

Original Research Article

Maintenance of Primary Dentition: Survey to Determine the Knowledge and Attitude of Saudi Parents

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Introduction: Parents commonly encounter primary dentition related problems during the early years of their children. The management of issues such as eruption and shedding is often based upon beliefs and myths, which is a cause of barrier for the child to achieve the best possible dental care. **Materials and methods:** This is a cross-sectional study conducted among Saudi parents using an online survey. Saudi parents willing to participate in this study were requested to fill up the survey. **Results:** In the study, which was conducted in this research, there were nearly a total of 921 people who were questioned about the concerns which were related to the primary teeth. Out of these, 54% of the respondents were males and the rest of the 46% of them were females. **Conclusions:** Male participants showed better knowledge towards the primary dentition as compared to the females.

Keywords: Knowledge, Attitude, Primary dentition.

INTRODUCTION

Parents commonly encounter primary dentition related problems during the early years of their children. The management of issues such as eruption and shedding is often based upon beliefs and myths, which is a cause of barrier for the child to achieve the best possible dental care. The importance of primary teeth cannot go unnoticed as it builds the foundation for a healthy permanent dentition hence good oral health (Setty & Srinivasan, 2017; Gupta et al, 2019).

Primary dentition may encounter problems such as trauma and caries, which leads to a mandatory visit to the dentist. In some cases, parents delay their visit to the dentist, therefore, prolonging the appropriate treatment and complicating the existing problem. Trauma and caries may have a long term impact on the oral health of children if ignored or mismanaged. Parents are being instructed regularly to see their pediatric dentist in order to avoid future dental problems. If not, then children may require extensive dental treatments in the future such as orthodontics (Chirstensen, 2019; Lenzi et al, 2015).

Apart from caries and trauma, some parents also experience congenital defects in their children's teeth, which indirectly is strongly associated with hidden caries. In some cases, caries can be overlooked and ignored just to be ended

in late diagnosis and failure to maintain the primary dentition (Ginnis et al, 2019).

Several studies have been conducted and documented in different parts of the world to assess the level of knowledge and attitude of parents towards their children's primary dentition. Recent studies from India, Sri Lanka, Iran, and Pakistan revealed that the knowledge of parents regarding their children's primary dentition and related problems was average and significantly associated with their educational level and previous dental experience (Chandran et al, 2019; Sogi et al, 2016; Moshkelgosha et al, 2017; Sami et al, 2016).

When it comes to the knowledge of primary dentition maintenance, parents must be aware of the caries prevention methods and eruption times for the important successor of primary teeth especially the first molar. Studies in the past have shown a significantly lower level of knowledge and attitude towards the above-mentioned issues and there is a need of educating parents about these problems. Investigations from Venezuela, Indonesia, and Saudi Arabia suggested a lack of parental knowledge about the prevention of early tooth loss and maintenance of primary dentition among

their children (Hernandez & Chavez, 2019; Laksmiastuti, Budiardjo & Sutadi, 2017; Kamil et al, 2015).

STUDY HYPOTHESES

Mothers have better knowledge and attitude towards the maintenance of primary dentition as compared to fathers.

AIMS OF THE STUDY

- To determine the knowledge and awareness of Saudi parents towards the maintenance of primary dentition.
- To compare the findings on the basis of educational level, gender, and age.
- To compare the findings on the basis of the number of previous dental visits and children.

MATERIALS AND METHODS

Study Design

This is a cross-sectional study conducted among Saudi parents using an online survey.

Study Sample

Saudi parents willing to participate in this study were requested to fill up the survey. A total of 1500 citizens were contacted using social media, but 921 of them completed the survey.

Study Instrument

An online questionnaire was designed using Google Forms with questions related to personal and demographic information followed by knowledge and attitude related questions.

Instrument Validity and Reliability

A pilot study was conducted by sending the survey to 20 participants and the data was inserted in SPSS version 22 to determine the reliability by using Chronbach's coefficient alpha. The validity of the questionnaire was tested by sending it to experienced researchers in REU and no changes were made.

