



## ORAL HEALTH MAINTENANCE IN CHILDREN WITH SELF BRUSHING AND PARENTS GUIDENCE: A PILOT STUDY

**\*AISHWARY.A.S AND DR.DEEPA GURUNATHAN#**

*\*III year, Bachelor of Dentistry, Saveetha Dental College*

*Department of Pediatric Dentistry, Saveetha Dental College*

*# Associate Professor, Department of Pediatric Dentistry, Saveetha Dental College, Chennai*

### ABSTARCT

Behavioural habits are mostly thought at home, which also includes brushing. Brushing is very important for maintaining oral hygiene. It is very important to evaluate the children their brushing habit. Parents play a main role in guiding them. Our aim is to access the tooth brushing habits of children and to determine the role of supervision given to them by the parents. This analysis is to create awareness about brushing to the parents to self evaluate if they are guiding their children properly. A self- designed questionnaire was used to collect Information from parents of 150 primary children in Chennai. Statistical analysis was done using SPSS 16.0 version. Tooth brushing was started at the mean age of 48 months. 77.7% of the children used tooth paste and tooth brush for cleaning teeth and brushing habits were mainly introduced 96% by mothers. 32.7% of children were cooperative when they introduced brushing. Once brushing was found to be common. Well educated parents had confidence on their teaching the habit. The lack of knowledge regarding the initiation of brushing and the frequency of brushing might lead to inadequate oral hygiene. Hence. promoting knowledge to parents could improve the children oral health status.

**KEYWORDS:** primary school children brushing habits, oral health maintenance in children, parental attitudes towards children brushing.



\*Corresponding author



**AISHWARY.A.S**

III year, Bachelor of Dentistry, Saveetha Dental College

## INTRODUCTION

Tooth brushing is the mechanical removal of plaque and debris, hence preventing the development of dental caries and periodontal infections. The incidence of dental caries in school children has been found to be high in children who have poor maintenance of oral hygiene<sup>(1)</sup>. Tooth brushing techniques that are learnt during the first five years of life is the basis for maintaining good oral hygiene in the later years. Parental oral health related knowledge directly influences the tooth brushing habits of the children<sup>(2)</sup>. The mother has the major role in teaching the children tooth brushing habits, which includes pattern of brushing, frequency of brushing, type of toothbrush and tooth paste they use<sup>(3)</sup>. When parents did not have enough knowledge on causes and prevention of caries, it becomes difficult to teach the child good oral hygiene. Studies that indicate increased risk of caries also suggest that the mothers do not teach their children healthy lifestyles<sup>(4)</sup>. It is not enough to teach the children proper brushing techniques once, but constant guidance is required to

practice the method on the daily basis<sup>(5)</sup>. The main objective is to assess the tooth brushing habits of school children and to determine the role and amount of supervision given to them by the parents. This study investigates the onset and frequency of brushing, the person involved in teaching the children.

## MATERIALS AND METHODS

The study sample consisted of 150 primary school children from school in Chennai. A self-designed questionnaire was used to collect socioeconomic status and information of oral hygiene practices. Parents were clearly explained about the study and the questionnaire was given to them through children in the school. Later the filled up questionnaire was collected from the children. The study was done in both male and female gender including either father or mother. The collected data was analysed with SPSS 16.0 version. It was used to describe about the data descriptive statistics frequency analysis, percentage analysis.

*The questionnaire is given as appendix 1*

### QUESTIONNAIRE

CHILD'S NAME:  
MOTHER'S NAME:  
MOTHER'S EDUCATIONAL  
QUALIFICATION:  
SOCIO-ECONOMIC STATUS: (kuppuswamy scale)

SEX:  
FATHER'S NAME:  
FATHER'S EDUCATIONAL  
QUALIFICATION:

### EDUCATION

1. Professional
2. Graduate
3. Intermediate/post high school diploma
4. High school
5. Middle school
6. Illiterate

### OCCUPATION

1. Professional
2. Semi-professional
3. Clerk, shop owner, farmer
4. Semi-skilled worker

5. Unskilled worker
6. Unemployed

**FAMILY INCOME**

1. > 34830
2. 17415-34829
3. 13029-17414
4. 8707-13028
5. 5224-8706
6. 1744-5223
7. <1743

**RURAL/URBAN/SUB URBAN**

1. AT WHAT AGE YOUR CHILD STARTED BRUSHING HIS OR HER TEETH?

ANS:

