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Exploring Maternal Perspectives on Teething and Treatment Practices in Awka, Southeast Nigeria

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Article history: Received 27 March 2024, Reviewed 31 May 2024, Accepted for publication 3 July 2024

Abstract

Background: Teething, a natural physiological process, initiates the eruption of primary dentition in infants, typically beginning at 6-7 months but varying between 3 months to 1 year. Despite its simplicity, teething has been clouded by numerous myths, including historical attributions of deaths to teething. This study aimed to explore maternal beliefs and treatment practices concerning infant teething.

Method: A cross-sectional descriptive study was conducted. The study population involved 241 mothers of diverse age groups and educational backgrounds who came with children not more than two years of age. The mothers responded to a questionnaire that included mothers' age, level of education, occupation, number of children and beliefs towards teething symptoms and the practices preferred by the mothers to relief the attributed symptoms.

Result: The results revealed that 80% of mothers acknowledged potential health problems during teething, with fever (69.7%), diarrhea (39.8%), gum itching (34%), and vomiting (33.1%) being common concerns. Paracetamol emerged as the preferred home remedy (44.8%), followed by teething mixtures (32.8%) and teething powder (32%). Alternative practices such as hanging protective beads, rubbing salt water, or using oral rehydration solution were also documented.

Conclusion: Despite varying educational backgrounds, misconceptions persisted among mothers, leading to routine administration of medications for presumed teething problems. This study underscores the importance of addressing misconceptions surrounding teething to promote informed healthcare practices among mothers and nationwide prospective study to put end to these false beliefs.

Keywords: Infant, mother, perception, teething.



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How to cite this article:

Ifezulike CC, Okeke KN, Echendu ST, Odita AO, Onah SK, Agu NV, Enema FE. Exploring Maternal Perspectives on Teething and Treatment Practices in Awka, Southeast Nigeria. The Nigerian Health Journal 2024; 24(3):1378-1384. <https://doi.org/10.60787/tnhj.v24i3.805>





Introduction

Teething marks the progression of teeth from their pre-eruptive state within the alveolar bone to their emergence through the oral mucosa into the oral cavity, constituting a fundamental aspect of human development. Tooth eruption, a natural physiological phenomenon, encompasses the development of teeth within the alveolar processes of the maxilla and mandible, ultimately leading to their appearance in the oral cavity.¹ In humans, two sets of dentitions, primary and secondary, undergo this process, which typically spans 6 to 30 months. While the onset of primary dentition commonly occurs around 6-7 months, the timing may vary, influenced by various factors.¹

Teething has long been intertwined with myths and misconceptions, including historical attributions to mortality in Britain.² Despite lacking empirical support, teething remains a focal point of parental concern, with numerous unrelated illnesses erroneously attributed to it. From laypersons to medical professionals, a myriad of symptoms are often linked to teething, despite scant evidence substantiating these claims.³ As Illingworth succinctly captured the essence of teething in 1975, stating, "Teething produces nothing but teeth".⁵⁻⁶ However, this perspective is not universally embraced, perpetuating the association between teething and various ailments such as fever, diarrhea, and irritability, without scientific validation.⁷

In 1918, some Pediatricians contended that teething could manifest in severe symptoms, including diarrhea, vomiting, and convulsions.⁸ Although many historically attributed conditions are now accurately diagnosed as distinct clinical entities, the enigmatic nature of teething persists, especially in cases where minor illnesses lack definitive etiologies.⁹ Despite contemporary medical opinion dismissing teething-related diarrhea as a myth, cross-cultural data indicate widespread belief in the association of loose stools with tooth eruption.⁹⁻¹¹

A study among Australian parents revealed prevalent beliefs regarding teething's adverse effects, with the majority attributing symptoms such as fever, irritability, and drooling to teething.¹² Healthcare professionals sometimes prescribe unnecessary medications to address teething-related concerns, despite potential hazards to infants' health. For instance, teething gels containing benzocaine, often used to alleviate teething discomfort, may lead to methemoglobinemia, highlighting the importance of informed decision-making.¹²

Maternal misconceptions about teething can impede the prompt diagnosis and management of serious illnesses, as documented by Kakater *et al.*¹³ Delayed healthcare-seeking behavior among parents, influenced by beliefs associating symptoms with teething, has been observed in paediatric outpatient and emergency departments.^{14,15} Such misconceptions, prevalent across various cultures, underscore the need for comprehensive studies to assess maternal beliefs and conceptions regarding teething, as undertaken in this study in COOUTH Awka, Anambra state.¹⁶⁻¹⁹

Method

Study Design

This a cross-sectional descriptive study conducted at the children's outpatient department of Chukwuemeka Odumegwu Ojukwu University Teaching Hospital (COOUTH) in Amaku Awka, spanning from July to September 2022.

