

Original Research Article

Teething myths and practices among nursing mothers attending the Paediatric outpatient clinic in a tertiary hospital in Southern Nigeria

Abstract

Background

Misconceptions about teething are prevalent even in the 21st century. These myths, which are handed down from one generation to another may lead to trivialization of severe childhood illnesses as well as practices that negatively impact child morbidity and mortality.

Aim: The present study was carried out to determine teething myths and practices among nursing mothers attending the Paediatric outpatient clinic of a tertiary hospital in Southern Nigeria.

Methods and materials

A cross-sectional study of one hundred and forty eight nursing mothers of children aged 6-24 months who had erupted at least one tooth, who visited the children's outpatient clinic of a tertiary health facility in Southern Nigeria. Data was analysed using the Statistical Package for Social Sciences (SPSS) version 24.0. Descriptive statistics was used. Chi square tests of significance (Fisher's exact test) were used with a 95% confidence interval ($P < 0.05$).

Results: A high percentage of mothers (95.9%) associated teething with various symptoms such as fever, gum itching and diarrhoea; majority of them got information on teething from health workers, personal experience or parents. About 41.9% of the children recruited had perceived teething symptoms. Furthermore, 51.4% of respondents said teething should be treated and health workers formed the bulk of prescribers of teething medicines, the commonest of which were teething syrups, paracetamol and teething powder while the least used was herbs. About half of the respondents believed teething medicines were effective. Most respondents would take their babies to the hospital for perceived teething symptoms like fever, diarrhoea or vomiting but were less likely to visit the hospital if catarrh, drooling of saliva or sucking of the fingers was observed. The level of education, occupation, tribe, age of mother or baby, sex or position of child did not significantly affect the use of teething medication but the presence of perceived teething symptoms especially fever and vomiting did.

Conclusion: Teething myths are common and often over-treated even by healthcare workers. Continuous training and retraining of health workers and the community at large may be one of the ways of enlightening the populace on the innocuous and normal expectation of teething.

Key words

Teething myths, nursing mothers, Southern Nigeria, practices, teething medicines.

Introduction

Teething which is the eruption of the primary or deciduous teeth is a normal physiologic process that occurs between 6 months and 30 months of age.^{1,2} It represents an important milestone in the life of an infant and thus is highly anticipated by parents.

The period of teething in an infant's life may be challenging for both the baby and the parents/caregivers and as such a frequent presentation in Primary Health care settings. This is because children may present with symptoms during this period which are often wrongly associated with teething by mothers, grandmothers and even some health workers. These associations have been the bone of contention by many researchers whether teething results in clinical symptoms or merely a coincidence³⁻⁶ although there is no scientific evidence to show that the various symptoms are attributable to teething. McIntyre & McIntyre⁷ and Dentplan⁸ in their studies showed that most of the effects of teething were due to other causes. The development of symptoms during the period of teething is however, not surprising as this period coincides with the period of waning circulating maternal antibodies in the baby and the development of the child's own humoral immunity. In addition, during this period the infant is exposed to various aetiological agents of childhood illnesses as the infant apart from being introduced to weaning (new) diets, working class mothers also resume work about this time thereby affecting the quality of care received by the babies.⁹ These children are therefore at risk of many infections and disease conditions.⁹

Several symptoms have been associated with teething by mothers/caregivers and these include; fever, diarrhoea, generalized irritability, drooling of saliva (sialorrhoea), sleep disturbances and ear infection.¹⁰ Others are inflammation of the mucous membrane overlying the tooth, facial flushing /circumoral rash, biting/finger sucking, constipation and loss of appetite. It is pertinent to note that several studies in Nigeria¹¹⁻¹³ Qatar¹⁴ and Bangladesh¹⁵ reported fever and diarrhoea as the commonest symptoms attributed to teething. The association of these symptoms with teething could lead to trivialization of potentially severe illnesses and thus could increase childhood morbidity and mortality.

