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| **Original Article** |

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| **Parents Regarding Oral Health of Pre-School Children** |

**Education of Parents Regarding Oral Health of Pre-School   
Children**

**Muhammad Junaid Lakhani1, Muhammad Wasay Latif1, Syed Muhammad Umer Hasan4, Anjum Tariq2, Marium Iqbal2 and Maria Khadija3**

**ABSTRACT**

**Objective:** To find out the knowledge and attitude of the parents regarding the oral health of their preschool children.

**Study Design:** Cross-sectional descriptive and analytical study

**Place and Duration of Study:** This study was conducted at the Department of Oral Maxillofacial Surgery, Jinnah Medical and Dental College, Karachi from October to December 2016.

**Materials and Methods:** A questionnaire based cross sectional study was conducted, the statistical population in this study was 100. The questionnaire was thoroughly explained to the parents and consent was obtained. Data were stored and analyzed using IBM-SPSS version 23.0. Independent sample t-test and One way ANOVA was done to compare the scores with occupation and number of children. Post hoc analysis was done using Tukey’s HSD test. The linear regression analysis was used to predict the scores of oral health awareness using gender and occupation of parents as independent variables. P-values less than 0.05 were considered statistically significant.

**Results:** Results of this study showed 63% of the parents knew that the most common dental disease is tooth decay. 62% of the parents agreed that it is important to take the children for regular dental visits. 59% of the parents agreed that the nighttime bottle feeding causes dental caries. Similarly, 49% of the parents knew that eating sweets between meals cause caries. 55% of the parents believed that primary teeth caries is preventable. Toothbrush remained the most popular choice among the cleaning aid.

**Conclusion:** It is strongly recommended to facilitate activities that help parents acquire essential education of oral health practices of their children since parents are the first role model for their children.

**Key Words:** Parent’s knowledge, attitude, oral hygiene, pre-school children, dental diseases, tooth decay

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**INTRODUCTION**

Parent’s knowledge and positive attitude towards dental care of pre-school children is essential for maintenance of oral hygiene and the prevention of dental caries in pre-school children1,2,3. There are two common factors leading to oral health issues in early childhood. First, most of the parents think that it’s not important to brush and visit the dentist for preschool children and second, regular consumption of sugary drinks through nursing bottles.4,5

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Enamel defects and malnutrition may also play a role in initiating oral health issues in early childhood6. There is a great possibility of getting permanent teeth affected if the primary teeth get decayed. It may cause early shedding or extraction of deciduous teeth, leading to mal-alignment of permanent teeth7.

World Health Organization recommends that programs should be conducted focusing on the awareness and maintenance of oral hygiene in children for effective prevention of dental caries.8 Such education will only be effective if it is directly targeted towards the attitudes, bearing in mind the socio-economic status of the targeted population. International data shows that there have been several studies regarding the practices of oral hygiene in pre-school children.0-11 Relatively fewer studies have been reported relating to awareness of parents in maintaining the oral hygiene of their children.12-14 A study conducted in Saudi Arabia reflected a diffuse correlation between the attitudes and practices of parents regarding the oral hygiene of their children. Similar studies have been carried out on locally.

**MATERIALS AND METHODS**

A questionnaire based cross sectional study was conducted in Karachi, Pakistan during the period of October to December 2016. The statistical population in this study was 100. The questionnaire was trialed on 15 participants prior to incorporation in the study. The questionnaire was thoroughly explained to the parents and consent was obtained. All parents who had children up till 6 years of age were invited to participate in the study. Parents with mentally handicapped children were excluded from the study. In cases where questionnaires were not completely filled or the subjects did not provide consent, the data were excluded and not recorded. Data was stored and analyzed using IBM-SPSS version 23.0. Counts with percentages were reported for baseline qualitative characteristics and outcomes on parent’s oral health awareness of preschool children, whereas mean with standard deviation were given for quantitative parameters of study. Independent sample t-test was used to compare the mean scores on parent oral health awareness with age group and gender and One Way ANOVA was done to compare these scores with occupation and number of children. Post hoc analysis was done using Tukey’s HSD test. The linear regression analysis was used to predict the scores of oral health awareness using gender and occupation of parents as independent variables. P-values less than 0.05 were considered statistically significant. Pie Chart and bar diagrams were also used to give graphical presentation of data.

