

The use of medication as a preemptive strategy in teething children in a Nigerian community

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ABSTRACT

Context: Teething, which is the eruption of primary teeth in infancy, had been associated with various types of symptoms by both the parents and some healthcare workers. The association of symptoms with teething had led to the use of medications to alleviate these symptoms, which in some cases had claimed the lives of some of the children. **Aims:** This study aims at assessing the belief and practice of nursing mothers concerning the use of pre-emptive medications for children in order to prevent perceived symptoms of teething. **Settings and Design:** Cross-sectional study among nursing mothers who brought their children to immunization clinic. **Subject and Methods:** An interviewer-administered questionnaire was used to assess the belief of nursing mothers on the use of pre-emptive medications against perceived symptoms of teething, the drugs used and the age of their children when they started using the drug(s). **Statistical Analysis:** Data analysis was done using statistical package for social sciences (SPSS) version 14. Analysis included frequency, mean of quantitative values and cross tabulations. Chi-square test was used to assess the relationship between those mothers, who believed that the medication should be used and those who did not believe in relationship with their age and their socio-economic status. **Results:** A total of 290 nursing mothers were assessed with 169 (58.3%) believing that drugs should be used as a pre-emptive measure for teething to be uneventful. Twenty-five (8.6%) of the mothers started the medications soon after birth, whereas 34.5% started it after the third month of life. **Conclusions:** There is the need for greater public enlightenment in order to reduce the use of medication(s) as a pre-emptive measure against “teething” as seen among the studied group.

Key words

Children, medication, pre-emptive, teething

INTRODUCTION

Teething, defined as the eruption of primary teeth in infancy,^[1] has been associated with many symptoms that necessitated the use of various medications to remedy the situation. Hippocrates was said to have regarded teething as a cause of severe illness including fever, convulsion and diarrhea and teething was once tagged “Dentio difficilis” meaning difficult dentition.^[2-4] Therefore, many medicaments had been used in the management of symptoms perceived to be accompanying teething, some of this medicaments contain opiates,

lead acetate, mercurial, bromide, paracetamol and diphenhydramine. Alternative therapy such as herbal products, talisman and other phylactery have also been used for the same purpose.^[3,4] Some have advocated the use of alcohol to numb the gums of a teething infant.^[5] Some of the parents only use this drug(s) to treat symptom(s) perceived to be due to teething, whereas others use it, pre-emptively, in anticipation of teething symptoms and thus usually start the drug before the commencement of teething process in their children. The use of some of the medicaments had been implicated as the cause of potentially fatal symptoms^[6,7] among children, while there had been reported cases of death of children following the ingestion of contaminated teething mixture used in the treatment and or preventing teething symptoms.^[8,9]

The present study was therefore carried out to assess the belief and practice of nursing mothers concerning the use of medication in order to prevent symptoms that are perceived to be due to teething in their children. We believed that the

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findings of this study will contribute towards the eradication of such a practice that can actually be avoided.

SUBJECTS AND METHODS

A cross-sectional study of 290 nursing mothers attending the immunization clinics of two hospitals in Ibadan, Nigeria, for their children's immunization was carried out to assess their belief and practice concerning the use of pre-emptive medication in preventing the occurrence of symptoms perceived to be due to teething in their children. A 35-item questionnaire was administered on each of the nursing mothers to assess their practice concerning the use of medications in order to prevent teething symptoms, to know the type of the drugs used and when they actually started giving the drugs to their children. The data collected also included the age of the mothers, the gender of the child and the acquired source for the particular drug(s) used for their children. The women were classified into socio-economic status based on the classification by Famuyiwa *et al.*,^[10] with some modifications.

Data analysis was done using statistical package for social sciences (SPSS) version 14. Analysis included frequency, mean of quantitative values and cross tabulations. Chi-square test was used to assess the relationship between those mothers who believed that the medication should be used and those who did not believe in relationship with their age and their socio-economic status. Level of statistical significance was set at $P < 0.05$. Ethical approval was obtained from the local Institutional Review Committee before the commencement of the study.