Various teething remedies have been administered by mothers via self-medication while others have been prescribed by health professionals in a bid to please disturbed mothers. Cranswick et al¹⁶ showed that the aim of treatment of teething was to achieve analgesia, anaesthesia or sedation. Teething remedies used includes various analgesics, teething powder, teething syrups, teething soaps, antibiotics, native herbs, sedatives, teething rings etc. Some of these unnecessary medications are hazardous to these young infants and children as reported in a Nigerian study.¹⁷ These practices thus interfere with the prompt diagnosis and management of severe illnesses.⁵

Misconceptions about teething and their treatment could still be prevalent in the 21st century even after seven years of a previous study was carried out in Rivers State, Nigeria.¹⁸ The present study was therefore carried out to assess teething myths and practices of mothers

attending the Paediatric outpatient clinic of a tertiary hospital in Rivers State, Nigeria. Findings from this study would aid in health education of nursing mothers and the population at large of the false/harmful beliefs and practices about teething thereby reducing childhood morbidity and mortality. Training and re-training of health care workers on the dangers of teething myths and remedies would also be stressed.

Methodology

The study was conducted in the Paediatric Outpatient Department of the Rivers State University Teaching Hospital (RSUTH). The RSUTH is a 375-bedded tertiary health facility that serves as a referral centre for private and public hospitals within the 23 local government areas in Rivers State as well as neighbouring States. The Paediatric Outpatient clinic consists of specialist clinics and general outpatient clinics which are run every day by consultants, resident doctors and house officers.

Ethical clearance

Ethical clearance for the study was approved by the Rivers State Hospitals Management Board. Verbal informed consent of the participants was obtained. The confidentiality of the information obtained was assured by removing unique identifiers from the questionnaires.

Study period

The data was collected over a 6 month period from January 2021 to June 2021.

Study design

Cross-sectional study design.

Sample population

Consenting mothers with children aged 6-24 months who had erupted at least one tooth were recruited into the study. The choice of mothers whose children had erupted at least one tooth was based on the need for them to have recently observed a child passing through the experience of tooth eruption. The mothers whose children were less than 6 months or more than 24 months as well as those whose children had not erupted any tooth were excluded from the study.

Sample size

Convenience sampling technique was used.

Data collection and analysis

Data were collected using a 23-item semi- structured self-administered questionnaire written in English language. The questionnaire assessed the socio-demographic characteristics of the mother (age, level of education, occupation, tribe), mothers' knowledge on teething (source of information, management of teething, possible teething medications, source of prescription for teething medications, source of acquisition of teething medications), teething child characteristics (age, sex, age at 1st tooth eruption, how the mother got to know the child was erupting a tooth, presence of perceived teething problem, use of teething medication) and lastly questions were asked on symptoms the mothers perceived are not significant enough to seek medical care for a child during teething. Mothers who could not fill the forms by themselves were assisted by the researchers to do so.

Data were collected and analysed by Statistical Package for Social Sciences (SPSS) IBM version 24.0 (Armonk, NY). Descriptive statistics was used. Chi square tests of significance (Fisher's exact test) were used with a 95% confidence interval ($p < 0.05$).

Result

Socio-demographic characteristics of the nursing mothers

One hundred and forty-eight nursing mother baby pairs were recruited into the study of which age group 28-37years predominated, 93 (62.8%) with mean age of 33.06 ± 5.39 years. Majority of the nursing mothers were married, 143 (96.5%) and had tertiary education, 110 (74.3%). Most engaged in business/trading 63 (43.9%), of Ijaw tribe 87 (58.8%) and nulliparous (para one), 60 (40.5%). Table I.

Table I: Socio-demographic Characteristics of nursing mothers

Variables n=148 (%)	Frequency,
Mother' s age (years)	
18-27	22 (14.9)
28-37	93 (62.8)
≥ 38	33 (22.3)
Marital status	
Married	143 (96.5)
Single/Divorced	5 (3.4)
Educational level	
Primary/Secondary	38 (25.7)

Tertiary	110 (74.3)
Occupation	
Civil servant/Public servant	38 (25.7)
Business/Trader	65 (43.9)
Artisan	14 (9.5)
Health workers/Professionals	14 (9.5)
Housewives/Student	17 (11.5)
Tribe	
Ijaw	87 (58.8)
Igbo	45 (30.4)
Yoruba	8 (5.4)
Hausa	8 (5.4)
Parity	
One	60 (40.5)
Two	45 (30.4)
≥ Three	43 (29.1)

Characteristics of the children recruited

Of the 148 children recruited, majority were ≤ 12 months, 94 (63.5%) with mean age of 13.10 ± 1.28 months. Males predominated, 78 (52.7%) with M:F ratio of 1.1:1. Most had their first tooth erupted after 6 months 89 (60.1%) and had no perceived teething symptoms 86 (58.1%), Table II.

