



Evaluation of Knowledge of Parents About The Importance of Maintaining Deciduous Dentition in The Department of Pediatric and Preventive Dentistry, DJ College of Dental Sciences and Research, Modinagar - A Cross Sectional Study

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Abstract

Introduction: Deciduous teeth play an important role in basic life function. But its preservation is not considered as important as permanent teeth. The most prevalent problem nowadays is the increase in caries activity prematurely because of uneducated parents and parents having wrong attitude toward preservation of deciduous dentition. The parents with proper oral health knowledge and attitude are likely to positively influence their children’s oral health, so this survey had been done at the department of Pediatric and Preventive dentistry, D J Dental college to evaluate the knowledge, attitude and practices of parents about the importance and maintaining the deciduous dentition of their child.

Aim: To evaluate the knowledge attitude and oral hygiene practices of parents about the importance of

maintaining deciduous dentition in and around Modinagar.

Method: A survey involving 685 subjects was conducted for 18 months among parents of 3 to 12 years old children who have visited Divya Joyti dental college in the year of 2022 &2023. 685 questionnaire sheets were prepared and distributed among the parents of patient who came to the department. After explaining the importance of the survey all the questions were explained to the parent either in Hindi/English containing 23 questions to evaluate the knowledge, attitude and practice of the parents towards their child’s deciduous teeth.

Result: The knowledge of the parents about the deciduous teeth was average. The attitude of the parents about the deciduous teeth of their children was more

than average. The practice of the parents to maintain the deciduous teeth at their home for their children was also average.

Conclusion: Maintenance of oral health of a child is the result of interplay between 3 main factors: knowledge, attitude and practice by the caregivers. Proper distribution of knowledge is the foremost duty of the officials for positive outlook along with proper arrangements to enact the attitude into healthy practices.

Keywords: Dental caries, maintenance of deciduous teeth, primary caregivers, parents.

Introduction

The American Academy of Pediatric Dentistry (AAPD) states that guiding the eruption and development of the deciduous, mixed, and permanent dentitions is a vital component of comprehensive oral health care for all child dental patients.¹

Dental and oral health can have a significant impact on overall health. All microbes enter the body through the teeth and mouth, where they might have an impact on the health of other organs. Unhealthy teeth and mouth produced insufficient nutrient intake, leading in suboptimal health outcomes. Unhealthy teeth might also impair your ability to speak and eat. Furthermore, discolouration and tooth loss have an impact on a person's social engagement, both in terms of aesthetics and social and economic productivity.

Early childhood caries, or an increased risk of dental cavities, is currently the most serious issue. Although primary teeth are thought to fall out as a kid develops, care of deciduous teeth is not considered critical because it has little bearing on the permanent dentition.³ Compared to permanent teeth, dental caries in children is increasing at a very fast rate.

It has been discovered that children from low-income homes have poor oral hygiene, poor oral health, and a

high prevalence of caries. Children from low-income families typically receive less dental care from their parents because they believe that primary teeth are only temporary and will eventually fall out to make room for new teeth. For healthy eating and speaking, maintaining deciduous teeth is just as crucial as maintaining permanent teeth. To avoid disorderly eruption of the permanent teeth, the space left in the primary dentition after early extraction must be preserved.⁶

Tooth deterioration in children is linked to incorrect food frequency, harmful eating habits, and insufficient oral cleanliness during the first three years of life, according to several research. Another most common problem in developing malocclusion in children is habits. Negligence of treatment affecting the health of developing permanent tooth. Habits like tongue thrusting, lip sucking, thumb sucking and trauma from any accident or fall also effect the deciduous teeth. Parents who possess appropriate information and attitude about oral health are likely to have a favorable impact on the dental health of their children.

