

COMPARISON OF ORAL HEALTH STATUS AMONG STUDENTS OF PUBLIC AND PRIVATE SECTOR SCHOOLS

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ABSTRACT: Current study aimed to explore the prevalence of dental problems including dental caries among 12 years old students studying in public and private sector schools in Pakistan. 677 students were recruited in the study from 2 private and 2 public sector schools of Lahore. Significant difference between students of public and private schools was found in terms of prevalence of dental caries ($X^2=35.094$, $P<.001$). Significant difference between students of public and private schools was found in terms of scaling requirement $X^2=54.778$, $P<.001$). Significant difference between students of public and private schools was found in terms of gum bleeding ($X^2=35.245$, $P<.001$). Significant difference between students of public and private schools was not found in terms of Plaque accumulation ($X^2=54.778$, $P<.001$). Significant difference between students of public and private schools was found in terms of fluorosis ($X^2=44.557$, $P<.001$). In conclusion, dental caries and fluorosis was found higher among school going students in Lahore.

Key words: Lahore, Plaque, Public and Private Schools and Students

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INTRODUCTION

Oral health is a comprehensively significant feature to preserve persistent general health as well as quality of life (Slade & Sanders, 2017; Markovic, & Muratbegovic, 2014). Numerous persons all over the world suffer from oral pain or discomfort. It is a basic human need accredited to individuals to having necessary oral health maintenance, thus certifying general bodily health as well as quality of life (Petersen, 2014).

Tooth decay mainly termed as dental caries and periodontal problems are the most common ailments in oral health problems. Tooth decay is a frequent oral ailment, disturbing a common group of persons (Lawal, & Bankole, 2019), but, this chronic oral disease is more prevalent among school going students worldwide (Ferizi, Dragidella, Staka, Bimbashi, & Mrasori, 2017). A report published in 2003 from the platform of WHO concluded that dental caries prevalence was 60 to 90% among school going children (Petersen, 2003). Even now, dental caries is a most prevalent dental ailment in numerous underdeveloped as well as developing countries (Petersen, 2014). Similarly, in several low income countries, approach to Dental health facilities is

inadequate due to which most often, teeth are remain untreated or due to pain, are removed (Petersen, 2003).

Regrettably, the focus of dental care is more on management rather than on practicing preventive dentistry. Throughout life, the importance of oral health could not be negligible as it is associated with the growth of a healthy individual, a strong personality, perceptual wellbeing and pleasure experiences (Hysi, Droboniku, & Toti, 2014). But, many people are suffering from tooth decay as well as periodontal problems, causing avoidable pain, complications in mastication, swallowing and communication and occasionally excessive high remedial expenses (Petersen, 2014). Oral health problems which remain untreated can cause serious health issues in general such as severe dental pain, problems in eating and school absentees among children (Oliveira, Moreira, Reis, & Freire, 2015; Apaza, 2018). The initial indication of carious lesion is the presence of a chalky white spot on the surface of decaying tooth, which specifies a part of enamel demineralization (Gaikwad, Gheware, Kamatagi, Pasumarthy, Pawar, & Fatangare, 2014).

Numerous studies related to oral health were conducted on the population of 12 years old school going children all over the world (Al-Darwish, El Ansari, &

Bener, 2014). Many researchers proposed that in low income countries, the school going children's' percentage who are completing their primary level education on may be reflected a good predictor of DMFT indexes (Egri, & Gunay, 2004). Children with 12 years of age was presented as the target population in relation of making world wise comparison in terms of oral health maintenance by World Health Organization (WHO, 1997, Petersen, 2004). Therefore, in permanent teeth, the status of dental caries could be best explored among school going children with 12 years of age as in this age, permanent teeth eruption has been done except wisdom tooth (third molar). Current study aimed to explore the prevalence of dental problems including dental caries among 12 years old students studying in public and private sector schools in Pakistan.

