the management of teething. This was quite encouraging and

commendable, considering the fact that early infant care responsibilities are placed on mothers,¹⁸ as such medications and instructions that are given by healthcare professionals in the management of teething-related symptoms are usually carried out or supervised by mothers.

In contrast, the attitudes of respondents toward the role/importance of health professionals (doctors and dentists) in the management of teething symptoms were not as encouraging. This was similar to the findings by Uti et al,²¹ but was at variance with the findings of other authors.^{19,22} More than half of the mothers in this study were indifferent about the use of herbal mixtures and self-medications. This attitude of indifference may be detrimental in the long run as it may pave the way for either unwarranted harmful practices on the one hand or inactions in dire situations on the other hand.

When mothers' attitudes towards teething were scored and graded, the negative attitude was found to be more than two-thirds of the total grades. Anecdotal evidence reveals that mothers in Benin City view teething symptoms as non-serious health problems, as such, do not warrant the involvement of health professionals. This along with other findings in this current study regarding the attitude of mothers towards teething such as indifference to self-medications and herbal medications, and the negative attitude towards the role/importance of health professionals by a majority of our study participants may have accounted for the high negative attitude grade recorded in this study. Our study population would thus benefit from educational programs aimed at improving their attitude towards teething.

Assessing the practices of the respondents revealed that most visited health personnel for their children teething symptoms. This was in concordance with several other studies.^{19,22,26} Out of the more than four-fifth of mothers who practiced self-medication, more than two-thirds frequently used herbal mixtures. This was in contrast to findings by Aliyu et al¹⁹ in a study among nursing mothers in North-Western Nigeria and El-Gilany et al²⁷ in a study among mothers in Mansoura, Egypt. These authors reported only minorities of participants who self-medicated for their children's teething symptoms were using herbal medications.

There is a need for caution in the use of herbal mixtures, especially in children due to a higher susceptibility risk to toxic components that may be present in these mixtures.²⁸ Reasons for the higher risk in children include the immaturity of their enzyme metabolisms, their physiologic differences, and their body weight to dosage differences with respect to adults.²⁸ Other common self-medicated remedies observed in this study include

teething syrup, antibiotics, and analgesics. This agreed with other studies.^{19,22,27} A number of teething syrups have antihistamines and opiates as part of their constituents, these chemicals are not advocated for use in children below 2 years.^{19,29} Similarly, self-administration of antibiotic drug by parents may expose the child to drug-related allergies, and it may also aid antibiotic resistance.³⁰ These teething self-practices by mothers should be discouraged as much as possible.

The teething practice level for this study was generally fair. This is a commendable starting point for this study population. Educational programs are however needed to tackle observed practices in this study that could have a negative/harmful impact on the teething child.

Study Limitation

The study being a questionnaire survey is prone to self-reporting bias in the form of recall bias or social desirability bias.³¹

CONCLUSION

Though the attitude level of mothers towards teething in this study was more negative, their practices were nonetheless fair. We recommend educational programs that aim to improve the observed areas of negative attitudes and practices of the study population.

AUTHORS' CONTRIBUTION

Study conception: OEH. design: OEH and MEO, data collection: OEH. Data analysis and interpretation of results: OEH and MEO. Draft manuscript preparation: MEO. Both authors reviewed the results and approved the final version of the manuscript.

CONFLICT OF INTEREST

The authors have no conflict of interest to declare

FUNDING

There was no external source of funding for this research.

CONSENT

Permission was obtained from the street head before the commencement of the study. Written informed consent was obtained from each participant before the administration of the questionnaires.

ETHICAL APPROVAL

Ethical approval was given by the University of Benin Ethics Board.