Early oral health outcomes are influenced by the knowledge and attitude of mothers, in particular. This is a result of the mother dedicating more time to raising, shielding, and tending to the child's health throughout the early years. Parents play a pivotal role since they are their children's principal caretakers during the formative years of their lives. A youngster learns most effectively by watching and mimicking their parents, and they are perceptive and responsive to social cues like love, praise, and praises. The most important thing for parents to do is to set a good example when it comes to their own oral hygiene habits and the significance of regular brushing and flossing. Taking care of baby teeth is just as crucial for your speaking and eating as taking care of your permanent teeth. When a child's primary teeth are

beautiful, it boosts their self esteem, which in turn makes them more outgoing and energetic. Regular brushing and flossing of the permanent teeth is a must for healthy permanent teeth. There will be more dental caries in permanent teeth if there is more dental caries in the baby teeth. Parents have an obligation to see to their children's health-related needs. In this sense, the child's oral state will suffer from the absence of parental or guardian attention. Examining child dental neglect would pinpoint the precise cause of the inability to prevent and cure tooth caries. As a result, it gives the government and medical professionals the chance to deal with the problem at its core. But according to reports from the World Health Organization (WHO), neglect must be separated from other issues like poverty and a lack of dental treatment, suggesting that neglect can only be shown when the family or caregiver has access to reasonable resources.⁷ Introduction Primary teeth are undervalued in some cultures, which has led to caries and the early loss of the primary dentition.

Therefore, the purpose of this survey is to assess parents' awareness regarding the significance of preserving deciduous teeth in and around Modinagar.

Material & Method

A questionnaire survey involving 685 subjects (Software used G power Version 3.1.9.6 Programme written by Franz Faul University kiel) was conducted for 18 months among parents of 3to 12 years old children who have visited Divya Joyti dental college in the year of 2022 &2023. Survey was conducted between 9 a.m to 3 p.m among patients who came to the department of Pediatric and Preventive dentistry, D J Dental college for their children dental treatment.

After explaining the importance of the survey consent was taken from the parents. If the parent was comfortable in English, the English questionnaire was

given otherwise Hindi questionnaire given to the parent. Then all the questions were explained to the parent in their preferred language. They were giving as much time as they desired for filling up the questionnaire. The questionnaire contained 8 questions about knowledge, 8 question about attitude and 7 question about practices they were doing at their home.



Figure 1: Armamentarium 1-Pencil, 2-Pen, 3-Staple, 4- Plain Paper, 5- Questionnaire Set Hindi, 6-Questionnaire Set English



Figure 2: Laptop



Figure 3: Printer



Figure 4: Introducing the question to the parent



Figure 6: Collecting the questionnaire from the parent

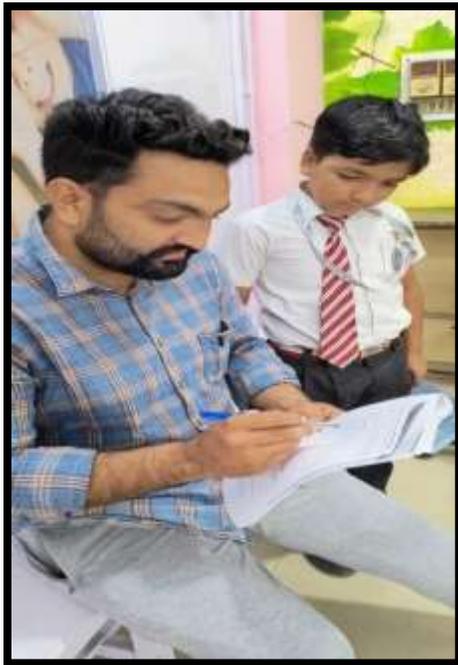


Figure 5: Filling of questionnaire by the parents



Figure 7: Educating the parent after evaluation of the questionnaire

Evaluation Sheet

Survey questionnaire in English

Parent's Name:		Child's Name:	
Child's age:		sex:	
Questionnaire			
Knowledge			
1	Are milk teeth/primary teeth/deciduous teeth needed in mouth?		
	Yes	No	
2	There are 20 milk teeth in the mouth of a child is it true?		
	Yes	No	
3	Fluoride in necessary in child tooth paste?		
	Yes	No	
4	Sweet food leads to tooth decay?		
	Yes	No	
5	Fluoride prevents the tooth decay?		
	Yes	No	
6	Will all primary teeth shed?		
	Yes	No	
7	Habits like tongue thrusting, thumb sucking, lip sucking affect milk teeth?		
	Yes	No	
8	Broken milk teeth from trauma should be treated?		
	Yes	No	
Attitude			
9	Good oral health is related to the good general health		
	Yes	No	
10	Milk teeth do not require good care		
	Yes	No	
11	The child needs regular dental visits		
	Yes	No	
12	Child to be guided and supervised while brushing		
	Yes	No	
13	It is unnecessary to treat a decayed milk tooth		
	Yes	No	
14	Primary teeth has no significant role on functions		
	Yes	No	
15	Intact deciduous teeth helps in maintaing the space for permanent teeth		

