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Research Article

**A CROSS-SECTIONAL RESEARCH ON DENTAL PAIN  
FREQUENCY AND ITS ASSOCIATION WITH GENDER, AGE  
AND RELATED FACTORS IN CHILDREN****<sup>1</sup>Dr. Hamza Shabbir, <sup>2</sup>Dr. Bilal Ahmad Khan Niazi, <sup>3</sup>Dr. Abdul Haseeb Khan**<sup>1</sup>House Officer, Allied Hospital Faisalabad<sup>2</sup>District Sargodha<sup>3</sup>District Head Quarter Hospital Sahiwal**Abstract:**

**Objective:** We aimed at the assessment of characteristics, frequency and related factors which affect dental pain severity in the children with age bracket of (11 – 14) years.

**Methods:** We carried out a cross-sectional survey in the month of September, 2017 for the assessment of characteristics, frequency and related factors which affect dental pain severity in the children with age bracket of (11 – 14) years who were studying in private sector schools. Research sample was 526 school going children from eleven to fourteen years of age and they were selected randomly from nine different schools. Government and private school's participation was respectively 273 and 253 with a rate of response as (83.65%). Children completed fifteen items questionnaire and responded to questions about pain and demographics.

**Results:** Children were reported with dental pain frequency as (29.1%). Dental pain in females and males was respectively 27.6% and 30.2%. There was no significant relation of dental pain that occurred in the period of recent 6 months and there was also no association of gender with dental pain ( $P$ -value = 0.618). School type was also not linked with the dental pain in the children ( $P$ -value = 0.302). However, Father's occupation has a relation with dental pain ( $P$ -value = 0.027). White collar profession had less incidence of dental pain than the laborer's. Discomforting dental pain was reported in (36.7%) children; whereas, mild pain was observed in almost (28.1%). There was no radiation of dental pain in the adjacent areas as observed in (36.7%) children. Moderate and mild pain radiation was reported respectively in (13.3% & 41.4%) children. Pain severity was not affected while chewing in the right side of the mouth as observed in (15.6%) children. Pain became severe after or while eating in (13.3%) cases.

**Conclusion:** An overall dental pain frequency was observed in 29% children without any clear link with gender. Dental pain cause is to be determined in children. Oral health can promote life quality and it can also reduce the dental pain incidence in children.

**Keywords:** Demographics, Associated factors, Prevalence, Dental Pain and School.

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**INTRODUCTION:**

Pain is caused by damage to the tissue which is emotional and sensory unpleasant experience [1]. Dental pain can be associated with the pain that radiates from periodontal tissues, pulp or innervated structures within tooth or in the adjacent areas of tooth [2]. Prevalence of oral and facial pain is reported in adults [3 – 8]. It is often throbbing, intense and miserable among various kinds of pain [9]. Families and children are immensely disturbed with dental pain [10].

No consistent reports have been observed with gender association in terms of dental pain [11]. There are swinging reports about gender association with dental pain in males and females [12, 13]. Older age group is less affected than the young age group in terms of dental pain [14, 15]. Low social and economic status groups are like to be much involved in dental pain than the higher groups [16]. In Pakistani population, dental pain prevalence was (30%) in the age group of (11 – 14) years [14]. This kind of research in the age group of (11 – 14) years has not been carried out till now. Which is why we aimed at the assessment of frequency and association of dental pain in the school going children with age bracket of (11 – 14) years.

**SUBJECTS AND METHODS:**

We carried out a cross-sectional survey in the month of September, 2017 for the assessment of characteristics, frequency and related factors which affect dental pain severity in the children with age bracket of (11 – 14) years who were studying in private sector schools. Research sample was 526 school going children from eleven to fourteen years of age and they were selected randomly from nine different schools. Government and private school's participation was respectively 273 and 253 with a rate of response as (83.65%). Children completed fifteen items questionnaire and responded to questions about pain and demographics. We did not include any children without prior consent of the guardian or parents.

Our sample size was estimated according to the CI (95%) and dental pain prevalence as (30%) which was reported earlier in a research conducted by Pau et al. [14]. We selected the population of this particular research through cluster random technique of sampling which was applied on the selected and short-listed schools.