2. WHO INTRODUCED BRUSHING TO YOUR CHILD?

- A) MOTHER    B)FATHER    C)GRANDPARENTS    D)SIBLINGS    E)OTHERS

3. WHO USUALLY BRUSHES YOUR CHILD'S TEETH?

- A) CHILD ITSELF    B)MOTHER    C)FATHER    D)CHILD AND PARENT TOGETHER

4. WHAT WAS YOUR CHILD'S BEHAVIOUR WHEN YOU INTRODUCED BRUSHING HIM/HER?

- A) CO-OPERATIVE    B)LESS CO-OPERATIVE    C)UNCO-OPERATIVE    D)DONT REMEMBER

5. HOW OFTEN ARE YOUR CHILD'S TEETH BRUSHED?

- A) DON'T BRUSH    B)ONCE A DAY    C)TWICE A DAY    D)MORE THAN TWICE

6. DO YOU ASSIST YOUR CHILD WHILE BRUSHING?

- A) YES    B)NO

7. WHAT TYPE OF CLEANING AID WAS USED FOR BRUSHING WHEN IT WAS STARTED?

- A) TOOTHPASTE AND TOOTHBRUSH    B)TOOTHPASTE ONLY    C)TOOTHBRUSH ONLY  
D) TOOTH POWEDER    E) OTHER CLEANING AIDS

8. WHEN ARE YOUR CHILD'S TEETH USUALLY BRUSHED?

- A) BEFORE BREAKFAST    B)AFTER BREAKFAST    C)AFTER LUNCH    D)BEFORE BED

9. DO YOU BELIEVE THAT TEACHING CORRECT METHOD OF BRUSHING HELP HIM/HER TO MAINTAIN A GOOD ORAL HEALTH IN FUTURE?

- A) YES                      B)NO                      C)DON'T NO

10. DO YOU BELIEVE THAT YOU THOUGHT A CORRECT METHOD OF TOOTHBRUSHING TO YOUR CHILD?

- A) YES                      B)NO                      C)DON'T NO

### **PARENT'S CONSENT**

The questionnaire was explained to me and all my queries answered. I participated in this study with my own free will. \_\_\_\_\_

### **RESULTS**

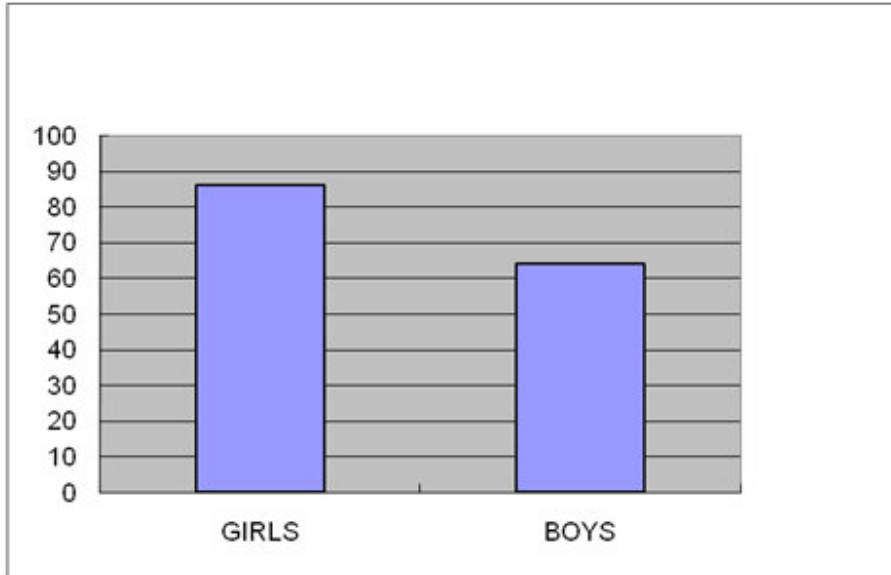
The study sample contained 150 children. In this 57.3% were female, 42.7% were male children. The mean age of the school children was 48 months ranging from 12-60 months (Table 3). The first tooth to erupt was at a mean age of 7.3% months as reported by parents through questionnaire. 55% of parents were graduate, 28% were professional, 10.7% were diploma, 0.7% was high school in educational qualification. 36% were professionals, 25.3% were semi professional, 30.7% were owners, 5.3% were unskilled workers, 2% were unskilled workers, 0.7% were unemployed in occupation ( Table 2 and Graph 1). 18% had income above 34,000 , 21.3% had income ranged from 17,000-34,000 , 22.7% had ranged from 13,000-17,000 , 10% had from 8,000-13,000 , 10.7% had from 5,000-8,000 , 16.7% had from 1,000-5,000 , 0.7% had below 1,000 per month in family income which were grouped as socio economic status (Graph 2). 43.3% were from rural area, 56.7% were from urban area. 20.7% of School children started to brush their teeth at 1 year, 48% of children started brushing at the age of 2 years, 30.7% started by 3 years, 0.7% started brushing later than 3 years (Table 3). Brushing was

