Research Article

Submitted: Sep 10, 2020
Accepted: Nov 29, 2020
Published: Dec 17, 2020

Parents' Beliefs and Practices on Teething

Dr. Megha Pradhan,[1] Dr. Ujjwal Joshi,[2] Dr. Smriti Mathema,[3] Dr. Astha Neupane,[4] Dr. Rojina Singh Thakuri,[5] Dr. Sijan Poudyal,[6] Dr. Rajib Chaulagain[7]

[1,4,5]Department of Paedodontics and Preventive Dentistry, Kathmandu Medical College and Teaching Hospital, Bhaktapur, Nepal

[2]Department of Oral Medicine and Radiology, Kathmandu Medical College and Teaching Hospital, Bhaktapur, Nepal

[3]Department of Pediatrics, Kathmandu Medical College and Teaching Hospital, Sinamangal, Nepal

[6]Department of Community Dentistry, KIST Medical College and Teaching Hospital, Lalitpur, Nepal

[7]Department of Oral Pathology, Chitwan Medical College and Teaching Hospital, Chitwan, Nepal

Correspondence:

Dr. Megha Pradhan. Email: drmeghapradhan@gmail.com

ABSTRACT

Introduction: Teething is a physiological phenomenon, which includes eruption of teeth in the oral cavity from within its intraosseous position in the jaws. Many symptoms of teething have been reported such as fever, diarrhoea, dermatitis, constipation, restlessness, increased finger sucking drooling of saliva, gum irritation, and decreased appetite.

Objective: The objective of study was to assess the beliefs of parents coming to Kathmandu Medical College and Teaching Hospital during the teething of their children and practices undertaken to relieve those symptoms.

Material and Method: A cross-sectional descriptive study was conducted among 140 parents visiting a tertiary care hospital in Kathmandu from July to September 2020. Convenience sampling was used to recruit the participants and informed consent was obtained before data collection. Self-administered questionnaires were distributed and eventually the data was analysed with descriptive statistics.

Result: The commonest problems perceived to be associated with teething were loose stool (81, 57.86%), fever (62, 44.29%), and undue crying (50, 35.71%). Most of the parents (48, 34.29%) would prefer to give teether to their child during teething followed by paracetamol (18, 12.86%), and refrigerated food (17, 12.14%).

Conclusion: Parents' attribution of systemic symptoms to teething shows their misconception, emphasising the need for educational interventions and infant oral health promotion by the concerned medical and dental health professionals.

Keywords: Belief; practice; sign; symptom; teething.

INTRODUCTION

Teething is a natural physiological process where primary teeth move from their position inside the jaw bone into oral cavity. It generally commences from 6-7 months of age and completes approximately at three years of age.[1-4] Teething has

Citation

Pradhan M, Joshi U, Mathema S, Neupane A, Thakuri RS, Poudyal S, Chaulagain R. Parents' beliefs and practices on teething. J Nepal Dent Assoc. 2020 Jul-Dec;20(31):100-6.

been attributed to gum irritation and desire to chew whatever is available nearby of infants.5 The other symptoms are: irritability, increased salivation, runny nose, loss of appetite, diarrhoea, rash, and sleep disturbance.[6-8]

Parents have different views about signs and symptoms of teething, the commonest medical problems being fever and diarrhoea. Consequence of such misconception is that the incidence of such symptoms may be sign of underlying serious condition which may endanger life of child.[9,10] However, they also try different pharmacological and non-pharmacological strategies as teething remedies.[11,12] Sometimes the symptoms the child shows may also link to other systemic conditions yet mothers link these symptoms as a result of teething.

There is lack of literature on parental views of teething and remedies they practice to alleviate pain and associated symptoms. Thus, there is a need to explore the teething myths and misconception in the Nepali population. Hence, this study focussed to access the parental beliefs and practices on teething process of their infants.

MATERIALS AND METHOD

A cross-sectional descriptive study was conducted among 140 parents after ethical clearance from Institutional Review Committee at Kathmandu Medical College and Teaching Hospital. (Ref. 1607202005) Convenience sampling technique was used for selecting the sample. The study period was from July to September 2020. Based on the study of Adimorah et al.[13] taking prevalence of respondents who thought that babies can experience medical problems as a result of teething, p=0.90 (90%); q=1-p=0.1; Z=1.96 at 95% confidence interval; and permissible error, d=0.05 (5%); the sample size was calculated using formula $n=Z^2pq/d^2=138.29\approx140$. Parents coming to dental department of Kathmandu Medical College with children of six months to five years and willing to participate in the study were included in the study whereas incomplete questionnaires were excluded. Informed written consent was taken prior to commencement of study.