Research was started after ethical approval informed consent. Our research tool was a fifteen items

questionnaire which were related to class of study, sex, age, and occupation of the father. Questions about the dental pain were taken by the research of Pau et al. [2]. Duration of pain was assessed by eleven items of the test including location, relieve, aggregate and nature of pain.

Data entry and analysis was carried out through SPSS software with cross-tabulation and frequency distribution.

**RESULTS:**

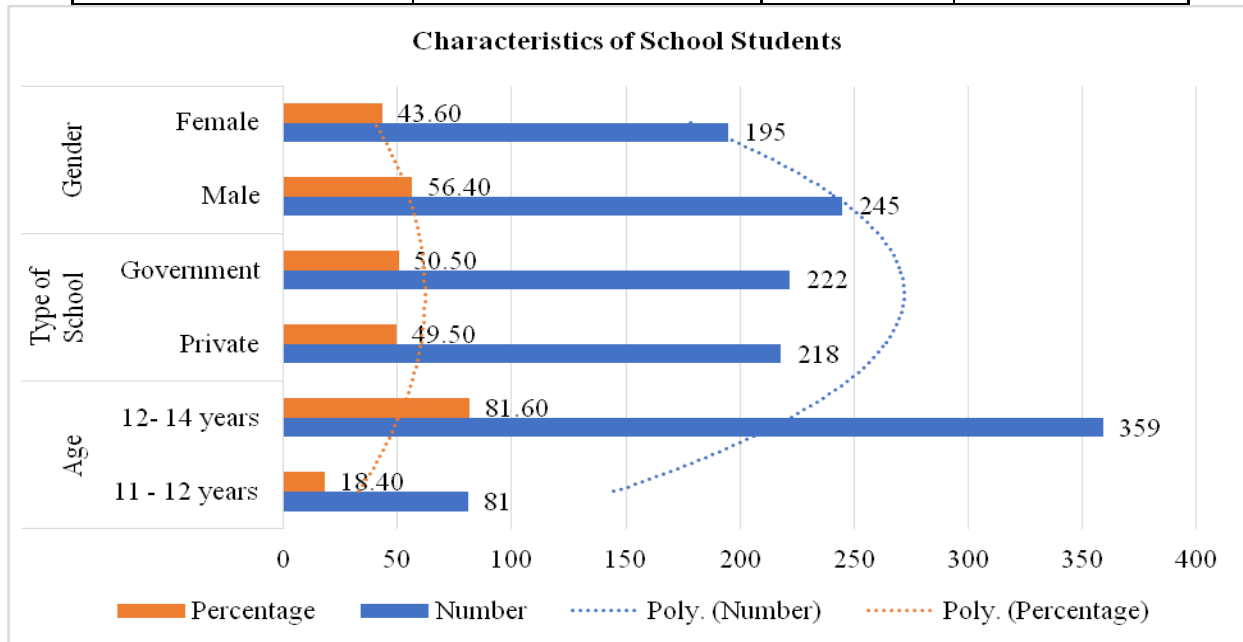
Children were reported with dental pain frequency as (29.1%). Dental pain in females and males was respectively 27.6% and 30.2%. There was no significant relation of dental pain that occurred in the period of recent 6 months and there was also no association of gender with dental pain (P-value = 0.618). School type was also not linked with the dental pain in the children (P-value = 0.302). However, Father's occupation has a relation with dental pain (P-value = 0.027). White collar profession had less incidence of dental pain than the laborer's. Discomforting dental pain was reported in (36.7%) children; whereas, mild pain was observed in almost (28.1%). There was no radiation of dental pain in the adjacent areas as observed in (36.7%) children. Moderate and mild pain radiation was reported respectively in (13.3% & 41.4%) children (Table – I). Pain severity was not affected while chewing in the right side of the mouth as observed in (15.6%) children. Pain became severe after or while eating in (13.3%) cases. In the total sample questionnaire was not completed by 86 students appropriately. Male to female distribution was as that males were (56.4%) and females were (43.6%). Table – I shows the private and government schools distribution in the confidence interval range of (1.46 – 1.55). Dental pain was reported in 128 cases, one site pain was reported in 110 cases (gum or tooth); whereas, both gums and tooth pain reported in the eighteen children. Pain frequency was observed in tongue, palate and mouth floor respectively as 3.6%, 4.5% and 3%. It can be observed through research outcomes that severity increased in the children while drinking, eating specially with cold items (65.6%); pain caused difficulty in swallowing in (51.6%) children. More than one-week pain complained by (40.6%) children. Intermittent and continuous pain reporting was also observed and reported.