introduced to the children 96% by mother, 2% by father,0.7% by grandparents,1.3% by their siblings (Table 4). Usually the children were brushed 10% by themselves,75.3% by mother,1.3% by father, 13.3% child and the parent together. When the behaviour was assessed parents rated their co-cooperativeness as 32.7% were co-operative, 57.3% were less co-operative, 7.3% were un-cooperative, 2.7% of parents did not remember how actually the children behaved (Graph 3). When the frequency of brushing was asked parents reported as 2.7% never brush, 90.7% brush once a day, 6% brush twice a day, 0.7% brushes more than twice a day (Table 5). When parents were asked if they guide their wards, they reported as 87.3% reported positive and 12.7% reported negative. About 77.7% of children used toothpaste and toothbrush as their cleaning aid, 3.3% used tooth paste only, 3.3% used tooth powder only, 5.3% used other cleaning aids (Table 6). When enquired about the timings the children brush, 96% before breakfast, 0.7% after lunch, 3.3% before bed. When parents were asked about the satisfaction in teaching the brushing technique and measures they take to prevent the oral

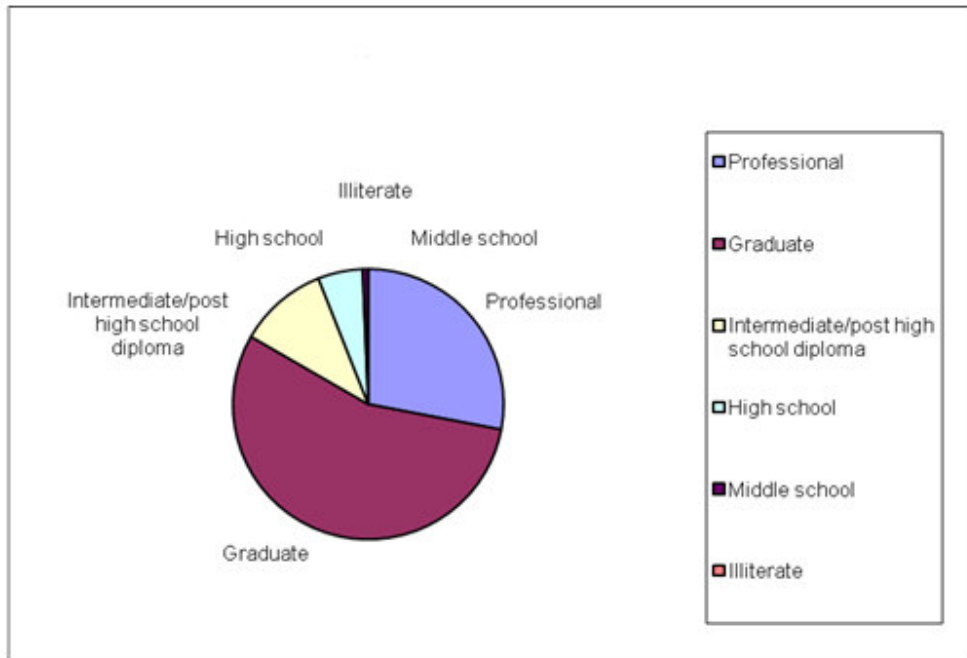
health 78% parents were confident in teaching, 0.7% were not confident, 21.3%

were not aware if their teaching helped their children or not.