Table II: Characteristics of the children

Variables n=148 (%)	Frequency,
------------------------	------------

Age (months)	
≤ 12	94 (63.5)
13-24	54 (36.5)
Sex	
Male	78 (52.7)
Female	70 (47.3)
Age at first tooth eruption (months)	
≤ 6	59 (39.9)
> 6	89 (60.1)
Presence of perceived teething symptoms	
Yes	62 (41.9)
No	86 (58.1)

Common symptoms attributed to teething by nursing mothers

Commonest symptoms attributed to teething by nursing mothers were fever 123 (83.7%), gum itching 105 (71.4%), diarrhoea 85 (57.8%) and drooling of saliva 79 (53.7%), figure 1.

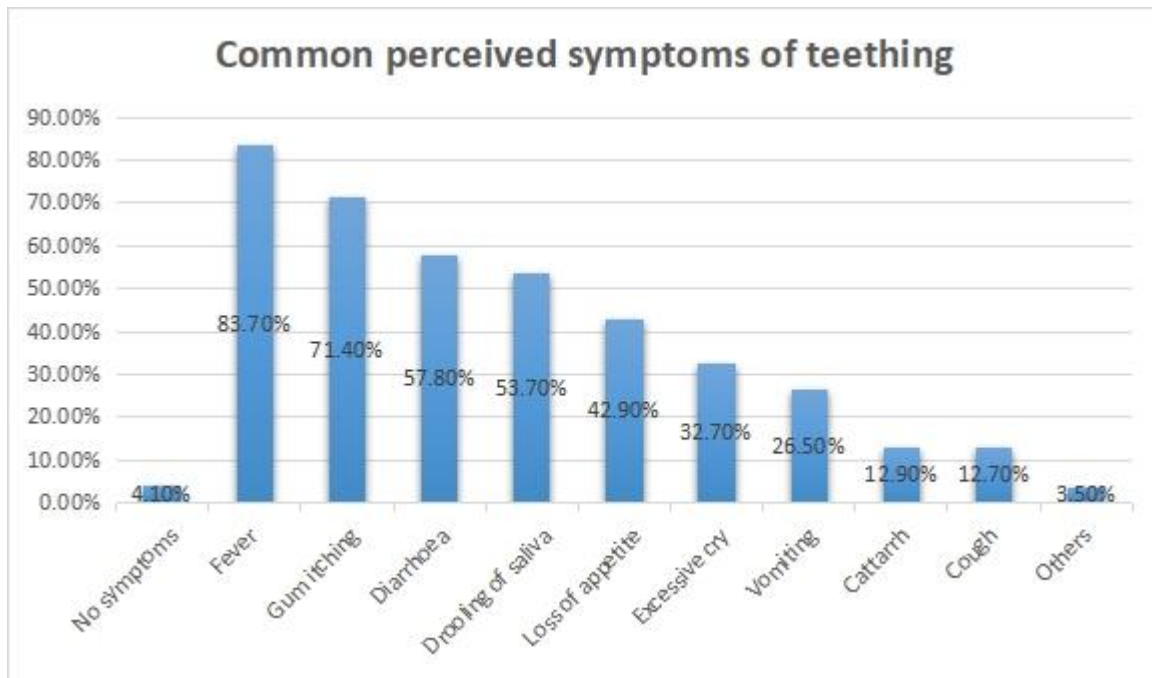


Figure 1: Common symptoms attributed to teething by nursing mothers

Common sources of teething information

The commonest source of teething information was from health workers 60 (40.8%) followed by personal experience 55 (37.4%), parents 55 (37.4%) and friends 36 (24.5%), figure 2.