	Yes	No
16	It is ok for child to sleep with milk bottle in its mouth	
	Yes	No
Practice		
17	Do you want to visit dentist half yearly for your child?	
	Yes	No
18	Do you brush your child's teeth twice a day?	
	Yes	No
19	Do you change your child's tooth brush after three months?	
	Yes	No
20	Does your child rinse the mouth after eating/drinking?	
	Yes	No
21	If child's primary tooth is infected, WILL YOU EXTRACT IT?	
	Yes	No
22	Do you spend easily for your child's dental treatment?	
	Yes	No
23	Do you postpone the treatment of your child's milk teeth?	
	Yes	No

Survey questionnaire in Hindi

माता-पिता का नाम:	बच्चे का नाम:
बच्चे की उम्र:	लिंग:
प्रश्नावली	
ज्ञान	
1. क्या मुँह में दूध के दाँत/प्राथमिक दाँत/पर्णपाती दाँत आवश्यक हैं?	
हां	नहीं
2. एक बच्चे के मुँह में दूध के 20 दाँत होते हैं क्या यह सच है?	
हां	नहीं
3. बच्चों के टूथपेस्ट में फ्लोराइड आवश्यक है?	
हां	नहीं
4. मीठा भोजन दाँतों की सड़न का कारण बनता है?	
हां	नहीं
5. फ्लोराइड दाँतों की सड़न को रोकता है?	

हां	नहीं
6. क्या सभी प्राथमिक दाँत झड़ जायेंगे?	
हां	नहीं
7. जीभ घुसाना, अंगूठा चूसना, होंठ चूसना जैसी 7 आदतें दूध के दाँतों पर डालती हैं असर?	
हां	नहीं
8. आघात से टूटे हुए दूध के दाँतों का इलाज किया जाना चाहिए?	
हां	नहीं
नज़रिया	
9. अच्छा मौखिक स्वास्थ्य अच्छे सामान्य स्वास्थ्य से संबंधित है	
हां	नहीं
10. दूध के दाँतों को अच्छी देखभाल की जरूरत नहीं होती	
हां	नहीं
11. बच्चे को नियमित दंत चिकित्सा जांच की आवश्यकता होती है	
हां	नहीं
12. ब्रश करते समय बच्चे का मार्गदर्शन और पर्यवेक्षण किया जाना चाहिए	
हां	नहीं
13. सड़े हुए दूध के दाँत का इलाज करना अनावश्यक है	
हां	नहीं
14. प्राथमिक दाँतों की कार्यों पर कोई महत्वपूर्ण भूमिका नहीं होती है	
हां	नहीं
15. बरकरार पर्णपाती दाँत स्थायी दाँतों के लिए जगह बनाए रखने में मदद करते हैं	
हां	नहीं
16. बच्चे का मुँह में दूध की बोतल लेकर सोना ठीक है	
हां	नहीं
अभ्यास	
17. क्या आप अपने बच्चे के लिए हर महीने दंत चिकित्सक के पास जाना चाहते हैं?	
हां	नहीं
18. क्या आप अपने बच्चे के दाँत दिन में दो बार ब्रश करते हैं?	
हां	नहीं
19. क्या आप तीन महीने के बाद अपने बच्चे का दूध ब्रश बदलते हैं?	