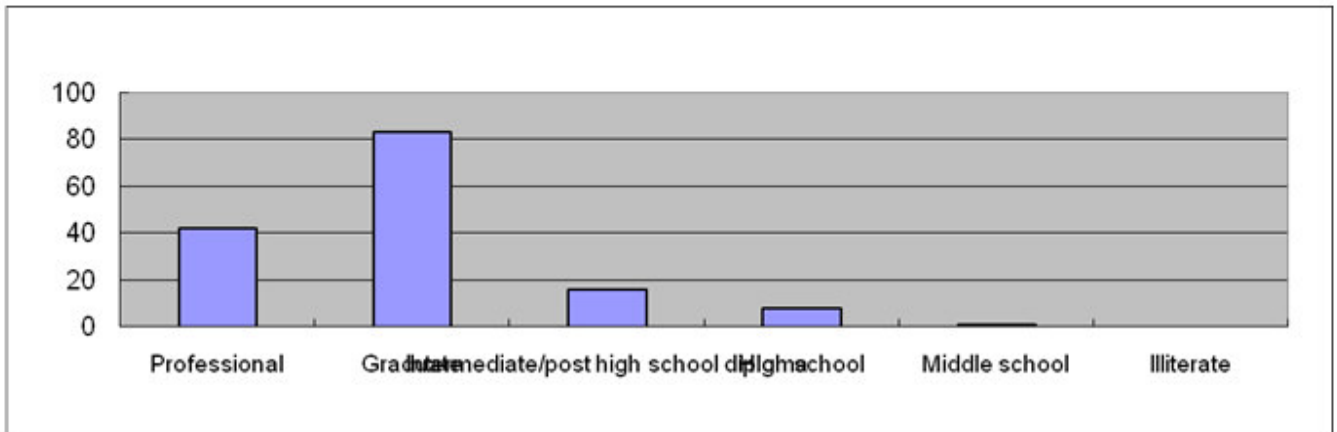
**Table 1**  
**SEX OF THE CHILDREN**



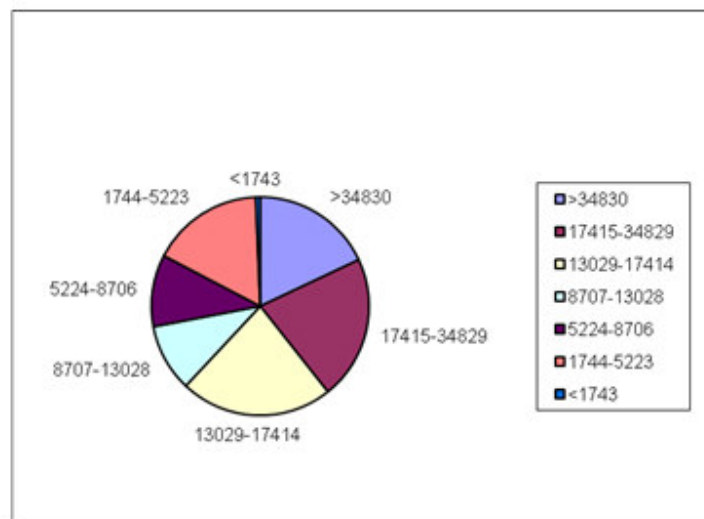
**Graph 1**  
**Level of education of Parents**



