

Türkiye’de Annelerin Çocukların Diş Çıkarma Döneminde Kullandıkları Farmakolojik ve Geleneksel Yöntemler

The Pharmacological and Traditional Methods Used by Mothers in Turkey during Teething Period

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ÖZ

Amaç: Bu araştırmanın amacı annelerin çocuklarının diş çıkarma döneminde kullandığı farmakolojik ya da geleneksel yöntemleri belirlemektir.

Yöntem: Bu tanımlayıcı ve kesitsel araştırma 383 anne ile gerçekleştirildi. Veriler araştırmacılar tarafından oluşturulan web tabanlı anket ile toplandı.

Bulgular: Annelerin yaşı ortalama 31.08±6.04 (19-53) çocuklar ise ortalama 19.19±11.50 (4-36) aylıktı. Çocuklar ortalama 7.25±2.14 (4-10) aylıkken diş çıkardı. Annelerin %74.2’si çocukları diş çıkarırken en az bir sorun yaşamıştı. Annelerin çocukları diş çıkarma sürecindeki şikayetlerini gidermek için geleneksel yöntem kullanma oranı %64.8 idi. Kullanılan geleneksel yöntemle bağlı çocukta yarar görülme oranı %57.7, komplikasyon görülme oranı ise %33.7’ydi. Annelerin çocukları diş çıkarma sürecindeki şikayetleri gidermek için ilaç kullanma oranı %51.7 idi. Kullanılan ilaca bağlı çocukta herhangi bir yarar görülme oranı %57.7, komplikasyon görülme oranı ise %8.9’du. Çocuklarda kullanılan ilaca bağlı olarak huzursuzluk (%5.0), salya artışı (%2.6) ve ilaca bağlı yan etki (%1.3) görülmüştü. İlkokul mezunu annelerin çocuklarında üniversite mezunu annelerin çocuklarına göre ilaca bağlı daha yüksek oranda komplikasyon görüldüğü belirlendi (%48.1; %11.5; p=0.002). Diş çıkarma dönemindeki şikayetleri gidermek için sağlık personelinin eğitim alan anneler televizyon ve internetten bilgi edinen annelere göre daha yüksek oranda ilaç kullanmaktaydı (%86.9; %18.7; p=0.008).

Sonuç: Diş çıkarma dönemindeki şikayetlerini gidermek için geleneksel yöntem kullanan çocuklarda kullanılan yöntemle ilişkin daha çok komplikasyon görülmektedir. Çocukların diş çıkarma dönemlerinin sıkıntısız bir şekilde geçirebilmesi için annelerin diş hekimleri ve diğer sağlık personellerinden destek almaları önemlidir.

Anahtar Kelimeler: Diş Çıkarma, Semptom ve Belirtiler, Çocuklar, Anneler.

ABSTRACT

Objective: The aim of this study is to determine the pharmacological or traditional methods used by mothers during the teething period of their children.

Methods: This descriptive and cross-sectional study was conducted with 383 mothers. Data were collected with a web-based questionnaire created by the researchers.

Results: The mean age of the mothers was 31.08±6.04 (19-53) and the children were 19.19±11.50 (4-36) months on average. Children erupted at a mean age of 7.25±2.14 (4-10) months. 74.2% of the mothers had at least one problem while teething their children. The rate of mothers using traditional methods to resolve complaints during teething was 64.8%. Depending on the traditional method used, the rate of benefit for the child was 57.7%, and the rate of harm was 33.7%. The rate of use of

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Yazar Katkıları: A) Fikir/Kavram, B) Tasarım, C) Veri Toplama ve/veya İşleme, D) Analiz ve/veya Yorum, E) Literatür Taraması, F) Makale Yazımı, G) Eleştirel İnceleme

medication by mothers to resolve complaints during teething was 51.7%. The rate of any benefit in the child due to the drug used was 57.7%, and the rate of complications was 8.9%. Drug-related harms in children were restlessness, increased salivation, and drug-related side effects, respectively. It was determined that the children of primary school graduate mothers had a higher rate of drug-related harm than the children of university graduate mothers (48.1%; 11.5%; $p=0.002$). Mothers who received training from health personnel to resolve complaints during teething were using drugs at a higher rate than mothers who received information from television and the internet (86.9%; 18.7%; $p=0.008$).

