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INFLUENCE OF SOCIOECONOMIC STATUS ON CARIES SCORE AMONG PRIMARY SCHOOL CHILDREN OF PESHAWAR.

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ABSTRACT… Objectives: Dental caries is among common oral conditions in children and adults. Several studies and preventive measures have been carried out over the world to reduce dental caries rate. The objective of this study was to evaluate the relationship between caries score and socioeconomic status among children. **Study Design:** Cross-sectional study. **Setting:** Primary schools of Hayatabad, Peshawar. **Period:** months (January to June 2019). **Material and Methods:** 240 children aged from 3 to 5 years old were recruited in our study from government and private schools of Hayatabad, Peshawar. Socioeconomic status of the children's parents was deduced by visiting government schools having lower fees and private schools having higher fees in Hayatabad, Peshawar. The frequency of dental caries among children was determined by clinical examination followed by decayed, extracted, filled teeth index. **Results:** In this study, 120 participants from private schools belonged to the upper class while the other 120 subjects from government schools belonged to the lower class. The mean DEFT value was found to be 30% greater in children of private schools. **Conclusion:** The study determined that the frequency of DEFT was found more in upper economic status as compared to the lower economic status, which shows association of socio-economic status with oral health condition.

Key words: Dental Caries, DEFT Index, Oral Health, Prevalence, Socioeconomic Status.

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INTRODUCTION

Oral health shares an important position in person's overall health, which influences many factors that affects standard and quality of life. Maintenance of good oral health and teeth have great importance in early childhood. In spite of pronounced advances in last few decades, maintaining a good oral health is still a substantial issue.[1,2] Dental caries is among common oral pathology in children and youngsters regardless of the fact that access to the oral health care provider and dentifrices has remarkably improved. High frequency of dental caries in childhood is a global health concern.[3] Socioeconomic status (SES) and oral hygiene are significant factors that play key roles in the advancement of dental caries.

SES on an individual or family comprises the financial, social domain and quality of life which deponds on GDP, literacy, and profession.[4] Despite of many studies association dental caries with SES remains questionable.

The aim of the present study was to evaluate the uniformity and inconsistency of the relationship between family's SES and prevalence of dental caries among school going kids (aged 3 to 5 years old) who were enrolled in government and private schools in Hayatabad, Peshawar.

MATERIALS AND METHODS

A total number of 240 subjects were selected by examining 120 children from different public primary schools and another 120 children from different private primary schools. The inclusion

criteria were school going kids (3-5 years) with primary teeth, equally divided among males and females and was grouped into two categories with Group 1 including all the private school children having a moderate to high income level and Group 2 included all the government school children having low income level. The monthly income for each student was determined by their school records respectively. The cut off range for Group 1 was Rs25,000 to Rs100,000 and above while the cut off range for Group 2 income level was below Rs.25,000 monthly.

All the children were examined in daylight by wearing disposable gloves using sterilized mouth mirrors. X- rays were not included in this study. The oral health examination took 10 to 20 minutes for each participant. The dental caries was determined according to decayed, extraction and filled teeth index [decayed (d) + extracted (e) + filled (f) teeh].

All the data was collected and analyzed by Microsoft Excel. The statistical significance was determined by student t test, and level of significance was set at $P < 0.05$. A Pearson correlation test was conducted to determine the relationship between Socioeconomic status and DEFT. Informed Consent was taken from students, parents and institutional heads.

RESULTS

The demographic distribution of the study subjects were done equally in both the groups in which Group 1 comprised of 120 subjects of upper class from private schools, further divided into 60 males and 60 females and Group 2 comprised of remaining 120 subjects of lower class from government schools also further divided into 60 males and 60 females. The age was limited up to 5 years since only primary dentition was to be examined (Table-I(a) and I(b)).

The Mean and standard deviation of DEFT score is shown in (Table-II). The association of caries among primary school children was significant with the different socioeconomic status. ($P<0.001$).

