

## Knowledge, Attitude and Practices of Parents Towards Oral Health Maintenance and Pulp Therapy of Deciduous Teeth

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### Abstract

*Context:* Need for a more in depth understanding of the knowledge, attitude and practices of caregivers with respect to their children's oral health care is of paramount importance.

*Aims:*

- To assess the knowledge of parents about the dental problems of children.
- To determine the parental attitude towards children's oral health and treatment of pulpally involved deciduous teeth.
- To find out the oral health care practices undertaken by parents for their children.

*Settings and Design:* This cross sectional study was conducted in the Department of Pedodontics and Preventive Dentistry, Government Dental College, Kottayam. *Material:* Parents of children below 12 years reporting to the Department were the study participants. The structured questionnaire consisted of sociodemographic characteristics and questions related to knowledge, attitude and practices towards children's oral health was distributed to the participants. Responses were tabulated and were expressed as frequency distributions. *Statistical analysis used:* Chi-square test was used to find the association between knowledge, attitude, practice and baseline characteristics. *Results:* Out of 400 participants 73.8%, 68.5%, 89.5% had good knowledge, attitude and practice respectively about oral health maintenance and pulp therapy of deciduous teeth. There is statistically significant association between knowledge and parental status, education, occupation and family income, attitude and family income. Association between practice and number of children also is statistically significant. *Conclusions:* Create more awareness among the populace of our country about significance of healthy primary dentition and the ensuing sequelae of not doing so.

**Keyword:** Knowledge; Attitude; Practices; Oral Health; Pulp Therapy; Deciduous Teeth.

### Introduction

Healthy deciduous teeth is the foundation for healthy permanent teeth.<sup>1</sup> Maintenance of oral health in children is very complex as it is decided by parent's knowledge attitudes and believes.<sup>2</sup> Parents being the primary caregivers of the children, they should be

educated on the importance of primary teeth and its maintenance.<sup>3</sup> Parents and guardians with poor awareness about the preventive care and pedodontic treatments lack to maintain the overall oral health of children. Poor oral hygiene leading to poor oral health in early childhood is one of the most serious and expensive health conditions. Unfortunately this is the most ignored health condition too.<sup>4</sup>

Parents most often consult a dentist for curative treatment rather than preventive dental treatment of their children. Pulp treatment procedures are very often suggested by the dentist for the children. The main goal of pulp therapy in primary dentition is to preserve every primary tooth as a fully functional component in the dental arch to allow for proper mastication, phonation and swallowing.<sup>5</sup> A carious tooth, successfully disinfected by pulpectomy and restored clinically, is a better space maintainer and it will also prevent detrimental psychological effects of tooth loss.<sup>6</sup>

Parents are the decision makers and care givers for the children, but the awareness among parents / caregivers about pulp treatment procedures for children is always questionable when it comes to in depth understanding of the knowledge, attitude and practices of caregivers with respect to their child's oral health. Hence, the reason for taking up this study is to investigate the importance of evaluating the attitude, knowledge and practices of the parents.<sup>7</sup>

### Aims and Objectives

- To assess the knowledge of parents about the dental problems and oral health maintenance of children.
- To determine the attitude of parents towards maintenance of oral health and treatment of pulpally involved deciduous teeth.
- To find out the oral health care practices undertaken by parents towards oral health maintenance of children.

### Materials and Methods

The present cross sectional study was conducted in the Department of Pedodontics and Preventive Dentistry, Government Dental College, Kottayam for a period of 18 months. The sample size was calculated as 400 as per the sample size formula.

Parents of children aged three months to 12 years reporting to the Outpatient Department of Pedodontics and Preventive Dentistry, Government Dental College Kottayam were the study participants. Ethical clearance for the study was obtained before the study.

The printed questionnaire were distributed both in English and vernacular language (Malayalam) for better understanding after explaining the purpose of the study. The patient's parents were enrolled

as study participants only after getting informed consent. The questionnaire was personally given to parents and they were asked to tick the most appropriate answer from the list of given questions and answers.

The structured questionnaire consisted of socio demographic characteristics and questions related to knowledge, attitude and practices toward children's oral health. Out of these questions, six questions were related to knowledge, four were related to attitude and four were related to practices. Targeted questions regarding parent's awareness and attitude towards pulp therapy were also included.

