

# Teething Problems: Knowledge, Attitude and Intending Practice Among Clinical Medical Students in Bingham University Teaching Hospital, Jos

Maryam Shehu<sup>1,\*</sup>, Hassan Shehu<sup>2</sup>

<sup>1</sup>Department of Paediatrics, Bingham University Teaching Hospital, Jos, Nigeria

<sup>2</sup>Department of Surgery, Bingham University Teaching Hospital, Jos, Nigeria

## Email Address:

maryamshehu1405@gmail.com (M. Shehu)

\*Corresponding author

## To cite this article:

Maryam Shehu, Hassan Shehu. Teething Problems: Knowledge, Attitude and Intending Practice Among Clinical Medical Students in Bingham University Teaching Hospital, Jos. *American Journal of Pediatrics*. Vol. 4, No. 4, 2018, pp. 89-93. doi: 10.11648/j.ajp.20180404.13

Received: September 27, 2018; Accepted: October 12, 2018; Published: November 7, 2018

---

**Abstract:** Teething in children describes the period when deciduous teeth cut through the gum pads to appear in the oral cavity. Myths and controversies have been associated with this process. The main aim of this study is to find out the knowledge, attitude and intending practice on teething problems among clinical students in BHUTH, Jos. The sampling method was consecutive sampling of all the students until sample size was obtained. A total of 164 questionnaires were distributed and 164 were duly filled and returned. One hundred and sixty-four students were enrolled into the study. There were 103 (62.80%) females and 61 (37.20%) males with M:F ratio of 1:1.67. The knowledge about teeth eruption among the students was good in the definition of teething with 111 (76.7%) getting the correct answer. The knowledge on the total number of milk teeth was the worst with only 24 (14.6%) getting the correct answer. One hundred and thirty-five (82.3) agreed that teething causes irritability and lack of sleep in infants, 113 (69.0%) agreed that teething is also associated with drooling. Only 15 (9.2%) agreed that symptoms seen during tooth eruption are coincidental. The highest source of information about teething was from teachings (34.2%), with the least being from grandparents (2.7%). Of the 849 multiple responses on the symptoms of teething gotten from sources apart from teaching or lectures; 124 (14.6%) associated excessive crying with teething, closely followed by diarrhea with 117 (13.8%); while 7 (0.8%) of the responses associated convulsion with teething. Excessive crying was the highest symptom that the students, 127 (25.3%) of the 222 multiple responses, believed to be associated with teething. Vomiting was the lowest with 44 (8.8%). The attitude of the students towards having lectures/teachings/presentations on teething was good with 161 (98.2%) of the students agreeing to the need of teaching on teething. The intending practice on teething by the students was good with 108 (50.0%) of the 216 multiple responses saying they will send the children with symptoms of teething to see a paediatrician. One hundred (61.0%) will not give pacifiers to children with symptoms of teething, while 64 (39.0%) will give pacifiers to children with symptoms of teething. There are still a lot of controversies about the symptoms associated with teething, therefore the need to educate medical students about teething, so they can help in giving out the correct information about teething.

**Keywords:** Knowledge, Teething, Clinical, Medical, Students, Jos

---

## 1. Introduction

Teething in children describes the period when deciduous teeth cut through the gum pads to appear in the oral cavity, which usually begins around 4-10 months after birth with further eruption progressing at the rate of approximately one new tooth per month [1]. Deciduous teeth start developing during the fourth to sixth week intra-uterine life and

mineralization begins in the fourteenth week in utero [2]. Teething according to Jablonski [3] is the entire process, which results in the eruption of the teeth.

Teething occurs usually between 6-36 months during the period of emergence of primary dentition [4]. Tooth eruptions differs according to genetic factors, gender, race, nutritional status, gestational age of child, and birth weight [5]. Myths and controversies have been associated with this process.

There is contradicting evidence on the association of teething with systemic illnesses [6].

Usually eruption of the teeth causes little or no distress to children. Teething is described as a harmless, normal physiological phenomenon [7]. Reports on local and systemic signs and symptoms associated with teething appeared as far back as the 5th century [8]. In Nigeria, several cultures associate teething with systemic symptoms such as drooling of saliva, vomiting, fever, and diarrhea [9].