RESULTS

The age of the mothers ranges from 20 to 45 years with the mean age being 29.4 ± 4.9 years. Seventy-four (25.5%) of the women were in the age range 20-25 years, 112 (38.6%) were between the age range 26-30 years, 68 (23.5%) of them were in the age range of 31-35 and 36 (12.4%) of them were older than 36 years of age. Most of the respondents (179/290) were unskilled labors, 60 (20.7%) were civil servants, 34 (11.7%) were the semi-skilled labors and 10 (3.5%) of the women were students [Table 1]. Concerning the preferred source of information on teething by respondents, 140 (48.3%) of them depended on their friends/family members, 101 (34.8%) preferred consulting a medical practitioner, 31 (10.7%) consulted patent medicine sellers and the remaining 18 (6.2%) preferred a combination of books, medical practitioners and internet as source of information on teething.

When the views of the mothers were sought concerning the use of medication(s) for the symptomatic relief of symptom(s) perceived by the mothers to be due to teething, self-medication was the most common method by which the mothers sourced for the drugs that they

used for their children as 63.4% of the mothers made use of over-the-counter (OTC) medication for this purpose. Eleven (3.8%) of the mothers did not use any medication, either for symptomatic or preventive treatment, for teething in their children, while 29.7% preferred taking the child to the nearest hospital to seek medical advice in case of ill-health during teething [Table 2]. Teething mixture was the most used single medication by the respondents, as 43.5% utilized this drug whereas 31.0% made use of paracetamol and 1.7% made use of local herbs. Those respondents who used the drugs symptomatically to treat symptoms that they believed was due to teething discontinued the drug as soon as the symptoms resolved [Figure 1].

Those who did not use any medication with the mind set of preventing the onset of teething symptoms constituted 41.7% of all the respondents. Among those who used the drug(s) for preventive purpose, 8.6% commenced the medication for their children soon after birth and 34.5% started the medication after 3 months of the child birth [Figure 2]. There was a statistically significant difference between the belief in the use of pre-emptive medication and the age group of the respondents $P < 0.004$ [Table 3], whereas no statistical significant difference was found between the use of the medication and the socio-economic status of the respondents $P = 0.063$.

DISCUSSION

Teething mixture was the most used of the various listed remedies for the treatment/prevention of symptoms that was believed to be due to teething, by the mothers in

Table 1: Distribution of respondents according to their socio-economic status

Socioeconomic status	Frequency (%)
Professionals	7 (2.4)
Civil Servants	60 (20.7)
Semi-skilled labor	34 (11.7)
Unskilled labor	179 (61.7)
Students*	10 (3.5)
Total	290 (100)

*Indicates modification to original classification

Table 2: The source of medicaments used for symptomatic treatment of "teething" for their children by the mothers

	Frequency	Percentage
Self-medication	184	63.4
Use herbal products	5	1.7
Go to hospital	86	29.7
None	11	3.8
Combination	4	1.4
Total	290	100

