



Perception about teething among the nursing mothers of Mysore

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Abstract:

Parents consider tooth eruption to be an important milestone in the child's development. Process of tooth eruption generally referred to as teething is a natural process and may create some discomfort in infants. Parents' false beliefs about signs and symptoms associated with teething may interfere with the prompt diagnosis and management of serious illnesses. Thus, there is a need to distinguish between false beliefs and facts associated with teething. The aims of this study were to assess the nursing mothers' knowledge and belief about teething and to investigate the practices used to manage teething problems. A cross-sectional survey involved 205 mothers presented at pediatric OPD in JSS Hospital, using a validated structured questionnaire. More than 95% of the respondents thought that babies can experience medical problems as a result of teething. The commonest medical problems perceived to be associated with teething were diarrhoea (80.3%), fever (86.6%), loss of appetite (75%) and drooling of saliva (96%). This study showed a common misconception and myths about teething among mothers. Mothers should be better educated about the teething process and the proper management of teething troubles by the dental health care providers.

Key words: Knowledge, Teething, Nursing mothers

Introduction:

Tooth eruption is a process by which a tooth moves from its developmental position within the jaw into its occlusal position in the oral cavity.¹ Tooth eruption is considered to be an important milestone in the child's development. Primary tooth emergence in the oral cavity initiates around 6 months and gets completed by 30 months.² Though McDonald and Avery³ stated that teething is a physiologic process and it does not cause any alterations capable of provoking discomfort emphasizing that these may be coincident to the event, there has been a controversial relationship between the eruption of deciduous teeth and infants' general health and has been documented for many years. Some researchers recognize that the manifestation of either local or systemic symptoms are associated with the teething process⁴

Throughout history, teething has been held responsible for a variety of childhood illnesses. Parents' false beliefs about signs

and symptoms associated with teething may interfere with the prompt diagnosis and management of serious illnesses.⁵ It is unclear whether the local and systemic disturbances observed in infants' teething would be related to the teething process itself or to other developmental origins. Thus, there is a need to distinguish between facts and false beliefs associated with teething. To our knowledge there are only a handful of studies conducted in India to assess mother's knowledge, beliefs and practices regarding their children's teething. Hence, this study was performed to assess mothers' knowledge and beliefs about teething signs and symptoms, to investigate the practices used to alleviate teething troubles and to know whether they had or had not received prior information on this issue.

Materials and Methods:

A cross sectional study was conducted through the structured questionnaire in the paediatric OPD of JSS Hospital, JSS University, Mysore. The questionnaire was

based on the literature review, pilot study and professional experience. Ethical approval was obtained from the Institutional Ethics Committee. The recruitment of study subjects was carried out in September 2014. All the nursing mothers with children < 3years visiting the paediatric OPD of JSS Hospital, Mysore were approached to participate in this study. Mothers who agreed to participate were surveyed.

The questionnaire used in this study was divided into two sections. The first section contained demographic details such as age, highest educational level attained, age of the last child and parity. The second section contained knowledge about primary teeth, common myths usually attributed to teething, list of possible problems during teething, remedies and interventions that are applied by mothers for teething problems.

Data were collected using structured questionnaire. The participants were enrolled consecutively as they presented to the clinic with their children. The purpose of the study and the questionnaire were explained to each participant and consent obtained. Each participant then completed the questionnaire and returned it before leaving the clinic. The data were analyzed using SPSS version 19. Descriptive statistics were used in reporting prevalence. Chi square test was used to test for statistical significance of categorical variables. The level of statistical significance used was 0.05 at 95% confidence interval.

Pre-testing questionnaire

A self-administered structured questionnaire was first developed in English to facilitate its review by experts in Pediatric Dentistry for structure and content validity. The English version was then translated into a more viable local language (Kannada) to aid comprehension by the study population (linguistic validity). The validity and reliability of this questionnaire was then tested with a group of 20 mothers. Feedback from these

mothers was considered and a few questions were reframed to improve the clarity of meaning. Reliability was assessed using Cronbach's alpha coefficient (0.8).