Participants who scored three or more than three out of six questions regarding knowledge, was considered to have good knowledge. A score of two or above two were considered to have good attitude and good practices respectively.

Responses were tabulated and were expressed as frequency distributions.

Chi-square test was used to find the association between knowledge, attitude, practice and baseline characteristics

### Results

The mean age of the participants was 36.1±6.0. Frequencies of baseline characteristics of the parents are given in Table 1.

Out of 400 participants, 73.8%, 68.5%, 89.5% had good knowledge, attitude and practice respectively about oral health maintenance and pulp therapy of deciduous teeth which is given in Table 2.

Among the participants 164 parents (41%) reported that it was their ward's first dental visit and 46.4 % parents reported that their children had their first dental visit between 3-5 years.

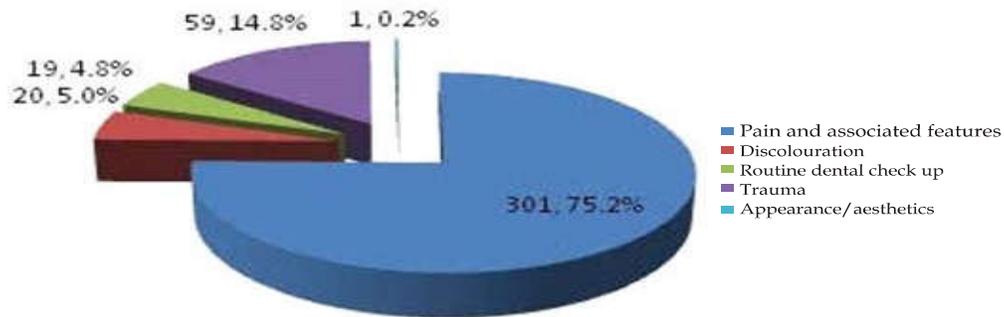
Pain and associated features were the commonest reason for visiting the dental clinic according to 75.2% parents. 14.8% reported that it was traumatic injuries, 5% reported that it was discoloration of teeth and 4.8 % parents reported that they visited dental office as a part of routine dental check-up. (Fig. 1). When the parents were questioned what was the right time to take their child to the dentist, 50.3% responded that when there is discoloration in teeth children have to be taken to dentist. 41.5% responded that only when the child complains of pain, he or she has to be taken to dentist and 5.5% parents responded that when the first tooth erupts child has to be taken to dentist and 2.8% parents stated other reasons.

**Table 1:** Demographic characteristics of respondents (n=400).

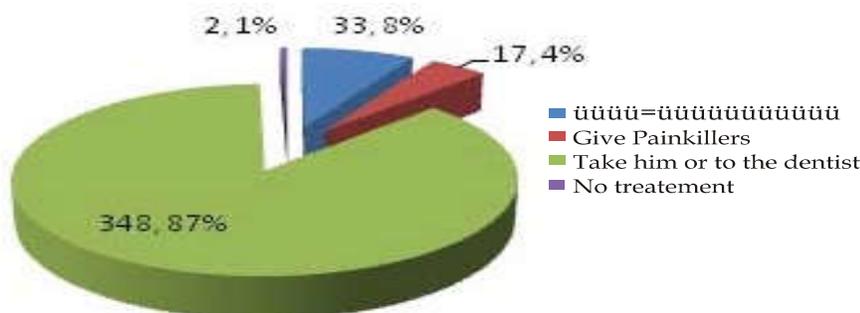
Characteristics	Frequency (%)
Parental status	
Father	155 (38.8)
Mother	237 (59.2)
Grand father	2 (0.5)
Grandmother	6 (1.5)
Education	
< Secondary School	140 (35.0)
Higher secondary	147 (36.8)
Graduate	89 (22.2)
Post graduate	24 (6.0)
Occupation	
Home maker	210 (52.5)
Self-employed	89 (22.2)
Salaried	77 (19.2)
Daily wages	24 (6.0)
Family income (per month)	
Less than 5,000	213 (53.2)
5,000-10,000	119 (29.8)
10,000-50,000	58 (14.5)
More than 50,000	10 (2.5)
Number of children	
1	97 (24.3)
2	226 (56.5)
3	69 (17.2)
Above 3	8 (2.0)