Statistical Analysis

Collected data was analyzed using SPSS version 22, where descriptive as well as inferential statistics were conducted. Comparisons between groups were made using the Chi-square test with the value of significance kept under 0.05.

RESULTS

In the study which was conducted in this research, there were nearly a total of 921 people who were questioned about the concerns which were related to the primary teeth. Out of these, 54% of the respondents were males and the rest of the 46% of them were females. When they were sectioned based on their ages, 13% of the respondents were from the age group of 18 – 30 years, 44% of them were from 31 – 45 years, 41% of them were from 46 – 60 years and the rest of the 2% were over the age of 60 years. Then dividing the respondents on the basis of their education, 3% of them were from primary, 5% were from

secondary, 25% were from high school and the rest of the 67% were from university. The last categorization was on the basis of the socioeconomic status of the respondent, which showed that 20% of the parents were from the low class, 56% were from the average class and the later 24% were from the high class.

Reliability of the Questionnaire

Chronbach's alpha: 0.623

DISCUSSION

The results of this study were compared with multiple related investigations. According to a study conducted by Bodhale, Karkare & Khedkar (2014), they concluded that 100% of the respondents were aware that maintenance of oral hygiene is important to maintain primary dentition in children, but yet about 65% of the parents responded that they take their children to the dentist only when they complain about toothaches or related symptoms. This result was very similar to our study as well since in our case, out of all the respondents, only 12% of them had regular visits to dentists.

A small percentage of 5% reported that dental treatments were not important for children, however, 32% of them thought that no dental treatment was required until the permanent teeth have erupted. There was another group of about 68% that thought that primary teeth were not significant as they will eventually shed and be replaced by permanent teeth. In our study, the results received stated that 55% of the people approved that all the permanent teeth erupt by replacing their respective milk teeth, whereas nearly 25% of them had no clear idea about this.

In another study conducted by Chandran et al (2019), it was depicted that 71% of the respondents agreed that there will be negative effects on the new set of permanent teeth if primary teeth were left untreated. Around 43% of the parents had a view that the gaps or the missing space between the primary teeth will be recovered after the eruption of permanent dentition. Only 5% of the parents thought that their children didn't require any dental treatment, about 32% of them deemed to have a belief that permanent teeth only require dental treatment and around 65% thought that the child should only be referred to a dentist when the child complains of toothache or any other tooth-related symptoms.

A large number of parents assumed that visiting a dentist was only necessary when the child experiences any pain; 10% of the parents never told their child to pay a visit to a dentist whereas only 18% of them visited the dentist on regular basis. When we had inquired about a similar question during our study, about 72% of the parents had stated that they will agree to a dental treatment whereas the rest of them had various other reasons for not taking the child to the doctor.

In a similar study carried out by Ehizele, Chiwuzie, and Ofili (2011), it was concluded that the people living in urban areas were more prone to ignoring oral hygiene. Some authors have included in their studies that treatment of primary teeth is thought to be exceedingly shallow in a number of traditions and not much significance was given to missing spaces in the primary teeth or if the primary teeth were affected by dental caries. In a study conducted by Ghandehari, Jafari & Rahmanzadeh (2014), using fluoride kinds of toothpaste on regular basis was reported to be the best way of administering fluoride on the teeth. Our survey indicated that the parents were not well aware of fluoride which has led to positively affect the oral health of the children.