Conclusion: There are more complications in the method used in children who use traditional methods to resolve their teething complaints. It is important for mothers to get support from nurses in order for children to have a trouble-free teething period.

Key words: Teething, Symptoms and Signs, Children, Mothers.

1. INTRODUCTION

Teething that the parents and healthcare professionals care about is a significant milestone in the development of child. Teething usually initiates around six months and lasts until the age of three (1). Although teething is a physiological process of childhood development, it may create some discomfort for the child and their family (2,3). Today, in many cultures, symptoms and signs experienced during teething continue to be perceived as the cause of a wide variety of health problems in children (4).

Symptoms and signs associated with teething vary from child to child and they may be local or systemic (5). Local symptoms of teething can be counted as gum rubbing, irritation, rashes, thumb sucking and biting whereas systemic symptoms are loss of appetite, drooling, pain, crying, diarrhoea, fever, runny nose, conjunctivitis, sleep disorders, ear infection, restlessness and facial rashes (5–7). Signs and symptoms viewed on children due to teething and dental health problems can be an important source of anxiety for parents. These signs and symptoms may cause greater anxiety if parents experience the teething period for the first time (8).

Signs and symptoms associated with teething in children can be managed with pharmacological and non-pharmacological methods. However, there is not enough evidence for the effectiveness of these methods. Improper practices during the teething period can prevent early and prompt diagnosis and treatment of oral health problems. Effectiveness of many methods used by parents to alleviate the pain of their children during the teething period still has not been proved so they lack medical support (1). Unless the false beliefs of mothers, which are used in teething period and effectiveness of which are not proved yet, are evaluated and tried to be corrected, they are unlikely to change (4). Therefore, the purpose of this study is to determine the pharmacological and traditional methods that mothers use during the teething period of their children. In line with this general purpose, the research questions are as follows:

- Do the pharmacological and traditional methods used by mothers during the teething period of their children help to prevent complaints?
- Is there a difference in using the pharmacological and traditional methods during the teething period according to the education level of the mothers?
- Is there a difference in using the pharmacological and traditional methods during the teething period according to the information sources of the mothers?

2. MATERIALS AND METHODS

Study Design and Participants

This descriptive and cross-sectional study was carried out with 383 mothers living in Zonguldak. The sample, with unknown universe sample calculation formula $n = \frac{t^2pq}{d^2}$ (5% margin of error, 95% confidence interval) was calculated as 383 mothers. The mothers were given information about the purpose and benefits of the study and their consents were obtained. Inclusion criteria of the mothers in the study are as follows: (1) Having a child between the ages of 0-3, and (2) Having a desire to participate in the research.

The distribution of demographic characteristics of mothers and children is presented in Table 1. The mean age of the mothers was 31.08 ± 6.04 (19-53) and the mean age of the children was 19.19 ± 11.50 (4-36) months. 51.2% of the mothers were university graduates and 50.1% were unemployed (Table 1).

Table 1. Demographic Characteristics of Mothers and Children

	Mean ± SD	Min - Max
Mother's age	31.08 ± 6.04	19-53
Child's age (months)	19.19 ± 11.50	4-36
	n	%
Educational status of mother		
Primary School	60	15.7
High School	98	25.6
University	196	51.2
Postgraduate	29	7.6
Working Status of mother		
Unemployed	192	50.1
Employed	191	49.9
Total	383	100.0

Data Collection

The researchers went to three family health centers in person to implement the data collection tool during the research process. The data was collected with a questionnaire form prepared by the researchers based on the literature (8–10) between 1st February and 31st November, 2020. A questionnaire form, prepared in accordance with the literature and consisting of 19 open and closed-ended questions about the socio-demographic characteristics of the mothers, the symptoms of teething, the effects of the pharmacological and traditional methods used by mothers to deal with them was used in the data collection. Data collection was based on the voluntary participation of the people included in the study. The purpose of the study was clearly explained to the mothers and they were informed that all data would be safely kept, and their consent was obtained.

