

ORIGINAL ARTICLE**A survey for assessing prevalence of oral lesions among school going children**

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ABSTRACT:

Background: This study was conducted to assess the prevalence of oral lesions among school children. **Material and methods:** This research was initiated to evaluate the prevalence of oral lesions in school-aged children. The study involved a sample of 1,000 children, all aged between 8 and 15 years. Prior to the examination, the students were briefed about the procedures involved. The oral clinical assessments were conducted on the school premises, utilizing a mouth mirror and probe for the examinations. The results for each student were meticulously recorded, and various types of diagnosed oral lesions were compiled into a table. Statistical analysis was performed using SPSS software, with univariate analysis employed to determine the significance levels. **Results:** The most common condition in the current study among the school children was dental caries accounting for 12.3 percent of cases. Geographic tongue accounted for 0.6% cases. Fissured tongue and herpes labialis were seen in 0.8 percent and 0.6 percent of subjects respectively. Cheilitis, oral ulcer, tongue tie and leukoedema were discovered in 0.3 percent, 0.8 percent, 0.2 percent and 0.9 percent of the subjects respectively. Hence, the prevalence of oral lesions was 16.5%. **Conclusion:** Oral mucosal lesions (OML) are conditions occurring in the soft tissues of the oral cavity, expressed by diverse clinical presentations. Their origin may be infectious (viruses, fungi, and bacteria), neoplastic, arising from trauma or local irritation, being manifestations of systemic diseases (metabolic or immunologic), or they could be related to habits and lifestyle. Based on the findings of this study, it can be concluded that the prevalence of oral lesions among school children is significant.

Keywords: Dental caries, Oral ulcer, School children, Prevalence

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INTRODUCTION

Oral mucosal lesions (OMLs) encompass a range of conditions affecting the oral mucosa, resulting in various types of lesions. The diagnosis of the diverse range of mucosal lesions present in the oral cavity is a crucial aspect of dental practice; however, there is a notable lack of systematic research regarding the prevalence of these lesions among children and adolescents. This gap in knowledge is significant, as accurate diagnosis and treatment depend on understanding the relative frequency or likelihood of various lesions.¹⁻³ Crivelli et al conducted a study comparing the prevalence of oral mucosal lesions in 846 children aged 4 to 13 years from a suburban private school with estimates from children of the same age attending a public school in a low-income area. Their findings indicated that, although the overall prevalence of lesions was similar, children from affluent backgrounds exhibited significantly higher rates of recurrent aphthous stomatitis (RAS) and geographic tongue, while showing lower rates of angular cheilitis and recurrent herpes labialis (RHL) compared to their less affluent peers. Additionally, Sawyer et al investigated the prevalence of specific oral lesions in a sample of 2203 children from three secondary schools in Nigeria, reporting prevalence rates of 0.3% for geographic tongue and 0.8% for fissured tongue.⁴⁻⁶ Maria del Rosario Rioboo-Crespo and colleagues conducted a comprehensive review of

the latest information and the experiences of their research group to provide epidemiological data that aids in the diagnosis of prevalent oral mucosal diseases in children. Recent epidemiological investigations have revealed significant variability in the prevalence of oral mucosal lesions across various global regions, leading to inconsistent conclusions among researchers. Additionally, the lack of standardized criteria in study designs has contributed to this variability, with reported prevalence rates of oral lesions in children ranging from 4.1% to 52.6%. The lesions most frequently identified in the literature include recurrent aphthous stomatitis (0.9-10.8%), labial herpes (0.78-5.2%), fissured tongue (1.49-23%), geographic tongue (0.60-9.8%), oral candidiasis (0.01-37%), and traumatic injury (0.09%-22.15%). It is essential for dentists to recognize the various potential disorders and to conduct accurate differential diagnoses, which are crucial for developing effective treatment plans.⁷ This study was conducted to assess the prevalence of oral lesions among school children.

MATERIAL AND METHODS

The current research was commenced for assessing the prevalence of oral lesions among school children. This study comprised of 1000 school children. All the children belonged to the age range of 8 to 15 years. The students had been informed about

the procedure. All the student were gathered for oral clinical examination inside the school premises. Mouth mirror and probe were used for carrying out oral examination. The findings of all the students had been noted. Different types of oral lesions that had been diagnosed were tabulated. The statistical analysis was conducted using SPSS software. Univariate analysis was done for assessment of level of significance.