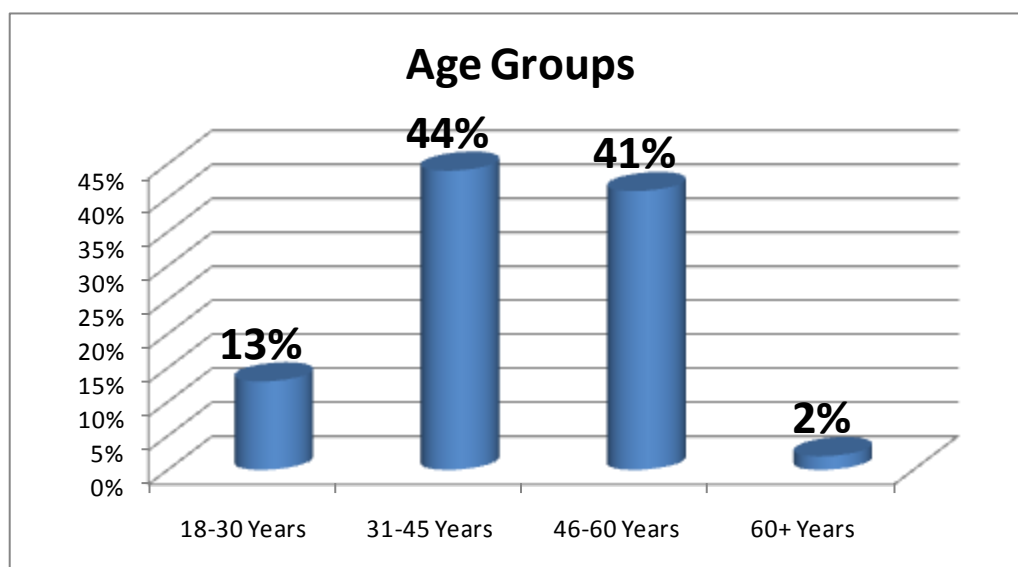
Table 1: Demographics of the study participants

Gender:	
Male	496 (54%)
Female	425(46%)
Age:	
18-30 Years	133(13%)
31-45 Years	435(44%)
46-60 Years	405 (41%)
60+ years	22 (2%)
Education:	
Primary	33 (3%)
Secondary	45 (5%)
High School	252 (25%)
University	664 (67%)
Socio-Economic Status:	
Low	195 (20%)
Average	554 (56%)
High	224 (24%)