Data Analysis

The data obtained within the scope of the study were evaluated with the Statistical Package for the Social Sciences (SPSS) for Windows 22.0 statistical program. Descriptive data are indicated by number, percentage, mean and standard deviation. Chi-square test was used in the analysis of the responses given by mothers to the questions in the questionnaire, in the distribution of numbers and in the evaluation of correlations between the variables. The reasons

for the differences were determined with the Fisher Exact test. Statistical significance level was accepted as <0.05.

3. RESULTS

Children had teething when they were 7.25 ± 2.14 (4-10) months. 74.2% of the mothers had troubles with teething. Most of the mothers having troubles with teething stated that their children felt discomfort (14.6%) and drooling (14.6%) most. 49.6% of them stated that they received support from health staff while looking for a solution (Table 2).

Table 2. Distribution of Children's Teething Characteristics

	Mean ± SD	Min - Max
Children's teething period (month)	7.25 ± 2.14	4-10 (month)
	n	%
Having any troubles during teething		
Yes	284	74.2
No	99	25.8
Troubles with teething		
Dry cough	18	1.1
Restlessness	248	14.6
Sleep disorder	194	11.4
Gum inflammation	25	1.5
Gum pain	108	6.4
Drooling	248	14.6
Fever	207	12.2
Diarrhoea	98	5.8
Circumoral Rash	195	11.5
Increased biting / chewing	187	11.0
Loss of appetite	131	7.7
Reluctance to solid foods	38	2.2
Your source of support while managing the troubles with the child's teething		
Healthcare staff	269	49.6
Elders of families	178	32.8
Television, Internet	95	17.6

The rate of mothers using traditional methods to manage troubles with teething was 64.8%. The most common traditional methods used by mothers were teething rings (toys) (38.5%), frozen and hard fruit and vegetables (27.1%), and massaging gums with a finger / cloth (14.3%), respectively. The rate of seeing any benefits in the child depending on the traditional method was 57.7% and the rate of harm was 33.7%. The most common harm depending on the product used as a traditional method was product-related side effect (24.5%) (Table 3).

The rate of mothers using pharmacological methods to deal with the troubles with teething children was 51.7%. The most commonly used pharmacological methods were dental gels / creams (47.3%) with analgesic properties and pain relief and antipyretic syrups (49.0%), respectively. The rate of seeing any benefits in the child thanks to the pharmacological method was 57.7% and the rate of harm was 8.9%. Feeling discomfort (5.0%), increased drooling

(2.6%) and pharmacological methods-related side effect (1.3%) were experienced by children associated with pharmacological methods used (Table 3).

Table 4 shows the differences between the methods used by mothers during the teething period and their effects according to the educational level of mothers. There was a significant difference in the rate of any harms in the child due to the pharmacological method used according to the educational level of mothers ($p=0.038$). The children whose mothers were primary school graduates had a higher rate of harm due to the pharmacological methods used than those whose mothers were university graduates (48.1%; 11.5%; $p=0.002$) (Table 4).

Table 3. Practices Used by Mothers while Teething Children and Distribution of Their Effects

	n	%
The use of traditional methods to manage troubles during teething	248	64.8
Traditional methods used for managing troubles during teething		
Massaging gums with finger / cloth	100	14.3
Teething ring (toy)	269	38.5
Giving frozen and hard fruits and vegetables (such as carrots, cucumbers)	189	27.1
Tooth (Amber) necklace	49	7.0
Tea tree oil	3	0.4
Clove oil	16	2.3
Natural licorice (unsweetened)	1	0.1
Fennel / fennel tea	27	3.9
Olive oil	12	1.7
Ginger	7	1.0
Chamomile tea	12	1.7
Black mulberry juice / black mulberry molasses	11	1.6
Royal jelly / pollen (propolis)	2	0.3
Any benefits seen in the child thanks to the traditional methods used	221	57.7
Any complications seen in the child due to the traditional methods used	129	33.7
Complications seen in the child due to traditional methods used		
Restlessness	11	2.9
Increased drooling	24	6.3
Product-related side effect	94	24.5
Use of pharmacological methods to deal with the troubles experienced during teething	198	51.7
Pharmacological methods used to deal with the troubles during teething*		
Dental gels / creams with pain relief properties (such as Calgel)	138	47.3
Pain relief, antipyretic syrup (such as paracetamol)	143	49.0
Tetagal (tooth granule / powder)	11	3.8
Any benefits seen in the child thanks to the pharmacological methods used	221	57.7
Any harms seen in the child due to the pharmacological methods used	34	8.9
Complications seen in the child due to the pharmacological methods used*		
Restlessness	19	5.0
Increased drooling	10	2.6
Medicine-related side effect	5	1.3