**RESULTS**

There were one hundred samples. Among them 64% were between age group 20 – 30 years old, 90% were female gender, 66% were housewife and 32% samples found with two children in family. The Cronbach’s alpha gives the reliability of parent oral health awareness tool found 0.60 statistically adequate.

Table-1 gives the percentage of correct responses on parent oral health awareness of preschool children. Results showed there were 65% samples known to brush the teeth twice daily, 57% know about twenty count of milk teeth, 74% disagreed that milk teeth do not require good care as it is going to fall anyway, 98% agreed that good oral health is related to good general health, 63% know that tooth decay is the most common dental disease in child, 92% agreed that healthy milk teeth are essential for children to chew the food properly, 55% know that tooth brushing prevents tooth decay, 21% know that cleaning of a child’s teeth should commence after eruption of first milk tooth, 81% use a tooth brush to clean their child’s teeth, 53% said they brush their child’s teeth twice a day or after every meal, 94% use tooth paste as material to clean their child’s teeth, 31% change their child’s tooth brush once a month, 29% said their child rinses after meal, 68% said that the tooth paste they were using contains fluoride, 42% were familiar that fluoride in the tooth paste prevents tooth decay, 55% know about all causes of gum diseases, 61% think that regular brushing prevent gum disease, 62% agreed that it is necessary to take the child for regular dental visits, 85% agreed that cleaning of the child’s teeth should be done by mother, 63% agreed that it is necessary to clean the child’s teeth after every meal, 49% agreed that eating sweets between meals contribute to dental caries, 59% agreed that night time bottle feeding with sugar contribute to dental caries, 44% agreed that primary teeth can affect permanent teeth and 55% agreed that primary teeth caries is preventable.

The mean scores on parent’s oral health awareness shows that there were 59% parents found with 51 – 75% knowledge on oral health awareness with mean scores 61.08 (SD=±6.22), 31% parents found with less than 50% knowledge with mean score 42.43 (SD=±7.3) and 10 % samples found with more than 75% knowledge on oral health awareness with mean scores 80. 0 (SD=±3.97).

**Table No.1: Outcomes on Parents Oral Health Awareness of Pre School Children**

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| **Items** | **Response** | **%** |
| How often do you brush your teeth? | Twice daily | 65 |
| How many milk teeth are there in a child's mouth? | Twenty | 57 |
| Milk teeth do not require good care as it is going to fall anyway? | Disagree | 74 |
| Good oral health is related to the good general health? | Agree | 98 |
| What is the most common dental disease in child? | Tooth decay | 63 |
| Healthy milk teeth are essential for children to chew the food properly? | Agree | 92 |
| Which of the following do you think prevents the tooth decay? | Tooth brushing | 55 |
| When did you commence the cleaning of your child's teeth? | After first milk tooth erupt | 21 |
| Which of the following aids are used to clean your child's teeth? | Toothbrush | 81 |
| How many times do you brush your child's teeth? | Twice a day / After every meal | 53 |
| What material do you use to clean your child's teeth? | Tooth paste | 94 |
| When do you change your child's tooth brush? | Once a month / Once bristles fray out | 31 |
| Does your child rinse the mouth after eating/drinking? | Yes | 29 |
| At what time do you give the sugary food items to your child? | With meals | 9 |
| Does the tooth paste you are using contain fluoride? | Yes | 68 |
| What is the role of fluoride in the toothpaste? | Prevents tooth decay | 42 |
| Causes for gum diseases? | All of the above | 55 |
| Which of the following do you think prevent the gum disease? | Regular brushing | 61 |
| When do you take the child to visit the dentist? | Every 6 months | 11 |
| It is necessary to take the child for regular dental visits? | Agree | 62 |
| Cleaning of the child's teeth should be done by mothers? | Agree | 85 |
| It is necessary to clean the child's teeth after every meal? | Agree | 63 |
| Eating sweets between meals contribute to dental caries? | Agree | 49 |
| Night time bottle feeding with sugar contributes to dental caries? | Agree | 59 |
| Primary teeth can affect permanent teeth? | Agree | 44 |
| Primary teeth caries is preventable? | Agree | 55 |