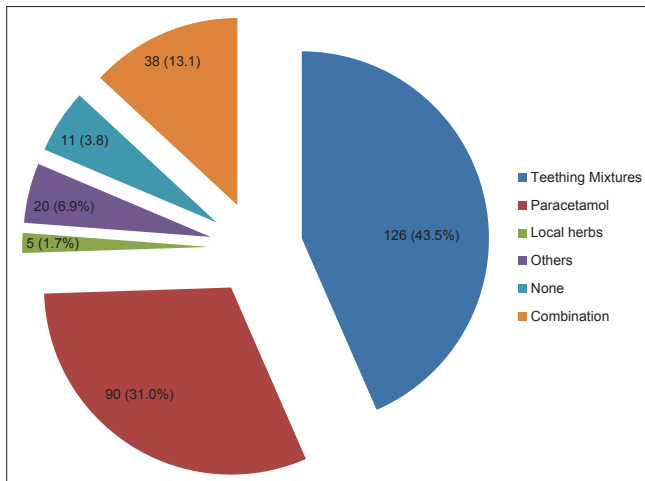


Figure 1: Types of drugs used by mothers for their teething children

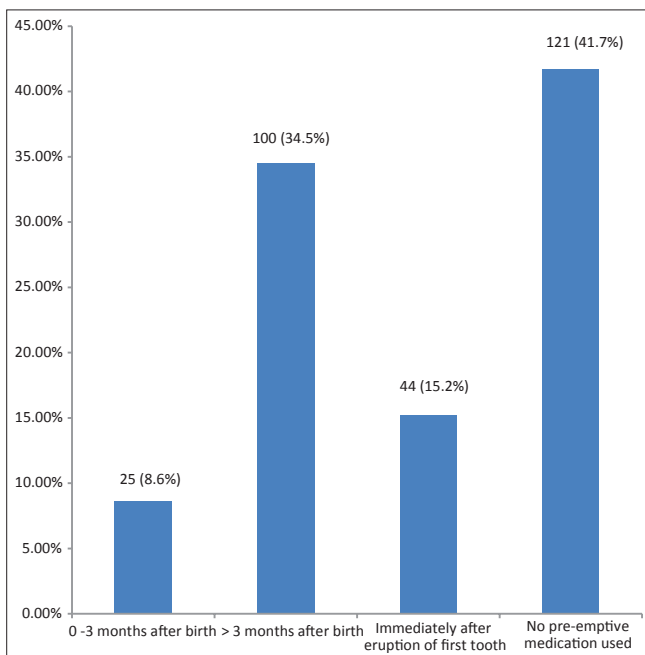


Figure 2: The age of child when pre-emptive medication was commenced

Table 3: Comparison of the belief of the mothers concerning the use of preventive medication for teething with their age groups

Use of preventive medications	Age groups of mothers (%)				Total
	1	2	3	4	
Yes	53 (31.4)	68 (40.2)	37 (21.9)	11 (6.5)	169 (100)
No	21 (17.4)	44 (36.4)	38 (31.4)	18 (14.9)	121 (100)
Total	74 (25.5)	112 (38.6)	75 (25.9)	29 (10.0)	290 (100)

$P=0.004$, Likelihood ratio=13.226, $df=3$

this study and most of them sourced for the drugs OTC, without any consultation. This shows that most of the mothers in the study do not bother to confirm whether or not the symptom(s) in their children is really due to teething or not. The danger in this type of behavior is

that life threatening condition(s) may be overlooked and treated as “teething” with the mothers making use of self-medication and therefore, the tendency to present late to hospital with such a child. This becomes more important as serious symptoms such as diarrhea, vomiting and fever had been variously associated with teething by parents and some health workers.^[11-13] The practice of the use of preventive medications in anticipation of symptoms during teething is contrary to studies that have reported that teething seems not to be associated with symptoms and as such, should be treated as diagnosis of exclusion, in which case any child that is ill enough to be admitted in the hospital, should be screened for other possible organic cause of the illness, so that the child can be properly managed.^[14,15] This finding in this study also goes a long way in showing how easy it is to procure medication(s) OTC in the country without any formal consultation with a medical expert, which might not be the case in some other countries where greater restrictions are placed on access to drugs.^[16]

Some of the mothers who did not use the medication on regular basis for the purpose of pre-empting teething symptoms actually made use of the medication for symptomatic treatment of teething symptoms, with majority of them doing so without formal medical consultation. There is need to exercise restraint as some of these medications contain benzocaine, which had been implicated as a possible cause of methaemoglobin, which is potentially fatal.^[6,7] This potential danger may be avoided if medical consultation is encouraged among mothers, as attending physician may be able to rule out the possibility of the danger with adequate history taking. The factors associated with the preference of the use of OTC to seeking medical advice by respondents in this study was not sought, but it might not have been unconnected with access to medical care or cost of treatment, which had been implicated as factors responsible for the use of folk remedies in the treatment of teething symptoms by people of low socio-economic status.^[5]

There was a statistically significant relationship between ages of the mothers with their use of preventive teething medication, with more of the younger ones making use of the medication than the older ones [Table 3]. This possibly could have been a reflection of the sources of their information, which many (48.3%) claimed was from their family/friends. This is comparable to the findings by Smitherman *et al.*, 2005, who reported that tradition on handling of teething symptoms were handed down from one generation to another.^[5] The effect of personal experience gained by the older women with the raising of previous children could have accounted for their not making use of preventive teething remedies as much as the younger ones. There is therefore the need to assess the effects of previous child rearing on the way mothers handle teething in their children.

CONCLUSION

There is the need for greater public enlightenment in order to reduce the use of medication(s) as a pre-emptive measure against “teething” as seen among the studied group.

ACKNOWLEDGMENT

We wish to acknowledge some doctors who helped in the collection of data for the study and the hospital authorities who granted us permission to collect the data.

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How to cite this article: Opeodu OI, Denloye OO. The use of medication as a preemptive strategy in teething children in a Nigerian community. *Eur J Gen Dent* 2014;3:109-12.

Source of Support: Nil, **Conflict of Interest:** None declared.

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