



CODEN [USA]: IAJ PBB

ISSN: 2349-7750

INDO AMERICAN JOURNAL OF  
**PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.3818175>Available online at: <http://www.iajps.com>

Research Article

**RELATIONSHIP BETWEEN KNOWLEDGE OF PARENTS  
ABOUT ORAL HYGIENE AND DENTAL DECAY**

Dr. Anoosh Alishbah, Dr. Tooba Sarwar Choudhary, Dr. Aleena Javed

Dental section, Faisalabad Medical University Faisalabad

Article Received: March 2020

Accepted: April 2020

Published: May 2020

**Abstract:**

**Objective:** This research work aimed to assess the relationship between the parent's knowledge about the oral health and their children's dental caries.

**Methodology:** This transverse research work carried out in Faisalabad. The oral examination of three hundred and ninety-nine children getting education in the private schools, performed to evaluate the status of their dental caries. We used a self-organized questionnaire to check the parent's awareness about the oral health.

**Results:** There were 49.0% male & 51.0% females in this research work. The occurrence of the dental caries was about 70.0% with an average score of DMFT as 1.40 was much high in female in comparison with the male boys. There was an increase in the dental caries with the increase of the age from 12 to 15 years. Parents were present with the knowledge that regular checkups by dentist are good for the prevention of the dental caries but most of the patients were visiting the doctors when there was severe pain in the teeth.

**Conclusion:** Current research work discovered that there was high prevalence of the dental caries among girls as compared to the boys. The awareness of the parents about the oral health of the children can impact the oral health of their children. There should be an arrangement of the programs to increase the awareness of oral health for the increase in knowledge of parents and their children.

**Keywords:** Dentist, methodology, DMFT, relationship, comparison, prevalence, occurrence, programs, prevention, caries.

**Corresponding author:****Dr. Anoosh Alishbah,**

Dental section, Faisalabad Medical University Faisalabad



Please cite this article in press *Anoosh Alishbah et al, Relationship Between Knowledge Of Parents About Oral Hygiene And Dental Decay., Indo Am. J. P. Sci, 2020; 07(05).*

**INTRODUCTION:**

The spread of the dental caries has altered intensely in last thirty years transferring its base for the countries which are developed to the countries which are under development. The treatment of the dental diseases is very costly and it is on 4<sup>th</sup> rank in the countries which have developed [1]. The dental if not treated well can have impact on the life quality of the children which can lead to uneasiness, dental sepsis & severe pain and result loss in the school going children [2]. The high proportion of the dental caries in the countries which are under development are because of the urbanization, social & economic features [3]. Better oral health is very important factor for the hindrance of dental caries. The school going children of the developing countries have very less awareness regarding oral hygiene [3].

Currently, there are reports that status of the dental health in the children has influence of the dietary habits of children, education level of mother and social & economic class of family [4, 5, 6, 7]. AL-Hosani stated the prevalence of the low dental caries among children whose parents were available with the high level of education as well as high social & economic class [8]. A report from USA discovered that there were much difference in the oral health of the children in the high and low income group [9]. Different factors as the education level of the parents, joblessness and less income have association with the adverse health and different chronic diseases [10]. Tickle in his research work reported that the children of the poor background face more dental caries and very infrequently visit dentists [11]. There is very less amount of the data on the knowledge of the parents about oral health and its relationship with the oral hygiene of their children. Last survey carried out in 2004 in various regions of Pakistan, after that we did not see any major project regarding this topic [12].

