



## The Belief among Mothers that Teething is a cause of Purulent Ear Discharge : Fact or Fiction?

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### KEYWORDS

Teething,  
Myths,  
Ear  
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influence

### ABSTRACT

#### BACKGROUND:

Various myths and health beliefs have been associated with teething. Some of these beliefs and myths have dire health consequences on children especially in Africa. This raises the need for further research into the subject with the aim of establishing the persistence of such beliefs and offering appropriate health education.

#### METHODOLOGY:

This was a cross-sectional, multi clinic study involving 265 mothers whose children had erupted at least a tooth and attending the children's out-patients, dental and the ear, nose and throat clinics of a tertiary hospital in south-west Nigeria. An interviewer administered questionnaire was used to collect data from the mothers.

#### RESULTS:

The age range of the mothers was 23 to 51 years with a mean of 32.5 years. 15.1%, 20.7%, 25.7% and 38.5% had, no formal, primary, secondary and tertiary education respectively. About two-third (61.9%) believe that teething is a cause of purulent ear discharge while 12.1% and 26.0% did not believe in, and were unsure of, any association between teething and ear discharge respectively. Peers, parents, health care workers and personal experiences were the sources of beliefs associating teething with purulent ear discharge in 62.8%, 21.9%, 6.0% and 9.3% of the cohorts respectively. None (0%) of the respondents had prior knowledge of proven causes of ear discharge.

#### CONCLUSION:

Many of the mothers had erroneous beliefs regarding teething and ear discharge and peer influence appears to be a key factor in the promotion of such beliefs. There is a need to educate mothers on correct information about teething and proven causes of ear discharge.

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### INTRODUCTION

The reported consequences of health beliefs about teething the world over and especially in Africa underscore the need to further research into this subject. In Ethiopia, it is believed by mothers that teeth are the causes of diarrhea prompting 'prophylactic' extraction of incisors routinely in children.<sup>1</sup> Also in Jordan, parents attribute fever, diarrhea and sleep disturbances to teething.<sup>2</sup>

And researchers have identified fever, diarrhea, vomiting, conjunctivitis, loss of appetite, irritability, boils, excessive salivation/saliva drooling as common symptoms often attributed to teething by parents and even medical personnel.<sup>3,4,5,6</sup> These false health beliefs lead not only to harmful practices especially to children<sup>1</sup> but also complete missing of serious medical conditions that could be devastating to the

child as some of these perceived teething symptoms are considered as part of normal developmental process in a growing child by the parents who often perceived them as being innocuous.<sup>7</sup> In Nigeria, it has been observed that mothers of children with purulent ear discharge often ascribe the discharge to teething, although, no study in Nigeria has examined this opinion empirically. The tendency in societies to link teething with several symptoms could be explained by the prevalence of certain diseases within the age bracket of teething. Interestingly, most of these symptoms are manifestation of infectious diseases. This raises doubt on teething as the cause of the symptoms. Teething usually begins at the age of six months and is completed between the age of seventeen and twenty-one years.<sup>8</sup> Prior to eruption, the crown of the developing tooth is covered by the reduced enamel epithelium which eventually fuses with the oral epithelium of the gum as the tooth moves outwards in the jaw during the time of eruption. The area of fused epithelium breaks down as the tooth erupts into the mouth. This process does not cause any illness<sup>9</sup> though believed by Janie to be a common cause of ear infection.<sup>10</sup> Whereas, teething is a physiological process, ear discharge is a pathological condition. It affects all age groups. It may be acute as in Acute Suppurative Otitis Media or Chronic as in Chronic Suppurative Otitis Media. Most of the chronic suppurative otitis media however, are the sequelae of the acute variety<sup>11</sup>. Both the acute and chronic suppurative otitis media contribute significantly to clinical work-load with the latter accounting for 44.8% of the defined otological work-load.<sup>11</sup> Among the

complications of suppurative otitis media are meningitis, intracranial abscesses, lateral sinus thrombosis, mastoiditis, facial nerve palsy, tympanic membrane perforation and deafness.<sup>11,12,13</sup> Although, the aetiological role of poor socio-economic conditions,<sup>11</sup> bottle-feeding,<sup>14</sup> adenoid enlargement<sup>15</sup> and foreign body in ear discharge is well accepted, that of teething is still controversial. Thus, this study seeks to establish whether teething is believed by mothers to be a cause of ear discharge with a view to ascertain the impact of such belief on the treatment of ear discharge in children and offering appropriate health education.