The first section of self-administered questionnaire comprised of sociodemographic information of the participants. The second section consisted of 19 questions asking beliefs and common problems associated with teething and their remedies. Data were recorded and descriptive statistics were analysed in SPSS Statistics for Windows, version 16.0 (SPSS Inc., Chicago, Ill., USA) software.

RESULT

Among the 140 participants, mothers were 122 (87.14%) and rest were fathers 18 (12.86%). The age of the participants ranged from 21 to 49 years with mean age of 30.97+5.13 years. Among the participants, 11 (7.86%) had three children, 59 (42.14%) had two and single child was found among 69 (49.29%) parents. Among them, 42 (30%) had younger child less than one year. Bachelor's degree was the commonest degree among the participants seen with 49 (35%) participants. Among the parents 75 (53.57%) were housewives (Table 1).

Table 1: Demographic details of the participants, N=140.

Demographic data	Responses	Frequency (percentage)
Age of the youngest child	6 months to < 1 year	42 (30)
	1 to < 2 years	38 (27.14)
	2 to < 3years	14 (10)
	3 to <4 years	9 (6.43)
	4 to 5 years	37 (26.43)
Occupation	Housewife	75 (53.57)
	Teacher	7 (5)
	Service	22 (15.72)
	Medical profession	22 (15.72)
	Business	10 (7.14)
	Agriculture	1 (0.71)
	Labourer	2 (1.43)
	Student	1 (0.71)
Educational level	Till 5 grade	10 (7.14)
	6 to 10 grade	32 (22.86)
	+2 level	30 (21.43)
	Bachelor level	49 (35.00)
	Masters level and above	19 (13.57)

Table 2: Beliefs about teething among the parents.

Questions	Responses	Frequency (percentage)
Do babies have any problems when their teeth are erupting?	Yes	95 (67.86)
	No	19 (13.57)
	Sometimes	26 (18.57)
	3 to <4 years	9 (6.43)
At what age do you expect a baby's teeth to start erupting?	4 months	2 (1.43)
	5 months	1 (0.71)
	6 months	32 (22.86)
	7 months	33 (23.57)
	8 months	28 (20)
	> 8 months	44 (31.43)
	Agriculture	1 (0.71)
Do you worry about the time your baby's teeth start to erupt?	Yes	44 (31.43)
	No	64 (45.71)
	Not bothered	32 (22.86)

Among the participating parents, 95 (67.86%) believed that babies had some kind of problems during tooth eruption. On questioned about the age, one can expect a baby's teeth to start erupting: 44 (31.43%) said more than eight months while 32 (22.86%) said to be six months. Nearly half of parents (64, 45.71%) were not worried about the time their baby's teeth started erupting (Table 2).

Loose stool was associated with teething was reported by 81 (25.88%) parents, 62 (19.81%) considered fever, and 50 (15.98%) undue crying. One hundred and eighteen (84.29%) of the participants would not apply any medication to the child during teething. Most of the parents (48, 40.68%) would prefer to give teether to their child during teething followed by paracetamol (18, 15.25%) and refrigerated food by (17, 14.41%). While handling teething problems in their child, 57 (35.85%) parents had sought information from their mother mostly (Table 3).

If parents did not give anything to the baby for teething, 82 (58.57%) believed nothing would happen, while 22 (15.72%) participants thought it might cause poor growth, 24 (17.14%) thought severe illness may occur and 12 (8.57%) had no idea. Majority of the participants (138, 98.57%) had never seen any child die of teething problem. When asked whether teething had any effects on the older children, 53 (37.86%) of parents said yes, 30 (21.43%) were unsure while 57 (40.71%) did not agree. More than two-thirds of the participants (105, 75%) believed that the lower incisors erupt first while upper incisors were chosen by 28 (20%) but seven (5%) parents were not sure. On questioned whether it mattered which of the upper or lower teeth erupted first, 11 (7.86%) of the respondents said yes, 92 (65.71%) said no while 37 (26.43%) had no idea about it. Among them who said "yes" it mattered, eight participants thought it might harm elders according to religious beliefs and three participants thought it might cause maligned teeth in the future.