**METHODOLOGY:**

This transverse research work carried out for the evaluation of the dental caries among children having age from twelve to fifteen years in Faisalabad. The calculated size of samples was three hundred and eighty on the basis of the past study conducted by A.A khan in the same city of Faisalabad [13] and same formula was in use for the selection of the sample size [14]. We used a standard error of 5.0%, a level of CI as 95.0% and a

proposed occurrence of 55.0% was in use. We used the random sampling method for the selection of the students. The size of sample increased to three hundred and ninety-two because to get prevention from the drop outs. We took the consent of all the principles of the selected school to ensure their participation in the research work. Almost people from every social and economic class were present in those areas. For the clinical examination of the teeth, specification prescribed by the WHO [15] were in use at this age group. We used a self-organized questionnaire containing close ended questions. We also translated the questionnaire into Urdu for easy understanding of the participants. Urdu is most common as well as national language of the country Pakistan [16] and most of the people in the country can easily understand this language. We handed over the questionnaire to the children for their parents, parent filled the questionnaire and we collected the questionnaire at next day from schools.

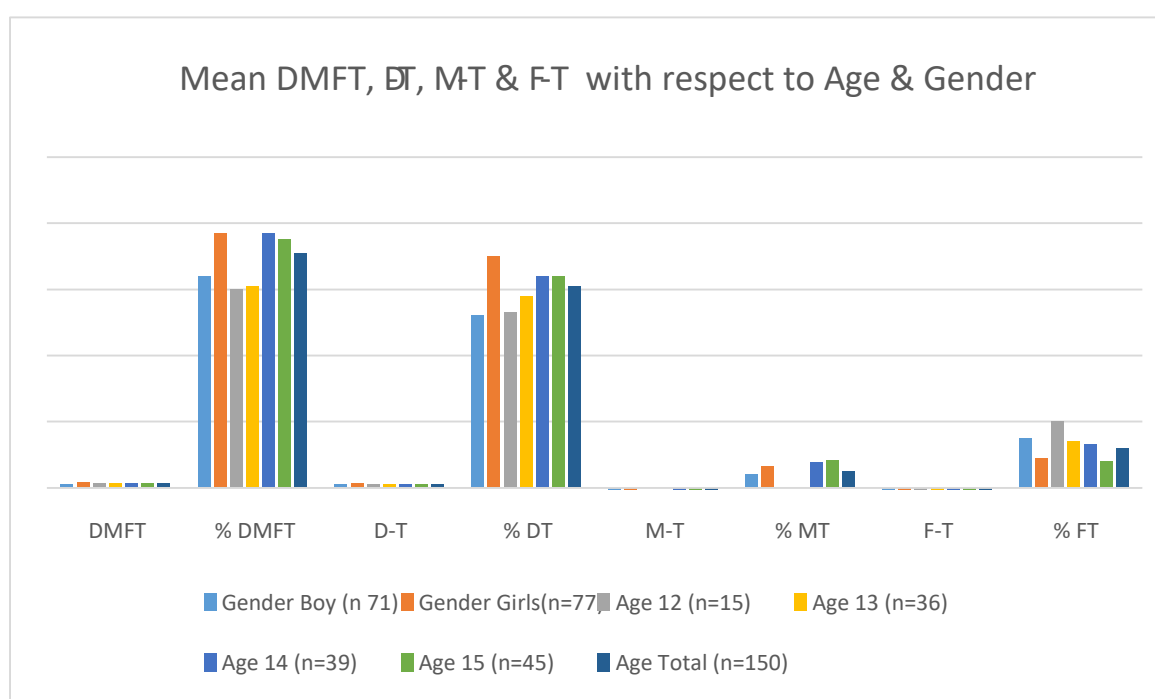
Mouth mirror, dental lamp & CPI probes were in use for the examination of the dental caries. A single operator examined all the dental caries as well as filled or missing teeth. We presented the averages and standard deviations for the continuous variables. Differences of the average for the categorical variables detected with the help of the T-test. Logistic regression was in use for the examination of the awareness of the parents about the dental caries. STATA V. 11 was in use for data entry as well as statistical analysis of the collected information.