* More than one option has been marked

Table 5 shows the differences between the methods used by mothers during the teething period and their effects according to practice resources of mothers. There was a significant difference between the rates of using pharmacological methods to deal with the troubles with teething according to practice sources of mothers ($p<0.001$). The mothers who received training

from health staff used a pharmacological method at a higher rate than those who obtained information from television and internet (86.9%; 18.7%; $p=0.008$) (Table 5)

Table 4. According to the Educational Level of Mothers, the Distribution between the Methods Used by Mothers during the Teething Period and Their Effects

	Educational level of mothers							
	Primary School (1)		High School (2)		University (3)		Postgraduate (4)	
	n	%	n	%	n	%	n	%
The use of traditional methods to deal with the troubles during teething	139	56.0	56	22.6	37	14.9	16	6.5
Significance *					$p=0.182$			
Post hoc**					-			
Any harms seen in the child due to traditional methods used	80	32.2	78	31.5	62	25.0	28	11.3
Significance *					$p=0.154$			
Post hoc**					-			
Use of medicines to deal with the troubles during teething	35	17.7	56	28.3	91	46.0	16	8.1
Significance *					$p=0.421$			
Post hoc**					-			
Any harms seen in the child due to the medicine used	25	48.1	12	23.1	6	11.5	9	17.3
Significance *					$p=0.038$			
Post hoc**					1-3 ($p=0.002$)			

* Chi-Square Test, and Statistical significance values ($p<0.05$) are given in bold **Post hoc: Fisher exact test.

Table 5. According to Information Resources of Mothers, the Differences Between the Methods Used by Mothers During the Teething Period and Their Effects

	Practice resources of mothers					
	Health staff (1)		Family elders (2)		Television, Internet (3)	
	n	%	n	%	n	%
The use of traditional methods to deal with the troubles during teething	169	68.4	128	51.8	74	30.0
Significance*					$p=0.215$	
Post hoc**					-	
Any harms seen in the child due to the traditional methods used	112	45.1	105	42.3	31	12.6
Significance*					$p=0.361$	
Post hoc**					-	
The use of medicines to deal with the troubles with teething children	172	86.9	62	31.3	37	18.7
Significance *					$p<0.001$	
Post hoc**					1-3 ($p=0.008$)	
Any harms seen in the child due to the medicine used	33	63.5	23	44.2	16	30.8
Significance *					$p=0.124$	
Post hoc**					-	

** Chi-Square Test, and Statistical significance values ($p < 0.05$) are given in bold **Post hoc: Fisher exact test.

4. DISCUSSION

This research was carried out to determine the pharmacological and traditional methods used by mothers during the teething period of their children. The Most mothers had problems with teething. The mothers used both traditional (64.8%) and pharmacological (51.7%) methods to deal with the problems they experienced.

In this study, 74.2% of the mothers had some troubles during teething children. Most of the mothers who had troubles stated that their children had felt discomfort (14.6%) and increased drooling (14.6%). Drooling and restlessness are the most common signs and symptoms during teething period (5,6). In the study conducted by Obiajuru et al. (9), it was reported that during the teething period, children had increased drooling (8.7%), vomiting (8.9%), anorexia (9.1%), bad breath (10%), gum inflammation (13.9%), irritability (16.2%), gum itching (18.5%), fever (23.3%) and diarrhoea (24.2%). In this study, the rate of mothers using traditional methods to deal with the troubles during the teething period was 64.8%. The most common traditional methods were teething rings (toys) (38.5%), frozen and hard fruit and vegetables (27.1%), and massaging gums with a finger/ cloth (14.3%), respectively. During the teething period of children, massaging the gums of children with a clean and cold cloth, rubbing their gums with dental gels before feeding them, giving them teething rings or frozen vegetables (carrot, etc.) to massage on their gums, using tea tree and clove oil-based ointments, herbal formulations, aromatherapy reduce the pain of the children, relieve them and help them manage this period more comfortably (10).