## METHODOLOGY

### Study Setting

This study was conducted at The Ekiti State University Teaching Hospital (EKSUTH), Ado Ekiti, the capital of Ekiti State in South west Nigeria. The hospital receives referrals from public and private hospitals within the state and from neighbouring towns in other adjoining states like Ondo, Osun, Kwara and Kogi. The hospital is well staffed with consultants, nursing staffs and other medical staffs in various fields of Paediatrics, Otolaryngology, Dentistry and Dental surgery, Internal Medicine, Pathology, Obstetrics and Gynaecology, Surgery, Psychiatry and Community Medicine.

### Study design and Data collection

This was a cross-sectional and multi-clinic survey involving the mothers of children attending the Paediatrics out patients, Dental and The Ear, Nose and Throat clinics. Consecutive attendees were recruited into the study.

Inclusion criteria were mothers whose children had erupted at least one tooth and consented to be part of the study. This was to ensure that the respondents had experienced or were experiencing teething in their children at the time of the study. Exclusion criteria were lack of consent and mothers who have not experienced teething in their children.

A structured questionnaire was used to extract information from the respondents about their biodata, teething experience in their wards, beliefs on teething and ear discharge.

### Ethical Consideration

The study was approved by the ethics and research committee of The Ekiti State University Teaching Hospital.

### Data Analysis

The data generated was entered into personal

computer and simple descriptive statistics was performed using SPSS version 14.

### RESULTS

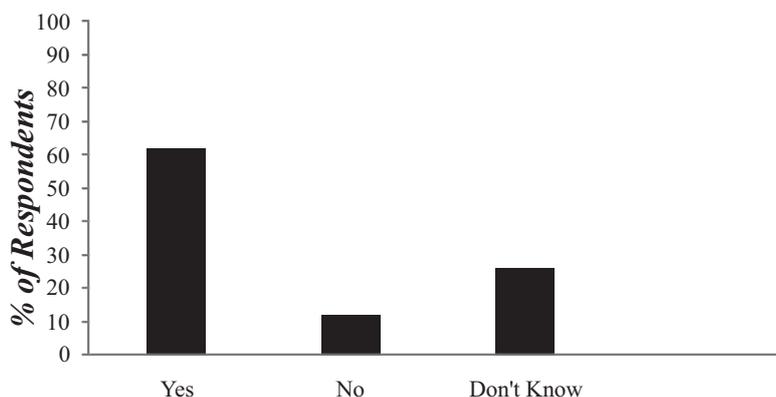
There were 265 mothers who responded to our questionnaires. The age range of the respondents was 23 to 51 years with a mean of 32.5 years. The numbers of children per mother vary from 1 to 5 giving a total of 748 children being catered for by the respondents. As shown in Table I, 15.1%, 20.7%, 25.7% and 38.5% had no formal, primary, secondary and tertiary education respectively.

About two-third (61.9%) of the respondents believed that teething is associated with purulent ear discharge while 12.1% and 26.0% did not believe in, and were unsure of, any association between teething and ear discharge respectively (Figure 1).

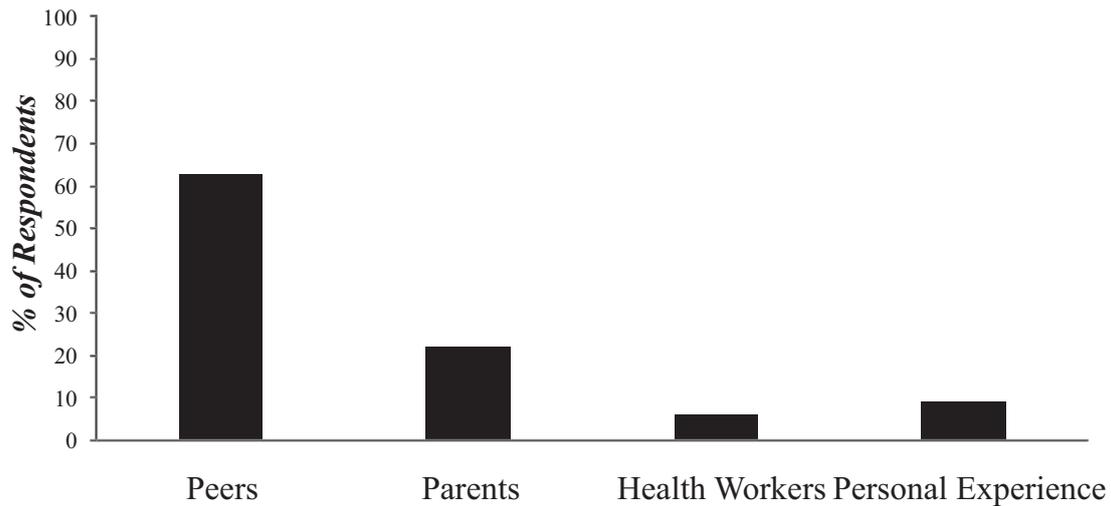
Peers, parents, health care workers and personal experiences were the sources of