Results:

A total of 205 mothers participated in this study. All were literate with the minimum educational qualifications being primary schooling. Participants were aged 20 to 40 years and the age group 21 to 25 years accounted for the majority (55.6%) of the participants. The distribution of the participants according to their ages is shown in **Table I**.

Table I: Age group of participants

Age group (years)	Frequency (%)
15-20	16 (7.8)
21-25	114(55.6)
26-30	51 (24.9)
31-35	15 (7.3)
35-40	9 (7.8)
Total	205(100)

Knowledge about primary teeth and teething:

54.6 % of the mothers had knowledge about number of primary teeth present in a 3-year old child. (**Figure I**). 94.1 % agreed that 1st tooth erupts at 6 months (**Figure II**). 73.2% said a lower front tooth erupts first (**Figure III**). 56.1 % agreed that all 20 teeth erupt by 2.5 years (**Figure IV**). 89.8% mothers were aware that tooth emergence is an important developmental milestone (**Figure V**).

Teething and associated problems:

There was no significant association between age of mothers (20 yrs- 40yrs) and perceived teething problems ($p = 0.14$). However, there was a significant association between educational status and myths about teething problems ($p < 0.05$) with the higher education myths about teething being significantly less (**Table II**). Most of the mothers reported that their children had suffered from at least one of

the medical/ dental problems that was mentioned in the questionnaire.