Gender Ratio

Female
46%

Male
54%

Fig. 1: Gender Ratio**Fig. 2:** Age Group Distribution of study participants

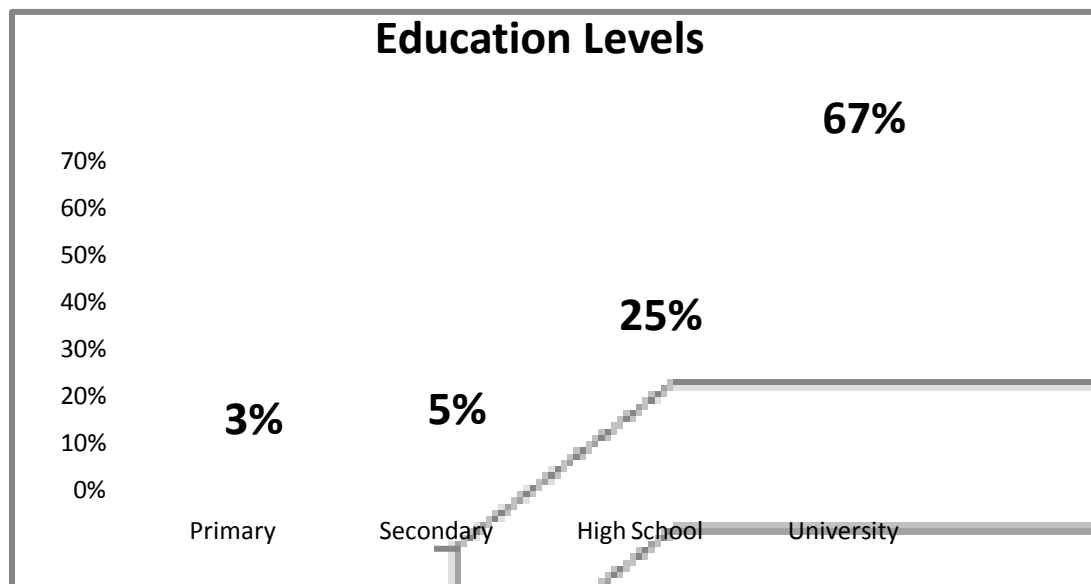


Fig. 3: Education Levels Distribution of study participants

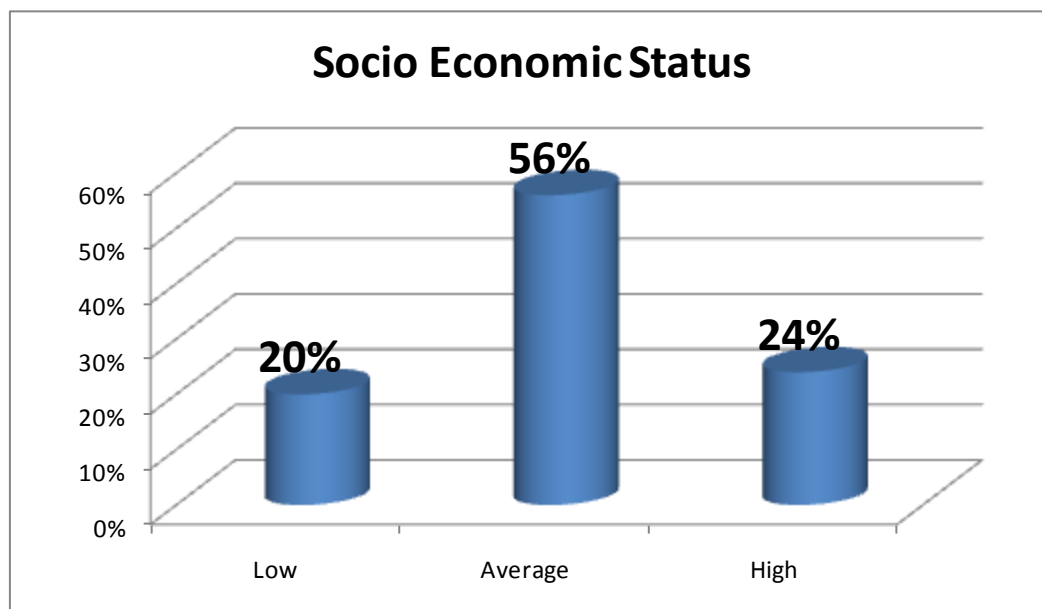


Fig. 4: Socio Economic Distribution of study participants

Table 2: Comparison on the basis of Gender

Item	Male	Female	P- Value
Previous dental visits (per year)	1-2 Visits 41% 3-5 Visits 19% 6 Or more Visits 12% None 28%	1-2 Visits 41% 3-5 Visits 21% 6 Or more Visits 27% None 12%	0.000
What are milk teeth/deciduous teeth?	Teeth which are present in the children drinking milk 6% Present in all children 23% First set of teeth which will be replaced by permanent teeth 61% None of these 9%	Teeth which are present in the children drinking milk 21% Present in all children 22% First set of teeth which will be replaced by permanent teeth 53% None of these 4%	0.000
Milk teeth/primary teeth comprising off in mouth?	All front Teeth 23% All teeth in the mouth of 4 year old children 59% Don't know 16% All upper teeth 1%	All front Teeth 15% All teeth in the mouth of 4 year old children 46% Don't know 36% All upper teeth 3%	0.000
How many teeth in the mouth of 3 year old are primary?	50% 41% 25% 20% None 8% All 31%	50% 33% 25% 21% None 21% All 25%	0.008
Total no of primary teeth present	8 12% 12 30% 18 16% 20 33% 4 9%	8 15% 12 36% 18 23% 20 19% 4 7%	0.007
Do you think primary teeth will shed?	Yes 73% No 16% Only front teeth 10% Only back teeth 1%	Yes 61% No 12% Only front teeth 24% Only back teeth 3%	0.001
By what age do you think all primary teeth will be replaced by permanent teeth?	4 Years 6% 6 years 60% 12 Years 33% 18 Years 2%	4 Years 6% 6 years 54% 12 Years 39% 18 Years 2%	0.000