Traditional beliefs also strongly associate specific symptoms with periods of teething in children. Some symptoms that had been associated with teething in children include fever, diarrhoea, general irritability, drooling of saliva, sleep disturbance, and ear infection [10]. Others include pain, inflammation of the mucous membrane overlying the tooth, facial flushing/circumoral rash, gum rubbing/biting/sucking, constipation and loss of appetite/alteration of volume of fluid intake [11].

Many communities especially in Africa have long engaged in traditional practices among them canine tooth bud enucleation, lacing of gums, and a variety of herbal treatment for management of teething associated ailments [2]. Most of these practices like the tooth bud enucleation often use crude, unsterilized items and without anaesthesia. These practices have been associated with severe adverse outcomes including hemorrhage, sepsis and death [12, 13].

Unfortunately, the normal developmental process makes interpretation of research on teething particularly challenging. Although various authors have tried to explain why some infants have symptoms like slight increase in temperature, gum swelling, drooling, diarrhea and vomiting, during the period of teething. Some authors have explained that the penetration of the gums by the teeth leads to the release of inflammatory mediators like eicosanoids, cytokines and other growth factors (5). Others explained that the normal developmental processes in a child seems to correlate with tooth eruption and therefore parents are bound to associate these with symptoms of teething.

The functioning of salivary gland that occurs at about two to three months of age which contributes to constant drooling, is one example that mothers may misinterpret as a sign of teething [7]. The change in sleep pattern around eight or nine months of age when infants develop a sense of object permanence and call out to their parents is another normal developmental event that mothers also assume is a symptom of teething [7].

When the deciduous teeth are about to erupt at about the age of six months, maternal antibodies upon which young children depend begins to decrease while they build up their own antibodies which are not yet sufficient to defend them against

infections [7, 14]. This makes them prone to a lot of common infectious diseases. Furthermore, this same age is when children begin to crawl and place unclean objects in their mouths which can introduce pathogens into their bodies and may lead to gastrointestinal disturbances such as diarrhea, and vomiting with an associated increase in temperature [7, 14, 15].

Studies have demonstrated that a lot of severe symptoms have been attributed to teething, which is detrimental to the child's health, as these symptoms could be due to a disease [10, 11, 16-18]. All these notwithstanding, there are lots of misconceptions from parents, caregivers, and even healthcare professionals despite evidences to the contrary [11, 19-22]. Some Health professionals believe that a lot of systemic symptoms are associated with teething and they at times give incorrect advice and medications for teething [11, 14, 19].

In order to avoid missing a more life-threatening condition, it is advised that healthcare givers should regard teething as a diagnosis of exclusion to be made with caution. This study was designed to determine the knowledge, attitude and intending practice among clinical medical students on teething problems in BHUTH, Jos.

## 2. Methods and Materials

The study was a cross-sectional descriptive study. A self-designed semi-structured questionnaire was administered to the students who fulfilled the criteria and consented to the study. The sampling method was consecutive sampling of all the students until sample size was obtained. The proposal for this study was approved by the Ethical Committee of the Teaching Hospital. A total of 164 questionnaires were administered. The data was entered into SPSS statistical package version 20 and analyzed. Frequency tables and charts were drawn to show the awareness, knowledge, and intending practice of the students on teething problems.

## 3. Results

One hundred and sixty-four students were enrolled into the study. There were 103 (62.80%) females and 61 (37.20%) males with M: F ratio of 1:1.67.

The knowledge about teeth eruption among the students was good in the definition of teething with 111 (76.7%) getting the correct answer, 40 (24.4%) wrong and 13 (7.95) not knowing the answer. The knowledge on the total number of milk teeth was the worst with only 24 (14.6%) getting the correct answer, 94 (57.3%) wrong, and 46 (28.15) not knowing the answer.