**RESULTS:**

The rate of response by the parents was 38.0% (150) therefore there is very limited awareness of the parents about the oral hygiene of their children. Among these one hundred and fifty students, 49.0% (n: 73) were male & 51% (n: 77) were females. The rate of occurrence of the age distribution was 10.0% (n: 15) in twelve year age, 24.0% (n: 36) in 13 years of age, 26.0% (n: 39) in 14 years of age, 40.0% (n: 60) in 15 years of age. Overall average score of DMFT was 1.40 (.10), scores of D-T, M-T & F-T were 1.170 (.090), .050 (.020) and .150 (.030) respectively. The scores of DMFT increases with the increase in the age of the children as presented in Table-1.

**Table 1: Mean DMFT (SD), D-T, M-T, and F-T and frequencies of DMFT by age and sex.**

Variables		DMFT	% DMFT	D-T	% DT	M-T	% MT	F-T	% FT
Gender	Boy (n 71)	1.160	64.00	0.970	52.00	0.040	4.00	0.150	15.00
	Girls(n=77)	1.620	77.00	1.360	70.00	0.060	6.50	0.150	9.00
Age	12 (n=15)	1.330	60.00	1.130	53.00	0.000	0.00	0.200	20.00
	13 (n=36)	1.330	61.00	1.160	58.00	0.000	0.00	0.160	14.00
	14 (n=39)	1.410	77.00	1.150	64.00	0.070	7.70	0.170	13.00
	15 (n=45)	1.450	75.00	1.200	64.00	0.080	8.30	0.110	8.00
	Total (n=150)	1.400	70.70	1.170	61.00	0.050	5.00	0.150	12.00



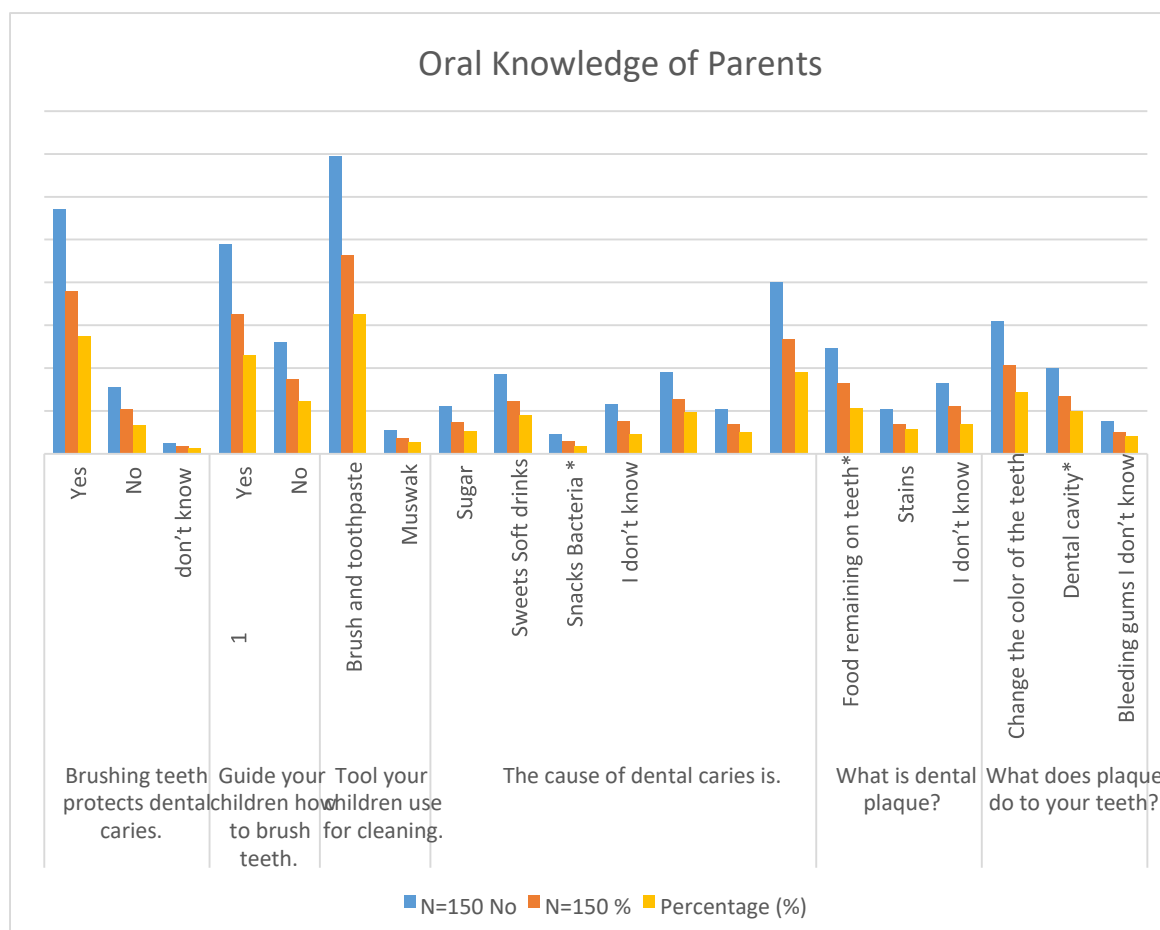
The distribution of the children according to the education of the father categorized into lower than ten year education consists 22.0% (n: 33) students, intermediate level education for 49.0% (n: 74) & education level of greater than 12 years in 29.0% (n: 43). The distribution of the students on the basis of the mother education was 39.0% (n: 59), 49.0% (n: 74) & 12.0% (n: 17) in lower, middle & higher categories respectively. We categorized the family