**Table 2:** Knowledge, attitude and practices of participants.

Scale	Knowledge (%)	Attitude (%)	Practice (%)
Good	295 (73.8)	274 (68.5)	358 (89.5)
Poor	105 (26.2)	126 (31.5)	42 (10.5)



**Fig. 1:** Reason for visiting the dental clinic



**Fig. 2:** Action taken when child complains of toothache

When parents were questioned, how often they do mouth examination of the child, 54.3% of parents accepted that they will examine their child's mouth only when child complains of food lodgement or pain, 39% agreed that they regularly examine their ward's mouth and 6.8% reported that never examined their child's mouth.

39.2% of parents were aware that decay in primary teeth affects permanent teeth.

When parents were enquired as to whether dental treatment needs to be done to preserve the primary tooth, a major percentage of parents, 76.5%, thought that there is a need for treatment of primary, 9.3% thought that there was no need for treatment of primary teeth and 14.3% of the parents were not aware of giving any treatment for the primary teeth.

When the subjects were asked, how many times in a day your child should brush his /her teeth 75.8 % parents said that it is twice a day, 19.8% said that it's once a day, 4.3% said that it's after every meal.

Out of all participants, total of 92.3% of parents acknowledged the fact that they actually monitor their child's brushing regularly.

About 364 out of the 400 parents (91.0%) agreed that healthy diet protects the teeth and gums.

Participants, when asked what they should do when their child complaints of toothache. 87.0% agreed that they take their child to the dentist

directly, 8.3% parents gave the answer that they will consult a paediatrician or general practitioner and 4.3% parents answered that they will give some pain killers for the toothache (Fig. 2).

Regarding the preference of treatment for decay of baby teeth, 72.3% preferred to get their child's tooth restored but 15.3% of parents preferred extraction of their child's primary tooth.

Nearly 66% of parents had the knowledge regarding the root canal treatment of deciduous teeth but only 43 % expressed willingness to subject their children to undergo pulp therapy.

Of the remaining 56.8 % who preferred extraction,(Fig. 3) the reasons for preferring extraction was deciduous teeth will be replaced by permanent teeth (57.2 %), costly (14.5%), multiple sittings and time consuming (15.4%) and 12.8 % mentioned other reasons (Fig. 4).

Chi Square analysis to determine the association between knowledge, attitude, practice and baseline characteristics was done.

There is statistically significant association between knowledge and parental status, education, occupation and family income. (Table 3)

It was also found that there is statistically significant association between attitude and family income. (Table 4)

The association between Practice and number of children also is statistically significant. (Table 5)

