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CHARACTERISTICS OF ANXIETY OF YOUNG PEOPLE SUFFERING FROM DENTOFACIAL ANOMALIES AND UNDERGOING ORTHODONTIC TREATMENT

ABSTRACT

The authors investigated the level of personal and reactive anxiety in young people suffering from dentoalveolar anomalies considering orthodontic treatment techniques (vestibular or lingual braces). It was found that, despite the increased level of personal and reactive anxiety in young people with vestibular braces, there was a low level of anxiety, while in patients using lingual bracket system, a significant increase in the level of personal and reactive anxiety was marked, which can be regarded as moderate anxiety on quantitative evaluation.

Keywords: dentoalveolar anomalies, cadets, young persons, orthodontic treatment, the mental state, personal and reactive anxiety.

INTRODUCTION

All dentofacial anomalies and deformations of the facial skeleton, as well as disfigurement resulted from a car accident or gunfire, negatively affect the mental abilities of a person [3, 4, 7]. It was noted that studying the expression and behavior of a person could help judge his character, temperament, mental development and health [5, 12]. Many researchers have mentioned that persons with distal occlusion are sensitive and those with mesial occlusion, as a rule, strong-willed but short-tempered [11]. Therefore, it is important not only to establish contact and understanding with a young person suffering from a dentofacial anomaly, but also to study his psycho-physiological features: this could help choose the best techniques and methods of treatment.

The purpose of the study is to determine the level of trait and state anxiety in young persons suffering from dentofacial anomalies, taking into account the chosen method of orthodontic treatment.

RESEARCH MATERIALS AND METHODS

The study included 66 young persons aged between 17 and 25 years, students of higher military schools of the Ministry of Defense of the Russian Federation who permanently resided in different parts of Russia. The choice of military students for the study ensured homogeneity of the investigated material [6, 8, 9] with regard to psycho-physiological status, work and rest schedules, physical training and nutrition. The study involved only males.

The individuals were divided into 4 groups. The first group consisted of 15 students without dentofacial anomalies (control group). The second group consisted of 15 students who had dentofacial anomalies of I – II degrees, but underwent no orthodontic treatment. The third group consisted of 25 students who underwent an orthodontic treatment of dentofacial anomalies with the use of vestibular braces for at least 3 months. The fourth group consisted of 11 students who underwent an orthodontic treatment of dentofacial anomalies with the use of lingual braces for at least 3 months.

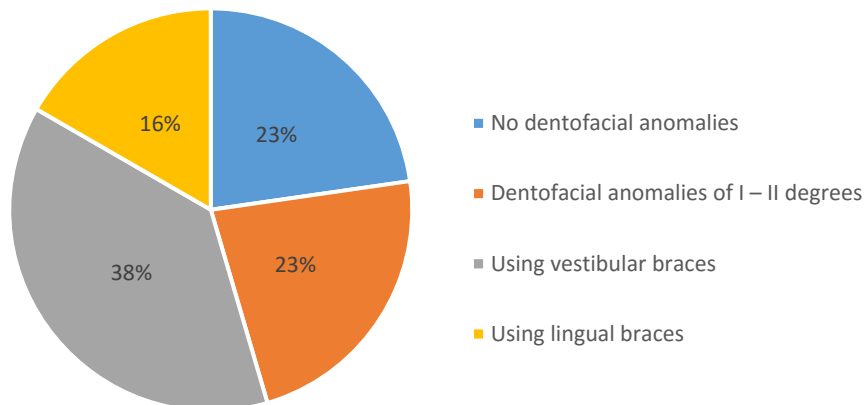


Fig. 1. Students in study groups stratified by dentofacial anomalies and type of orthodontic device, %

The level of trait and state anxiety in all groups was determined using Spielberg-Hanin test [2]. The scores of trait and state anxiety were determined using the method described by A. A. Krydlov and V. P. Sochivko [10]. The assessment of personality levels and state anxiety was carried out using a point system (until 30 points – low anxiety, 30 to 45 points – moderate anxiety, 46 points or more – high anxiety), which has proved its worth for examining dental patients [1].