Fifty seven parents (40.71%) opted for doctor followed by paediatric dentist (51, 36.43%) to take for teething consultation. Only 22 (15.71%) parents had the confidence to handle by themselves. If diarrhoea occurred during teething, 71 (50.71%) of parents would prefer oral rehydration solution, 25 (17.86%) would use antidiarrhoeal drugs while 15 (10.71%) would just wait and watch. Treatment modalities opted by parents during fever was paracetamol (116, 82.86%), tepid sponging (15, 10.71%), and nothing (7, 5%) irrespective of fever. If cough was present in teething, most of parents (54, 38.57%) would use home remedies while 49 (38.85%) would give cough syrup as remedy. Teething was thought to be related to abdominal pains by 63 (45%) parents whereas 43 (30.71%) said

Table 3: Treatment practices of parents during teething.

Questions	Responses	Frequency	Percentage of participants (%) (N=140)	Percentage of responses (%) (N=313)
What problems are associated with teething? (Number of total responses = 313)				**N=313**
	Fever	62	44.29	19.81
	Loose stool	81	57.86	25.88
	Vomiting	19	13.57	6.07
	Greenish stool	15	10.71	4.79
	Poor appetite	31	22.14	9.90
	Cough	2	1.43	0.64
	Undue crying	50	35.71	15.98
	Abdominal gripes	31	22.14	9.90
	Any other (gum irritation)	22	15.71	7.03
What do you give in teething? (Number of total responses = 118)				**N=118**
	Paracetamol	18	12.86	15.25
	Topical anaesthesia	5	3.57	4.24
	Refrigerated food	17	12.14	14.41
	Teether	48	34.29	40.68
	Herbs	5	3.57	4.24
	Saltwater	10	7.14	8.47
	Others	15	10.71	12.71
Information you got to handle teething (Number of total responses = 159)				**N=159**
	Mother	57	40.71	35.85
	Grandmother	10	7.14	6.29
	Friends	20	14.29	12.58
	From observation	24	17.14	15.09
	Nurse	2	1.43	1.26
	Doctor	42	30	26.42
	Paediatric dentist	4	2.86	2.51
Who will you prefer to take for teething (Number of total responses = 141)				**N=141**
	Doctor	57	40.71	40.42
	Paediatric dentist	51	36.43	36.17
	Nurse	1	0.71	0.71
	Herbalist	1	0.71	0.71
	Can handle	22	15.71	15.60
	Neighbour	5	3.57	3.55
	Grandmother	2	1.43	1.42
	Nobody	2	1.43	1.42
If there's diarrhoea in teething -remedy (Number of total responses = 152)				**N=152**
	Herbs	3	2.14	1.97
	Antidiarrhoeal	25	17.86	16.45
	Oral rehydration solution (ORS)	71	50.71	46.71
	Just wait	15	10.71	9.87
	Salt water	8	5.71	5.26
	Gripe water	11	7.86	7.24
	Any other	19	13.57	12.50

If there's fever in teething, remedy is (Number of total responses = 148)				**N=148**
	Herbs	2	1.43	1.35
	Paracetamol	116	82.86	78.38
	Balm /Vicks	7	5	4.73
	Tepid sponging	15	10.71	10.14
	Ibuprofen	1	0.71	0.67
	Nothing	7	5	4.73
If there's cough in teething, remedy is (Number of total responses = 151)				**N=151**
	Herbs	1	0.71	0.66
	Cough syrup	49	35.00	32.45
	Balm / Vicks	31	22.14	20.53
	Other antibiotics	2	1.43	1.33
	Home remedies	54	38.57	35.76
	Any other	14	10	9.27
If there is abdominal gripes, remedy is (Number of total responses = 120)				**N=120**
	Gripe water	21	15	17.50
	Salt water	25	17.86	20.83
	Antacids	10	7.14	8.33
	Herbs	13	9.29	10.84
	Any other	24	17.14	20
	Don't know	27	19.29	22.50

no, and 34 (24.29%) had no idea about it. Twenty-seven (19.29%) of parents did not know the exact remedy for abdominal gripes while 25 (17.86%) opted for salt water, gripe water was used by 21 (15%) (Table 3).

DISCUSSION

Teething is quite an important milestone in the development life cycle of a child. Yet, the myths and beliefs persist among the parents and caregivers hindering the prompt diagnosis and management of underlying serious illnesses.