income lower than fifteen thousand or greater than fifteen thousand and there were 31.0% (n: 47) & 69.0% (n: 103) students in these categories respectively.

The average and standard deviation of the children present with the dental caries with association to the knowledge of the oral health in parents is available in Table-2.

**Table 2: Mean (SD), proportion of children with dental caries in relation to oral knowledge of parents.**

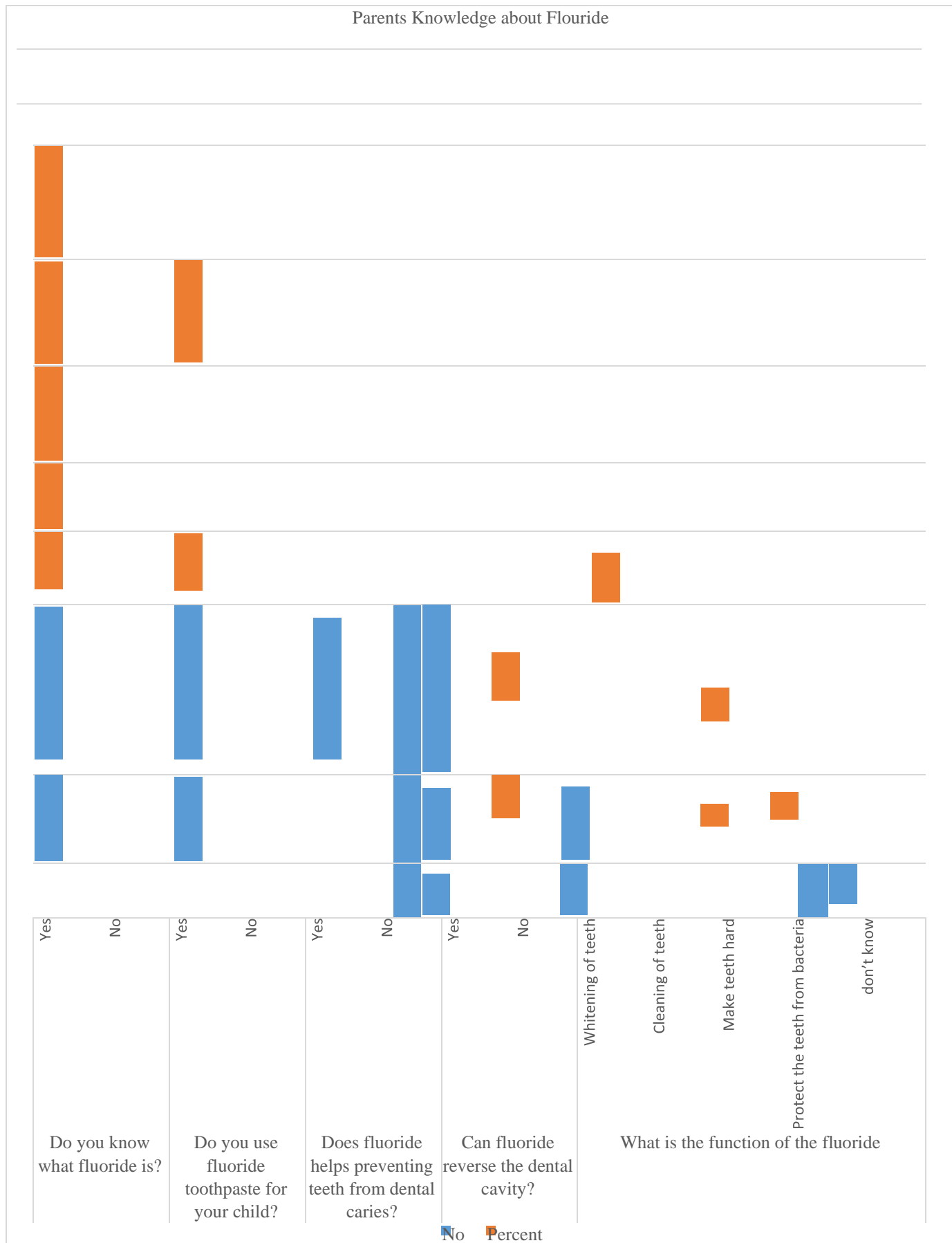
Questions		N=150		Mean(SD)	Percentage (%)	p-value
		No	%	DMFT		
Brushing teeth protects dental caries.	Yes	114.0	76.00	1.40 (1.30)	54.700	0.5000
	No	31.0	20.70	1.20 (1.10)	13.300	
	I don't know	5.0	3.30	1.20 (1.10)	2.700	
Guide your children how to brush teeth.	Yes	98.0	65.30	1.40 (1.30)	46.000	0.8000
	No	52.0	34.70	1.40 (1.30)	24.700	
Tool your children use for cleaning.	Brush and toothpaste	139.0	92.70	1.40 (1.30)	65.300	0.3000
	Muswak	11.0	7.30	1.80 (1.50)	5.300	
The cause of dental caries is.	Sugar	22.0	14.70	1.80 (1.60)	10.700	0.6000
	Sweets Soft drinks	37.0	24.70	1.40 (1.20)	18.000	