The rate of any harm in the child due to the traditional method used by mothers was 33.7%. The rate of any harm in the child due to the pharmacological methods used by mothers was 8.9%. In other words, the mothers using traditional methods gave their children harm at a higher rate. Women in developing countries tend to adopt cultural alternative practices to seek solutions to health problems, especially when they think that pharmacological method may not be sufficient itself or when they have economic difficulties and difficulty in accessing health services in rural areas. Traditional methods learnt from adults are used with the idea that it can be an alternative method (11). The mothers with low educational levels use traditional practices that are likely to harm the child at a higher rate (12).

The rate of mothers using pharmacological methods to deal with the troubles during teething was 51.7%. The most commonly used pharmacological methods were dental gels/ creams (47.3%) with analgesic properties and pain relief and antipyretic syrups (49.0%), respectively. In the study by El-Gilany and Abusaad (13), only 13.6% of the mothers did not give any treatments for teething symptoms, and the most common treatments were analgesics/ antipyretics (71.3%) and antibiotics (24.3%) in Egypt. In another study, 74.4% of the mothers used teething syrup to relieve teething symptoms in Nigeria (10).

In this study, the mothers who graduated from primary school gave harm to their children at a higher rate than those who were university graduates (48.1%; 11.5%; $p = 0.002$). Although there is no evidence about the effectiveness of pharmacological methods used during teething, 9 out of 14 licensed products in the United Kingdom have been reported to contain one or more products that may adversely affect dental health, such as sucrose, alcohol or

lidocaine (14). Therefore, mothers' level of education and knowledge are important especially in the use of pharmacological methods (15).

In this study, 49.6% of the mothers who experienced symptoms and signs during the teething period of their children reported that they received support from healthcare staff while seeking for a solution. In the study by Adam and Abhulimhen-Iyoha (10), mothers (62.5%) most frequently visited health institutions during the teething period of their children. The traditional method may not be sufficient in the management of symptoms such as fever and diarrhoea during the teething period of children. Families may prefer to use pharmacological methods so that these symptoms do not cause further discomfort in the child (16,17). However, while using medication, it is necessary to get support from healthcare staff in order to take the right pharmacological method at the right dosage and to keep it under correct storage conditions (18,19). Related to this situation, another result of this study is that the mothers who received education from healthcare staff used pharmacological methods at a higher rate than those who got information from television and internet (86.9%; 18.7%; $p=0.008$). Pharmacological methods are desired to be used in line with the recommendations of healthcare professionals. It is thought that side effects and complications in children will decrease if the drug is not used without the doctor's order (16).

5. CONCLUSION

In conclusion, the most common traditional methods were found to be teething rings (toy), giving frozen and hard fruit and vegetables, and massaging the gums with a finger/ cloth. According to the educational level of mothers and the sources of support during teething children, the rate of harm in the child varied according to the methods used by mothers. Mothers who had a high level of education and received support from healthcare staff managed the teething period more consciously. In the study, the rate of any harm seen in the child due to the traditional methods used by mothers was 33.7%. The rate of any harm in the child due to the pharmacological methods used by mothers was 8.9%. The mothers who used traditional methods to manage the troubles with teething children gave their children more harm. Health educations by nurses can be effective so that children can have a teething period without any trouble.

Ethical Considerations

For the study, ethical approval was obtained from Clinical Research Ethics Committee of a university, dated 08/01/2020 and numbered 2020/01. Necessary written permissions were obtained from the management of the institution where the research was conducted. Data collection was based on the voluntary participation of the people included in the study. The purpose of the study was clearly explained to the mothers and they were informed that all data would be safely kept, and their consent was obtained.

Conflict of Interest

The authors have no conflicts of interest to declare.

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