When questioned about the age one expects a baby's teeth to start erupting, 44 (31.43%) parents said more than eight months which was as per the study done by Gupta et al.[14] which showed a delayed eruption of incisor teeth in Nepalese children. More than two-thirds of the participants (105, 75%) believed that the lower incisors erupt first similar to the study by Gupta et al.[14] There is agreement on the signs and symptoms that should not be attributed to teething. Teething does not cause systemic manifestations such as decreased appetite for liquids, congestion, sleep disturbances, diarrhoea/loose stools, vomiting, cough, body rash, or fever greater than 38.9°C.[15] Parents in this study incorrectly attributed teething with symptoms like loose stool 81 (57.86%), fever 62 (44.29%) while gum irritation considered to be a local symptom was seen only in 22 (15.71%). The belief of parents and some health professional that teething causes loose stool/diarrhoea could be seen in studies by Oziegbe et al.[16] (12.5%), by Elbur et al. [3] (83%), by El-Gilany et al.[1] (51%), by Wake et al.[17] (36%), by Uti et al.[10] (64%), by Noor-Mohammed and Basha[18] (8%) by Owais et al.[9] (71.8%) while 25.88% of parents of current study also believed in it. The initiation of crawling as a developmental milestone of baby coincides with start of tooth eruption (six months) where they put various objects as well as their dirty hands leading to diarrhoea which has been wrongly attributed to teething.

Association of fever was seen in various studies by Oziegbeet al.[16] 51.8%, by Wake et al.[17] 71.1%, by Uti et al.[10] 80.5%, by El-Gilany et al.[1] 83.2%, by Owais et al.[9] 84.9%, by Elbur et al.[3] 87%, to be more than this study (44.29%). Similar findings were seen by Noor-Mohammed and Basha[18] where 16% associated fever with teething. The timing of eruption of primary incisors (6-12 months) coincides with the diminution of the circulating maternal humoral immunity conferred via the placenta, and the

establishment of the child's own humoral immunity and most of the child are susceptible to myriad of relatively minor infections.[6] The cause of fever could be from various infections rather than teething which needs to be understood by parents in this study. American Academy of Paediatric Dentistry (AAPD)[19] suggests that treatment of teething symptoms include oral analgesics and chilled rings for the child to bite. Use of topical anaesthetics is discouraged by AAPD due to potential toxicity of these products in infants.

Regarding parents' practices to manage teething, it was seen that most of the parents (48, 34.29%) would prefer to give teether to their child followed by paracetamol (18, 12.86%), and refrigerated food by 17 (12.14%) which was seen to be as per the AAPD guidelines. Similar findings by Kakatkar et al.[12] was found for 33% of parents who gave chilled teething rings to their children while Elbur et al.[3] showed that 88% of the parents opted for chilled object.

Chewing a teether provides the pressure leading to temporary pain relief while the cold temperature of frozen foods/teethers cause local vasoconstriction reducing the inflammation leading to soothing effect. Yet 3.57% parents in the study still felt the need to use topical anaesthetics for teething indicating their lack of knowledge about its potential toxicity. Study done by Wake et al.[16] showed that paracetamol was used by 60% and teething gels by 55% while Kakatkar et al.[12] had 62.7% parents using systemic analgesic, 45.6% using topical analgesics which was high in context to this study. Treatment modalities opted by parents in case of fever was paracetamol (116, 82.86%), tepid sponging (15, 10.71%), and 7 (5%) would do nothing irrespective of fever. High temperature (higher than 39°C) should not be attributed to teething and should be investigated.[6,16] Even though the number was less in the study, it was alarming to see that they would do nothing for the fever. The conservative use of acetaminophen and ibuprofen can aid in the discomfort caused by teething. It is important that parents know the correct dosage for their children and maintain awareness of the differences between the infant drops and the regular suspension.[14]

Study done by Aldomirah et al.[13] showed the commonest treatments for diarrhoea were oral rehydration solution 88.9% similar to the current study by 71 (50.71%) parents. Mothers in the study done by Aldomirah et al.13 preferred cough syrups (70.2%) during cough while 54 (38.57%) parents in this study preferred home remedies. Mothers are always considered to be the primary caregivers to the children so 57 (40.71%) parents in the study opted mothers for information on teething. Though it was alarming to find 22 (15.71%) parents could handle symptoms associated with teething by themselves, majority of them opted for doctor 57 (40.71%) followed by paediatric dentist (51, 36.43%) which was in contrast to study done by Fernandes et al.[20] where 79% of mothers believed consultation to be unnecessary. As the study was done among parents coming to a tertiary care hospital, the findings cannot be generalised to whole population. Information and response bias are inevitable in questionnaire-based study hence adding to the limitations of the study.