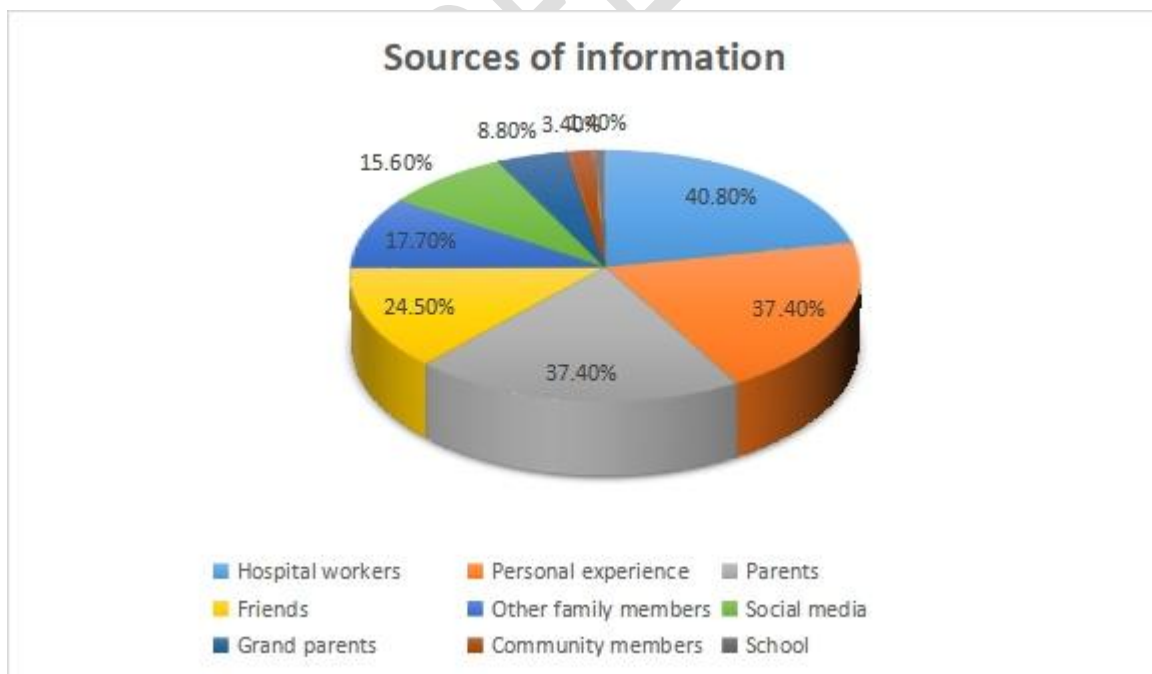


Figure 2: Common sources of information of teething by nursing mothers

Treatment of teething symptoms by nursing mothers

Majority of respondents agreed that teething symptoms should be treated, 76 (51.4%) and had treated their child with teething medicines 88 (59.5%). Most prescription was gotten from doctors 31 (34.8%) and pharmacist 26 (29.2%). Teething syrups were the commonest teething medicine administered 71 (70.3%) while the least was herbs 1 (1.0%) and were mostly obtained from chemists/pharmacy shops 84 (84.0%). Seventy-three (49.3%) respondents attested to the effectiveness of teething medicines, Table III.

Table III: Treatment of teething symptoms by nursing mothers

Variables	Frequency, n=148 (%)
Teething should be treated	
Yes	76 (51.4)
No	46 (31.1)
I don' t know	26 (17.5)
Child' s teething symptom was treated	
Yes	88 (59.5)
No	60 (40.5)
Source of prescription, n=117	
Doctor	31 (34.8)
Pharmacist	26 (29.2)
Nurse	20 (22.5)
Parents	11 (12.4)
Relatives	10 (11.2)
Chemist	7 (7.9)
Friends	7 (7.9)
Neighbour	5 (5.6)
Types of teething medicines given, n=136	
Teething syrup	71 (70.3)

Paracetamol	32 (31.7)
Teething powder	17 (16.8)
ORS	11 (10.9)
Pacifier	2 (2.0)
Teething rings	2 (2.0)
Herbs	1 (1.0)
Place where teething medicine was obtained, n=100	
Chemist/Hospital	84 (84.0)
Hospital	14 (14.0)
Friends	2 (2.0)
Effectiveness of teething medicines	
Yes	73 (49.3)
No	52 (35.2)
I don' t know	23 (15.5)

Symptoms attributed to teething by nursing mothers that would require hospital visit

The commonest symptoms attributed to teething by nursing mothers that would require hospital visit were fever 107 (74.8%), diarrhoea 99 (69.2%), vomiting 85 (59.4%) and convulsion 77 (53.8%) while the least was sucking of finger 7 (4.9%), Table IV.