METHODOLOGY

Research design: Descriptive cross-sectional study was conducted to explore the prevalence of dental problems including dental caries among 12 years old students studying in public and private sector schools in Pakistan.

Sampling technique: Consecutive sampling was used to collect data for this study.

Sample size: 677 students were recruited in the study from 2 private and 2 public sector schools of Lahore.

Procedure: After the approval of the research proposal from the ethical approval committee and taking permission from school heads, data was collected using consecutive sampling technique from 2 private and 2 public sector schools from Lahore. Sample was of 677 students with the age of 12 years. Oral health examination was done by team of dentists and presence or absence of sensitivity, dental caries, scaling requirement, gum bleeding, plaque, calculus, and fluorosis was recorded. Presence or absence of malocclusion, prosthodontic treatment requirement and orthodontic treatment requirement was also recorded.

Data analysis: Data was analyzed using SPSS version 25. Descriptive statistics were used to analyze data in percentages to explore the prevalence of dental problems including dental caries among 12 years old students studying in public and private sector schools in Pakistan.

RESULTS

The results of chi-square revealed that difference was not found in terms of dental sensitivity among public and private school students ($X^2=0.01$, $P=.922$). Significant difference between students of public and private schools was found in terms of prevalence of dental caries ($X^2= 35.094$, $P<.001$). 31.30% dental caries

among public sector students whereas 68.70% dental caries were found among private sector school students which was quite high. Requirement of scaling was found higher among public sector students (66.10%) as compared to private sector students (33.90%). Significant difference between students of public and private schools was found in terms of scaling requirement ($X^2=54.778$, $P<.001$). Gum bleeding was found higher among public sector school students (66.20%) as compared to the private sector school students (33.80%). Significant difference between students of public and private schools was found in terms of gum bleeding ($X^2=35.245$, $P<.001$). Significant difference between students of public and private schools was not found in terms of Plaque accumulation ($X^2=54.778$, $P<.001$). 40.20% students from public sector school have plaque accumulation whereas 59.80% students from private sector school have plaque accumulation. Fluorosis was found higher among public sector school students (71.80%) as compared to the private sector school students (28.20%). Significant difference between students of public and private schools was found in terms of fluorosis ($X^2=44.557$, $P<.001$).

To explore the difference on the overall oral hygiene status of students from public and private schools, chi-square test was used which showed a significant difference of scores ($X^2=59.487$, $P<.001$). 8.6% students of public schools lie on 0 score whereas 19.4% students of private schools lie on the same level which means private schools students have perfect oral hygiene as compared to the public school students. Moreover, 19.9% students of public schools lie on 1 score whereas 30.1% students of private schools lie on the same level. At score 2, 21.3% public school students and 20.2% private school students were found. On score 3, 23% public school students and 9.6% private school students were found. On score 4, 14.8% public school students and 8.8% private school students were reported. On score 5, 9.6% public school students and 5.7% private school students were found. On score 6, 2.7% public school students and 2.3% private school students were found. On score 7, 0% public school students and 1.6% private school students were found. On score 8, 0% public school students and 2.3% private school students were found. As the higher score means decrease in the oral hygiene status, the overall oral hygiene status was found higher in private school students as compared to the public school students.

Significant difference between students of public and private schools was not found in terms of Malocclusion presence ($X^2=0.631$, $P=.427$). 46.00% students from public sector school have Malocclusion presence whereas 56.00% students from private sector school have Malocclusion presence. Prosthodontic treatment requirement was found higher among private school students (75%) as compared to public sector school

students (25%) but difference was not statistically significant ($X^2=2.72$, $P=.099$). Requirement of orthodontic treatment was found among private school

students (61.20%) whereas among public sector school students, 38.80% students need orthodontic treatment ($X^2=0.853$, $P=0.356$).

Table 1. Oral diseases prevalence among school students.