हां	नहीं
20. क्या आपका बच्चा खाने/पीने के बाद मुँह कुल्ला करता है?	
हां	नहीं
21. यदि बच्चे का प्राथमिक दाँत संक्रमित है, तो क्या आप उसे निकालेंगे?	
हां	नहीं
22. क्या आप अपने बच्चे के दाँत के इलाज के लिए आसानी से खर्च करते हैं?	
हां	नहीं
23. क्या आप अपने बच्चे के दूध के दाँतों का इलाज टालते हैं?	
हां	नहीं

Result and Observation

The current survey took place at the D.J. College of Dental Sciences & Research, Modinagar, in the Department of Pediatrics and Preventive Dentistry. This is how the statistical analysis done successfully.

Table 1: Statistical Percentage Analysis of Knowledge Based Questionnaire

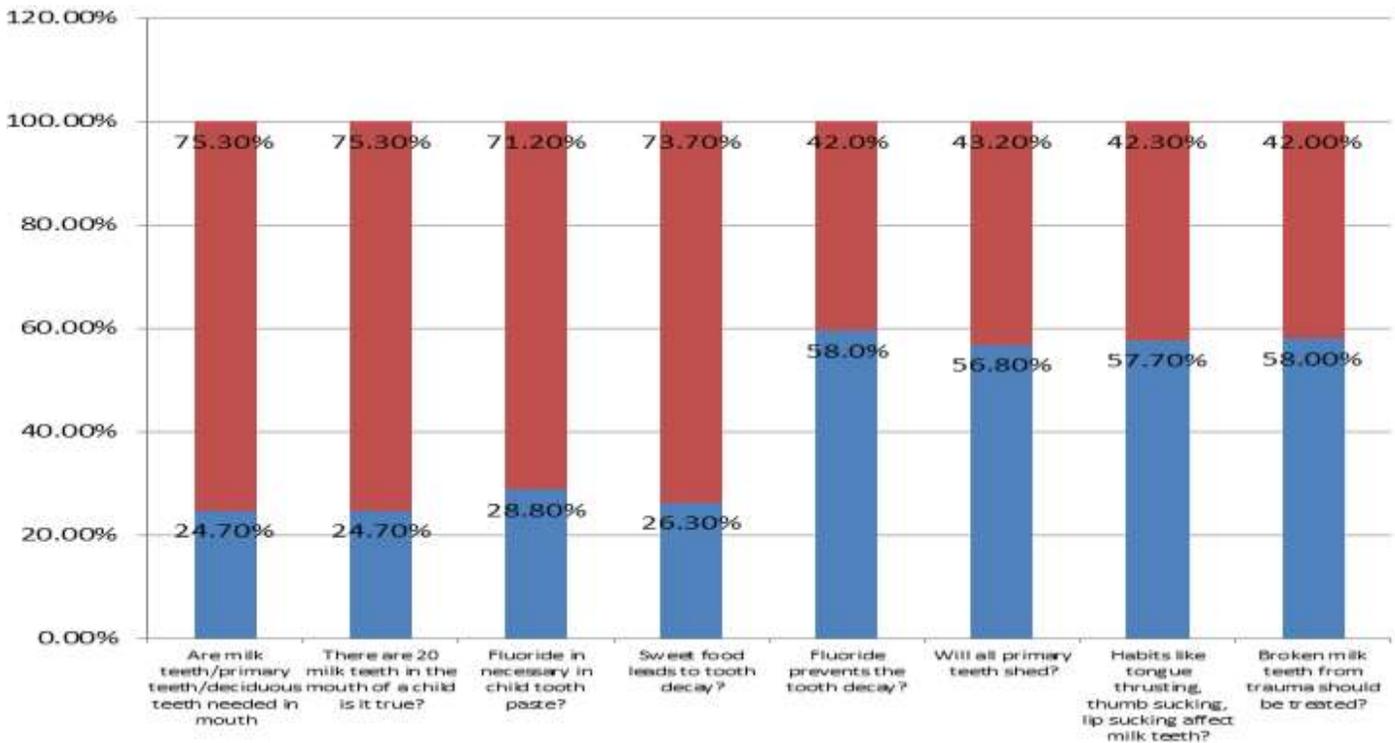
*Significant value $p > .05$

Question	No	Yes	Chi Square value	P value
Are milk teeth/primary teeth/deciduous teeth needed in mouth	169 (24.7%)	516 (75.3%)	175.380	0.001 (Sig)
There are 20 milk teeth in the mouth of a child is it true?	169 (24.7%)	516 (75.3%)	175.380	0.001 (Sig)
Fluoride in necessary in child tooth paste?	197 (28.8%)	488 (71.2%)	169.271	0.001 (Sig)
Sweet food leads to tooth decay?	180 (26.3%)	505 (73.7%)	154.198	0.001 (Sig)
Fluoride prevents the tooth decay?	397 (58.0%)	288 (42.0%)	17.346	0.001 (Sig)
Will all primary teeth shed?	389 (56.8%)	296 (43.2%)	12.263	0.001 (Sig)
Habits like tongue thrusting, thumb sucking, lip sucking affect milk teeth?	395 (57.7%)	290 (42.3%)	16.059	0.001 (Sig)
Broken milk teeth from trauma should be treated?	397 (58.0%)	288 (42.0%)	17.346	0.001 (Sig)

Graph 1: Bar Chart of the Knowledge Based Questionnaire