**Table 2**  
**Level of education of Parent**



**Graph 2**  
**Family income level**



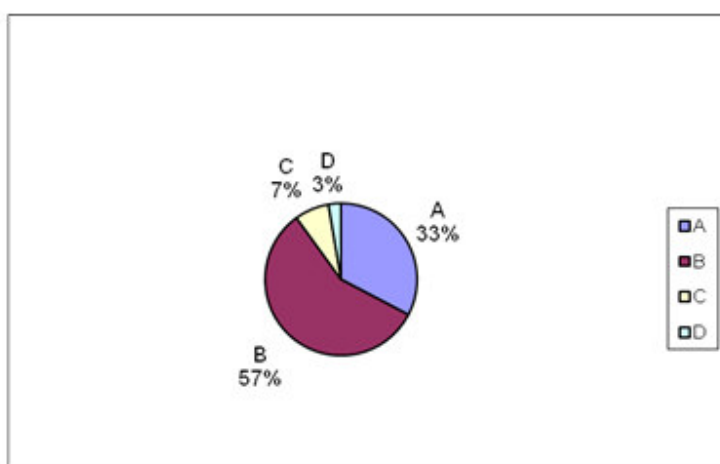
**TABLE 3**  
**AGE AT WHICH CHILDREN STARTED BRUSHING**

AGE	n	PERCENTAGE (%)
0 -12 MONTHS	31	20.7
12-24 MONTHS	72	48
24-36 MONTHS	46	30.7
36-48 MONTHS	1	0.7
Total	150	100

**TABLE 4**  
**PERSON RESPONSIBLE FOR INTRODUCING TOOTH BRUSHING IN PRIMARY SCHOOL CHILDREN**

PERSON	n	PERCENTAGE (%)
MOTHER	144	96.0
FATHER	3	2
GRAND PARENTS	1	0.7
SIBILINGS	2	1.3
OTHERS	0	0.0
Total	150	100

**GRAPH 3**  
**BEHAVIOUR OF CHILD WHEN BRUSHING WAS INTRODUCED: first**



A-COOPERATIVE,  
B-LESS COOPERATIVE,  
C-UN COOPERATIVE,  
D-DO NOT REMEMBER

**Table 5**  
**FREQUENCY OF BRUSHING**

FREQUENCY	n	PERCENTAGE (%)
DON'T BRUSH	4	2.7
ONCE A DAY	136	90.7
TWICE A DAY	9	6.0
MORE THAN TWICE	1	0.7
Total	150	100

**Table 6**  
**AIDS USED FOR BRUSHING**

AIDS	TOTAL	PERCENTAGE (%)
TOOTH PASTE AND BRUSH	132	88.0
TOOTH PASTE ONLY	5	3.3
TOOTH BRUSH ONLY	0	0.0
TOOTH POWDER	5	3.3
OTHER AIDS	8	5.3
Total	150	100

## DISCUSSION

Brushing is the mechanical method of eliminating plaque and debris and a simple way to postpone any oral disease<sup>(2)</sup>. Brushing is cultivated in children mind by their parents which have an impact on their oral health for their life time<sup>(3)</sup>. Parental attitudes play a major role in influencing the importance in maintaining oral hygiene<sup>(6)</sup>. Hence parents of school going children were involved. This study reveals how the parents have their attitudes towards brushing. Most of the parents were educated and have an idea about brushing and oral hygiene, as mentioned in similar research by Fawaz pullishery<sup>(1)</sup>, Khadri et al<sup>(2)</sup>, Saied et al<sup>(3)</sup>. Parents are the primary force influencing child development in the early childhood days<sup>(4)</sup>. Oral health of the children is associated with oral health knowledge of their parents / guardians as oral health related habits are established during infancy and maintained throughout early childhood<sup>(4)</sup>. Since parents had knowledge over maintaining dental health, they strongly said that brushing is inevitable and hence, they assist their children as mentioned in other articles Elam et al<sup>(4)</sup>, Saied et al<sup>(3)</sup>. Brushing is the initial step in maintaining oral hygiene practice. Result of this study is regarding the onset of brushing habit was similar with studies done by Fawaz pullishery et al<sup>(1)</sup>, Huebner and Riedy<sup>(7)</sup>, Kuposava.N et al<sup>(8)</sup>. Brushing habit was incorporated to the children mostly (96%) by their mothers as the other studies results said in Fawaz et al (84%)<sup>(1)</sup>, Huebner and riedy (55%)<sup>(7)</sup>, N.Mubeen (65% and above)<sup>(9)</sup>, Robert J schroth et al (89%)<sup>(6)</sup> Elham et al<sup>(4)</sup>. Most of the children were guided by their mothers while brushing which the results matched to studies done by Fawaz et al<sup>(1)</sup>. This is probably that mother is the first teacher for anything and everything. 88% of parents thought children brushing using tooth brush and tooth paste which was quiet similar to the study done by Fawaz et al<sup>(1)</sup> where 47% parents used tooth brush and paste, 58.4% parents did the same in the study done by Rafi A. Togoo<sup>(10)</sup>. This can probably due to tooth paste and brush was easily available commercially than any other aids. Similar to