	Snacks Bacteria *	9.0	6.00	1.20 (1.10)	3.300	
	I don't know	23.0	15.30	1.10 (1.20)	9.300	
		38.0	25.30	1.40 (1.20)	19.300	
		21.0	14.00	1.40 (1.30)	10.000	
		80.0	53.30	1.40 (1.20)	38.000	
What is dental plaque?	Food remaining on teeth*	49.0	32.70	1.20 (1.20)	21.300	
	Stains	21.0	14.00	2.0 (1.620)	11.300	
	I don't know	33.0	22.00	1.30 (1.4.0)	14.000	
What does plaque do to your teeth?	Change the color of the teeth	62.0	41.30	1.30 (1.30)	28.600	0.8000
	Dental cavity*	40.0	26.70	1.50 (1.30)	20.000	
	Bleeding gums I don't know	15.0	10.00	1.50 (1.30)	8.000	



We observed that 92.60% (n: 139) parents utilized the tooth brush with toothpaste as device for the cleaning of the teeth of their children while 7.30% (n: 11) used Miswak as a cleaning tool for their children. Total 65.0% (n: 97) were using the fluoride toothpaste and remaining were not using fluoridated toothpaste. The information about the T test for the variables regarding the awareness of the fluoride & average DMFT among children is available in Table-3.