Response to Questions Based On Knowledge

According to the answered given to the questionnaire based on 8 questions about the knowledge of the parents about their child’s deciduous teeth following table and graph is prepared after the statistical analysis.



Response to Questions Based On Attitude

According to the answered given to the questionnaire based on 8 questions about the attitude of the parents

towards their child’s deciduous teeth following table and graph is prepared after the statistical analysis.

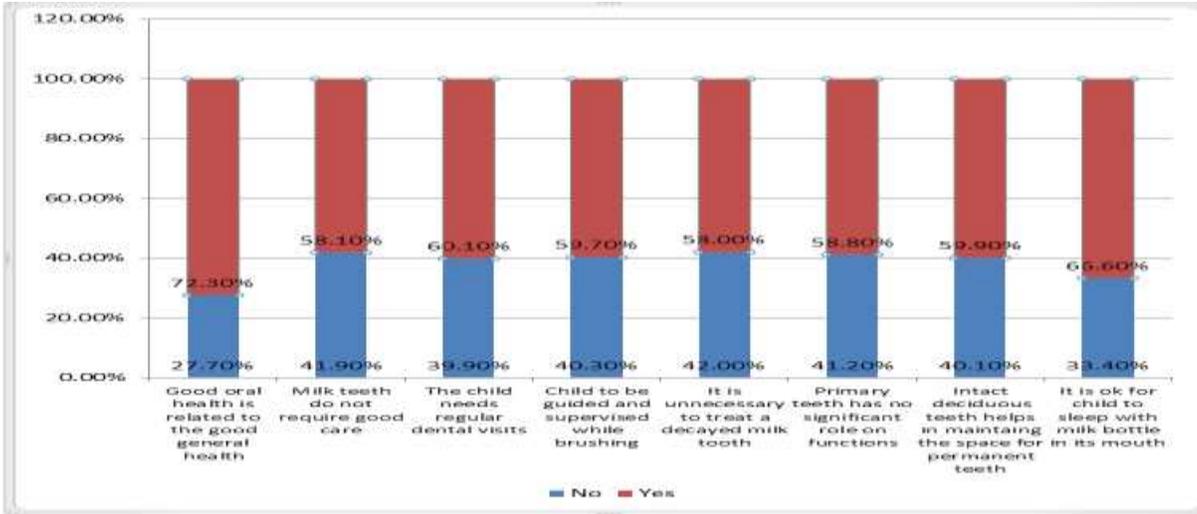
Table 2: Statistical Percentage Analysis of Attitude Based Questionnaire

*Significant value $p > .05$

	No	Yes	Chi Square value	P value
Good oral health is related to the good general health	190 (27.7%)	495 (72.3%)	135.803 ^a	0.001 (Sig)
Milk teeth do not require good care	287 (41.9%)	398 (58.1%)	17.987 ^a	0.001 (Sig)
The child needs regular dental visits	273 (39.9%)	412 (60.1%)	28.206 ^a	0.001 (Sig)
Child to be guided and supervised while brushing	276 (40.3%)	409 (59.7%)	25.823 ^a	0.001 (Sig)
It is unnecessary to treat a decayed milk tooth	288 (42.0%)	397 (58.0%)	17.345 ^a	0.001 (Sig)
Primary teeth has no significant role on functions	282 (41.2%)	403 (58.8%)	21.374 ^a	0.001 (Sig)
Intact deciduous teeth helps in maintaing the space for	275 (40.1%)	410 (59.9%)	26.606 ^a	0.001 (Sig)

permanent teeth				
It is ok for child to sleep with milk bottle in its mouth	229 (33.4%)	456 (66.6%)	75.225 ^a	0.001 (Sig)

