

ORIGINAL RESEARCH

Assessment of oral health status among children of rural Jagadhri, Yamunanagar: An observational study

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ABSTRACT

Background: The present study was conducted for assessing the oral health status among children of rural Jagadhri, Yamunanagar. **Materials & methods:** 100 school children in all were included. Close-ended questions covering the socio-demographic factors of age, gender, type of school, parents' educational attainment, occupation, and income made up the study. In the school grounds, every child was examined in good lighting. As instructed by the WHO in 1997, the examination was carried out using a plain mouth mirror and CPI probe. Utilising the WHO proforma 1997, the Simplified Oral Hygiene Index (OHI-S) was used to evaluate oral hygiene status. SPSS Software was used to record and interpret each outcome. **Results:** It was observed that good oral hygiene was present in 30 study subjects, average oral hygiene was present in 60 study subjects, poor oral hygiene was present in 10 study subjects and mean OHI-S was 1.72. **Conclusion:** A programme for dental health education that instills a positive and proper attitude towards the maintenance of oral hygiene in children is required.

Key words: Oral Health status, Rural Children

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INTRODUCTION

Oral health is an essential component of general well-being. Essential nutrients for the body are obtained by the ability to chew and swallow which is a critical function and provides the building blocks for general health (American Dietetic Association 1986) [1]. Dental caries and periodontal diseases are the two globally leading oral afflictions, according to the World Oral Health Report 2003 [2]. Dental caries is a term that refers to both the disease and the resulting lesion. The caries process occurs in the biofilm, which is permanently active with every pH fluctuation [3], and the lesion manifests in the dental hard tissues.

Dental caries occurs when the biofilm microbiota that normally resides in the oral cavity in homeostasis change to an acidogenic, aciduric, and cariogenic population due to the frequent consumption of sugars.[4] The result of this shift can be clinically invisible or lead to a net mineral loss within the tooth's hard structures, resulting in a visible carious lesion.[5]- caries, the process, can exist without caries, the visible lesion. Therefore, dental caries is

considered a dietary-microbial disease [6] that requires a cariogenic biofilm and regular exposure to fermentable carbohydrates (glucose, fructose, maltose, and sucrose) from the diet. Behavioral, psychological, and social factors also play a significant role in the disease process.[7] Fluoride's capacity to prevent caries is a well-known fact, and insufficient fluoride exposure should also be considered contributing factor in the disease process.

Hence; the present study was conducted for assessing the oral health status among rural children.

MATERIAL AND METHODS

Children from rural areas aged 5 to 12 participated in the current study. One examiner handled the entire examination. 100 school children in all were included. Close-ended questions covering the sociodemographic factors of age, gender, type of school, parents' educational attainment, occupation, and income made up the study. In the school's grounds, every youngster was examined in good lighting. As instructed by the WHO in 1997, the examination was carried out using

a plain mouth mirror and CPI probe. Utilising the WHO proforma 1997, the Simplified Oral Hygiene Index (OHI-S) was used to evaluate oral hygiene status. SPSS Software was used to record and interpret each outcome.

RESULTS

Mean age of the subjects was 10.2 years. Out of 100 subjects, 65 percent (65 subjects) were males while the remaining were females. While assessing the decayed (d/D), missing (e/M), and filled (f/F) teeth and the total deft/DMFT, it was seen that the decayed teeth (d/D) were present in 48 study subjects (48 percent subjects), missing teeth (e/M) were present in 15 study subjects, filled teeth (f/F) were present in 10 study subjects and deft/DMFT was 73. It was observed that the good oral hygiene was present in 30 study subjects, average oral hygiene was present in 60 study subjects, poor oral hygiene was present in 10 study subjects and mean OHI-S was 1.72.