No statistical significance about gender was observed as shown in Table – III with significant P-value as (> 0.05).

Detailed outcomes analysis has been made in Table I, II and III with correspondent figures.

**Table – I.** Characteristics of school students enrolled in the study

Characteristics of School Students		Number	Percentage
Age	11 - 12 years	81	18.40
	12- 14 years	359	81.60
Type of School	Private	218	49.50
	Government	222	50.50
Gender	Male	245	56.40
	Female	195	43.60



**Table – II.** Showing percentage distribution of factors affecting pain

Pain Characteristics	Mild	Moderate
Pain Severity	36.70	28.10
Pain Radiation	41.10	13.30

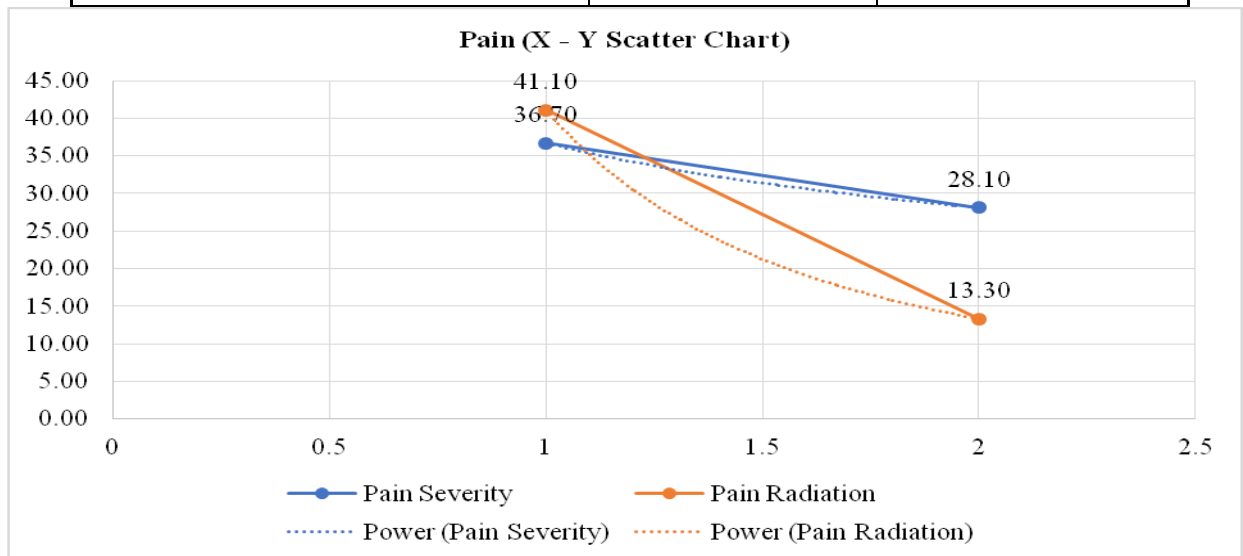
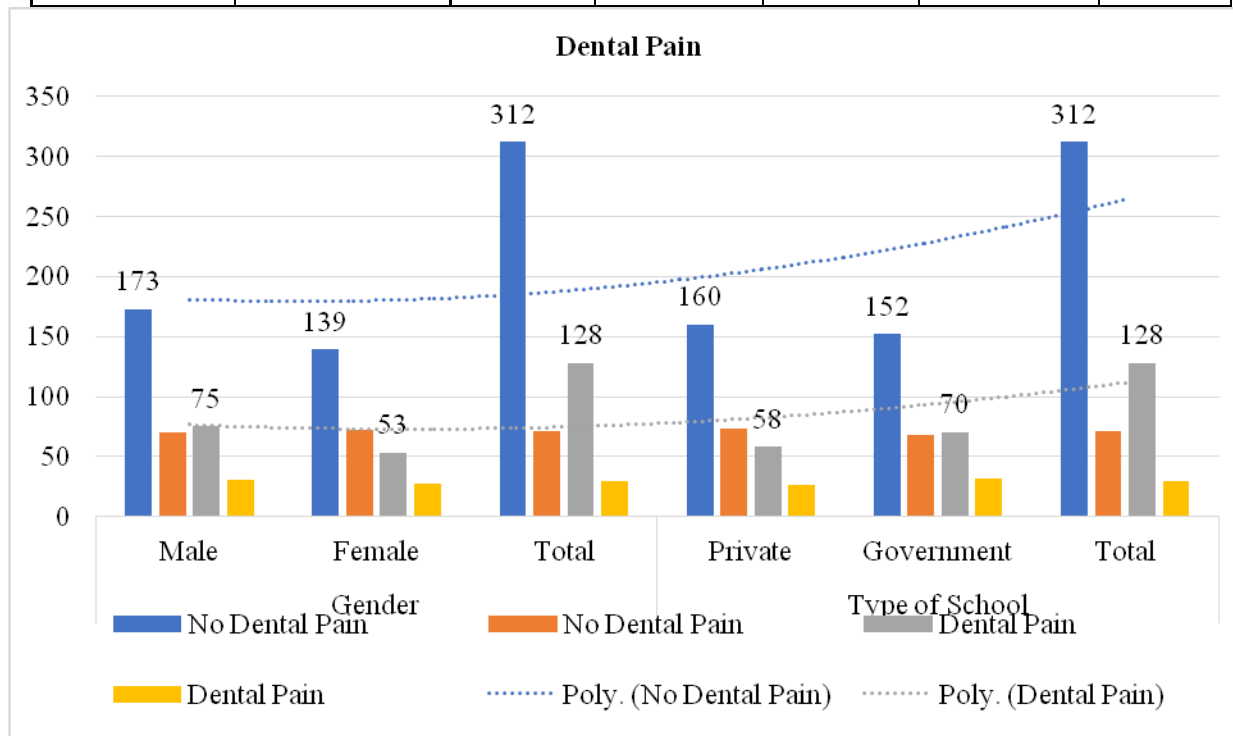