Do you think all the permanent teeth erupt by replacing their respective milk tooth??	Yes 55% No 20% Some of them 25%	Yes 49% No 29% Some of them 22%	0.109
Primary teeth help in?	chewing 6% Appearance of child 8% Speech 5% Maintains the space for permanent teeth 37% I and ii 3% 1, ii and iii 4% I,ii and iv 4% All of the above 34%	chewing 11% Appearance of child 4% Speech 9% Maintains the space for permanent teeth 34% I and ii 4% 1, ii and iii 4% I,ii and iv 2% All of the above 32%	0.121
Do you think it is important to treat a decayed milk tooth?	Yes 72%	Yes 65%	0.070
If primary tooth is infected?	It is important to save infected primary teeth if possible 71%	It is important to save infected primary teeth if possible 63%	0.137
If an infected primary teeth in your child's mouth require extensive treatment probably requiring a few visits to the dental office and some expenditure:	You will agree for treatment 72%	You will agree for treatment 63%	0.266
Reason if not agreeing	Time 31% Economically difficult 29% Unnecessary to spend time and money 40%	Time 27% Economically difficult 25% Unnecessary to spend time and money 48%	0.254
If an infected primary tooth require extraction which is the only possible treatment option:	You will agree for extraction 86%	You will agree for extraction 72%	0.006
Reason if no agreeing	Eyes will get affected 14% Bain will get affected 41% As tooth wil shed there is no need for extraction 1% Will cause pain/trauma in child 20% Expenditure 24%	Eyes will get affected 11% Bain will get affected 63% As tooth wil shed there is no need for extraction 1% Will cause pain/trauma in child 18% Expenditure 7%	0.000

Table 3: Comparison on the basis of Age Groups

Item	18-30 Years	31-45 Years	46-60 Years	60+ Years	P- Value
Previous dental visits (per year)	1-2 Visits 42% 3-5 Visits 20% 6 Or more Visits 14% None 24%	1-2 Visits 54% 3-5 Visits 22% 6 Or more Visits 11% None 13%	1-2 Visits 27% 3-5 Visits 19% 6 Or more Visits 27% None 28%	1-2 Visits 50% 3-5 Visits 0% 6 Or more Visits 40% None 10%	0.000
What are milk teeth/deciduous teeth?	Teeth which are present in the children drinking milk 7% Present in all children 18% First set of teeth which will be replaced by permanent teeth 63% None of these 12%	Teeth which are present in the children drinking milk 8% Present in all children 25% First set of teeth which will be replaced by permanent teeth 62% None of these 4%	Teeth which are present in the children drinking milk 19% Present in all children 21% First set of teeth which will be replaced by permanent teeth 51% None of these 8%	Teeth which are present in the children drinking milk 20% Present in all children 20% First set of teeth which will be replaced by permanent teeth 60% None of these 0%	0.006
Milk teeth/primary teeth comprising off in mouth?	All front Teeth 12% All teeth in the mouth of 4 year old children 51% Don't know 35% All upper teeth 2%	All front Teeth 27% All teeth in the mouth of 4 year old children 50% Don't know 20% All upper teeth 3%	All front Teeth 15% All teeth in the mouth of 4 year old children 60% Don't know 24% All upper teeth 1%	All front Teeth 40% All teeth in the mouth of 4 year old children 60% Don't know 0% All upper teeth 0%	0.002
How many teeth in the mouth of 3 year old are primary?	50% 34% 25% 24% None 6% All 37%	50% 44% 25% 20% None 8% All 27%	50% 29% 25% 21% None 23% All 27%	50% 78% 25% 11% None 0% All 11%	0.000
Total no of primary teeth present	8 27% 12 24% 18 5% 20 20% 4 24%	8 15% 12 38% 18 15% 20 24% 4 9%	8 5% 12 33% 18 27% 20 33% 4 3%	8 40% 12 30% 18 10% 20 20% 4 0%	0.000
Do you think primary teeth will shed?	Yes 64% No 24% Only front teeth 12% Only back teeth 0%	Yes 81% No 9% Only front teeth 10% Only back teeth 1%	Yes 56% No 18% Only front teeth 24% Only back teeth 2%	Yes 100% No 0% Only front teeth 0% Only back teeth 0%	0.000
By what age do you think all primary teeth will be replaced by permanent teeth?	4 Years 15% 6 years 51% 12 Years 29% 18 Years	4 Years 8% 6 years 60% 12 Years 31% 18 Years	4 Years 2% 6 years 56% 12 Years 40% 18 Years	4 Years 0% 6 years 50% 12 Years 40% 18 Years	0.001

