

Interregional scientific and practical online conference “Dentoalveolar training in dental practice: results and prospects”

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Abstract

On October 8, 2021, the Interregional Scientific and Practical Online Conference “Dentoalveolar Training in Dental Practice: Results and Prospects” was held. The main topic was the use of Dentoalveolar training. The conference aroused great interest among the participants, many questions were asked, to which the speakers gave exhaustive answers.

Keywords: conference, dentoalveolar training in dental practice: results and prospects.

The Interregional Scientific and Practical Online Conference “Dentoalveolar Training in Dental Practice: Results and Prospects” was held on October 8, 2021.

The online conference was attended by 244 specialists from various regions of the Russian Federation, as well as from neighboring countries (Kazakhstan, Uzbekistan).

Professor Rinat Akhmedullovich Saleev, MD, PhD, the co-chairman of the organizing committee of the conference, dean of the dental faculty of the Kazan State Medical University, and president-elect of the Dental Association of Russia delivered a welcome speech. He emphasized the importance of introducing dentoalveolar training developed in Russia into wide dental practices.

Professor Said Salmenovich Ksembaev, MD, PhD, Head of the Department of Oral and Maxillofacial Surgery and Surgical Dentistry of the Kazan State Medical University, presented a report on “Dental training: yesterday, today, and tomorrow.” The report highlighted the clinical efficiency of an innovative DentaFit dental simulator (jointly developed by scientists from Kazan State Medical University and Kazan National Research Technological University), designed to prevent dental caries and periodontal diseases and to form the anatomic occlusion in children.

The basic concept of the need to use dentoalveolar training because of the deterioration of the human masticatory apparatus in the historical aspect was presented. Simultaneously, factors leading to a high level of dental pathology were considered, such as a change in nutrition, “chewing laziness,” deficit in chewing load, and reduction in the dentoalveolar system. The technique of dentoalveolar training using the dentoalveolar simulator DentaFit was shown in a video.

The results and prospects for the use of DentaFit in a wide dental practice were announced. Particular attention was given to the indications for using dentoalveolar training.

Professor Antonina Vasilievna Anokhina, MD, PhD, Head of the Department of Therapeutic, Pediatric Dentistry with a Course of Orthodontics at the Kazan State Medical Academy, presented a report on “Problems of prevention and treatment of children with dentoalveolar anomalies.” The current state of problems regarding the prevention and treatment of dentoalveolar anomalies in children was presented, considering contemporary international and Russian clinical recommendations.

It was noted that the high prevalence of dental anomalies in pediatric patients necessitates the improvement of organizational technologies for their timely detection, effective prevention, and high-quality treatment. The issues related to patient management in real clinical practice were highlighted. The importance of introducing dentoalveolar training into the work of orthodontists for preventing dentoalveolar anomalies was also stated.

In the report “Organizational and therapeutic aspects of the introduction of dentoalveolar training in orthodontic practice,” Elvira Mansurovna Zaripova, PhD, General Director of Dental Polyclinic No. 9—Azino and Associate Professor of the Department of Dentistry and Implantology of the Institute of Fundamental Medicine and Biology of Kazan Federal University, and orthodontist Lyudmila Grigorievna Pilyasova presented the results of the introduction of the DentaFit dentoalveolar simulator into the work of orthodontists in the clinic; organizational measures were performed for this purpose, and successful testing of the device was conducted in a complex nonequipment orthodontic treatment and in orthodontic treat-

ment using removable equipment among 650 children aged 4–12 years (in mixed dentition) who received the orthodontic treatment. The efficiency of dentoalveolar training in expanding the dentition, improving the conditions for changing teeth, aligning teeth at the eruption stage, accelerating the process of changing the incisors and eruption of the first permanent molars, improving oral hygiene, increasing the rate of salivation, reducing the development of caries, and eliminating bad habits such as mouth breathing and malposition of the tongue was presented and justified.

The provision “The use of the dentofacial simulator DentaFit is pathogenetically justified in the complex treatment of children with dentoalveolar anomalies” put forward by the speakers was rationalized.

The next report “The place and role of dentoalveolar training in the system of school dentistry” was presented by Natalya Evgenievna Permyakova, PhD (Medicine), Chief Physician of the Children’s Dental Clinic in Izhevsk. The results of the use of dentoalveolar training in the system of school dentistry, starting from primary school age in an organized community, were presented.

The main factors reducing the level of dental health in children of primary school age and the approaches to minimize these factors were introduced to the listeners.

An organizational and functional model for improving the level of dental health of children of primary school age was presented, the impact of dentoalveolar training on the prevention of dental caries, gingivitis, periodontitis, dentoalveolar abnormalities, and malposition of teeth in children of primary school age was assessed. In conclusion, an action algorithm was presented to improve the dental health of children of primary school age using dentoalveolar training.