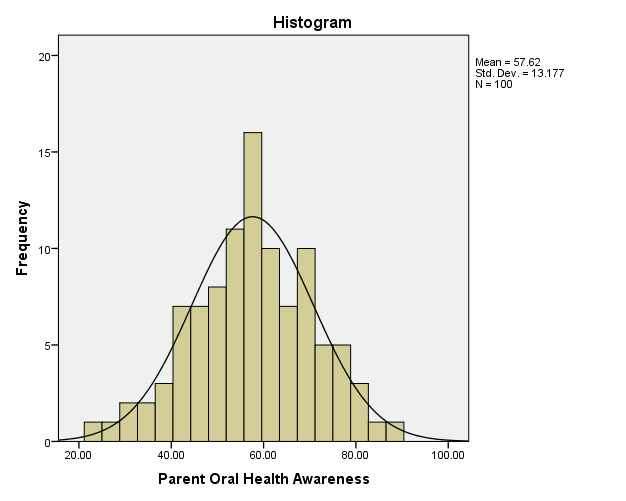
**Table No.2: Mean Comparison of Parents Oral Health Awareness with Studied Parameters**

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| --- | --- | --- | --- | --- |
| Parameters | | Mean | SD | p-value |
| Age (years) | 20-30 | 57.69 | 14.13 | 0.93 |
| 30-40 | 57.48 | 11.48 |
| Gender | Male | 48.85 | 12.44 | 0.026\* |
| Female | 58.59 | 12.96 |
| Occupation | Housewife | 58.22 | 13.46 | 0.048\* |
| Dentist/doctor | 63.85 | 11.92 |
| Businessman/woman | 47.44 | 10.36 |
| Other | 56.92 | 11.74 |
| Number of children | One | 61.07 | 11.61 | 0.25 |
| Two | 57.33 | 14.44 |
| Three | 54.68 | 14.62 |
| Four | 54.49 | 9.54 |
| \*p<0.05 was considered significant | | | | |

**Table No.3: Association of Gender and Occupation with Parent Oral Health Awareness using Regression Analysis**

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| --- | --- | --- | --- | --- | --- | --- |
| Para-meters | Beta Coefficient | | t-value | 95.0% C.I for Beta | | p-value |
| B | S.E | Lower Bound | Upper Bound |
| (Constant) | 47.921 | 4.081 | 11.743 | 39.821 | 56.021 | <0.01\* |
| Female | 9.075 | 4.281 | 2.120 | 0.578 | 17.572 | 0.037\* |
| Doctors/ dentist | 5.91 | 4.31 | 1.372 | -2.642 | 14.469 | 0.17 |
| Dependent : Oral Health Awareness Scores , Independent : Gender, Number of Children ,Model R2 = 26% ,  Overall Model Significance using ANOVA test p=0.03 | | | | | | |

Table-2 gives the mean comparison of Parents oral health awareness scores with studied parameters. Results showed parents with age 20 – 30 years old having mean score 57.69 (SD=±14.13) and age group 30–40 years old having mean scores 57.48 (SD=±11.48). The mean score of mothers was 58.59 (SD=±12.96) and fathers was 48.84 (SD=±12.44). The mean score of housewives was 58.22 (SD=±13.46), dentist/doctor was 63.85 (SD=11.92) and business woman was 47.44 (SD=10.36). The mean score of one child parent was 61.07 (SD=±11.61) and four child parent was 54.49 (SD=±9.54). Statistically significant mean difference in scores of oral health awareness were observed with respect to gender of parents and occupation. Mothers have more knowledge as compared to fathers and housewives have more knowledge on oral health awareness as compared to businessman/woman p<0.05.



**Histogram : Distribution of Parents Oral Health Awareness Scores**

Table-3 gives the regression results on prediction of knowledge on oral health awareness. Results showed that female gender is 9.07 times more likely for greater knowledge as compared to the male gender found statistically significant with p<0.05 and doctors / dentist also have greater knowledge as compare to other occupation samples. The overall model was found statistically significant with p<0.05 and R2 showed 26% variation in the model as explained by the studied predictors.