Sample size

The study enrolled 241 mothers whose babies are not more than two years.

Inclusion criteria

Inclusion criteria encompassed women with infants aged two years or younger, possessing at least one erupted primary tooth, and devoid of medical or systemic conditions potentially influencing teething.

Exclusion criteria

Exclusion criteria comprised mothers declining participation.

Data collection

This involved a meticulously pretested questionnaire, encompassing details such as the child's age and birth order, maternal age, education level, occupation, number of offspring, beliefs regarding teething symptoms, and preferred practices for alleviating attributed symptoms. Before inclusion, verbal consent was obtained after comprehensive explanations. While questionnaires were predominantly self-administered, assistance was provided by a doctor where necessary.

Ethical consideration

Ethical clearance was secured from the ethical committee of Chukwuemeka Odumegwu Ojukwu University Teaching Hospital, Amaku Awka, before study initiation.



Data analysis

Data analysis utilized the Statistical Package for the Social Sciences version 20.0 (SPSS, Chicago, III, USA). Frequencies of qualitative variables were succinctly summarized via tables, with corresponding percentages calculated.

Results

During the three-month study period, 268 questionnaires were completed, with 241 deemed sufficiently comprehensive for analysis. Of the 241 participants, a mere 2.5% were unmarried, while the overwhelming majority, 97.5%, were married. Furthermore, 95.4% identified as Christians, with 96.2% being of Igbo ethnicity.

Tables delineated the age distribution of mothers, educational attainment, and number of children. Notably, 71% reported tooth eruption commencing between ages 5-7 months, predominantly characterized by the emergence of lower central incisors in 70.5% of cases. Additionally, maternal beliefs surrounding teething myths were documented, revealing prevalent convictions regarding associated illnesses and customs.

Moreover, the study unveiled the predominance of fever as a symptom (69.7%), followed by diarrhea (39.8%), gum itching (34%), and vomiting (33.1%). Various maternal practices for alleviating teething symptoms were delineated, with 49% opting for institutional care, 28% favoring home remedies, and 20% refraining from intervention. Noteworthy remedies included paracetamol (44.8%), teething mixtures (32.8%), teething powder (32%), herbal mixtures (2.5%), and alternative practices such as hanging protective beads or utilizing oral rehydration solution (ORS).

Table 1: Characteristics of the mothers and their children

Variables	Freq (n=241)	Percent (%)
Age (years)		
15 – 20	7	2.9
21 – 30	78	32.4
31 – 40	122	50.6
>= 41	34	14.2
Mothers Educational Status		
None	5	2.1
Primary education	10	4.1
Secondary education	70	29.1
Tertiary education	156	64.7

Mother's employment status

Civil/Public servants	94	39
Trading	89	36.9
Housewives	26	10.8
Students	20	8.2
Artisans	12	5.0

Number of children by respondents

1	49	20.3
2	49	20.3
3	55	22.8
4	53	22
5	28	11.6
>5	7	2.9

Table 2 shows the mothers belief of the age for teeth eruption. It shows that teeth eruption starts at age 5-7 months in 71% of their children.

Table 2: Age at teeth eruption, belief of first teeth to erupt and beliefs about teething myth

Variables	Freq	Percent
Age in months		
<=5	98	40.7
6	50	20.7
7	25	10.4
8	22	9.1
9-12	39	16.2
>12	7	2.9
Belief of first teeth to erupt		
Lower central incisor	170	70.5
Upper central incisor	37	15.4
Lower lateral incisor	6	2.5
Upper lateral incisor	4	1.7
Don't know	24	9.9
Belief about presence of teething myths		
Yes	56	23.2
No	130	53.9
Don't Know	55	22

This shows that the first teeth to appear are the lower central incisors, this occurs in 70.5% of the cases. This is followed by the upper central incisors in 15.4% of the cases. About 23.2% of mothers have beliefs in teething myths

Table 3: Presence of illness, symptoms and where mothers seek care during teething

Variables	Freq	Percent (%)
???		
Yes	193	80.1
No	29	12
Don't know	19	7.9
Symptoms perceived by mothers associated with Teething		
Fever	168	69.9
Diarrhoea	96	39.8

Gum itching	82	34
Vomiting	80	33.1
Poor appetite	36	14.9
Irritability	19	7.9
ARI	4	1.7
Others	4	1.7
Where will you treat your teething child		
Health facilities	118	49
Homecare	68	28.2
Herbal care	6	2.5
None	31	20.3