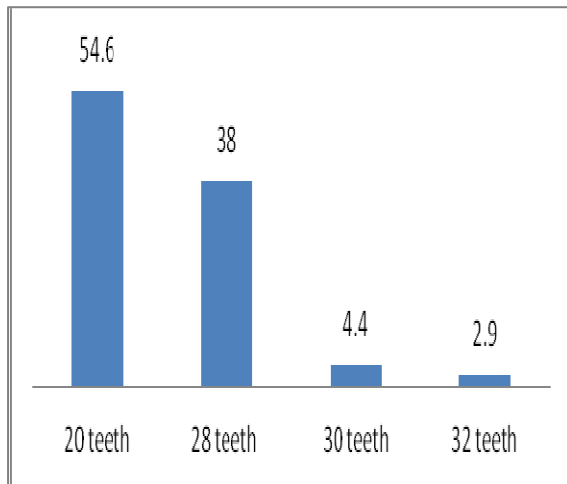


Figure I: Total number of teeth in primary dentition

Figure II: First tooth emerges at 6 months

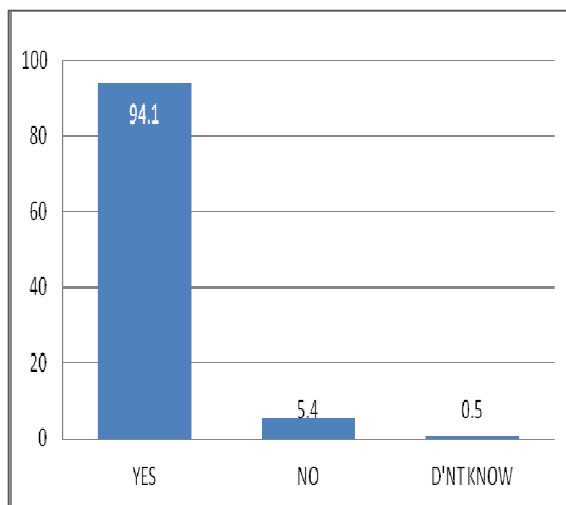


Figure III: Lower front teeth emerge first

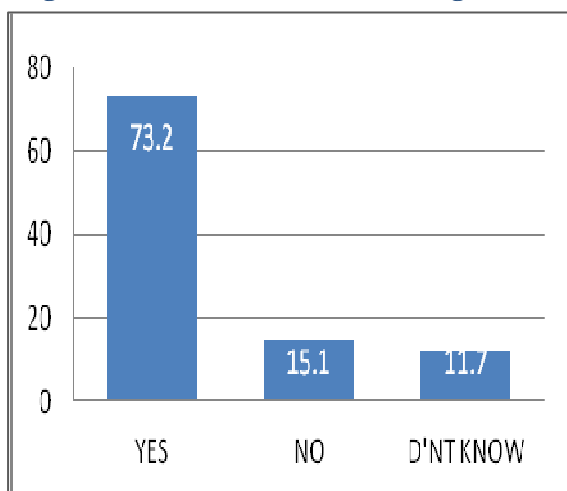


Figure IV: All primary teeth emerge by 2.5 yrs

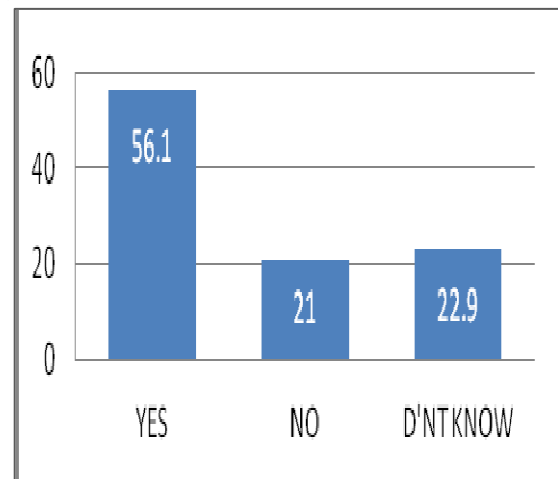
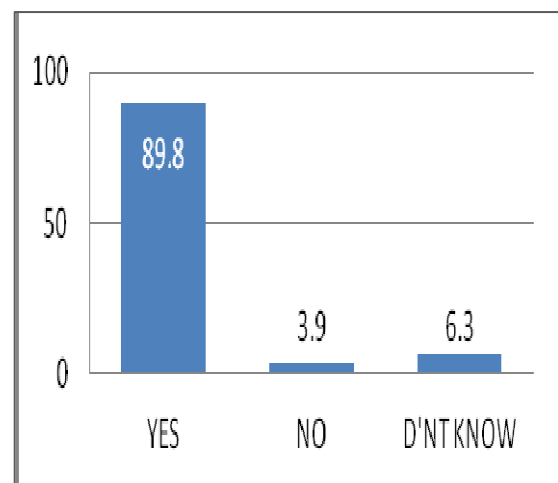


Figure V: Tooth emergence is an important developmental milestone



Most mothers perceived that teething causes diarrhoea (65.4%), 34.1 % of the mothers believed teething causes fever, 18.5 % irritability , 37.6 % for drooling of saliva, 68.3% mothers reported finger sucking, 62.4 % reported gum biting during teething (**Table III**). 76 % mothers agreed that problems during teething is a serious issue and needs to be treated under medical supervision (**Figure VI**). 67% of the mothers had received information about teething mostly from their mother, only 5% from the pediatricians and none from the dentist (**Figure VII**). Various home remedies adopted by mothers to treat infant teething symptoms is as shown in **Figure VIII**.

Table II: Association between educational status and myths about teething problems

Myth 1: Misfortune to family if child is born with tooth					
Education	Frequency (%)			Total	Chi square
	Yes	No	Don't know		
Post secondary	23(17.4%)	73(55.3%)	36 (27.3%)	132 (100%)	.000
Secondary	32(43.8%)	23(31.5%)	18 (24.7%)	73 (100%)	
Myth 2: Child visualizing the mirror before tooth eruption causes delayed eruption					
Education	Frequency (%)			Total	Chi square
	Yes	No	Don't know		
Post secondary	24(18.2 %)	80 (60.6 %)	28 (21.2 %)	132 (100%)	.000
Secondary	31 (42.5%)	35 (47.9 %)	7 (9.6 %)	73 (100%)	
Myth 3: Early tooth eruption is a sign of intelligent child					
Education	Frequency (%)			Total	Chi square
	Yes	No	Don't know		
Post secondary	26(19.7 %)	90 (68.2 %)	16 (12.1 %)	132 (100%)	.05
Secondary	15 (20.5%)	41 (56.2 %)	17 (23.3 %)	73 (100%)	