**DISCUSSION**

Maintenance of oral health of children is vital as it leads to development of healthy habits. Parents play a vital role in the development and maintenance of oral hygiene practices but it is imperative that they too practice them along with their children.

63% of the parents in this study identified tooth decay as the most common dental disease which is similar to the results reported by Sehrawat et al15, Suresh et al16 and Wyne et al10.

In the present study, it was seen that majority of the parents were aware about the importance of deciduous teeth. Similar results were reported by a study conducted at Civil Hospital, Karachi17.

Good oral health is related to good general health as healthy deciduous teeth are required to chew food properly. This was positively reflected in our study. Whereas, Sehrawat et al and Suresh et al reported that the study population had partial knowledge about the significance of deciduous teeth.

A significant part of the study population failed to recognize the importance of maintaining the hygiene of the deciduous dentition as it eventually sheds off. 55% of the respondents in this study stated that tooth decay can be prevented by regular tooth brushing. On the other hand, a similar percentage of parents stated that there was no particular time for sugar intake of their child. This is in conjunction with the studies reported by Gussy et al18 and Suresh et al.14 This reflects knowledge and awareness regarding popularly held beliefs that sugar intake combined with lack of brushing can lead to poor oral hygiene but the attitude towards practicing oral hygiene measure requires improvement.

Around one-fourth of the parents in our study cleaned their child’s teeth after the eruption of 4 to 6 milk teeth which was similar to the results reported by Sehrawat   
et al13 where 34.1% of the parents started cleaning their child’s milk teeth after all teeth have erupted. This is contrary to the results of a study conducted in rural Australia where 95% of the parents commenced cleaning of their child’s teeth as soon as the first tooth has erupted. It is imperative that oral hygiene measures shall be undertaken with the eruption of the first tooth in the oral cavity as this will culminate in good independent oral hygiene practice of the child.

In our study, it was seen that the majority (59%) of parents did not restrict the sugar intake of their child and only 9% of the parents restricted the sugar intake to meal times only. This means that the parents are not fully aware about the restriction of sugar intake and the role of sugar in caries development. This was contrary to the results of Blinkhorn et al19 where 62% of the parents restricted the sugar intake to mealtimes only. Majority of the parents in this study agreed that the teeth should be cleaned after meal but only 29% made their children rinse their mouth after meals. Similar results were reported by Sehrawat et al.13 This combined with unrestricted sugar intake indicates that there is lack of implication between knowledge and practice of maintaining the oral hygiene.

Parents should be encouraged to maintain good oral hygiene and take their children for dental checkups as soon as the first tooth erupts. The age at which the child visits the dentist for the first time will reflect the future and quality of his oral health.20 Focus group discussions, involving parents and oral health care providers can be an effective way of providing guidelines to the parents of pre-school children.21

**CONCLUSION**

Our study concluded that parents did not have sufficient knowledge towards the oral health of their children. Few parents had good oral health practices for themselves but did not know enough about the correct age at which they should commence the cleaning of their child’s teeth. Most of them did not have any clue about how important are the dental visits for children right after their first tooth eruption. There is some variation in the knowledge and attitude of working parents and non-working ones. The more educated ones had a fair idea about oral health as compared to the ones who were not educated enough because a parent’s education has a strong impact on overall health of their children.

**Recommendations:** It is strongly recommended to facilitate activities that help parents acquire essential knowledge regarding good oral health practices for their children since parents are the first role model for their children.

**Author’s Contribution:**

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| Concept & Design of Study: | Muhammad Junaid Lakhani |
| Drafting: | Muhammad Wasay Latif, Syed Muhammad Umer Hasan |
| Data Analysis: | Anjum Tariq, Marium Iqbal, Maria Khadija |
| Revisiting Critically: | Muhammad Junaid Lakhani, Muhammad Wasay Latif |
| Final Approval of version: | Muhammad Junaid Lakhani |

**Conflict of Interest:** The study has no conflict of interest to declare by any author.

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