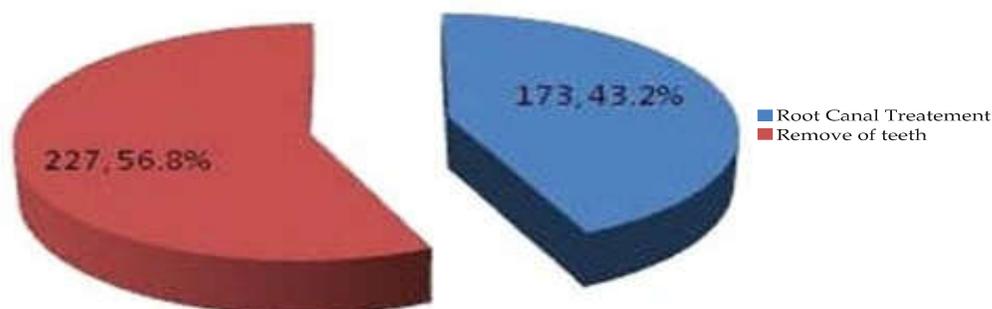


Fig. 3: Preference of treatment for badly decayed tooth

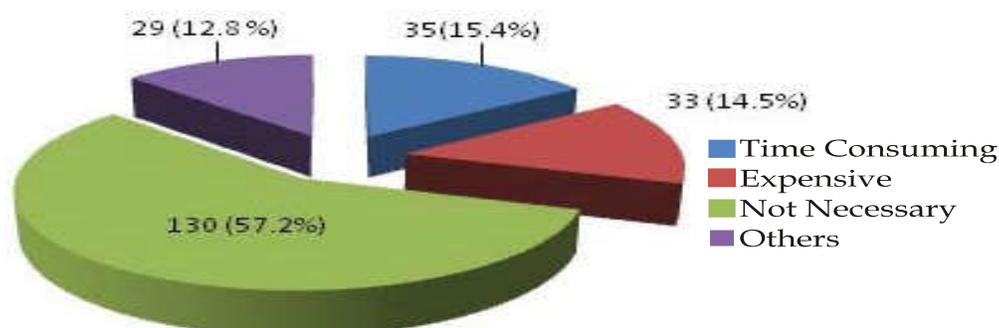


Fig. 4: Reasons for preferring extraction over pulp treatment.

**Table 3:** Association between knowledge and baseline characteristics.

Baseline characteristics	Good	Poor	P value
Parental status			
Father	54	101	
Mother	46	191	
Grand father	0	2	0.001*
Grandmother	4	2	
Education			
< Secondary School	55	85	
Higher secondary	39	108	0.0001*
Graduate	9	80	
Post graduate	1	23	
Occupation			
Home maker	48	162	
Self-employed	25	64	0.01*
Salaried	18	59	
Daily wages	13	11	
Family income (per month)			
Less than 5,000	64	149	
5,000-10,000	32	86	0.01*
10,000-50,000	8	50	
More than 50,000	0	11	
Number of children			
1	25	72	
2	61	165	0.7
3	15	54	
Above 3	3	5	

\*P < 0.05, significant

**Table 4:** Association between attitude and baseline characteristics .

Baseline characteristics	Good	Poor	P value
Parental status			
Father	149	6	
Mother	233	4	
Grand father	2	0	0.5
Grandmother	6	0	
Education			
< Secondary School	138	2	
Higher secondary	145	2	
Graduate	85	4	
Post graduate	22	2	
Occupation			
Home maker	206	4	
Self-employed	86	3	0.8
Salaried	75	2	
Daily wages	23	1	
Family income (per month)			
Less than 5,000	209	4	
5,000-10,000	115	3	0.009*
10,000-50,000	57	1	
More than 50,000	9	2	
Number of children			
1	93	4	
2	221	5	0.6
3	68	1	
Above 3	8	0	

\*P < 0.05, significant

**Table 5:** Association between practice and baseline characteristics.

	Good	Poor	P Value
Parental status			
Father	75	80	
Mother	85	152	0.09
Grand father	1	1	
Grandmother	2	4	
Education			
< Secondary School	65	75	
Higher secondary	61	86	0.1
Graduate	29	60	
Post graduate	8	16	
Occupation			
Home maker	206	4	
Self-employed	86	3	0.8
Salaried	75	2	
Daily wages	23	1	
Family income (per month)			
Less than 5,000	100	113	
5,000-10,000	42	76	0.5
10,000-50,000	18	40	
More than 50,000	3	8	
Number of children			
1	44	53	
2	80	146	0.009*
3	32	37	
Above 3	7	1	

\*P &lt; 0.05, significant

## Discussion

Healthy primary teeth is essential for the child's dental health and overall general development.<sup>8</sup> Parents and family members are considered to be the primary care providers for a child and their healthy habits undoubtedly have a major role in determining the child's oral health.<sup>9</sup>

A total of 400 hundred parents/caretakers were surveyed in our study to ascertain the knowledge, attitude and practice of parents towards maintenance of oral health and pulp therapy of deciduous teeth over a period of 18 months.

The parents were given set of questions for assessing the knowledge, attitude and practice. Parents were asked what they felt was the right time to take their child to dentist. 91.8 % of parents responded that the first dental visit has to be made after tooth decay has started in child's tooth, 50.3% stated that when discolouration is seen child has to be shown to dentist and 41.5% expressed that when the pain arise child should be taken to dentist. Even though there is generalised lack of adequate awareness among the parents in this regard, this study showed a better result when compared to

previous studies in which the common perception by the respondents regarding the right time of first dental visit was pain.<sup>6,7</sup> Only a very low percentage (5.5%) was aware that first dental visit should be made when the first tooth erupts. The above data suggests that more dental awareness programs should be conducted for parents so that they would become aware that first dental visit for a child should be when the first tooth erupts followed by periodic routine dental check up<sup>10</sup>

Our study has shown that pain (75.3%) was the common reason for the parents for seeking dental treatment for their children which was in accordance with the study conducted by Pooja Nair et al.<sup>7</sup> This confirms that parents have to be educated that preventive measures are available for dental diseases and that once pain occurs only curative measures would be possible, which will be more expensive and difficult.