REFERENCES

- 1 Al-Jasser NM, Bello LL. Time of eruption of primary dentition in children from Saudi Arabia. *J Contemp Dent Pract.* 2003;3(4):65-75.
- 2 Ogbeide ME. A narrative review of myths on neonatal and natal teeth in Nigeria. *Ann Public Health Issues.* 2021;1:3-11. doi: 10.2478/aphi-2021-0002.
- 3 Feldens CA, Faraco IM, Ottoni AB, Feldens EG, Vítolo MR. Teething symptoms in the first year of life and associated factors: A cohort study. *J Clin Pediatr Dent.* 2010; 4:201-206.
- 4 Karjiker YI, Morkel JA. Teething symptoms and management during infancy - A narrative review. *S Afr Dent J.* 2020;75(2):87-93.
- 5 Markman L. Teething: facts and fiction. *Pediatr Rev.* 2009;30:59-64.
- 6 Ramos Jorge J, Pordeus I, Ramos Jorge M, Paiva S. Prospective longitudinal study of signs and symptoms associated with primary tooth eruption. *Pediatrics.* 2011;128:471-476.
- 7 Peretz B, Ram D, Laura B, Maria Otero M. Systemic manifestations during eruption of primary teeth in infants. *J Dent Child (Chic).* 2003;70:170-173.
- 8 McIntyre G, McIntyre G. Teething troubles? *Br Dent J.* 2002;192:251-255.
- 9 Macknin ML, Piedmonte M, Jacobs J, Skibinski C. Symptoms associated with infant teething: a prospective study. *Pediatrics.* 2000;105:747-752.
- 10 Wake M, Hesketh K. Teething symptoms: cross sectional survey of Ave groups of child health professionals. *Brit Med J.* 2002;325:814.
- 11 Sarrell EM, Horev Z, Cohen Z., Cohen HA. Parents' and medical personnels' beliefs about infant teething. *Patient Educ Couns.* 2005;57(1):122-125.
- 12 Seward MH. The treatment of teething in infants. *Brit Dent J.* 1972;132:33-36.
- 13 Jaber L, Cohen IJ, Mor A. Fever associated with teething. *Arch Dis Child.* 1992;67(2): 233-234.
- 14 Castiglia PT. Teething. *J Pediatr Health Care.* 1992;6(3):153-154.
- 15 King DL, Steinhauer W, Garcia-Godoy F, Elkins, CJ. Herpetic gingivostomatitis and teething difficulties in infants. *Pediatr Dent.* 1992;14:82-85.
- 16 King DL. Teething revisited. *Pediatr Dent.* 1994;16(3):179-182.
- 17 De Bolle L, Neasens L, De Clercq E. Update on human herpesvirus 6 biology, clinical features and therapy. *Clin Microbiol Rev.* 2005;18(1):217-45.
- 18 Bornstein MH, Putnick DL. Mothers' and Fathers' Parenting Practices with their Daughters and Sons In Low- And Middle-Income Countries. *Monogr Soc Res Child Dev.* 2016;81(1):60-77. doi: 10.1111/mono.12226.
- 19 Aliyu I, Adewale A, Teslim LO. Teething myths among nursing mothers in North-Western Nigeria. *Med J DY Patil Univ.* 2015;8(2):144-148.
- 20 Kakatkar G, Nagarajappa R, Bhat N, Prasad V, Sharda A, Asawa K. Parental beliefs about children's teething in Udaipur, India: a preliminary study. *Braz Oral Res.* 2012;15:1-7.
- 21 Uti OG, Savage KO, Ekanem EE. Maternal beliefs about infant teething. *J Community Med Prim Health Care.* 2005;17(1):61-64.
- 22 Adam VY, Abhulimhen-Iyoha BI. Teething: Beliefs and behaviors of mothers attending well baby clinics in Benin City, Nigeria. *Afr J Med Health Sci.* 2015;14:8-12.
- 23 Paul NI, Fatoki OP. Mothers Perception of teething in children. *Niger Health J.* 2014;14(1):21-26.
- 24 Butu AW, Emeribe CN, Ogbomida E.T. Effects of Seasonal Flooding in Benin City and the need for a Community-Based Adaptation Model in Disaster Management in Nigeria. *Niger J Environ Sci Technol.* 2019;3(1):112-128.
- 25 Cochrane G. Sampling techniques, 2nd ed. New York: John Willey and Sons Inc; 1963.
- 26 Indira MD, Nandlal B, Narayanappa D, Girish MS. Perception about teething among the nursing mothers of Mysore. *J Int Med Dent.* 2016;3(2):119-125.
- 27 El-Gilany AH, Abusaad FES. Mothers' teething beliefs and treatment practices in Mansoura, Egypt. *Saudi Dent J.* 2017;29:144-148.
- 28 Tomassoni AJ, Simone K. Herbal medicines for children: an illusion of safety? *Curr Opin Pediatr.*

- 2001;13(2):162-169. doi: 10.1097/00008480-200104000-00014.
- 29 American Academy of Pediatrics. Uses of codeine- and dextromethorphan-containing cough remedies in children. Committee on drugs. *Pediatrics*. 1997;99(6):918-920.
- 31 Althubaiti A. Information bias in health research: definition, pitfalls, and adjustment methods. *J Multidiscip Healthc*. 2016;9:211-217. doi: 10.2147/JMDH.S104807.
- 30 Bert F, Previti C, Calabrese F, Scaioli G, Siliquini R. Antibiotics Self Medication among Children: A Systematic Review. *Antibiotics (Basel)*. 2022;11(11):1583. doi: 10.3390/antibiotics11111583.

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