Table 1: Deft/DMFT among the study subjects

Variables	Present	
	N	%
d/D	48	48
e/M	15	15
f/F	10	10
deft/DMFT	73	73

d/D=Decayed, e/E=missing teeth, f/F=filled, deft/DMFT=decayed, missing, filled teeth

Table 2: OHI-S among the study subjects

Oral hygiene	N	%
Good	30	30
Average	60	60
Poor	10	10

DISCUSSION

Impact of oral health on the overall health has emerged in 1989, and since then oral cavity has been described as a window to the general health of the patient. Various cliches “You cannot have good general health without good oral health” and “The mouth is part of the body” are indicative of oral and systemic health linkage.[8] Oral cavity is the harbor of a diverse group of microorganisms comprising of bacteria, fungi, and viruses that play a key role in the maintenance of oral and systemic health. However, when the oral microbiota balance is altered termed as “microbial dysbiosis,” active pathogens evade the host immune response resulting in variety of systemic diseases.[9] In 1879, Willoughby D. Miller observed a role of oral microorganisms in the development of brain abscess, pulmonary and gastric diseases and stated “oral foci of infection as a cause of systemic diseases.” The focus of infection refers to the localized area of tissue infected with microorganisms, and foci of infection may disseminate through bloodstream to organs thereby resulting in bacteremia, metastatic tissue injury, and inflammation.[10]

Various systemic diseases such as cardiovascular, respiratory, gastrointestinal, kidney, and diabetes mellitus have been linked to oral microorganisms as a potential focus of infection. Among oral diseases, a significant relationship has been elucidated between periodontal disease and increased risk of diabetes mellitus, cardiovascular, preterm low birth weight. Hence; the present study was conducted for assessing the oral health status among rural children.

Mean age of the subjects was 10.2 years. Out of 100 subjects, 65 percent (65 subjects) were males while the remaining were females. While assessing the decayed (d/D), missing (e/M), and filled (f/F) teeth and the total deft/DMFT, it was seen that the decayed teeth (d/D) were present in 48 study subjects (48 percent subjects), missing teeth (e/M) were present in 15 study subjects, filled teeth (f/F) were present in 10 study subjects and deft/DMFT was 73. It was observed that the good oral hygiene was present in 30 study subjects, average oral hygiene was present in 60 study subjects, poor oral hygiene was present in 10 study subjects and mean OHI-S was 1.72. Ndanu TA et al [11] noticed in their study that 5-6 years age group had high caries prevalence than 14–15 years age group. This could be due to increased resistance to caries process in permanent teeth than primary teeth and implementation of oral hygiene practices is not satisfactory in younger children according to Basha S and Swamy HS [12]. In a study by Kalaskar RR et al.[13], the mean DMF (T) score was high in girls as compared to boys but it was not statically significant. This was similar to studies by Babu MSM et al., and Poornima P et al., [14]. Girls had a significantly higher mean DMFT value than boys. This may be due to the fact that teeth erupt earlier in girls than boys which lead to prolonged exposure of the teeth to the oral environment in females [15].

Sharma S et al [16] revealed in their study that oral hygiene in private school was about 82.2% good, 17.2% fair and 0.7% poor and in government school 80.9% good, 18.3% fair and 0.8% poor oral hygiene. Clemencia M Vargas et al [17] documented the oral health status and dental care utilization of US children by place of residence. Data from National Health Interview Surveys for 1995, 1997, and 1998, and from the third National Health and Nutrition Examination Survey (1988-1994) were analyzed. Children residing in rural areas were more likely to be uninsured for dental care than were children from urban areas (41.1% versus 34.7%). A greater percentage of rural than urban children reported unmet dental needs (7.5% versus 5.6%); there was no difference in self-reported poor dental status. Urban children were more likely than rural children to have visited the dentist in the past year (73.6% versus 69.9%) and were also more likely to be regular users of dental care (61.7% versus 51.4%). Differences in percentage of rural and urban children with caries lesions and caries experience were not significant. Children residing in

rural areas have less access to and utilization of dental care compared to children residing in urban areas.

CONCLUSION

From the aforementioned findings, the author draws the conclusion that children need to be taught proper oral hygiene as part of a dental health education programme. There is a need for promotion of oral health programmes in this area, which would enable the children to better understand the significance of oral health. Organising awareness programmes and related events in community schools and local community centres can go a long way in ensuring healthy oral hygiene among the children.

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