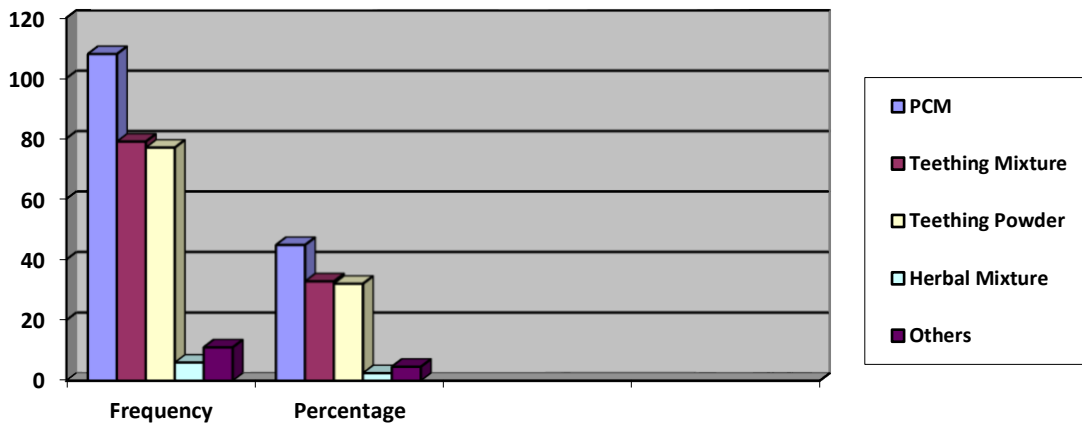


Figure 1: Practices undertaken by mothers to alleviate teething symptoms

Discussion

This study aimed to elucidate the beliefs and practices concerning infant teething among women attending COOUTH Awka. The hospital's central location in Awka, housing government ministries, agencies, and a university, likely contributes to the predominance of mothers with tertiary education, as indicated in Table 1.

The majority of mothers held the belief that teeth eruption typically occurs between 5-7 months of age, aligning with standard texts^{1,6} and previous studies by Odinaka *et al.*⁷ in Owerri and Geteneh *et al.*⁸ in Southwest Ethiopia. However, studies from Nigeria reported slightly higher average ages,^{12,20} while Goran Koch *et al.*²¹ noted teeth eruption commencement at 8 months, suggesting potential

nutritional, environmental, or genetic factors influencing onset variation.

Regarding the sequence of eruption, 70.5% of mothers identified the lower central incisors as the initial teeth, consistent with findings by Getaneh²² in Ethiopia but lower than Kakatkar's¹³ study in India. Discrepancies may stem from differences in oral hygiene education across regions, evidenced by 9.9% of participants lacking knowledge of initial tooth eruption.

The study revealed that 80.1% of women believed teething caused health issues, including fever, diarrhoea, gum itching, vomiting, and poor appetite. Similar beliefs were reported in studies from Nigeria,¹⁸ Australia,¹⁹ Israel,²³ and Turkey²⁴ with



fever consistently cited as the predominant symptom. This aligns with findings by Oziegbe *et al.*,¹² Adimora *et al.*¹⁶ and Mohammed Ahmed²⁶ attributing these symptoms to declining maternal antibodies around 6 months of age.

Given the widespread belief in teething-related illnesses, mothers often seek remedies. Notably, 49% preferred orthodox health facilities, while 28% opted for home care, and 20.3% took no action, posing potential risks. Treatment choices were influenced by maternal beliefs, often rooted in misconceptions,⁷ leading to self-management of serious illnesses with potentially fatal consequences. Home remedies included paracetamol (45%), teething mixtures (32.8%), and teething powder (32%), reflecting harmful practices delaying appropriate therapy initiation. Similarly, Smitherman *et al.* documented the use of benzocaine gel, whisky, penny ice cubes, and spices in the black American community, emphasizing the need to discourage harmful medications, particularly herbal remedies, due to associated dangers to infants.

Implications of the findings of this study

Strengthening dental health education is vital to deter the casual attribution of serious childhood illnesses to teething, promoting timely hospital attendance for proper management. Further studies are recommended with larger population size, this will include urban and rural regions with different socio-cultural background to establish a society specific education program to eradicate false beliefs.

Limitations of the Study

This study was conducted in an urban setting, potentially limiting the generalizability of the findings to rural areas.

Conclusion

The research conducted in Awka reveals that mothers, despite their educational backgrounds, harbour inappropriate perceptions and beliefs regarding teething, often attributing it to various ailments and administering medications routinely. Such practices may carry serious consequences for children, families, and communities. It is imperative to enhance recognition and understanding of the teething process, fostering better-coping strategies for minor disturbances.

Declarations

Ethical Consideration: Ethical clearance was secured from the ethical committee of Chukwuemeka Odumegwu Ojukwu University Teaching Hospital, Amaku Awka, before study initiation.

Authors' Contribution: ICC and OKN conceptualized, other authors' were involved in development, conduct and publication of this research work

Conflict of interest: There is no conflict of interest.

Funding: The research was self-funded.

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