RESULTS

47.2 percent of the subjects were boys while the remaining were girls. 41.2 percent of the subjects

belonged to the age group of 12 to 15 years. It was observed that the most common condition in the current study among the school children was dental caries accounting for 12.3 percent of cases. Geographic tongue accounted for 0.6% cases. Fissured tongue and herpes labialis were seen in 0.8 percent and 0.6 percent of subjects respectively. Cheilitis, oral ulcer, tongue tie and leukoedema were discovered in 0.3 percent, 0.8 percent, 0.2 percent and 0.9 percent of the subjects respectively. Hence, the prevalence of oral lesions was 16.5%.

Table 1: Gender-wise distribution of subjects.

Gender	Number of subjects	Percentage
Male	472	47.2
Female	528	52.8
Total	100	100

Table 2: Age-wise distribution of patients

Age group (years)	Number of subjects	Percentage
8 to 9	332	33.2
10 to 12	356	35.6
12 to 15	412	41.2
Total	100	100

Table 3: Prevalence of oral lesions among school children.

Oral lesions	Number of cases (out of 100)	Percentage
Dental caries	123	12.3
Geographic tongue	6	0.6
Fissured tongue	8	0.8
Cheilitis	3	0.3
Oral ulcer	8	0.8
Herpes labialis	6	0.6
Tongue tie	2	0.2
Leukoedema	9	0.9
Total	165	16.5

DISCUSSION

Dental caries is the most prevalent and enduring issue related to oral health, particularly among children. This condition develops through a progressive infectious process influenced by a variety of factors. The onset and advancement of dental caries depend on the interaction between dietary habits, oral bacteria that process sugars, and the individual's susceptibility. Due to its considerable potential to cause morbidity, dental caries has emerged as a major concern for dental health professionals. The development of dental caries is closely associated with the buildup of dental plaque on the surfaces of teeth. The frequency and timing of the intake of fermentable carbohydrates, which are processed by specific bacteria like *Streptococcus mutans*, lead to fermentation that produces significant amounts of acid. This acid lowers the local pH, resulting in the demineralization of both enamel and dentin. Furthermore, a high consumption of sugary foods, dry mouth conditions, and poor oral

hygiene practices can significantly increase the likelihood of new carious lesions forming.⁶⁻⁹ This study was conducted to assess the prevalence of oral lesions among school children.

47.2 percent of the subjects were boys while the remaining were girls. 41.2 percent of the subjects belonged to the age group of 12 to 15 years. It was observed that the most common condition in the current study among the school children was dental caries accounting for 12.3 percent of cases. Geographic tongue accounted for 0.6% cases. Fissured tongue and herpes labialis were seen in 0.8 percent and 0.6 percent of subjects respectively. Cheilitis, oral ulcer, tongue tie and leukoedema were discovered in 0.3 percent, 0.8 percent, 0.2 percent and 0.9 percent of the subjects respectively. Hence, the prevalence of oral lesions was 16.5%. Parlak AH et al determined the prevalence of oral lesions in 13- to 16-year-old students. Venous blood samples were obtained for detecting hemoglobin levels. Two

hundred sixty adolescents (26.2%) were diagnosed with at least one oral mucosal lesion at the time of the examination. Thirteen different mucosal alterations were diagnosed, and the most common lesions were angular cheilitis (9%), linea alba (5.3%), and aphthous ulceration (3.6%). The correlation between occurrence of mucosal lesions and sex was not statistically significant ($P > 0.05$). Statistical evaluation of the data revealed a significant relationship only between the presence of angular cheilitis and anemia ($P < 0.05$). Angular cheilitis was the only oral mucosal lesion that had a significant correlation with anemia.¹⁰ Majorana A et al defined the prevalence of oral mucosal lesions in a large group of children. In total, 10,128 children (0-12 years old) were enrolled. Clinical diagnostic criteria proposed by the World Health Organization were followed. The frequency of children presenting oral mucosal lesions was 28.9%, and no differences related to gender were observed. The most frequent lesions recorded were oral candidiasis (28.4%), geographic tongue and other tongue lesions (18.5%), traumatic lesions (17.8%), recurrent aphthous ulcerations (14.8%), herpes simplex virus type 1 infections (9.3%), and erythema multiforme (0.9%). Children suffering from chronic diseases had a higher frequency of oral lesions compared with healthy children. Mucosal alterations in children are relatively common, and several oral disorders are associated with underlying medical conditions.¹¹

CONCLUSION

Oral mucosal lesions (OML) are conditions occurring in the soft tissues of the oral cavity, expressed by diverse clinical presentations. Their origin may be infectious (viruses, fungi, and bacteria), neoplastic, arising from trauma or local irritation, being manifestations of systemic diseases (metabolic or immunologic), or they could be related to habits and lifestyle. Based on the findings of this study, it can be concluded that the prevalence of oral lesions among school children is significant.

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