

Original Research

Oral Hygiene Status of 7-12 year old School Children in Rural and Urban population

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ABSTRACT:

Dental caries is a serious health issue for people of all ages, but the extent of the disease is highest in young children. There is no data available for the Amritsar district population about dental caries and oral hygiene status of both rural and urban populations. The current study aims to analyse the prevalence of dental caries and oral hygiene status in school children aged 7-12 years in order to offer information to health authorities in order for them to create suitable preventative and therapeutic oral health programmes for school children. **Materials and Methods:** The survey was administered to 2090 students from 14 schools in both rural and urban locations. There were 1145 male children and 945 female children among them. The DMFT and deft indices were used to calculate the number of decaying, missing, and filled teeth (DMFT) and surfaces (DMFS) in both the permanent and primary dentitions (dft,dfs). The Oral Hygiene Index simplified was used to measure oral hygiene status. The total prevalence of dental caries was found to be 65.6%. Dental caries was found in a high percentage of urban school pupils aged 7-9 and 10-12. Oral hygiene condition was found to be inadequate among rural schoolchildren. Even with optimal oral hygiene, female children had a greater frequency of dental caries.

Received: 01 May, 2023

Accepted: 03 June, 2023

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This article may be cited as: Kaur S. Oral Hygiene Status of 7-12 year old School Children in Rural and Urban population. J Adv Med Dent Scie Res 2023;11(7):1-4.

INTRODUCTION

Good dental health is critical for general health and well-being. Dental caries is a multifactorial illness that is avoidable and interferes with appropriate nutrition, speech, self-esteem, and everyday routine activities.

Early identification and quick care will almost likely prevent disease progression[1]. Dental caries has steadily increased in incidence and severity in India during the last two decades, affecting around 80% of children and 60% of adults[2]

The general opinion is that dental caries has become more prevalent and severe in the urban and cosmopolitan populations during the last few decades. However, there is no clear image of dental caries in our country's rural areas, where 72.2% of the population lives.

Because the majority of children live in rural regions and their living conditions are often lower than those in metropolitan areas, they are likely to have a distinct oral health profile. There have been no epidemiological studies to assess the incidence of

dental caries and oral hygiene status in children in the Amritsar District of Punjab.

As a result, this study was conducted to assess and compare the prevalence of dental caries and oral hygiene status in 7-12 year old children.

METHODS AND MATERIALS

This study was conducted in some random schools of Amritsar (Punjab) which includes both urban and rural areas. This study was conducted to assess the prevalence of dental caries and oral hygiene status in school-aged children aged 7 to 12 years from rural and urban areas. The survey was conducted in 14 schools.

A total of 2090 youngsters aged 7-9 (group I) and 10-12 (group II) years were studied from both genders. There were 1145 male children and 945 female children among them. All participants' parents and local school authorities provided prior approval. Using WHO guidelines, children were assessed on upright chairs or stools in ample natural light outside of classrooms or in school corridors during the day.

Plain mouth mirror and shepherd's crook explorer (NO.5) were used to investigate the individuals. All individuals were questioned and assessed by a single examiner.

This grouping was determined by the development of dentition. Henceforth, children aged 7-9 years are considered to be in the early mixed dentition stage, while children aged 10-12 years are considered to be in the late mixed dentition era.

The DMFT and dft indices were used to calculate the number of decayed, missing, and filled teeth (DMFT) and surfaces (DMFS) in the permanent dentition, as well as the number of decayed and filled teeth (dft) and surfaces (dfs) in the primary dentition⁴. Greene and Vermillion's (1964)⁵ oral hygiene index was used to assess oral hygiene level. Any oral disorders or pathological conditions discovered during the examination were reported to the participants.

RESULTS

Group I consisted of 610 students from rural schools and 640 students from urban institutions. Group II

consisted of 440 students from rural schools and 400 students from urban institutions.

Caries were found in 420 (69.9%) of 610 rural students and 450 (71%) of 640 urban schoolchildren in Group I. Caries were found in 216 (49.1%) of 440 rural schoolchildren and 220 (55.7%) of 400 urban schoolchildren in Group II. (Table 1)

The mean and standard deviation of dft scores for rural and urban schoolchildren are shown in Table 2.

The mean and standard deviation of DMFT scores for rural and urban schoolchildren are shown in Table 3.

The mean and standard deviation of OHI-S scores for rural and urban schoolchildren are shown in Table 4.

Overall caries prevalence in Group I was 69.9% in rural schoolchildren and 71.1% in urban schoolchildren.

In Group II, the incidence was 49.1% in rural schoolchildren and 55.7% in urban schoolchildren.

It was also shown that caries frequency rose with age in both locations.

The mean dft(s), DMFT(S) scores were higher in Amritsar district urban areas than in rural areas.