A Pearson correlation test was performed between Socioeconomic ststus and deft score of deciduous dentition. A positive correlation (0.41) was obtained. The result suggested children with high Socioeconomic status to have more caries affected teeth than children with low socioeconomic status. (Table-III).

The frequency of dental caries was reported to be 30 % higher in the upper class.

Group 1	Gender			Age in Years		
	Total	Male	Female	Age 3	Age 4	Age 5
N	120	60	60	27	62	31
%	100	50	50	22.5	51.6	25.8

Table-I(a). Demographic distribution of study subject

Group 2	Gender			Age in Years		
	Total	Female	Male	Age 3	Age 5	Age 4
N	120	60	60	4	38	78
%	100	50	50	3.3	65	31.6

Table-I(b). Demographic distribution of study subject

	No. of Subjects	DEFT Score Mean ± SD	P-Value
Group 1	120	16.83 ± 14.40	0.001
Group 2	120	11.68 ± 10.56	

Table-II. Mean value of DEFT score among different socioeconomic status groups

Socioeconomic Status	Income	Mean Value of DEFT	Pearson Correlation
Group 1	> 25,000 Rs	16.83 ± 14.40	0.41
Group 2	≤ 25,000 Rs	11.68 ± 10.56	

Table-III. Pearson correlation for socioeconomic status with DEFT value
***Correlation is 2 tailed**

DISCUSSION

The current study reported a direct association between socioeconomic status and dental caries. Caries risk factors are the lifestyle and biochemical determinants that contribute to the development and progression of the disease. Socioeconomic factors can influence oral health conditions, such as, higher income leads to high chances of exposure to junk food. Many studies have found that the frequent consumption of sweets and sugary drinks leads to cavities. Frequent snacking on foods high in sugar increases the amount of time your teeth are exposed to the dissolving effects of various acids,causing tooth decay.

A study by Wang et al reported lower caries prevalence in participants with higher income rate due to more knowledge of caries prevention[5], whereas Amin et al and Carmichael et al reported no statistically significant association with caries rate.[6] Chandra Shekar B et al reported higher caries prevalence 43.3% in upper economic status than in lower economic status.[7]

Many studies have reported the socioeconomic status to be a one of indicator of Dental while other studies don't support this association. Peterson has reported two dissimilar patterns of dental caries internationally in his studies. The frequency of dental caries has decreased in advanced countries over the last thirty years {Decayed, Missed, Filled teeth (DMFT) from 4.5-6.5 to 2.6} and escalating in developing countries (DMFT from 0.1-1.1 to 1.7).[8] However, Other researches also showed a rise in caries index with an increase in parents' socioeconomic status however decline in caries index with a decline in parents SES had also been reported in studies.[9,10,11]

Demographic characteristics, food intake, fluoride usage, frequency of exposure to sweets and sugar, and access to dental care services are those factors which are associated with dental caries. Some studies show that low socio-economic status families visit dental surgeons regularly due to pain and discomfort. Children belonging to low economic status may have less exposure to sweets, sugar, soft drinks and fried food due to the less income rather than children of higher economic status. Education about primary dentition not only to be extracted when needing any treatment also contributes to it. Due to lack of education level in the lower class families, children of government schools are much more exposed to oral health programs for a fact that Health department tends to educate them more often to increase their education about oral health which includes educating them on fluoride use and personal oral hygiene guidelines.

LIMITATIONS

The study has some limitations due to certain aspects. The sample size should be large and since convenience sampling was done, sampling bias could have occurred as no attempt was made to randomly select patients for the study.

CONCLUSION

The current study shows that socioeconomic status is directly related to dental caries and has a positive correlation. This could be due to increased frequency of consumption of foods and cariogenic substances.

Dental caries is still the among widely spread noncommunicable condition in the world which affects everybody throughout one's lifetime irrespective of the economic status for this more preventive measures must be taken to reduce it.

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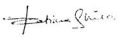
4	Fatimah Shiraz	Statistical analysis.	
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