Figure VI: Treatment adopted for teething problems

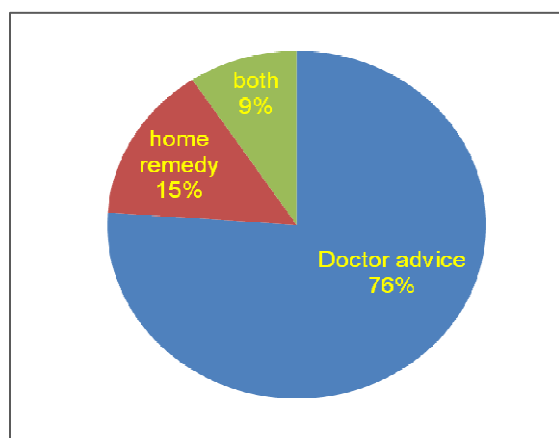


Figure VII: Mothers receiving guidance about infant's teething symptoms

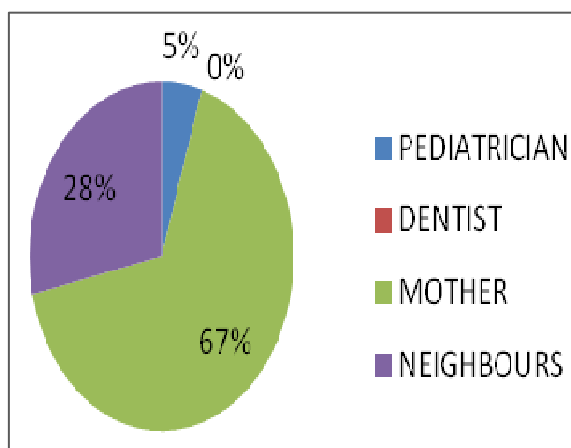
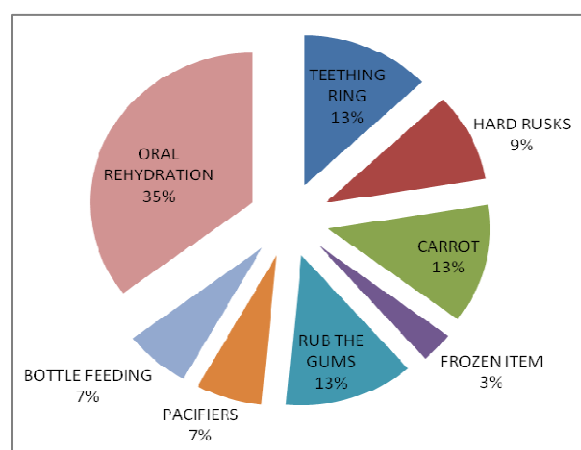


Figure VIII: The percentage of home remedies practised to treat infant's teething symptoms



Discussion:

During the early stages of infancy, parents encounter many behavioral changes in their children and attribute much of children's health problems or a subset of their behavior to teething⁴. This cross sectional survey shows that mothers associate common symptoms of childhood illnesses with teething which is in accordance with most studies.^{5,6} The present study showed that local

Table III: Distribution of medical and dental problems suffered by children during teething

Medical Problems	%	Dental Problems	%
Fever	34.1	Gum biting	62.4
Diarrhoea	65.4	Increased saliva	37.6
Cough	5.9	Finger sucking	68.3
Vomiting	7.3	Gum reddening	11.7
Rashes	1		
Irritability	18.5		
Pain	5.4		
Disturbed sleep	7.3		

symptoms, including the desire for gum biting, finger sucking, and increased salivation, was most frequently rated as symptoms associated with teething. The majority of mothers in our study had beliefs that diarrhoea (65.4%) and fever (34.1%) was due to teething. Other incorrectly identified symptoms included a vomiting (7.3 %), cough (5.9%), and disturbed sleep (7.3%); almost all the mothers believed that at least one of these symptoms was associated with teething.