**Table 3 : Parental knowledge of fluoride with mean DMFT of their children**

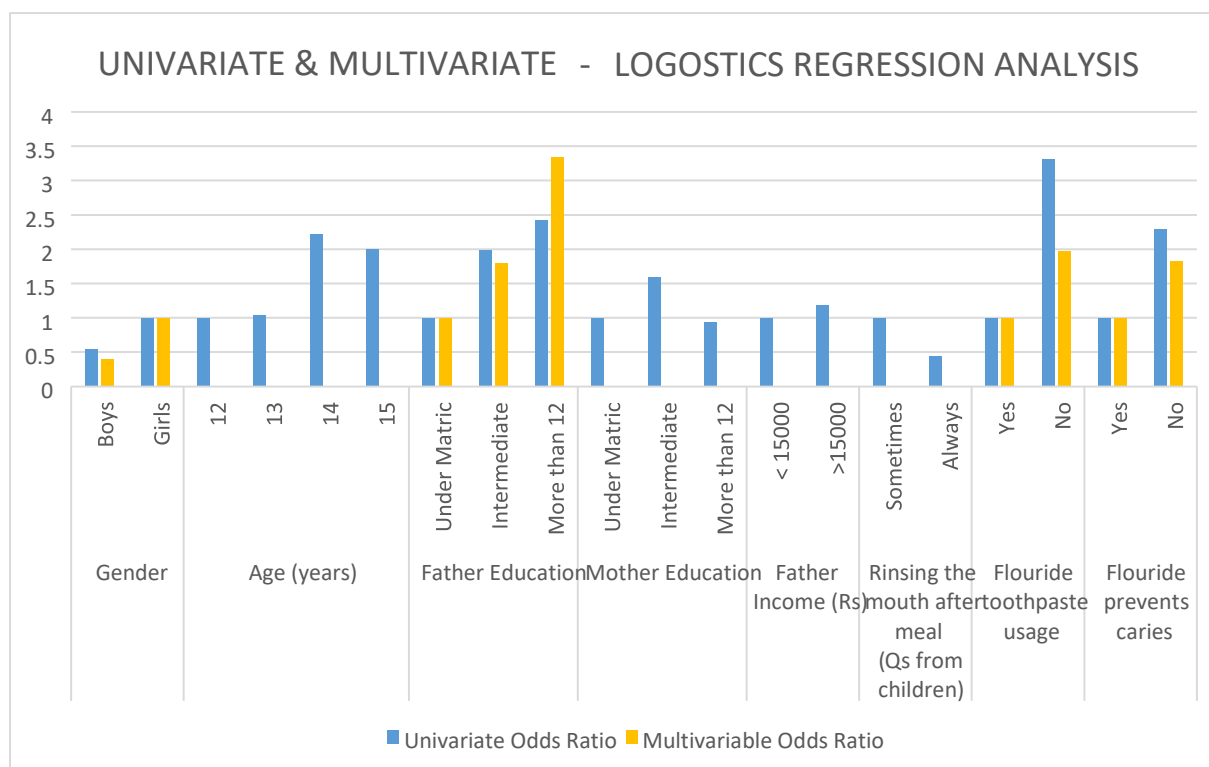
Questions		No	Percent	Mean DMFT	P value
Do you know what fluoride is?	Yes	96.0	64.00	1.375	0.7530
	No	54.0	36.00	1.444	
Do you use fluoride toothpaste for your child?	Yes	97.0	64.00	1.250	0.0497
	No	53.0	36.00	1.680	
Does fluoride helps preventing teeth from dental caries?	Yes	89.0	59.00	1.350	0.5520
	No	61.0	41.00	1.470	
Can fluoride reverse the dental cavity?	Yes	105.0	70.00	1.530	0.0530
	No	45.0	30.00	1.090	
What is the function of the fluoride	Whitening of teeth	26.0	27.00	1.580	
	Cleaning of teeth	46.0	31.00	0.930	0.0220
	Make teeth hard	32.0	21.00	1.500	
	Protect the teeth from bacteria	21.0	14.00	2.000	
	don't know	25.0	17.00	1.440	



The Table-4 presents the univariate & multivariable logistic regression with calculation or the effects of the characteristics of the children on the dental caries. Male were available as more protective from the prevalence of the dental caries as compared to the female students.