*Table 1. Knowledge about teeth eruption.*

Knowledge about teeth eruption	C (%)	W (%)	D (%)
Teething describes permanent tooth eruption in children	111 (76.7)	40 (24.4)	13 (7.9)
Teething occurs between the 5-6months in children	113 (68.9)	20 (12.2)	31 (18.9)
1 <sup>st</sup> tooth to appear is lower canine	84 (51.2)	34 (20.7)	46 (28.1)
2 <sup>nd</sup> tooth to appear is upper incisor	58 (35.4)	40 (24.4)	66 (40.2)
The total number of milk teeth are 24	24 (14.6)	94 (57.3)	46 (28.1)
Children complete their milk teeth by 24months	62 (37.8)	42 (25.6)	60 (36.6)

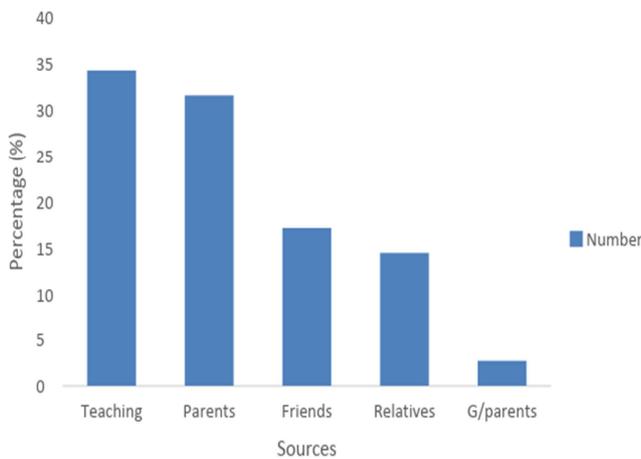
C= correct, W= wrong, D= I don't know.

One hundred and thirty- five (82.3) agreed that teething causes irritability and lack of sleep in infant, one hundred and thirteen (69.0%) agreed that teething is also associated with

drooling. Only fifteen (9.2%) agreed that symptoms seen during tooth eruption are coincidental.

**Table 2.** Knowledge about the symptoms associated with teething.

Knowledge about the symptoms associated with teething	Agree (%)	Disagree (%)	D (%)
Teething is a normal physiologic process and so its painless	30 (18.3)	117 (71.3)	17 (10.4)
Teething causes diarrhoea in infants	102 (62.2)	43 (26.2)	19 (11.6)
Teething causes high grade fever	75 (45.7)	56 (34.2)	33 (20.1)
Teething causes irritability and lack of sleep in infants	135 (82.3)	11 (6.7)	18 (11.0)
The process of teething is painful	107 (65.2)	31 (18.9)	26 (15.9)
Teething causes ear pain in infants	107 (65.2)	37 (22.6)	86 (52.4)
Teething causes drooling and gum swelling in infants	113 (69.0)	12 (7.3)	40 (23.7)
Tooth eruption before 3 months is a sign of wisdom	3 (1.83)	124 (75.6)	37 (22.6)
Symptoms seen during teething is due to tooth eruption	38 (23.2)	23 (14.0)	102 (62.2)
Symptoms seen during tooth eruption are coincidental	15 (9.2)	31 (18.9)	119 (72.6)



**Figure 1.** Sources of information.

The highest source of information about teething was from teachings (34.2%), closely followed by parents (31.5%), with the least being from grandparents (2.7%).

Of the 849 multiple responses on the symptoms of teething gotten from sources apart from teaching or lectures, 124 (14.6%) associated excessive crying with teething, closely followed by diarrhea with 117 (13.8%); while 7 (0.8%) of the responses associated convulsion with teething.

**Table 3.** Symptoms of teething gotten from informal sources.

Symptoms	Number (%)
Excessive crying	124 (14.6)
Diarrhoea	117 (13.8)
Pain	115 (13.5)
High grade fever	114 (13.4)
Drooling	93 (11.0)
Gum swelling	91 (10.7)
Loss of appetite	85 (10.0)
Vomiting	66 (7.8)
Convulsion	7 (0.8)
Others	1 (0.1)

Excessive crying was the highest symptom that the students, 127 (25.3%) of the 222 multiple responses, believed is associated with teething. Vomiting was the lowest with 44

(8.8%).

**Table 4.** Beliefs of the students about symptoms associated with teething.

Symptoms	Number (%)
Excessive crying	127 (25.3)
High grade fever	95 (18.9)
Pain	87 (17.3)
Drooling	79 (15.7)
Diarrhoea	69 (13.7)
Vomiting	44 (8.8)
others	1 (0.2)

The attitude of the students towards having lectures/teachings/presentations on teething was good with 161 (98.2%) of the students agreeing to the need of teaching on teething.