The most frequently associated symptom as believed by mothers with teething was diarrhoea (65.4 %); this proportion was much higher than those found by Wake et al ⁷, Owais et al ⁸ and Feldens et al. ⁹ Although teething and diarrhoea are not usually associated, most parents believe that their child's diarrhoea is due to tooth eruption. Diarrhoea may be due to the placement of contaminated objects in the mouth. However, children with teething diarrhoea are just as likely to develop dehydration as are children with non-teething diarrhoea. Thus, primary care providers should be aware of these various beliefs, educate parents to recognize the early signs of dehydration, discourage the belief that teething causes diarrhoea.^{9,10}

Our finding showed that 34 % of mothers falsely believed that fever was associated

with teething; this was in accordance with that of Wake et al ⁷, who found that parents believed that teething causes fever, pain, irritability, sleep disturbance, and drooling saliva. The proportion of mothers with this false belief in the present study was higher than that found by Feldens et al ¹⁰ (38.9%), but lower than that found by Owais et al ⁸ (84.9%).

The timing of eruption of the deciduous incisors (6–12 months) coincides with the reduction in circulating maternal humoral immunity and the establishment of a child's humoral immunity. Most children of this age are susceptible to a myriad of relatively minor infections. The symptoms of elevated temperature, facial rash, irritability, and loss of appetite could also be due to infection with the human herpes virus 6 (HHV-6), which is ubiquitous among infants of teething age. Several features attributed by mothers to teething can be explained by alternative non-teething etiologies.¹¹

Less than 20% of the mothers in the present study believed that sleep disturbance / wakefulness was associated with teething; this proportion was much lower than those found by Owais et al ⁸. (80.8%), Wake et al ⁷ (78%) and Kakatkar G et al¹² (48.2%). Regarding mothers practices to manage teething symptoms, Wake et al ⁷ reported that 76% of parents used some form of medication, most commonly paracetamol (60%) and/or teething gels (55%); Kakatkar G et al¹² reported 62.7% of mothers used systemic analgesics and 45.6% rubbed the gums with topical analgesics. Only 33.8% of mothers allowed their children to chew on chilled objects and around 40.4% allowed bottle feeding or nursing at night.¹¹

In the present study, 76% of the mothers preferred to take doctors advice over home remedies (15%). Our study showed that 35% of mothers adopted oral rehydration, 13% allowed their children to chew on teething rings, and only 7% allowed bottle feeding or nursing at night. The findings in the present study are obtained from a

single cohort (mothers visiting pediatric OPD); hence our conclusions cannot be applied to the general population. A more sophisticated survey with a larger population size that includes multiple geographical areas is required. However, our preliminary findings indicate that the majority of mothers incorrectly attributed fever, diarrhoea, vomiting and sleep disturbances to teething. Thus, before ascribing any sign or symptom of a potentially serious illness to teething, parents must learn to rule out other possible causes; this could be accomplished by making accurate information available to increase mother's competence. Scientific information about teething should be included in health educational packages directed at different subpopulations within communities. Communities would benefit if mothers underwent frequent, compulsory, standardized training on oral health-promoting factors. Medical professionals can join hands to educate mothers about their role in improving their children's oral health during antenatal checkups and immunization visits.

Conclusion:

Considering the results obtained, it is recommended that greater emphasis should be given on more instructive and scientific evidence-based guidelines by the health team, especially the dentists. Most of the mothers interviewed ascribed symptoms of childhood illnesses to teething. It is important therefore, that women of reproductive age in general, but especially the younger nursing mothers are targeted with health promotion messages that will ensure appropriate and prompt interventions for a symptomatic teething child. Compulsory dental visit during teething should be made mandatory so that appropriate anticipatory guidance can be given.

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<http://dx.doi.org/10.1590/S1806-83242012000200011>

Conflict of interests: Nil

Date of submission: 16-07-2016

Source of funding: Nil

Date of acceptance: 19-08-2016

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