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RESEARCH ABOUT DENTAL MORBIDITY IN BLIND AND VISUALLY IMPAIRED CHILDREN

Zikirova Hulkar Alisherovna
Burxonova Zarafruz Kobilovna
Samarkand State Medical University

Abstract
Background. The article presents the results of a dental examination of 68 schoolchildren of 12-15 years with visual impairment. Objectives – to study the dental status of blind and visually impaired children in the period of permanent bite, the necessity of sanation, the level of dental care.

Keywords: children, blind, visually impaired, caries, prevalence, intensity, oral hygiene, dental-anomalies, level of dental care, prevention

Introduction

According to the World Health Organization, there are 2 billion children with disabilities in the world [1,24]. Such assistance to children and adolescents has a direct impact on the field of medicine and education and is one of the main tasks of the state [1, 7, 12]. Vision plays an important role in the development and upbringing of children. With the help of a visual analyzer, 90% of the perception of the outside world is carried out. The formation of various systemic connections between vision and other types of sensitivity in the process of child development determines its dominant role in the perception of the surrounding reality, especially in cognitive activity [4]. According to Russian and foreign authors, the prevalence of visual impairment in children is very high [10,19-21,23,25], which largely depends on the level of development of the country. More than 80% of visually impaired people live in developing countries [22]. According to WHO forecasts, by 2020 the number of people with visual impairments may increase by 2 times. For Russia, diseases of the visual organs and related problems of blindness and visual impairment are very relevant. According to the Federal Office of State Statistics (Rosstat), in the structure of prevalence (morbidity) of children aged 0-17 years, the prevalence of eye diseases and their appendages is 10 per 1,448.5 million children in Russia [6]. In the Republic of Bashkortostan in 2016, the total incidence of diseases of the eye and its appendages in children aged 0-17 years reached 10 cases per 14681.1 [5] million children, including blindness and visual impairment ~ 117.8. To improve the quality of life of children in this category, therapeutic and preventive care is an urgent task for doctors of various

specialties. There is little information in the literature about the details of dental care for children with dental problems and visual impairments. Leonova L.E. and co-authors found that the prevalence of caries in children with visual impairments was 73.91±1.21%, and the intensity of the carious process according to the KPUz index was 2.35±0.31 [8]. Yatsuk A.I.In the study of Karmalkova I.S. In 8-year-old schoolchildren with significant visual impairment, a 100% prevalence of carious lesions of the teeth and dental anomalies was established [18]. Poor hygiene, high prevalence of dental anomalies and caries among blind (84.6%) and visually impaired (84.3%) children were found in N.V.Tarasova and co-authors and recognized in the works [13, 14]. Comprehensive assessment of the prevention of major dental diseases DOI:10.18481/2077 7566 2018 14 4-93-97 In children with visual impairments, it is called "O.V.Shpak's Money" S.V.It It was presented in works of art[2]. These studies have not been conducted in the Republic of Bashkortostan and have become the basis for assessing the dental condition and planning measures for the prevention and treatment of dental diseases in children with visual impairments [16, 17]. The aim of the study was to study the prevalence of teeth in blind and visually impaired children during the formation of permanent occlusion, the need for rehabilitation and the level of dental treatment.An accidental feature of this child is that he studies at a boarding school, therefore, to achieve this goal, we examined 68 visually impaired schoolchildren (38 boys, 30 representatives of the fair sex). In addition, we also conducted a dental examination of the patient (the girl in the ward).The state budgetary educational institution for the blind and visually impaired is studying at Ufa Correctional Boarding School No. 28."A dental examination was conducted in the medical office of the school with the participation of pediatric dentists and orthodontists. Laboratory tests included the study of facial features and the main functions of the dental system, including nasal breathing, swallowing and speech. During the examination of the oral cavity, the hard tissues, dentition and bite of the teeth, as well as the condition of the mucous membrane and periodontal tissues were evaluated; upper and lower lips, attachment of a hyoid bandage; location and size of the tongue; structure of the hard palate; severity of the palatine tonsils. appreciated. When analyzing the condition of the temporomandibular joint, the following parameters were taken into account: the nature of mouth opening, pain at rest, the presence of clicks or crunches during movements in the joint [3]. The prevalence and intensity of caries, periodontal diseases and the green– vermilion oral hygiene index (OHI-S, 1964), bleeding gums, the prevalence and structure of alveolar bone abnormalities (ZFA) in accordance with the WHO methodology, soft tissue adhesion disorders were studied, the classification of the Department of Orthodontics and