Graph 2: Bar Chart of the Practice Based Questionnaire



Response To Questions Based On Practice

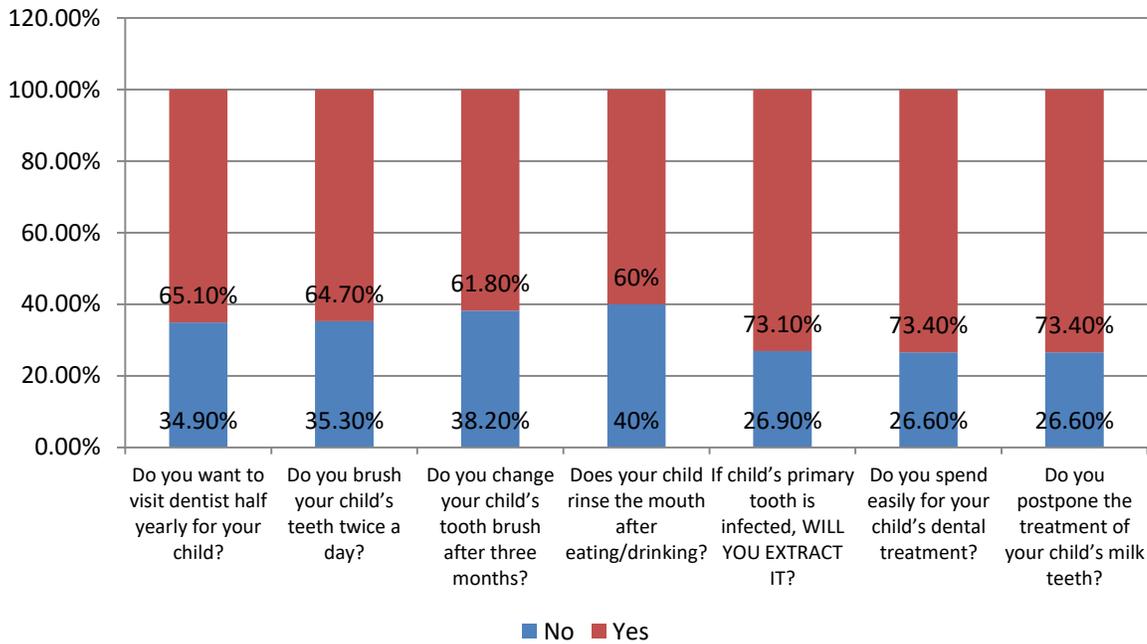
According to the answered given to the questionnaire based on 7 questions about the practices they are doing

at home by the parents following table and graph is prepared after the statistical analysis.

Table 3: Statistical Percentage Analysis of Practice Based Questionnaire *Significant value p>.05

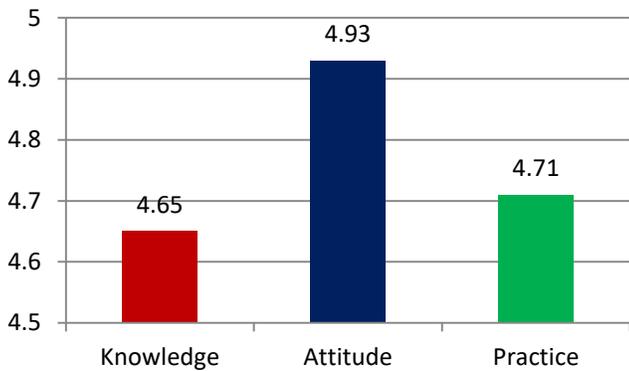
	No	Yes	Chi Square value	P value
Do you want to visit dentist half yearly for your child?	239 (34.9%)	446 (65.1%)	62.553 ^a	0.001 (Sig)
Do you brush your child’s teeth twice a day?	242 (35.3%)	443 (64.7%)	58.980 ^a	0.001 (Sig)
Do you change your child’s tooth brush after three months?	262 (38.2%)	423 (61.8%)	37.841 ^a	0.001 (Sig)
Does your child rinse the mouth after eating/drinking?	274 (40%)	411 (60%)	27.400 ^a	0.001 (Sig)
If child’s primary tooth is infected, WILL YOU EXTRACT IT?	184 (26.9%)	501 (73.1%)	146.699 ^a	0.001 (Sig)
Do you spend easily for your child’s dental treatment?	182 (26.6%)	503 (73.4%)	150.425 ^a	0.001 (Sig)
Do you postpone the treatment of your child’s milk teeth?	181 (26.6%)	504 (73.4%)	152.305 ^a	0.001 (Sig)