**Table I: Distribution of Respondents by Educational Background**

Educational Background	Number of Respondents	Percentage
Nil	40	15.1%
Primary	55	20.7%
Secondary	68	25.7%
Tertiary	102	38.5%
<b>Total</b>	<b>265</b>	<b>100%</b>



**Fig.1: Response of Mothers to the belief that teething is a cause of purulent ear discharge**



beliefs associating teething with purulent ear discharge in 62.8%, 21.9%, 6.0 % and 9.3% of the cohorts respectively (Figure 2).

Of the 748 children, 580(77.5%) had teething without any ear discharge, 90 (12.1%) had concurrent teething and ear discharge while 78(10.4%) had ear discharge outside the teething periods. Whereas, mothers had at one time or the other had contact with health care personnel, none (0%) ever had knowledge of the preventable causes of ear discharge. Drugs used to alleviate teething problems include paracetamol (25.0%), teething mixture (67.1%) while some mothers (7.1%) would rather give nothing. However, 81.1% of the respondents prefer to bring their wards to health care facilities should they develop ear discharge.

## DISCUSSION

False health belief is an age - long phenomenon. Hippocrates (460- 379 B.C), the father of medicine originated and nurtured an incorrect theory that the tongue alone ensures articulation of speech<sup>16</sup>. Also of historical interest is the belief by Archigenes that blowing a trumpet into the ear will cure

deafness.<sup>16</sup> As knowledge about pathologic basis of diseases improves, the falsehood of many of these health beliefs became apparent. Realizing their inherent dangers especially to children, workers have continued to beam research lights on health beliefs and practices. Of particular note are the studies on teething and its myths.<sup>1-6</sup> In most cases, the studies are focused on the belief of people about teething and clinical conditions. Ours was focused on the belief among mothers that teething is a cause of purulent ear discharge. In this study, 164 (61.9%) of the mothers believed that teething is associated with ear discharge (Fig.1).

This affirms the finding of Ige and Olubukola that teething is associated with ear discharge by nursing mothers.<sup>17</sup> However, the prevalence of the belief as noted in this study is far above the 5.9% recorded in their own study<sup>17</sup>. The observed differences may be due to the methodology and settings of the studies which in this case focused on ear discharge. The tendency among mothers to link ear discharge with teething may be due to the prevalence of ear discharge among children in their teething years. As noted by Browning, acute otitis media is reported to be the

commonest otological condition in childhood.<sup>18</sup> Thus, exists among children the possibility of ear discharge within the age bracket of teething. A unique finding in this study is the role of peer influence with majority (62.8%) of the believers basing their beliefs on peer information. As noted by researchers, peer group becomes an agency of enculturation and learning in ways similar to the community.<sup>19</sup> And in tandem with this assertion, many of the mothers in this study were found to perceive and personalize messages about teething and ear discharge as heard from friends, a reflection of inadequate health information on teething in the study area. It therefore behoves on health educators to always keep mothers informed adequately and accurately lest harmful information is disseminated through peers as noted in this study.

That education has inverse relationship with health beliefs about teething<sup>4,20</sup> could not be substantiated by this study. As observed 170(64.2%) of our respondents had secondary and tertiary education yet could not discern the falsehood in the health information received from their peers suggesting that formal education does not equate to health education. It is however worrisome to note that 6.0% of our respondents got their wrong perception of cause-effect relationship between teething and ear discharge from health workers suggesting that some health workers in the study locality are also promoters of false health beliefs about teething.

However, these false beliefs by health workers is not limited to the study area as it has been widely demonstrated by researchers across the country.<sup>5,20</sup> There is need for health

workers to separate cultural beliefs from scientific and proven medical practices and this can be achieved through regular refresher courses and trainings. Although, 81.1% of the mothers would rather prefer to bring their wards to health care facilities should they develop ear discharge, this may not be so particularly with those who have no knowledge of the proven causes of ear discharge and perceive the discharge to be part of teething symptoms. As such, treatment of seemingly innocuous but dangerous disease as acute suppurative otitis media may be delayed or precluded outrightly.