Table IV: Perceived teething symptoms by nursing mothers that require hospital visit

Variables n=579 (%)	Frequency,
Fever	107 (74.8)
Diarrhoea	99 (69.2)

Vomiting	85 (59.4)
Convulsion	77 (53.8)
Loss of appetite	57 (39.9)
Cough	56 (39.2)
Rashes on the face/body	42 (29.4)
Catarrh	32 (22.4)
Drooling of saliva	17 (11.9)
Sucking of finger	7 (4.9)

Socio-demographic factors associated with the use of teething medicines

Socio-demographic factors of nursing mothers and those of the index children were not significantly associated with the use of teething medicines however, the use of teething medicines was significantly associated with the presence of perceived teething symptoms (P value 0.001), Table V.

Table V: Socio-demographic factors associated with the use of teething medicines

Variables	Teething medicine use		P value
	Yes, n=88(%)	No, n=60(%)	
Mothers			
Age (years)			
18-27	16 (18.2)	6 (10.0)	0.390
28-37	54 (61.4)	39 (65.0)	
≥ 38	18 (20.5)	15 (25.0)	
Level of education			
Primary/ Secondary	26 (29.5)	12 (20.0)	0.251
Tertiary	62 (70.5)	48 (80.0)	
Occupation			

Civil/Public servant	22 (25.0)	16 (26.7)	
Business/Trader	39 (44.3)	26 (43.3)	
Artisans	8 (9.1)	6 (10.0)	0.995
Tribe			
Ijaw	52 (59.1)	35 (58.3)	
Igbo	25 (28.4)	20 (33.3)	
Yoruba	6 (6.8)	2 (3.3)	0.808
Hausa	5 (5.7)	3 (5.0)	
Index child			
Age (months)			
≤ 12	57 (64.8)	37 (61.7)	0.730
> 12	31 (35.2)	23 (38.3)	
Sex			
Male	48 (54.3)	30 (50.0)	0.618
Female	40 (45.5)	30 (50.0)	
Presence of perceived teething symptoms			
Yes	47 (53.4)	15 (25.0)	0.001*
No	41 (46.6)	45 (75.0)	

Association of symptoms attributed to teething and the use of teething medicines

Symptoms significantly associated with the use of teething medicines were fever, P value 0.003 and vomiting, P value 0.036, Table VI.

Table VI: Association of symptoms attributed to teething and the use of teething medicines

Variables value	Use of teething medicines		P
	Yes, n=88 (%)	No, n=60 (%)	
No symptom	2 (2.3)	4 (6.7)	0.223
Fever	80 (90.9)	43 (71.7)	0.003*
Gum itching	61 (69.3)	44 (73.3)	0.713
Loss of appetite	41 (46.6)	22 (36.7)	0.242
Cough	11 (12.5)	7 (11.7)	1.000
Drooling	43 (48.9)	36 (60.0)	0.240
Diarrhoea	56 (63.6)	29 (48.3)	0.090
Catarrh	10 (11.4)	9 (15.0)	0.618
Excessive cry	31 (35.2)	17 (28.3)	0.475
Vomiting	29 (33.0)	10 (16.7)	0.036*
Convulsion	2 (2.3)	0 (0.0)	0.515
Weight loss	0 (0.0)	1 (1.7)	0.405

Discussion

The study showed that a very high percentage of mothers (95.9%) associated teething with various symptoms. This is comparable to reports across Africa: Lagos²³ (95.2%), North Western Nigeria¹² (90.62%), Enugu²¹ (90%), Egypt²⁶ (98.2%) and Sudan²⁷ (95%). In Australia and in Basra in Iraq^{4,14} it was 100%. The prevalence in this study was higher than earlier reports by Paul et al¹⁸ in Port Harcourt (84.3%), Oziegbe et al¹¹ (65.5%), 58.0% by Oyejide et al²⁵ in Ibadan, Ige et al²⁴ in Ibadan (64.8%). The reasons for this although not certain, could be related to the ease of sharing information, including myths, through various social media platforms.

The beliefs were shared across educational, occupational, age groups and social strata as noted in this study as well as in other studies.^{3,14,21,26,27} Ige et al²⁴ however, found a statistically significant difference between perceived symptoms and age whereby younger mothers believed more in the perceived symptoms of teething. He also noted a significant difference whereby mothers from lower Socioeconomic class believed more in teething symptoms than those from higher socioeconomic class. Oyejide and Aderonke²⁵ reported a statistically significant association between teething perception and level of education. This may be due to the fact that their studies was conducted in a rural community while ours was in an urban community.