Table – III. Dental Pain and Associated Factors

Characteristics		No Dental Pain		Dental Pain		P-Value
		Number	Percentage	Number	Percentage	
Gender	Male	173	69.80	75	30.20	0.618
	Female	139	72.40	53	27.60	
	Total	312	70.90	128	29.10	
Type of School	Private	160	73.40	58	26.60	0.302
	Government	152	68.50	70	31.50	
	Total	312	70.90	128	29.10	



### DISCUSSION:

It can be seen in the research outcomes that children have 6-month frequency of dental pain (29.1%), which can be compared with the research outcomes of Nalweyiso *et al.* and four others [10, 14, 17 – 19]. However, few authors also reported low dental pain prevalence [13, 20]. Which may be attributed to the 6-month dental pain frequency.

It is also possible that children may have forgot the six month earlier dental pain experience. Dental pain was severe in the act of drinking and eating cold items and swallowing issues respectively in (65.6% & 51.6%) children. There was also (40.6%) children with prolonged one-week dental pain. Mild pain was reported in (28.1%) children which can be compared with the research outcomes of Pau A *et al.* with an estimated dental pain as (30.4%) [14]. Honkala *et al.* also reports the same outcomes [21]. There was no significant association of gender and school type

whether government or private but father's profession was significantly associated with dental pain. Same can be observed in the previous research studies [22].

We excluded non-registered schools, research scale was also limited, sample size was also small. These few factors come under the limitations of this particular research. Future research can be helpful in order to assess the dental pain frequency among children with its associated factors in order to improve the life quality and oral health improvement.

### CONCLUSION:

One third dental pain cases were made a part of this research because dental pain has become among important healthcare issues specially in children which causes discomfort and reduces the life quality. More work is required for the reduction of dental

pain in school attending children which will ultimately improve life quality and oral health of the children. An overall dental pain frequency was observed in 29% children without any clear link with gender. Dental pain cause is to be determined in children. Oral health can promote life quality and it can also reduce the dental pain incidence in children.