**Table 5.** There should be Teaching on Teething.

There should be teachings on teething	Number (%)
Yes	161 (98.2)
No	3 (1.8)

The intending practice on teething by the students was good with 108 (50.0%) of the 216 multiple responses saying they will send their children to see a paediatrician when the children have symptoms of teething. None of the students will give traditional medication to the babies with symptoms of teething.

**Table 6.** What I will do when I see children with symptoms of teething.

What I will do when I see children with symptoms of teething	Numbers (%)
Send the child to see a paediatrician	108 (50.0)
Give the child PCM	47 (21.8)
Do nothing because it is self-limiting	31 (14.4)
Send the child to see a dentist	21 (9.7)
Give the child teething gels	8 (3.7)
Send the child to see any health worker	1 (0.5)
Give traditional medications	0 (0.0)

One hundred (61.0%) will not give pacifiers to children with symptoms of teething, while 64 (39.0%) will give pacifiers to children with symptoms of teething.

**Table 7.** I will give pacifiers when there are symptoms of teething.

I will give pacifiers when there are symptoms of teething	Numbers (%)
Yes	64 (39.0)
No	100 (1.0)

## 4. Discussion

Knowledge about the definition of milk tooth was very good in this study with greater than two-thirds of the students getting the correct definition. This is expected because they have been taught about milk tooth as science students right from secondary school. However, the knowledge about the name of the second tooth to erupt and total number of milk teeth were very poor with less than fifteen percent knowing the total number of milk teeth in infants. The reason could be because there is no formal lecture schedule on teething, some of the students have not done paediatrics posting where they are expected to know about growth and development of infants which includes tooth eruption.

The source of information about the symptoms of teething was gotten from teachings, closely followed by parents. This is expected as they are university students that have been taught about teething right from secondary school. They get teachings from lectures, seminars presentations and conferences. The findings can be compared to that gotten by Aliyu et al [19], where the highest source of information about teething among medical doctors was gotten from teaching closely followed by parents.

The knowledge about the symptoms associated with teething was diverse, with over sixty percent of the students agreeing that pain, ear pain, diarrhea, drooling and swollen gums are symptoms associated with teething. About 50 percent associated teething with high grade fever. Less than 20 percent agreed that teething is a physiological process and so should be painless. A plausible explanation for this could be because there are a lot of controversies about the symptoms associated with teething, from various studies by Baykan Z et al [1], Markman L [15], Wake M [20], Macknin ML et al [22] and Eisenstadt M et al [23].

The symptoms of teething gotten from other sources apart from lectures showed that apart from the earlier mentioned symptoms, excessive crying, vomiting, loss of appetite, and even convulsions were also taught to be associated with teething. This could be explained by the fact that the sources of information were diverse which included parents, relatives, friends, and grandparents. This is similar to what was gotten by Ige O et al [16], where serious systemic symptoms were attributed to teething.

Symptoms of High-grade fever, vomiting, diarrhoea, pain, drooling and excessive crying were believed by the students to be associated with teething; while none of the students believed that convulsion was associated with teething. This could be explained by the various sources through which they got their knowledge from. This is not so different from that gotten by Aliyu et al and Wake et al [19, 11] among medical doctors and other healthcare professionals respectively.

The intending practice on teething among the medical students was good, with 50 percent agreeing to send children with symptoms of teething to see a paediatrician, and over 60 percent affirming that they will not use pacifiers. This will help in preventing the attribution of serious systemic symptoms to teething. The study done in Turkey by Baykan et al [1] found that some of the children who came with symptoms attributed to teething actually have bacterial infections and needed to be treated with antibiotics.

## 5. Conclusion

The students' knowledge on the definition of teething tooth was good. The major sources of information about the symptoms of teething were from teachings, followed by parents. The commonest symptoms believed by the students to be associated with teething includes excessive crying, high grade fever and pain. The intending practice on teething by the students was fair because fifty percent of them will send children with symptoms of teething to see a paediatrician. However, there is need to educate the students about the physiological process associated with teething so that they will be able to explain the common symptoms that occur during teething.