Regarding the frequency of brushing of child 19.8 % of the participants brushed only once a day. This statistics is better than the results obtained by Singhal K et al. and suggests that parents should be educated more on the benefits of brushing twice a day, particularly at night.<sup>11</sup>

Supervision of brushing of child is important as children lack manual dexterity and brushing by them may be ineffective.<sup>12</sup> Out of total participants, 92% of subjects acknowledged that they actually monitor their child's brushing and when they were asked that how often they do mouth examination of the child only 39% agreed that they regularly examine their wards' mouth. The above details stress that parents need to be educated frequently on the importance of supervising their children's tooth brushing and examination of children's oral cavity by parents.

In contrary to previous studies, when parents were questioned as to whether dental treatment is needed to preserve the primary tooth, a major percentage of parents (77%) replied that there is a need for primary teeth treatment.<sup>11,13</sup> This statement is a welcome change in the changing scenario but 23% of parents are ignorant of the benefits of dental treatment of deciduous teeth. This should be a matter of concern to paediatric dental health care providers which has to be addressed.

91% of the participants agreed that healthy diet protects the teeth and gum which is in accordance with the study conducted by Singhal K et al. 2015.<sup>11</sup>

When the participants were asked what they should do when their child complaints of toothache, 87% parents suggested that they would take the child directly child to the dentist, about 8% took the choice of consulting a paediatrician or general practitioner and 4% answered that they will give some pain killers for the toothache. In a similar study conducted by Manohar J and Mani G among 400 parents, only 53 % parents suggested that they would take the child to the dentist, 27% took the choice of consulting a general practitioner and 18% felt that they would increase their child's intake of milk.<sup>4</sup> So when comparing our study with the above study, a welcome change is noticed as in our study, the parents are very much aware that the child should be taken to dentist as and when the need arise.

Our study shows that nearly 66% of parents had the knowledge regarding the root canal treatment of deciduous teeth but only 43% of parents were willing to subject their children to undergo pulp therapy to save the deciduous teeth. The commonest reason for preferring extraction was that the parents consider treatment of deciduous teeth a waste of time as the teeth will get replaced by permanent teeth. The next common reasons the parents quoted were root canal treatment will need multiple sittings which is time consuming and is expensive when compared to extraction. Another concern for

the parents was whether pulpectomy treatment would affect natural exfoliation of the deciduous teeth. These finding were in accordance with a similar study conducted by Setty and Srinivasan, which stated that 57% of parents were unwilling for pulpectomy treatment.<sup>6</sup> These findings suggest that knowledge regarding benefits of pedodontic treatment like pulpectomy is still not taken up by the society in a judicious way.

Ultimate results of our study suggest that there is significant association between knowledge, attitude, practices and parental status, education, occupation and family income. This association is in accordance with the results of the previous study conducted in the same population 8 years back.<sup>14</sup> This also gives a definite clue that when planning future dental health education programmes, all the above factors should be considered and educational programs should be planned to cater parents belonging to every segment in the society, especially targeting the parents in lower socio economic strata.

#### *Limitations:*

The participants may not be a true representation of general population because the study was done in a single tertiary care institute.

#### **Conclusion**

1. Awareness about the importance of primary teeth and need for early dental visit among general population should be improved.
2. Providing education on perinatal and infant oral health care to medical students, gynaecologists, paediatricians, family physicians and nursing personnel may be beneficial because their messages about health care are much valued by parents.
3. Importance of regular annual/semi annual dental check up routine has to be set. This may be included in the children's vaccination schedule to promote better acceptance by the parents.
4. Parental awareness regarding the need for brushing before sleeping has to be reinforced. Parents should be encouraged to examine their children's oral cavity after tooth brushing on a regular basis.
5. Creating more awareness among the population of our country about significance of healthy primary dentition and the harmful effects or sequelae in not treating it at the right time.

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