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# THE PREVALENCE OF ORAL MUCOSA LESIONS IN PEDIATRIC PATIENTS

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## Abstract

Lesions of the oral mucosa are a broad range of different alterations located in the soft tissue of the oral cavity. The studies that desribe the prevalence of oral mucosal lesions have been carried out mainly in a adult population. The prevalence of oral mucosa lesions (OMLs) among children varies from 4.1% up to 69.5%. There is a lack of sufficient epidemiological data and adequate knowledge about OMLs in relation to minors' gender and age. The aim of the study was to evaluate the prevalence of OMLs in children, patients of the oral pathology clinic in south-western parts of Poland, and to investigate the potential correlation between the occurrence of particular types of OMLs and the gender and age. A retrospective study was performed using a total of 2474 clinical charts from 2015 to 2019. Data collected included age, gender, and OMLs' type. The prevalence of OMLs in minors was 5.21%. Aphthae was the most frequent diagnosis. Boys were more commonly affected, and traumatic erosion and ulcers were significantly more often detected in males.

**Keywords**: oral mucosa lesions, children, prevalence, oral health.

## Objective

Oral mucosal lesions are a broad group of alterations lacated in the soft tissues of the oral cavity, recognizable by their etiology clinical characteristics prognosis and dissimilar treatments.The clinical exam to obtain a diagnosis of oral conditions and lesions is fundamental, wchih is why it must be correct, through and systematic .The exam of soft tissues in pediatric patients involves knowledge of normal size, shape, color and texture of the structures that comprise it

## Introduction

Treatment of childhood caries and the consequences of tooth injuries are the main concerns of dental practitioners, which successfully overshadow other oral cavity pathologies observed in childhood [1,2,3], which are oral mucosa lesions (OMLs). The prevalence of OMLs in children is not that uncommon and rare as many clinicians may presume. Its incidence varies between research from 4.1% up to 69.5% [1,4]. This discrepancy in the results is influenced by the geographical provenience, development period of minors, and different methodological criteria used in the studies [1,2,4,5,6,7,8]. Nevertheless, oral mucosal conditions are underestimated and underdiagnosed not only by dentists, but also by pediatricians, dermatologists, and other medical specialists [1,2,4,5,9,10]. This can be disquieting when we realize that some of the OMLs can manifest and/or precede systemic diseases or disorders that can disturb child's proper development or can be possibly life threatening [11,12]. Vitamins and trace elements deficiencies, autoimmune disorders (including Crohn's disease, celiac, Behcet's disease), hematological diseases, and fever syndromes are just a few among many maladies that can be reflected in the condition of oral mucosa. Ulcers and erosions, changes in the color and symmetry of the mucosa, depapillation of the tongue, and abnormal growth of the tissue are the signs and symptoms that should raise clinical suspicion.

## Materials and Methods

A retrospective study of the oral cavity clinical charts of patients who referred to the oral pathology clinic in 2015–2019 was conducted. Oral cavity medical records were reviewed for the presence of oral mucosa lesions. A total of 2747 clinical charts were analyzed with the diagnosis of any type of oral mucosa abnormality. The patients came from the south-western part of Poland. The medical records were examined by a dentist, specialist in oral pathology, with the help of calibrated dentistry students. Relevant retrospective data such as the type of oral mucosa disease, age, and gender were collected. No other personal data was described or used. Diagnoses of the mucosal lesions found in the medical charts were made mainly on the basis of examination, observation, and clinical interview. Traumatic erosions and ulcers were most often caused by injuries (traumatic events or habits, e.g., biting or chewing the oral mucosa), unsuitable fillings, orthodontic appliances, food burns, or iatrogenic to the dental care. The inclusion criteria for the study were age from 1 day to 17 years, the diagnosis of OML confirmed in the medical records between years 2015–2019, and consent to participate in the study. Failure to meet any of the above

criteria resulted in exclusion from the research. The informed, voluntary consent of all legal guardians of the children was obtained during a telephone conversation. The approval of the local Ethics Committee was not required due to the use of retrospective data and the inability to identify an individual person on the basis of data collected from the medical files.

## Results

Out of all 2747 investigated charts, 143 belonged to minors, including 60 girls and 83 boys. That comprised of 5.21% of all of the outpatients admitted to the clinic between years 2015 and 2019. 3.28% of all of the females and 9.07% of all of the males admitted during this period. The mean age of all of the pediatric patients was around 8 years old, also in both genders. The average age of preschool children (in the entire study group, as well as girls and boys) was approximately 3 y/o. The mean age of school-age children in the entire group was 10 y/o, girls were slightly younger (9.6 y/o), and boys were slightly older (10.5 y/o). The average age of adolescents in the entire group, as well as in both sexes, was 15.5 y/o. (Table 1). In this group of 143 children, 31 different oral mucosa conditions were diagnosed.After statistical analysis, diseases occurring in at least 6 subjects (4.2% of the studied population) were selected for further study. This allowed for the identification of the ten most frequent OMLs, which accounted for 74.8% of the entire examined pediatric medical documentation.

## Discussion

Our study presents the prevalence and distribution of oral mucosa lesions in children and youths aged from 1 day until reaching the age of consent, which is 18 years. It should be emphasized, however, that this evaluation was performed in a group of patients with symptomatic oral mucosa lesions, who came to an oral pathology clinic with an existing problem. In our opinion, it is worth analyzing oral mucosa diseases that are diagnosed and treated in a specialist clinic, because such studies allow for the observation of the prevalence of particular diseases and the directions of their changes. Our work is focused on assessing the type, gender, and age-related distribution of oral mucosa lesions.In the present study, the overall prevalence for clinically apparent oral mucosa lesions among pediatric patients was 5.21%. Similar incidence was reported by Kleinman et al. , Lima et al. [18], and Espinosa-Zapata et al. : 4.08%, 6.6%, and 7.4%, respectively, although its higher frequency can be found, ranging from 9.73% up to 69.5% [1,2,3,4,9,20]. The discrepancy in pediatric

OMLs incidence may be related to different research methodology, different nomenclature used to describe OMLs, variation in training, calibration, and examination features, also with different sampling frames (studies concern subjects from different geographical regions, ethnicities, cultures, and habits) .

## Conclusions

Our study provided observation of aspects and types of oral mucosa lesions prevalence in pediatric population aged 0–17 years. To the best of the authors' knowledge, this is the first research of this type in Poland, as well as in Central Europe. The incidence of OMLs among children has been established at 5.21%. The most frequently observed pathology were aphthae. The majority of the patients were males and children in the age of 7–13 years (mean age of children was around 8 y/o). In boys, erosions and ulcers resulting from trauma were observed significantly more often. In preschoolers (0–6 y/o) geographic tongue was significantly more often diagnosed, while Morsicatio buccarum was significantly more often observed in school-aged children and adolescents (7–13, 14–17 y/o).Knowledge about the prevalence of mucosal pathology in children is essential and fundamental for the medical practitioners for the appropriate diagnosis and treatment.

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