	5%	1%	2%	10%	
Do you think all the permanent teeth erupt by replacing their respective milk tooth??	Yes 49% No 19% Some of them 32%	Yes 64% No 13% Some of them 22%	Yes 42% No 36% Some of them 22%	Yes 80% No 10% Some of them 10%	0.000
Primary teeth help in?	chewing 17% Appearance of child 5% Speech 6% Maintains the space for permanent teeth 4% I and ii 4% 1, ii and iii 5% I,ii and iv 7% All of the above 54%	chewing 8% Appearance of child 5% Speech 10% Maintains the space for permanent teeth 32% I and ii 45% 1, ii and iii 4% I,ii and iv 1% All of the above 34%	chewing 3% Appearance of child 9% Speech 4% Maintains the space for permanent teeth 53% I and ii 1% 1, ii and iii 3% I,ii and iv 3% All of the above 23%	chewing 20% Appearance of child 10% Speech 10% Maintains the space for permanent teeth 0% I and ii 0% 1, ii and iii 0% I,ii and iv 0% All of the above 60%	0.000
Do you think it is important to treat a decayed milk tooth?	Yes 74%	Yes 79%	Yes 58%	Yes 90%	0.000
If primary tooth is infected?	It is important to save infected primary teeth if possible 68%	It is important to save infected primary teeth if possible 81%	It is important to save infected primary teeth if possible 56%	It is important to save infected primary teeth if possible 60%	0.000
If an infected primary teeth in your child's mouth require extensive treatment probably requiring a few visits to the dental office and some expenditure:	You will agree for treatment 67%	You will agree for treatment 75%	You will agree for treatment 62%	You will agree for treatment 70%	0.106
Reason if not agreeing	Time 27% Economically difficult 35% Unnecessary to spend time and money 38%	Time 37% Economically difficult 21% Unnecessary to spend time and money 41%	Time 25% Economically difficult 28% Unnecessary to spend time and money 47%	Time 40% Economically difficult 40% Unnecessary to spend time and money 20%	0.412
If an infected primary tooth require extraction which is the only possible treatment option:	You will agree for extraction 72%	You will agree for extraction 89%	You will agree for extraction 75%	You will agree for extraction 80%	0.006
Reason if no agreeing	Eyes will get affected 9% Bain will get affected 52% As tooth will shed there is no need for extraction 0% Will cause pain/trauma in child 24% Expenditure 15%	Eyes will get affected 22% Bain will get affected 42% As tooth will shed there is no need for extraction 1% Will cause pain/trauma in child 21% Expenditure 14%	Eyes will get affected 10% Bain will get affected 54% As tooth will shed there is no need for extraction 1% Will cause pain/trauma in child 14% Expenditure 21%	Eyes will get affected 0% Bain will get affected 67% As tooth will shed there is no need for extraction 0% Will cause pain/trauma in child 33% Expenditure 0%	0.307