Graph 3: Bar Chart of the Practice Based Questionnaire



Mean Knowledge Attitude and Practice Scores among Study Subjects

Graph 4: Bar Chart of the Mean Value Based On Mean Knowledge Attitude and Practice Scores Among Study Subjects



Discussion

Studies indicate that parents are significant decision-makers, particularly when it comes to their children's dental health care. Early oral health outcomes are influenced by the knowledge and attitude of mothers, in particular. This is a result of the mother dedicating more time to raising, shielding, and tending to the child's health throughout the early years. Therefore, it becomes crucial for those who provide healthcare to recognize the crucial role that parents play in ensuring their children

receive the medical treatment they need. Second, evaluating parents' attitudes and level of knowledge about oral health for infants. Thirdly, since they are the ones who provide the majority of the care, teach them about dental hygiene.

Based on these facts, the survey that follows was created to assess parents' knowledge, attitudes, and practices about their kid's oral health care and to teach parents about proper oral hygiene practices and when to send their child to the dentist for treatment and routine check-ups. A set of 23 questions assessing parental knowledge and awareness of their children's dental health was chosen from previously validated questionnaires by the World Health Organization. The questions were then customized in accordance with the survey's strategy. **Chandran V, Varma RB**⁷ conducted a similar survey in Kerala using 25 questions regarding Parental Knowledge, Attitude, and Practice Regarding the Importance of Primary Dentition of Their Children.

The 23 questions were divided in 3 part mainly in knowledge, attitude and at home oral hygiene practices.

It is necessary to have a sound Knowledge of the oral health and how to maintain a proper oral hygiene of their child. Considering the fact that parents are the primary knowledge source to maintain their child's tooth the first part of the questions were based in knowledge containing 8 questions. Attitude is based on knowledge as without proper knowledge one mayn't be convinced of the outcome resulting in a negative attitude towards health. To check the attitude of the parents toward their child's oral health the second part is all about the attitude containing 8 questions. The third part about the practice they are doing at home for their child because without proper practice an optimum result may not be achieved. It was containing 7 questions. Similar study done by **K. R. Don et al**⁸ with 16 questionnaire and they divided them in three parts knowledge attitude and practice.

The questionnaire sheets were arranged accordingly and analyzed in 685 individuals as our sample size was 685 according to the software G power Version 3.1.9.6 Programme written by Franz Faul University kiel. We had selected the parents of the children between the age group of 3 to 12 as this age group witnesses the transition from deciduous to permanent dentition so under goes many changes in their oral habits, facial profile etc. Every question was followed by a YES or NO format to prevent study bias, get fast feedback, measure immediate reactions, or validate fundamental facts. According to the Linkart Scale the satisfactory or strongly agree answer which is yes scored 1 and the dissatisfactory or disagree answer which is no scored 0 point. Similar study with this marking system was done by **Chandran V, Balagopal Varma R**⁷ about Parental knowledge, attitude, and practice regarding the importance of primary dentition of their children in Kerala, India.