**Table 4: Univariate and multivariable logistic regression model to calculate OR for children's characteristics effect on dental caries (N=150).**

Variable		Univariate		P-Value	Multivariable		P-Value
		Odds Ratio	95% CI		Odds Ratio	95% CI	
Gender	Boys	0.55	0.27 - 1.12	0.1	0.4	0.11 - 0.84	0.027
	Girls	1					
Age (years)	12	1		0.94			NS
	13	1.04	0.30 - 3.58				
	14	2.22	62 - 7.9				
	15	2	0.61 - 6.55				
Father Education	Under Matric	1		0.12	1.8	1.90 - 7.89	0.028
	Intermediate	1.98	0.84 - 4.7				
	More than 12	2.43	0.90 - 6.53				
Mother Education	Under Matric	1		0.23			NS
	Intermediate	1.59	0.74 - 33.40				
	More than 12	0.94	0.30 - 2.91				
Father Income (Rs)	< 15000	1		0.64			NS
	>15000	1.19	0.56 - 2.52				
Rinsing the mouth after meal (Qs from children)	Sometimes	1		0.3			
	Always	0.442	0.21 - 0.90				
Fluoride toothpaste usage	Yes	1		0.006	1.97	1.39 - 7.9	0.009
	No	3.31	1.40 - 7.82				
Fluoride prevents caries	Yes	1		0.034	1.82	1.05 - 5.02	0.028
	No	2.3	1.06 - 4.92				



### DISCUSSION:

Average index score of DMFT was 1.40 and it was much smaller as compared to the surveys conducted in past in our country Pakistan [12]. The occurrence of the dental caries was 70.0% which is same with the research work conducted in Kenya [17] but higher than the survey conducted in 2004 [12]. The habits of eating between the meals and after the meal was similar in male and females & the findings showed that this was much with study conducted in U.A.E [8]. There were differences about the awareness regarding oral hygiene in males and females and the findings were consistent with the research conducted in Japan [18]. A survey in Hungary discovered the gender disparity in the experience of the dental caries and an increase in the incidence with the increase of the age [19]. The past research works stated the same DMFT among various groups of education [20].

The low social and economic status was not the reason for the high occurrence of the dental diseases but it as the high income which can lead to the disease and dental clinics. These findings were opposite from the research work conducted in United States of America [21]. About 46.0% parents were present with the view that fluoride has better impact on teeth, and it support in the whitening of the teeth. Same wrong ideas were available in another research work conducted in Saudi Arabia [22]. Although the size of the samples was much low but this research work has the ability

to open the ways [23] for many other researches works.

### CONCLUSION:

The occurrence of DMFT was very high in the female students in comparison with the male students and there was significant result about this element. The status of the DMFT of the samples increases with the increase of the age. Parents were available with moderate proportion of knowledge about the fluoride and their knowledge was affecting the oral health of their children.

### REFERENCES:

1. Sogi GM, Bhaskar DJ. Dental caries and Oral Hygiene Status of school children in Davangere related to their Socio - Economic levels: An Epidemiological study. J Indian Soc Pedo Prev Dent December 2002;20: 152-157
2. Oliveira LB, Sheiham A, Bönecker M. Exploring the association of dental caries with social factors and nutritional status in Brazilian preschool children. Eur J Oral Sci 2008; 116: 37-43
3. Marrs JA, Trumbley S, Malik G. Early Childhood Caries: Determining the Risk Factors and Assessing the Prevention Strategies for Nursing Intervention. Pediatr Nurs. Pediatr Nurs. 2011 Jan-Feb; 37:9-15; quiz 16.