Table 4: Comparison on the basis of Socioeconomic Status

Item	Low	Average	High	P- Value
Previous dental visits (per year)	1-2 Visits 51% 3-5 Visits 16% 6 Or more Visits 12% None 21%	1-2 Visits 38% 3-5 Visits 23% 6 Or more Visits 24% None 16%	1-2 Visits 42% 3-5 Visits 14% 6 Or more Visits 8% None 35%	0.000
What are milk teeth/deciduous teeth?	Teeth which are present in the children drinking milk 7% Present in all children 30% First set of teeth which will be replaced by permanent teeth 46% None of these 17%	Teeth which are present in the children drinking milk 18% Present in all children 12% First set of teeth which will be replaced by permanent teeth 66% None of these 4%	Teeth which are present in the children drinking milk 3% Present in all children 46% First set of teeth which will be replaced by permanent teeth 42% None of these 9%	0.000
Milk teeth/primary teeth comprising off in mouth?	All front Teeth 31% All teeth in the mouth of 4 year old children 51% Don't know 15% All upper teeth 4%	All front Teeth 19% All teeth in the mouth of 4 year old children 56% Don't know 24% All upper teeth 1%	All front Teeth 16% All teeth in the mouth of 4 year old children 52% Don't know 29% All upper teeth 3%	0.000
How many teeth in the mouth of 3 year old are primary?	50% 49% 25% 10% None 5% All 35%	50% 34% 25% 19% None 19% All 28%	50% 37% 25% 31% None 7% All 25%	0.000
Total no of primary teeth present	8 6% 12 18% 18 34% 20 36% 4 6%	8 18% 12 28% 18 16% 20 27% 4 10%	8 6% 12 59% 18 11% 20 19% 4 5%	0.000
Do you think primary teeth will shed?	Yes 78% No 15% Only front teeth 7% Only back teeth 0%	Yes 68% No 9% Only front teeth 21% Only back teeth 2%	Yes 64% No 27% Only front teeth 8% Only back teeth 2%	0.000
By what age do you think all primary teeth will be replaced by permanent teeth?	4 Years 7% 6 years 53% 12 Years 38% 18 Years 1%	4 Years 6% 6 years 59% 12 Years 33% 18 Years 2%	4 Years 7% 6 years 55% 12 Years 35% 18 Years 3%	0.956

Do you think all the permanent teeth erupt by replacing their respective milk tooth??	Yes 67% No 14% Some of them 19%	Yes 46% No 25% Some of them 28%	Yes 58% No 27% Some of them 13%	0.001
Primary teeth help in?	chewing 13% Appearance of child 3% Speech 5% Maintains the space for permanent teeth 58% I and ii 1% 1, ii and iii 3% I,ii and iv 3% All of the above 14%	chewing 4% Appearance of child 3% Speech 8% Maintains the space for permanent teeth 31% I and ii 4% 1, ii and iii 5% I,ii and iv 4% All of the above 41%	chewing 16% Appearance of child 20% Speech 5% Maintains the space for permanent teeth 32% I and ii 2% 1, ii and iii 2% I,ii and iv 1% All of the above 23%	0.000
Do you think it is important to treat a decayed milk tooth?	Yes 63%	Yes 69%	Yes 77%	0.029
If primary tooth is infected?	It is important to save infected primary teeth if possible 63%	It is important to save infected primary teeth if possible 64%	It is important to save infected primary teeth if possible 82%	0.002
If an infected primary teeth in your child's mouth require extensive treatment probably requiring a few visits to the dental office and some expenditure:	You will agree for treatment 68%	You will agree for treatment 63%	You will agree for treatment 82%	0.006
Reason if not agreeing	Time 34% Economically difficult 34% Unnecessary to spend time and money 31%	Time 23% Economically difficult 26% Unnecessary to spend time and money 50%	Time 49% Economically difficult 27% Unnecessary to spend time and money 22%	0.001
If an infected primary tooth require extraction which is the only possible treatment option:	You will agree for extraction 83%	You will agree for extraction 78%	You will agree for extraction 86%	0.512
Reason if no agreeing	Eyes will get affected 14% Bain will get affected 17% As tooth will shed there is no need for extraction 0% Will cause pain/trauma in child 24% Expenditure 45%	Eyes will get affected 9% Bain will get affected 59% As tooth will shed there is no need for extraction 1% Will cause pain/trauma in child 21% Expenditure 11%	Eyes will get affected 28% Bain will get affected 37% As tooth will shed there is no need for extraction 2% Will cause pain/trauma in child 9% Expenditure 24%	0.307

Results suggest that the participants belonging to higher socioeconomic status showed better knowledge and attitude towards the timely oral health care of their children. Similar findings were reported in a study conducted in Lagos, Nigeria (Orenuga & Sofola, 2005).

CONCLUSIONS

- Male participants showed better knowledge towards the primary dentition as compared to the females.
- Older age groups of participants were better aware of the primary dentition related information.
- High socioeconomic groups were had a good level of insight about primary dentition and its maintenance.

Overall knowledge about primary dentition and its maintenance is satisfactory. However, there is room for improvement in some of the general public.

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