The commonest symptom associated with teething in this study was fever. This belief is shared by mothers in an earlier report in Port Harcourt, Nigeria¹⁸ as well as in North Western Nigeria,¹⁴ Lagos,²³ Sudan,²² and Egypt.²⁶ This is different from other studies where diarrhoea was the commonest symptom^{11,12,18,21,24,26,27}. The fact that fever and diarrhoea are easily recognizable, common manifestation of childhood illness may be responsible for this observation and delay in adequate management may result in far -reaching complications and compromise of health.

Family (parents, grandparents and other relatives) members were the main sources of information on teething reported in this study as well as in another study¹⁴. It is therefore important that health education should involve all especially family members who pass down these myths from one generation to another. The family members especially the parents and grand parents are often held in high esteem and readily share their personal experiences to the younger ones who tenaciously hold on to these beliefs. Continuous health education at the community level may be helpful in discontinuing the dissemination of these erroneous beliefs.

Health care providers (doctors, nurses and pharmacists) were the main prescribers of teething medications. This may be related to the fact that many health care providers also shared similar beliefs of symptoms being attributed to teething as found in the studies by Denloye et al¹⁹ as well as Bankole et al²⁰ where more than 60% of community health officers and nurses believed that teething manifests with symptoms. Training and retraining of health care providers on the teething and to only give medications of proven efficacy.

Most commonly prescribed were syrups while herbs were the least prescribed in this study. This finding was similar to that by Ibrahim Aliyu et al¹² in North Western Nigeria. The syrups are easily available, accessible, taste sweet and are affordable hence their preference. Most mothers in this study as well as in other studies believed that these remedies work.^{12,14}

This study reports that most mothers will take their children to the hospital when they have perceived teething problems which is a good practice that will ensure these children can receive adequate and appropriate treatment for their illnesses. This practice is similar to reports from a multi-centre report in North Western Nigeria¹², Ethiopia,¹ Egypt²⁶ where at least 60% of these mothers will take the children to the hospital for perceived teething symptoms. Some other reports however showed less than 60% of mothers taking the children to the health facility for perceived teething symptoms : Sudan (16%),²² Lagos (50%)²³ Port Harcourt(57.6%)¹⁸ and Ibadan.²⁴ However, in Guinea Bissau²², children with diarrhoea were

not even given ORS because it is regarded as ‘teething diarrhoea’. This practice has serious implications on child morbidity and mortality as children do not receive needed care due to these erroneous beliefs.

Conclusion

Teething myths are common among nursing mothers in Rivers State and cut across socioeconomic classes, educational levels, tribes and tongues. These myths may undermine serious illnesses like fever, diarrhoea and vomiting which may actually be due to underlying infections. The need for continuous training and retraining of healthcare workers and the community at large may be one of the ways of enlightening the populace on the innocuous process of teething.

Limitation of the study

This study was a one-centre study and in an urban hospital setting.

Future study

A similar study in multiple centres across the rural, urban and semi-urban centres within the region, both community- and hospital-based.

COMPETING INTERESTS DISCLAIMER:

Authors have declared that no competing interests exist. The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

References

1. Getaneh A, Derseh F, Abreha M, Yirtaw T. Misconceptions and traditional practices towards infant teething symptoms among mothers in Southwest Ethiopia. *BMC Oral Health* 2018; 18: 159. DOI: <https://doi.org/10.1186/s12903-018-0619-y>
2. Jones M. Teething in children and the alleviation of symptoms. *J Fam Health Care*. W32002; 12(1): 12-3. PMID: 12415773
3. Dika HI, Iddi S, Kayange N. Teething induced fever in a 9-month old child: a case report, Tanzania. *J Health Res* 2018; 20(4). DOI: <http://dx.doi.org/10.4314/thrb.v20i4.11>
4. Wake M, Hesketh K. Teething symptoms: cross-sectional survey of five groups of child health professionals. *BMJ* 2002; 325: 814. DOI: <https://doi.org/10.1136/bmj.325.7368.814>
5. 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; 26: 151-7. DOI: <https://doi.org/10.1590/S1806-83242012000200011>