Table 1: Prevalence of dental caries in rural and urban children

Age Group	Urban			Rural		
	Total no of children examined	Total no of children affected by caries	Prevalence	Total no children examined	Total no of children affected by caries	Prevalence
Group I [7-9 years.]	610	420	69.9%	640	450	71%
Group II [10-12 years.]	440	216	49.9%	400	220	55.7%

Table 2. Comparison of dft between rural and urban school children

GROUPS	RURAL	URBAN	CHI square	P value	SIGNIFICANCE
Group I [7-9 years.]	1.22±1.48	2.1±2.37	106.58	0.03	S
Group II [10-12 years.]	1.60±1.21	1.76±1.25	30.0	0.92	NS

Table 3. Comparison of DMFT between Rural and Urban School Children

GROUPS	RURAL	URBAN	CHI square	P value	SIGNIFICANCE
Group I [7-9 years.]	0.22±0.33	1.01±0.9	46.22	0.050	S
Group II [10-12 years.]	0.60±1.21	1.76±2.25	30.0	0.92	NS

Table 4. Comparison of OHI-S between Rural and Urban School Children

GROUPS	RURAL	URBAN	CHI square	P value	SIGNIFICANCE
Group I [7-9 years.]	1.22±0.73	1.91±0.50	1661.22	0.002	S
Group II [10-12 years.]	1.70±1.71	1.76±0.55	891.0	0.929	NS

DISCUSSION

Individuals must maintain their oral health in order to be healthy in general. However, this oral health is harmed by a variety of pathological disorders, one of the most prominent of which is dental caries, a multifactorial illness.^[3] The type and availability of adequate nutrients for oral bacteria are major factors recognised to be related with its onset and progression. A variety of reasons have been proposed to explain differences in the incidence and severity of

dental caries and periodontal diseases not just between developing and developed nations, but also between rural and urban populations^[4-7]. These characteristics may be separated into two categories: local intraoral factors linked with plaque build up, metabolism, and fluoride exposure, and general factors such as age and gender.^[8]

The total caries prevalence in the current research was 65.6%. Dental caries has increased significantly in emerging countries such as India³, [9]. The significant

frequency of caries among Amritsar schoolchildren demonstrates the magnitude of oral health issues.

Dental caries was uncommon among group I rural schoolchildren. These youngsters are from a lower socioeconomic class, thus they have less access to refined sweets and candies, and their snacks are primarily limited to locally created low sugar unrefined sweets. They would also be eating more fibrous and tougher foods, which might explain the reduced caries prevalence.

The intention of the study was to provide systematic information on the oral health situation of children. In developing countries, random sampling is mostly impossible due to lack of census lists or valid population registers and alternative procedures are needed to achieve representative samples for the present study. A modified WHO pathfinder approach was chosen representative focal points of urban and rural areas were identified in order to ensure the participation of the dominant ethnic groups of the country.[10] A national pathfinder survey in order to establish sufficient examination sites to cover all important subgroups of the population that may have differing disease levels or needs for care, and at least three of the index age group.

ORAL HYGIENE STATUS

For the aforementioned age categories, oral hygiene status was poorer among rural schoolchildren than among urban schoolchildren, which was consistent with the findings of the Saha and Sarkar research. The frequency, type, and technique of cleaning of teeth all contribute to good dental hygiene. Poor oral hygiene status among rural schoolchildren could be attributed to poor oral hygiene practises, such as using a finger instead of a tooth brush and replacing tooth paste with charcoal, whereas tooth brushes and fluoridated tooth pastes were widely available and affordable in the urban population.[11]

Comparison of Dental Caries and Oral Hygiene Between Male & Female Children

Male children had worse oral hygiene than female children, although the differences were not statistically significant ($P = 0.58$). Female children had superior oral hygiene, and the gender difference may be due to behavioural differences.

These data show that the high oral hygiene status of urban children may be attributable to parental dental awareness, which is reflected in the child's oral hygiene maintenance and the educational level of family members. Due to the lack of professional dental care in rural India and availability to government dental services in the surrounding region, rural children do not have access to restorative (or) any other dental therapy. [12]

The students of today are the adults of tomorrow; they must be educated about oral hygiene.

According to our findings, assessing children's oral health and providing them with dental health

education from a young age helps them develop preventative dental behaviour and attitudes that will benefit them for the rest of their lives. This may be accomplished through school dental health programmes that educate uninformed parents about dental health. Parents should be educated on correct brushing techniques, the use of pit and fissure sealants, and the necessity of other preventive actions for children. The goal of the school dental health programme is to educate and inspire teachers, parents, and students about their oral health and treatment requirements.[13]

CONCLUSION

In the study population, the total frequency of dental caries was 65.6%. Dental caries was more prevalent in urban schoolchildren than in rural schoolchildren. Oral hygiene status was shown to be worse in rural school children than in urban school children across all age groups. In all age categories, female children had a greater rate of dental caries. However, in the aforementioned age categories, female children exhibited better oral hygiene than male youngsters. Our findings indicate that dental caries is a serious public health issue, and that a proactive and effective preventative dental care programme for children is required. The knowledge gained via these programmes will help these youngsters maintain their dental health.

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