pediatric prosthetics of the Samarkand State Medical University and L.S.Persin's classification.[11] Previously, the consent of the school management and the informed consent of the child's parents were obtained. The examination was carried out in accordance with WHO requirements, and the results were entered into the registration card of the child's dental condition. The prevalence of caries was determined as a percentage by dividing the number of people with caries by the number of people who examined their complications. The intensity of caries was determined by caries indicators. The components of the strength index were studied: "K", "P", "Y". Component "K" included teeth with caries and its complications, teeth with sealants and caries, teeth with temporary fillings, as well as the presence of primary or secondary caries.Component "P" included teeth with fillings that do not require repair and do not have caries on other surfaces, and component "Y" included teeth that were removed due to complex caries. There were no shortcomings in the CPI index structure for other reasons (primary dementia, retinopathy): healthy teeth, healthy with the use of sealants, with non-carious lesions, with injuries. Based on the individual values of the dental consumer price index, the average indicator for the examined groups was calculated [15]. Studying the structure of the CPI index made it possible to determine the need for oral hygiene, the level of caries intensity (PEC index) and the level of dental care (USP index).[9] The level of caries intensity in children and adolescents (9-19 years old) It is calculated as the ratio of the individual consumer price index to the patient's age minus 5 years (age at the beginning of permanent teething): 0.3 – below low; 0.4-0.6 – moderate; 0.7-0.9 is high; 1.0 and above is very high. The USP index is calculated using the formula usp=100%–(K+A/KPU)x100.kpu is the average intensity of caries in the study population.K is the average number of untreated carious lesions, including caries of filled teeth.A is the average number of teeth removed that have not been restored with a prosthesis. Depending on the value of the USP, 4 levels of dental treatment are determined according to the following schemes: less than 10% – poor; 10-49% - insufficient; 50-74% - satisfactory; more than 75% - good. Results A dental examination of 68 schoolchildren showed that 60 teenagers were affected by caries and had their teeth sealed or removed. The prevalence of caries was 88.2%. The intensity of caries according to the CPI index is 4.1. Analysis of the structure of the CPI index showed the predominance of the component "K", its share is 2.68 (65.4%), "P" – 1.19 (29.0%), "Y" – 0.23 (5.6%). According to the evaluation criteria, low PECS were determined in 18 people (34.1%), average in 20 (41.5%), high in 11 (19.5%), very high in 5 (4.9%). The level of dental care according to the USP index is 29.03% and is assessed as insufficient. 54 (79.4%) schoolchildren needed oral sanitation. The average value of

the Green index – Vermillion (OHI-S) is equal to 1.76, which corresponds to poor oral hygiene. Dental anomalies were detected in 66 schoolchildren (97.1%) aged 12-15 years. The majority of the examined patients had combined dental anomalies – 59 people (86.8%). Anomalies of occlusion of the dentition were diagnosed in 46 schoolchildren (67.6%): distal – in 12 (17.6%), mesial – in 1 (1.5%), deep incisor – in 6 (8.9%), cross–in 9 (13.2%), deep incisor dysocclusion – in 16 (23.5 %), vertical incisor dysocclusion – in 8 (11.8%). Anomalies of the dentition were determined in 51 examined (75.0%): narrowing of the dentition of the upper jaw – in 15 (22%), lower – in 3 (5.4%); violation of contacts between adjacent teeth (crowded position) on the lower jaw – in 35 (51.5%), on the upper – in 5 (7.4%); tremors – in 9 (13.2%); diastema – in 7 (10.3%). Of the anomalies of individual teeth, position anomalies were most common – in 56 people (82.3%). Adentia was detected in 6 people (8.8%), an X-ray examination was recommended to confirm this diagnosis. Anomalies of tooth size (microdentia) were detected in 3 people (4.4%), 4 people (5.9%) had systemic hypoplasia. Among the soft tissue abnormalities, a short frenulum of the tongue was observed in 15 people (22%), low attachment of the frenulum of the upper lip in 9 people (13.2%), high attachment of the frenulum of the lower lip in 2 people (2.9%), shallow vestibule of the oral cavity in 3 people (4.4%). Violations of the functions of the maxillary system were detected in 21 people (30.9%): infantile swallowing – in 12 (17.6%), speech disorders – in 5 (7.4%), TMJ dysfunction – in 4 (5.8%). 2 children (2.9%) were undergoing orthodontic treatment using a removable orthodontic device. In 6 children (8.8%), orthodontic treatment with removable devices was previously performed.

Conclusions

The results obtained by us indicate a high intensity and prevalence of caries of permanent teeth, dental anomalies, an unsatisfactory state of oral hygiene, a high need for oral sanitation, an insufficient level of dental care for blind and visually impaired schoolchildren aged 12-15 years and indicate the need for planning measures for primary and secondary prevention of dental diseases in this category of children.

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