6. Owais AI, Zawaideh F, Bataineh O. Challenging parents' myths regarding their children's teething. *Int J Dent Hyg* 2010; 8: 28-34. DOI: <https://doi.org/10.1111/j.1601-5037.2009.00412.x>
7. McIntyre GT, McIntyre GM. Teething troubles. *Br Dent J* 2002; 192(5): 251-255
8. Dentplan, 2012. Teething: myths versus oral care. Dental surgeons. Available at: <http://www.dentplan.org/teething.html> (date accessed: July 25,2021).
9. Sood M, Sood S. Problems with teething in children. *Pediatr Oncall J.* 2010; 7: 35-9. DOI: <https://doi.org/10.17796/jcpd.35.1.u146773636772101>
10. Sarrell EM, Horev Z, Cohen Z, Cohen HA. Parents' and medical personnel's beliefs about infant teething. *Patient Educ Couns* 2005; 57: 122-125. doi: 10.1016/j.pec.2004.05.005. PMID: 15797161
11. Oziegbe EO, Folayan MO, Adekoya-Sofowora CA, Esan TA, Owotade FJ. Teething problems and parental beliefs in Nigeria. *J Cotemp Dent Pract* 2009; 10(4): 75-82
12. Aliyu I, Adewale A, Teslim LO. Teething myths among nursing mothers in North-Western Nigeria. *Med J Dr D.Y Patil Vidyapeeth* 2015; 8(2): 144-8.
13. Bankole OO, Taiwo JO, Adesakin AM. Teething in infants-Knowledge and attitude of traditional birth attendants in Ibadan, Nigeria. *Health* 2013; 5(9): 1406-1411 doi:10.4236/health.2013.59192
14. Yousif MK. Mothers' false beliefs and myths associated with teething. *Qatar Med J* 2020; 32 doi: 10.5339/qmj.2020.32
15. Bhavneet K. Awareness of parents towards teething. *Bangladesh J Med Sci* 2012; 11(1): 40-43
16. Cranswick N. Over-the-counter medication in children: friends of foe? *Aust Prescriber* 2001; 24(6): 149-151
17. Akuse RM, Eke FU, Ademola AD, Fajolu IB, West BA et al Diagnosing renal failure due to diethylene glycol in children in a resource-constrained setting. *Pediatr Nephrol* 2012; 27: 1021-1028. DOI: 10.1007/s00467-011-2082-8
18. Nsirimobi IP, Olanrewaju PF. Mothers perception of teething in children. *Nig Health J* 2014; 14(1): 21-26
19. Denloye OO, Bankole OO, Aderinokun GA. Teething Myths among community health officers. *Odontostomatol Trop* 2005; 28(109):19-22
20. Bankole OO, Denloye OO, Aderinokun GA. Attitudes, beliefs and practices of some Nigerian nurses towards teething in infants. *Odontostomatol Trop* 2004; 27(105): 22-6.
21. Adimorah GN, Ubesie AC, Chinawa JM. Mothers' beliefs about infant teething in Enugu, South East Nigeria; a cross-sectional study. *BMC Res Notes.* 2011;4:228.
22. Sodemann M, Jakotosene MS, Molbak K, Martins C, Aaby P. Management of childhood diarrhoea and use of oral rehydration salts in suburban West African Community. *Am J Trop Med Hyg* 1999; 60 (1) 167-71.
23. Uti OG, Savage KO, Ekanem EE. Maternal beliefs about infant teething. *Journal of Community Medicine and primary health cae*, June 2005; 17(1):61-64.
24. Ige OO, Olubukola PB. Teething myths among nursing mothers in a Nigerian Community. *Niger Med J* 2013; 54: 107-110
25. Oyejide CO, Aderinokun GA. Teething myths in Nigerian rural Yoruba communities. *Afr Dent* 1991;5: 31-4.
26. El-gilany A, ELF Abusaad. Mothers' teething beliefs and treatment practices in Mansoura. *Egypt Saudi Dent J.* 2017; 29(14):144-8

27. Awadkamil M. Mothers' misconception and traditional practices towards infant teething symptoms in Khartoum. IOSR Journal of Pharmacy May- June 2012; 2(3): 448-451.

UNDER PEER REVIEW