results of this study, A Norwegian study by Kuposova et al<sup>(8)</sup> reported that parental education and socioeconomic status had an impact on child's oral health<sup>(6)</sup>. Parents socioeconomic status plays a major role in maintaining oral health. When the parents filled the questionnaire, it was evident that the higher socio economic status parents had took extra interest in maintaining and better oral health practices, where they thought it was necessary to go for dental visits and had knowledge about prevention of caries like fluoride paste use, similar findings were mentioned in study done by Jain et al<sup>(10)</sup>. Those who were highly educated also took intense care in how their wards brush their teeth and they also monitored them periodically. These findings were similar to study done by Fawaz et al<sup>(1)</sup>, Elham Bozorgmehr et al<sup>(4)</sup>. Frequency of brushing was on once daily basis by 90.7% children in this study which was in correlation with a study by Fawaz et al<sup>(1)</sup> by 78.4%, 63.4% by Rafi A. Togoo<sup>(10)</sup>. Likewise twice a day basis was by 6% children in this study and 16% children in a study by Fawaz et al<sup>(1)</sup>. This was contradicted to the study by Huebner et al where they mentioned about 65% of parents reported twice daily brushing<sup>(7)</sup>. This could be because parents were unaware about necessity of twice brushing habits to the parents, might skip due to laziness. Studies done by Jain et al stated that 95% of parents told brushing must have started as soon as the first primary teeth had erupted, where parents who participated in this study did not give any such statement. Studies done by Rafi A. Togoo<sup>(10)</sup> tells that 64.3% brushed their teeth once daily which is in contradiction to this study telling 90% brushed once a day. And 58.4% used tooth paste and tooth brush whereas this study tells 88% use toothpaste and toothbrush which is also a contradiction. 32.6% were supervised while brushing but in this study 96% were supervised and guided showing contradiction<sup>(11)</sup>.

## CONCLUSION

The children started their brushing at the mean age of 48 months. The behaviour was initiated by mothers and consistent guidance was given



by them. The children were mostly less cooperative initially, later they learnt the behaviour as they age. Most of the parents thought them the brushing using toothbrush and tooth paste. The twice daily brushing was still unaware among the parents who participated in the study. Parents with high educational qualification were confident in their

teaching. Results of this study indicate that the parental attitudes and their knowledge about oral health have an impact on children. Developing oral health programs for parents might influence the children in an indirect way and hence efforts must be taken to make those programs happen. This is necessary for better maintenance of oral hygiene.

## REFERENCE

1. Fawaz Pullishery, Ganesh Shenoy panchmal, Rekha Shenoy. Parental attitudes and tooth brushing habits in pre-school children in mangalore, Karnataka; a cross sectional study. *International Journal of Pediatric Dentistry*, 6(3):156-160, (2013)
2. Khadri F A, Gopinath VK Hector MP, Davenport ES. How school children learn to brush their teeth in Sharjah, United Arab Emirates. *International Journal of Paediatric Dentistry*, 20(3):230-234, (2010)
3. Saied Moallemi Z, Virtanen JI, Gofranipour F, Murtomaa H. Influence of mother's oral health knowledge and attitudes on their children dental health, *European Archives of Pediatric Dentistry*, 9(2):79-83, (2008)
4. Elham bozorgmehr, Abolghasem Hajizamani, and Tayebah Malek Mohammadi. Oral health behaviour of parents as a predictor of oral health status of their children, *ISRN Dentistry*, 1-5, (2013)
5. Kristina Soldunaite, Egle Aida Bendoraitiene, Egle Slabsinskiene, Ingrida Vasiliauskiene, Vilija Andruskeviciene, Jurate Zubiene. The role of parental education and socioeconomic status in dental caries prevention among Lithuanian children, *Medicina*, 50(3):156-161, (2014)
6. Robert J schroth, Douglas J Brothwell, Michael EK Maffatt. Caregiver knowledge and attitudes of preschool oral health and elderly childhood caries, *International Journal of Circumpolar Health*, 66(2):153-167, (2007)
7. Colleen E. Huebner, and Christine A. Riedy. Behaviour determinants of brushing young children teeth. Implications for anticipatory guidance, *NIH Public Access*, 32(1): 48-55, (2010)
8. Kuposova N, Widstrom E, Eisemann M, Kuposova R, Eriksen HM. Oral health quality of life in Norwegian and Russian school children: a pilot study. *Stomatologija*, 12(1) :10-16, (2010)
9. N.Mubeen, Nighat Nisar. Factors affecting mothers brushing technique of less than 5 years of age of children in Pakistan. *Journal of Dentistry and Oral Hygiene*, 7(6): 86-90, (2015)
10. Romi Jain, Kunal C Oswal, Rajeev Chitguppi. Knowledge, attitude and practices of mothers towards their children oral health: a questionnaire survey among sub population in Mumbai, *Journal of Dental Research and Scientific Department*, 1(2):40-5, (2014)
11. Rafi.A Togoo, Syed Mohammed Yaseen, Zakirulla M, Nasim V.S, Mohammad Al Zamzami. Oral hygiene knowledge and practices among school children in a rural area of Southern Saudi Arabia. *IJCD*, 3(1), (2012)