4. Al-Hosani E, Rugg-Gunn A. Combination of low parental educational attainment and high parental income related to high caries experience in pre-school children in Abu Dhabi. *Community Dent Oral Epidemiol* 1998; 26:31-36
5. Karjalainen S, Söderling E, Sewón L, Lapinleimu H, Simell O. A prospective study on sucrose consumption, visible plaque and caries in children from 3 to 6 years of age. *Community Dent Oral Epidemiol* 2001; 29:136-142
6. Figueiredo M, de Amorim R, Leal S, Mulder J, Frencken J. Prevalence and severity of clinical consequences of untreated dentine carious lesions in children from a deprived area of Brazil. *Caries Res* 2011; 45:435-442.
7. Tickle M, Williams M, Jenner T, Blinkhorn A. The effects of socioeconomic status and dental attendance on dental caries' experience, and treatment patterns in 5-year-old children. *Brit Dent J.* 1999; 186:135-137.
8. World Health Organisation-WHO. Oral Health in Pakistan-Situation analysis. Ministry of Pakistan: 2004; WHO.
9. Khan AA. Prevalence of dental caries in school children of Faisalabad, Pakistan. *Community Dent Oral Epidemiol.* 1992; 20:155
10. Daniel WW. *Biostatistics: A Foundation for Analysis in the Health Sciences.* New York: John Wiley & Sons; 1999.
11. *Methods World Health Organization. Oral Health Surveys. Basic Methods, 4th edn.* Geneva, Switzerland: WHO, 1997.
12. United state department of state: <http://www.state.gov/r/pa/ei/bgn/3453.htm> (accessed on 25th January 2011)
13. Masiga MA1, M'Imunya JM. Prevalence of dental caries and its impact on quality of life (QoL) among HIV-infected children in Kenya. *J Clin Pediatr Dent.* 2013; 38:83-87.
14. Kawamura M, Takase N, Sasahara H, Okada M. Teenagers' oral health attitudes and behavior in Japan: comparison by sex and age group. *J oral sci.* 2008; 50:167-174.
15. Szöke J, Petersen PE. Evidence for dental caries decline among children in an East European country (Hungary). *Community Dent Oral Epidemiol* 2000; 28: 155-160
16. Boyce W, Den Besten P, Stamperdahl J, Zhan L, Jiang Y, Adler N, et al. Social inequalities in childhood dental caries: the convergent roles of stress, bacteria and disadvantage. *Soc Sci Med* 2010; 71:1644-1652.
17. Edelstein BL. Disparities in Oral Health and Access to Care: Findings of National Surveys. *Ambulatory Paediatrics.* 2002;2:141-147.
18. Al-Shalan TA. Saudi parents knowledge of and attitude towards the prevention of dental caries. *Saudi Dent J.* 2003;15:2-10.
19. Slavin R, Smith D. The Relationship between Sample Sizes and Effect Sizes in Systematic Reviews in Education. *Educational evaluation and policy analysis.* 2009;31:500-506.
20. [http://www.who.int/bulletin/volumes/83/9/ editorial\\_30905html/en/index.html](http://www.who.int/bulletin/volumes/83/9/ editorial_30905html/en/index.html) (accessed on 25th January 2012)
21. Williams N. The relationship between sociodemographic characteristics and dental health knowledge and attitudes of parents with young children. *Brit Dent J.* 2002; 193:651-564.
22. Varenne B, Petersen P, Ouattara S. Oral health behaviour of children and adults in urban and rural areas of Burkina Faso, Africa. *Int Dent J.* 2006; 56:61-70
23. AS Doddamani, Prashanth VK, Abbayya K, Yunus GY. Oral Hygiene Status Among School Going Children Belonging to Different Socio-economic Status of Belgaum City Aged 12 To 15 Years. *JIDA, Vol. 4, No. 12, December 2010*