CONCLUSION

Parents' attribution of systemic symptoms to teething shows their misconception emphasising the need for educational interventions and infant oral health promotion by the concerned medical and dental health professional.

ACKNOWLEDGEMENT

I would like to extend my heartfelt gratitude to parents enrolled in the study and Department of Pediatrics, Kathmandu Medical College and Teaching Hospital for their support.

Conflict of Interest: None.

REFERENCES

1. El-Gilany AH, Abusaad FES. Mothers' teething beliefs and treatment practices in Mansoura, Egypt. Saudi Dent J. 2017;29(4):144-8.
2. Indira MD, Nandlal B, Narayanappa D, Girish MS. Perception about teething among the nursing mothers of Mysore. J Int Med Dent. 2016;3(2):119-25.
3. Elbur AI, Yousif M, Albarraq AA, Abdallah MA. Parental knowledge and practices on infant teething, Taif, Saudi Arabia. BMC Res Notes. 2015;8(1):1-6.
4. Alshukairi H, Al Otaibi F, Al Garni R, Al Rushidan K, Al Ameri N, Al Arajah M, et al. Knowledge of the teething process and assessment of the relieving practices amongst mothers in Riyadh, Saudi Arabia. J Adv Med Dent Sci Res. 2020;8(6):62-5.
5. More SG, Sankeshwari R, Ankola AV. Exploring parental knowledge and indigenous practices for infant teething in indian population: A cross-sectional study. Int J Clin Pediatr. 2019;12(6):479-83.
6. McIntyre G, McIntyre G. Teething troubles? Br Dent J. 2002;192(5):251-5.
7. Ige OO, Olubukola PB. Teething myths among nursing mothers in a Nigerian community. Niger Med J. 2013;54(2):107-10.
8. Baykan Z, Sahin F, Beyazova U, Özçakar B, Baykan A. Experience of turkish parents about their infants' teething. Child Care Health Dev. 2004 Jul;30(4):331-6.
9. Owais A, Zawaideh F, Bataineh O. Challenging parents' myths regarding their children's teething. Int J Dent Hyg. 2010;8(1):28-34.
10. Uti O, Savage K, Ekanem E. Maternal beliefs about infant teething. J Prim Care Community Health. 2005;17(1):61-4.
11. Oziegbe EO, Esan TA, Adekoya-Sofowora CA, Folayan MO. A survey of teething beliefs and related practices among child healthcare workers in Ile-Ife, Nigeria. Oral Health Prev Dent. 2011;9(2):107-13.
12. 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(2):151-7.
13. Adimorah GN, Ubesie AC, Chinawa JM. Mothers' beliefs about infant teething in Enugu, South-east Nigeria: a cross sectional study. BMC Res Notes. 2011 Jul;4(1):228-32.
14. Gupta A, Hiremath SS, Singh SK, Poudyal S, Niraula SR, Baral DD, et al. Emergence of primary teeth in children of sunsari district of eastern nepal. Mcgill J Med. 2007 Jan;10(1):11-5.
15. Markman L. Teething: Facts and Fiction. Pediatr Rev. 2009; 30:59-64.
16. 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.
17. Wake M, Hesketh K, Allen MA. Parent beliefs about infant teething: A survey of Australian parents. J Paediatr Child Health. 1999;35:446-9.
18. Noor-Mohammed R, Basha S. Teething disturbances; prevalence of objective manifestations in children under age 4 months to 36 months. Med Oral Patol Oral Cir Bucal. 2012;17(3):e491.
19. American Academy of Pediatric Dentistry. Clinical Affairs Committee--Infant Oral Health Subcommittee. Guideline on infant oral health care. Pediatr Dent 2012;34:148-52.
20. Fernandes S, Goud S, Potdar S, Pujari SR. Teething beliefs and practices among a sub-urban population in india - A cross sectional study. Adv Hum Biol. 2013;3(2):19-25.