#### REFERENCES:

- Nalweyiso N, Busingye J, Whitworth J, Robinson PG. Dental treatment needs of children in a rural sub-county of Uganda. *Int J Paediatr Dent* 2004; 14:27-33.
- Mashoto KO, Astrøm AN, David J, Masalu JR. Dental pain, oral impacts and perceived need for dental treatment in Tanzanian school students: across-sectional study. *Health Qual Life Outcomes* 2009; 7:73.
- Harikiran AG, Pallavi SK, Hariprakash S; Ashutosh, Nagesh KS. Oral health-related KAP among 11-to 12-year-old school children in a government aided missionary school of Bangalore city. *Indian J Dent Res* 2008; 19:236-42.
- Peres KG, Peres MA, Araujo CL, Menezes AM, Hallal PC. Social and dental status along the life course and oral health impacts in adolescents: a population-based birth cohort. *Health Qual Life Outcomes* 2009; 7:95.
- Honkala E, Honkala S, Rimpelä A, Rimpelä M. The trend and risk factors of perceived toothache among Finnish adolescents from 1977 to 1997. *J Dent Res* 2001; 80:1823-7.
- Borges CM, Cascaes AM, Fischer TK, Boing AF, Peres MA, Peres KG. [Dental and gingival pain and associated factors among Brazilian adolescents: an analysis of the Brazilian Oral Health Survey 2002-2003]. *Cad Saude Publica* 2008; 24:1825-34.
- Luo Y, McMillan AS, Wong MC, Zheng J, Lam CL. Orofacial pain conditions and impact on quality of life in community-dwelling elderly people in Hong Kong. *J Orofac Pain* 2007; 21:63-71.
- Lahti S, Sipilä K, Taanila A, Laitinen J. Oral pain and associated factors among adolescents in northern Finland. *Int J Circumpolar Health* 2008; 67:245-53.
- Kuhnen M, Peres MA, Masiero AV, Peres KG. Toothache and associated factors in Brazilian adults: a cross-sectional population-based study. *BMC Oral Health* 2009; 9:7.
- Cohen LA, Bonito AJ, Akin DR, Manski RJ, Macek MD, Edwards RR, et al. Toothache pain: behavioral impact and self-care strategies. *Spec Care Dentist* 2009; 29:85-95.
- Goes PS, Watt RG, Hardy R, Sheiham A. Impacts of dental pain on daily activities of adolescents aged 14-15 years and their families. *Acta Odontol Scand* 2008; 66:7-12.
- Alkhatib MN, Gilthorpe MS, McGrath C. Disparities in self-reported oral health problems among a young Syrian adult population. *Int Dent J* 200; 52:449-52.
- Pau A, Croucher R, Marcenes W. Determinants of perceived need for dental pain medication. *Community Dent Oral Epidemiol* 2008; 36:279-86.
- Vargas CM, Macek MD, Marcus SE. Sociodemographic correlates of tooth pain among adults: United states, 1989. *Pain* 2000; 85:87-92.
- Pau A, Khan SS, Babar MG, Croucher R. Dental pain and care-seeking in 11-14-yr-old adolescents in a low-income country. *Eur J Oral Sci* 2008; 116:451-7.
- Oliveira MM, Colares V. The relationship between dental anxiety and dental pain in children aged 18 to 59 months: a study in Recife, Pernambuco State, Brazil. *Cad Saude Publica* 2009; 25:743-50.
- Federal Board of Intermediate and Secondary Education (FBISE). Available from: [www.fbise.edu.pk/affiliation](http://www.fbise.edu.pk/affiliation). Accessed on Feb 3, 2016.
- Merskey H, Bogduk N, editors. Classification of chronic pain. Seattle: IASP; 1994. p. 59-76.
- Pau A, Croucher R, Marcenes W, Leung T. Development and validation of a dental pain-screening questionnaire. *Pain* 2005; 119:75-81.
- Leung WS, McMillan AS, Wong MC. Chronic orofacial pain in southern Chinese people: experience, associated disability, and help-seeking response. *J Orofac Pain* 2008; 22:323-30.
- Jaafar N, Razak IA, Zain RB. The social impact of oral and facial pain in an industrial population. *Ann Acad Med Singapore* 1989; 18:553-5.
- Lipton JA, Ship JA, Larach-Robinson D. Estimated prevalence and distribution of reported orofacial pain in the United States. *J Am Dent Assoc* 1993; 124:115-21.