That 77.5% of children in this study had no ear discharge in their teething years suggest a lack of a cause-effect relationship between teething and ear discharge and supports the remark of Jolly that teething does not cause any illness.<sup>9</sup> It is interesting to note that mothers who at one time or the other had visited health care facilities never heard of the scientific-proven causes of ear discharge. This shows the gap in the health information packages for nursing and expectant mothers in our clinics. To bridge the gap, there is a need to incorporate scientific information on ear discharge into the health educational packages in the maternal and infant welfare clinics. Such policy, if routine, will not only educate mothers about the preventable causes of ear discharge but also dissuade them from accepting false health beliefs that could be detrimental to the health of their children.

In conclusion, this study has highlighted the huge knowledge gap on information about teething and its relationship to ear discharge in the study area. It has also highlighted the

culpability of peer influence and inaccurate health information dissemination by health workers in the study locale as contributing factors to the knowledge gap about preventable causes of ear discharge. There is need for accurate and scientific-proven health information dissemination to mothers and other members of the society at large.

## REFERENCES

1. Hodes R. Cross-cultural medicine and diverse health beliefs. Ethiopians abroad. West J Med. 1997 January; 166(1): 29–36.
2. Owais AI, Zawaideh F, Bataineh O. Challenging parents' myths regarding their children's teething. Int J Dent Hyg. 2010; 8(1): 28–34.
3. Oziegbe EO, Folayan MO, Adekoya-Sofowora CA, Esan TA, Owotade FJ. Teething problems and parental beliefs in Nigeria. J Contemp Dent Pract. 2009; 10(4): 75–82.
4. Oyejide CO, Aderinokun GA. Teething myths in Nigerian rural Yoruba communities. Afr Dent J. 1991; 5: 31–4.
5. Bankole OO, Denloye OO, Aderinokun GA. Attitude, beliefs and practices of some Nigeria nurses toward teething in infants. Odontostomal Trop 2004; 27(105): 22–6.
6. Oziegbe EO, Esan TA, Adekoya-Sofowora CA, Folayan MO. A survey of teething beliefs and related practices among healthcare workers in Ile Ife Nigeria. Oral health Prev Dent 2011; 9(2):107-113.
7. Sood S, Sood M. Teething: myths and facts. J Clin pediatr Dent. 2010; 35(1): 9–13.
8. Norman T. The oral cavity. In: Nelson Textbook of paediatrics. 17<sup>th</sup> Ed. Philadelphia: Elsevier imprints, 2004; 1204–1216.
9. Hugh Jolly. Teething. In: Diseases of children. 4<sup>th</sup> Ed. London: ELBS, 1981; 260–261.
10. Janie Ellington. Five Common Causes of Ear Infection in Children. Cited September 27 2013. Available from: <http://voices.yahoo.com/five-common-causes-ear-infection-children-6440184.html?cat=5>
11. Okafor BC. Otolaryngology in South – Eastern Nigeria I. Pattern of diseases of the Ear. Nig Med J. 1983; 13(1): 11–19.
12. Roland NJ, McRae RDR, McCombe AW. Chronic Suppurative Otitis Media – Complications. In: Key Topics in Otolaryngology and Head and Neck Surgery. 1<sup>st</sup> Ed. Bioscientific publishers Ltd, Oxford U.K 1995; 55–6.
13. Roger FG, Maurice H. Complications of suppurative otitis media. In: Synopsis of Otolaryngology. 5<sup>th</sup> Ed. Butterworth-Heinemann. Oxford UK. 1992; 117–119.
14. WebMd. Ear Infections - What Increases Your Risk. Cited September 20 2013. Available from: <http://www.webmd.com/cold-and-flu/ear-infection/ear-infections-what-increases-your-risk>.
15. Gerald BH. Otitis Media and Middle Ear Effusions. In: Otorhinolaryngology, Head and Neck Surgery. Ballenger JJ and Snow JB. (Eds). 15<sup>th</sup> Ed. Williams & Wilkins. USA. 1996; 1003–1004.
16. Ijaduola G.T.A. That All May Hear. The first inaugural lecture in Otorhinolaryngology, University of Ibadan, Ibadan. 1993; 7–8.
17. Ige OO, Olubukola PB. Teething myths among nursing mothers in a Nigeria community. Nig. Med J 2013; 54:107-10.
18. Browning G.G. Pathology of inflammatory conditions of the external and middle ear. In Scott-Brown's Otolaryngology (Otology). 5<sup>th</sup> Edition. London. Butterworth. John B. Booth (Ed). 1987; 53–84.
19. Barbour C, Barbour N.H, Scully P.A. Peer Group Influence. Cited September 20, 2013 Available from: <http://www.education.com/reference/article/peer-group-influence/>

20. Agbaje MO, Ayankogbe OO, Wright KO, Adeniyi AA. The perception of caregivers attending a Nigeria teaching hospital on teething. *Nig Q J Hosp Med* 2012; 22(2):94-98.