		Public school	Private school	X ²	Sig.
Sensitivity	Absence	42.9%	57.1%	0.01	0.922
	Presence	43.3%	56.70%		
Dental caries	Absence	53.80%	46.20%	35.094	.000
	Presence	31.30%	68.70%		
Scaling Requirement	Absence	34.40%	65.60%	54.778	.000
	Presence	66.10%	33.90%		
Gum Bleeding	Absence	37.50%	62.50%	35.245	.000
	Presence	66.20%	33.8%		
Plaque	Absence	44.50%	55.50%	1.142	0.285
	Presence	40.20%	59.80%		
Calculus	Absence	38.40%	61.60%	22.64	.000
	Presence	60.70%	39.30%		
Fluorosis	Absence	37.40%	62.60%	44.557	.000
	Presence	71.80%	28.20%		

Table 2| Frequency comparison of teeth brushing among students of public and private sector schools.

	Oral Hygiene Status Scores									
	0	1	2	3	4	5	6	7	8	
Public school students	8.6%	19.9%	21.3%	23.0%	14.8%	9.6%	2.7%	0.0%	0.0%	
Private school students	19.4%	30.1%	20.2%	9.6%	8.8%	5.7%	2.3%	1.6%	2.3%	

Chi square= 59.487, P<.001

Table 3| Requirement of Prosthodontic and Orthodontic treatment.

		Public school	Private School	X ²	Sig.
Malocclusion	Absence	42.2%	57.8%	0.631	0.427
	Presence	46.00%	56.00%		
Prosthodontic treatment requirement	Absence	43.50%	56.50%	2.72	0.099
	Presence	25.0%	75.0%		
Orthodontic treatment requirement	Absence	43.70%	56.30%	0.853	0.356
	Presence	38.80%	61.20%		

DISCUSSION

Current study aimed to explore the prevalence of dental problems including dental caries among 12 years old students studying in public and private sector schools in Pakistan. Difference was not found in terms of dental sensitivity among public and private school students. Significant difference between students of public and private schools was found in terms of prevalence of dental caries. 31.30% dental caries among public sector students whereas 68.70% dental caries were found among private sector school students which was higher than study reported 50% prevalence of dental caries among children (Mafuvadze, Mahachi, & Mafuvadze, 2014). Requirement of scaling was found higher among public sector students (66.10%) as compared to private sector

students (33.90%). Significant difference between students of public and private schools was found in terms of scaling requirement. Gum bleeding was found higher among public sector school students (66.20%) as compared to the private sector school students (33.80%)(Petersen, 2014). Significant difference between students of public and private schools was found in terms of gum bleeding. Significant difference between students of public and private schools was not found in terms of Plaque accumulation. 40.20% students from public sector school have plaque accumulation whereas 59.80% students from private sector school have plaque accumulation. Fluorosis was found higher among public sector school students (71.80%) as compared to the private sector school students (28.20%). Significant

difference between students of public and private schools was found in terms of fluorosis.

The difference on the overall oral hygiene status of students from public and private schools, was 8.6% students of public schools lie on 0 score whereas 19.4% students of private schools lie on the same level which means private schools students have perfect oral hygiene as compared to the public school students. Moreover, 19.9% students of public schools lie on 1 score whereas 30.1% students of private schools lie on the same level. At score 2, 21.3% public school students and 20.2% private school students were found. On score 3, 23% public school students and 9.6% private school students were found. On score 4, 14.8% public school students and 8.8% private school students were reported. On score 5, 9.6% public school students and 5.7% private school students were found. On score 6, 2.7% public school students and 2.3% private school students were found. On score 7, 0% public school students and 1.6% private school students were found. On score 8, 0% public school students and 2.3% private school students were found. As the higher score means decrease in the oral hygiene status, the overall oral hygiene status was found higher in private school students as compared to the public school students (Slade & Sanders, 2017; Markovic, & Muratbegovic, 2014).

Conclusion: Dental caries and fluorosis was found higher among school going students in Lahore.

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