On evaluating the questionnaire, it was seen that almost 50% of participating care givers had overall knowledge about importance of the deciduous dentition. About 75.3% of the parents knew that deciduous teeth were needed in mouth. 75.3% were aware that there were 20 milk teeth in a child's mouth. 71.2% Parents had knowledge about fluoride tooth paste. 73.7% parents realized that sweet food led to tooth decay. 42% caregivers were aware that fluoride prevents tooth decay. 43.2% knew that all the primary teeth shed. Habits affect milk teeth this notion was supported by 42% of participating parents. 42% of care givers knew that broken milk teeth from trauma should be treated. A study done by **Mahesh Ramakrishnan et al**¹¹ about Evaluation of knowledge and attitude of parents about the importance of maintaining primary dentition and they discovered that while 30% of the parents said it would depend on the situation, over 53% of the parents believed treating primary teeth was necessary. Merely 16% of the parents believed that treating primary teeth was not necessary.

On evaluating the questionnaire, it was seen that almost 50% of the participating parents had a positive attitude about their child's deciduous dentition. Attitude is the way of thinking in a rational acceptable way. Attitude is based on knowledge as without proper knowledge one may not be convinced of the outcome resulting in a negative attitude towards health.

Seventy-two percent of parents knew that maintaining good general health also requires good oral health. Approximately 42% of parents were aware that oral hygiene is important for milk teeth. Sixty percent of the parents knew that their kids needed to see the dentist on a regular basis. While their child was brushing, 59% of the caregivers assisted and watched over them. Of the parents, 58% were aware that decaying milk teeth need

to be treated. 42% were aware of the major impact primary teeth have on function. 59% of parents knew that having their deciduous teeth in tact preserved the space needed for permanent teeth. 34% of parents were aware that it was dangerous to let their child sleep with a milk bottle in their mouth.

A similar study on parents' attitudes and knowledge regarding the value of maintaining primary dentition was carried out by **M Ramakrishnan et al**¹¹. The results showed that while nineteen percent of parents believed that treating primary teeth was unnecessary, fifty-five percent of parents knew that skipping treatment on primary teeth would result in more caries.

We found in the survey that only about 50 % of the parents practice proper oral hygiene towards their child's teeth.

65% of the parents knew that it was good to visit a dentist after 6 months. 64% of the parents brushes their child's teeth twice a day. 61% of the care givers changed their child's tooth brush after every three months of use. 60% of the parents rinsed their child mouth after eating or drinking but only 27 % of the parents wanted to save carious teeth by appropriate treatment. 73% of parents were inclined to spend for dental treatment and only 27% of the parents didn't want to postpone the treatment of their child's teeth even if it was costly.

Thus, practice of proper oral hygiene was found to be average among the primary caregivers. This was probably due to lack of appropriate training regarding oral hygiene practices and adequate knowledge along with various misconceptions like deciduous teeth will fall off and doesn't require proper treatment.

In Davangere city, India, **Nagaveni N. B. et al**¹² did a study on the knowledge, attitudes, and practices of parents on the care of their children's primary teeth. They discovered the preferred course of treatment for

parents' carious primary teeth. Even if they take their kids to the dentist for checkups on a regular basis, many would rather have these teeth left unfilled (thirty-two percent or even removed (sixty-one percent instead of having them filled.

After evaluation of the result of survey it can be seen that knowledge, attitude and practice of the parents about their child's oral health was average, they were lacking about the knowledge of maintaining primary tooth, the attitude towards treatment choices for the affected primary teeth and the practices they should do at their home to maintain the primary dentition. So, we educated them regarding the same so that they can maintain the integrity of child's deciduous teeth. The importance of brushing teeth twice daily with fluoridated toothpaste was emphasized to keep dentition caries free.

Conclusion

Given the constraints of this cross-sectional study and the outcomes, it was found that:

Parent's knowledge about their child's oral health was average. Evaluating the questionnaire, we conclude that the attitude was average about the child's deciduous dentition. The oral hygiene practices mostly doing at their home by the parents towards their child's deciduous teeth likely to be average. Hence it was concluded that maintenance of oral health of a child is the result of interplay between 3 main factors: knowledge, attitude and practice by the caregivers.

There exists the need for better education to ensure better health and lifestyle for the children. Proper distribution of knowledge is the foremost duty of the officials for positive outlook along with proper arrangements to enact the attitude into healthy practices.

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