## References

- [1] Baykan Z, Sahin F, Bayazova U, Ozçakar BB. Experience of Turkish parents about their infants' teething. *Child Care Health Dev* 2004; 30:331-6.
- [2] Mutave RJ. Effect of posters and mobile-health education strategies on teething beliefs and oral health knowledge among mothers in Nairobi. in *Department of Periodontology/Community and Preventive Dentistry, University of Nairobi*. 2015: Nairobi.
- [3] Krogman WM. *Illustrated dictionary of dentistry*. By S. Jablonski. Philadelphia: W. B. Saunders. 1982. [cited 2018 Sep 22] Available from: <http://doi.wiley.com/10.1002/ajpa.1330600317>.
- [4] Soliman NL, El-Zainy MA, Hassan RM, R. M A. Timing of deciduous teeth emergence in Egyptian children. *East Mediterr Health J* 2011; 17:875-81.
- [5] Suri L, Gagari E, Vastardis H. Delayed tooth eruption: pathogenesis, diagnosis and treatment. A literature review. *Am J Orthod Dentofacial orthop* 2004; 126:432-45.
- [6] Tsang AKL. Teething, teething pain and teething remedies. *Int Dentistry SA* 2010; 12:48-61.
- [7] Anderson JE. "Nothing but the tooth": Dispelling myths about teething. *Contemporary Pediatrics* 2004;21:75-80.
- [8] Guerini V. *A history of dentistry from ancient times until end of eighteenth century*. 1909, Lea and Febiger: Philadelphia, New York.
- [9] Jaber L, Cohen IJ, Mor A. Fever associated with teething. *Arch Dis Child* [Internet]. 1992 Feb [cited 2018 Sep 22]; 67(2):233-4. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/1543387>.

- [10] Sarrell EM, Horev Z, Cohen Z, H. A. C. Parents' and medical personnel's beliefs about infant teething. *Patient Educ Couns* 2005; 57:122-5.
- [11] Wake M, Hesketh K. Teething symptoms: Cross sectional survey of five groups of child health professionals. *BMJ* 2002; 325:814.
- [12] Hassanali J, Amwayi P, Muriithi A. Removal of deciduous canine tooth buds in Kenyan rural Maasai. *East Afr Med J* 1995; 72:207-9.
- [13] Wandera MN, Kasumba B. "Ebinyo"—The Practice of Infant Oral Mutilation in Uganda. *Front Public Heal* 2017;5:167.
- [14] Denloye O, Bankole OO, Aderinokun GA. Teething myths among community health officers. *Odontostomatol Trop* 2005; 28:19-22.
- [15] Markman L. Teething: facts and fiction. *Paediatr. Rev* 2009; 30:59-64.
- [16] Ige OO, Olubukola PB. Teething myths among nursing mothers in a Nigerian community. *Niger Med J* 2013;54:107-10.
- [17] Oziegbe EO, Folayan MO, Comfort, Adekoya-Sofowora A, Esan TA, Owotade FJ. Teething Problems and Parental Beliefs in Nigeria. *J Contemp Dental Pract* 2009; 10:1-9.
- [18] Paul NI, Fatoki OP. Mothers Perception of Teething in Children. *Niger J Heal* 2014; 14:1-5.
- [19] Aliyu, Duru C, Lawal T. Knowledge, attitude, and perception of teething myths among medical doctors in Nigerian hospitals. *J Med Investig Pract* 2014; 9:144-9.
- [20] Wake M, Hesketh K, Lucas J. Teething and tooth eruption in infants: A cohort study. *Pediatrics* 2000; 106:1374-9.
- [21] Aliyu I, Adewale A, Teslim LO. Teething myths among nursing mothers in North-Western Nigeria. *Med J Dr DY Patil Univ* 2015; 8:144-8.
- [22] Macknin ML, Piedmonte M, Jacob s J, Skibinski C. Symptoms associated with infant teething: a prospective study. *Pediatrics* 2000; 105:747-52.
- [23] Eisenstadt M, Malkiel S, Pollak U. It's Alright, Ma (I 'm only Teething.) *Dispelling the Myth from the Teeth.* 2017;3:1-5.