Madina Nailevna Khadiyeva, PhD (Medicine), Chief Physician of the dental clinic “Unident” (Kazan) made a report “Dentoalveolar training in the rehabilitation period in patients with chronic generalized periodontitis.” The report presented the results of a study indicating an increase in the level of individual oral hygiene in patients with chronic generalized periodontitis in remission when using dentoalveolar training along with a toothbrush. The stimulating effect of the dentoalveolar simulator on the functional state of the large and small salivary glands and the periodontal microvasculature was demonstrated. Data showing a significant increase in the salivation rate, decrease in the total leukocyte count, and increase in the live leukocyte percentage in the oral fluid were presented, indicating an indirect positive effect of dentoalveolar training

on the state of mucosal immunity and a decrease in the vascular wall permeability.

In the report “Dentoalveolar training in the context of preventive measures in children with hearing and speech disorders under conditions of social deprivation,” Marina Vladimirovna Moseeva, MD, PhD, Associate Professor of the Department of Pediatric Dentistry of the Izhevsk State Medical Academy, and Zinaida Alexandrovna Melchukova, Assistant Professor of the Department of Surgical Dentistry and Maxillofacial Surgery, presented the results of the use of dentoalveolar training in children with hearing and speech pathology, indicating its efficiency.

Marina Vladimirovna Yakovleva, PhD (Medicine), Head of the Department of the Republican Dental Clinic (Cheboksary), presented the report “The influence of dentoalveolar training on the dental status in pediatric dental practice.” The report presented the results of a study to establish and systematize the factors that deteriorate the level of individual oral hygiene in children aged 12 years. Simultaneously, the provision for the use of a dentoalveolar simulator as an additional tool of individual oral hygiene was substantiated. It was demonstrated that dentition training, which has a functional effect on the dentoalveolar system, does not impair the barrier functions of the oral tissues; that is, it is a safe procedure in terms of the probability of an exacerbation of a chronic odontogenic focus of infection in children.

The speaker emphasized and substantiated the position that dentoalveolar training in combination with a toothbrush increases the effectiveness of individual oral hygiene and maintains the hydrogen value (pH) of the oral environment of children in a neutral range, which is favorable for the daily prevention of dental caries.

The report “Influence of dentoalveolar training on the dental status of an adult” was presented by Aigul Aydarovna Khaliullina, PhD, Chief Physician of the network of dental clinics “Estetic-stom” (Kazan). The report announced a new approach to improving dental health by including a dentoalveolar simulator in the practice of individual oral hygiene. The results of a study indicating the effect of dentoalveolar training on the neuromuscular activity of the masticatory muscles and regional blood flow were presented. The thesis was presented about the “training” of the dentoalveolar apparatus under the conditions of mechanical action of the dentoalveolar simulator, the stimulating effect of dentoalveolar training on the rate of salivation was substantiated, as well as the level of oral hygiene, mineralizing potential of saliva, functional resistance of tooth enamel, and the decrease in the

intensity of dental caries with regular use of the dentoalveolar simulator. The provision on the optimal number of chewing movements for dentoalveolar training was substantiated.

In the report “Efficiency of the application of the model of myofunctional simulator in orthodontic practice” by Nailya Khanifovna Khamitova, MD, PhD, Professor of the Department of Pediatric Dentistry of Kazan State Medical University, and Lily Aleksandrovna Ignatieva, post-graduate student of the department, presented data on the dependence of the formation of occlusion pathology on myofunctional disorders. It was emphasized that the myodynamic balance between the maxillofacial region muscles ensures the necessary conditions for the normal development of the dentition. Dysfunction of the muscles of the facial and oral regions had become an important etiopathogenetic factor in the occurrence of anomalies in the teeth position and the development of the upper and lower jaws, which lead to occlusion pathology.

Bad habits are the most common among these factors (thumb sucking or use of pacifiers, mouth breathing, lack of proper lip closure, etc.). In this case, special attention should be paid to the posi-

tion of the tongue during mouth breathing because placing the tongue between the dental arches by the child contributes to a significant vestibular inclination of the upper incisors. Because of these changes, disocclusion in the vertical plane is formed.

The report showed the change in indicators of bioelectrical activity of muscles during orthodontic treatment, as well as the effect of orthodontic treatment on changes in electromyography parameters. Data were presented that confirmed the varying degree of efficiency of orthodontic treatment, and the results of using a new myofunctional simulator created based on the DentaFit dentoalveolar simulator were analyzed. In conclusion, the authors of the report demonstrated the need to correct myofunctional disorders along with orthodontic apparatus treatment.

For most of the conference participants, this subject was new and previously unknown; therefore, the conference aroused great interest regarding these subjects as many questions were asked, and the speakers gave comprehensive answers to questions. At the end of the conference, a discussion was held, which resulted in a decision to organize this conference annually.

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