The digital data obtained from the clinical trial have been processed on a PC using a special package for statistical analysis "Statistica for Windows v. 6.0". The differences between the compared groups were considered significant at $p \leq 0.05$.

RESULTS AND DISCUSSION

During the research and statistical processing of the data obtained from the analysis of the results of Spielberg-Hanin test, no significant differences have been revealed the scores of trait and state anxiety in the first and second groups ($p \geq 0.05$). The students in the first and second groups showed a low level of trait and state anxiety (Fig. 1, 2), despite a high academic and physical load in higher military educational institutions of the Ministry of Defense of the Russian Federation. The score of anxiety was 24.3 ± 2.46 for trait anxiety and 23.4 ± 2.23 for state anxiety in the first group, 22.7 ± 2.02 for trait anxiety and 20.7 ± 3.17 for state anxiety in the second group. This allows to conclude that the dental anomalies in the young persons of the second group negatively affected their level of trait and state anxiety. These findings confirmed the results of previous military-medical examinations of these persons that were carried out to detect dentofacial anomalies (before and during the admission to military higher education institutions), according to the Decree of the Minister of Defense of the Russian Federation No. 505 from 07.09.2015 "On the procedure for military-medical examination in Armed Forces of the Russian Federation" and the Decree of the Government of the Russian Federation № 565 from 04.07.2015 "On approving the Regulations on military-medical examination".

The students of the third group, who used vestibular braces, showed a significant difference as to the level of trait and state anxiety (Fig. 1, 2), compared with the students of the first and second groups ($p \leq 0.05$). However, the scores of anxiety in the third group (28.7 ± 2.18 for trait anxiety and 26.8 ± 2.19 for state anxiety) were typical for low anxiety. At the same time, the students of the fourth group, according to trait and state anxiety scores, showed an increased level of anxiety (35.4 ± 2.12 for trait anxiety and 36.7 ± 2.24 for state anxiety) that is typical for moderate anxiety, in accordance with the established criteria (Fig. 1, 2).

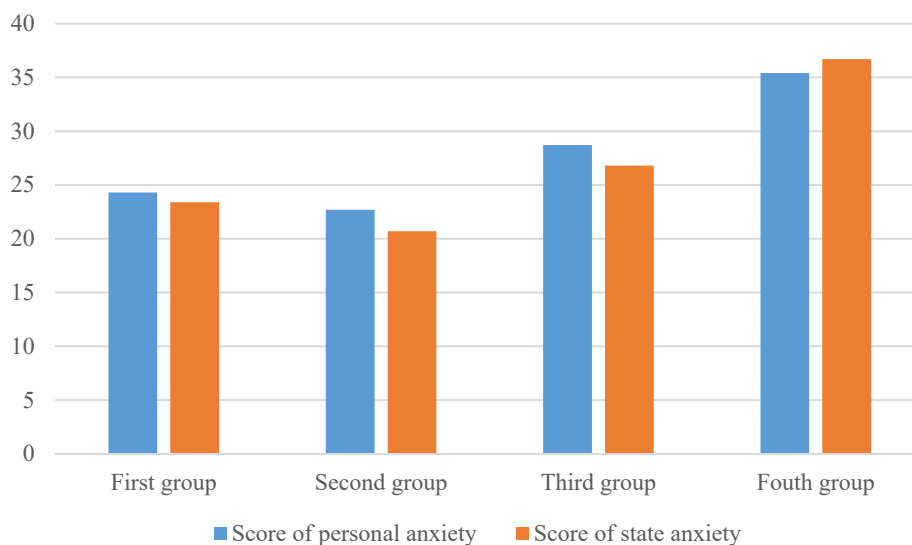


Fig. 2. Anxiety scores of military students, points

CONCLUSION

A clinical trial among military students suffering from dentofacial anomalies and undergoing an orthodontic treatment with the use of braces has established that, despite an increased level of trait and state anxiety, the students with the vestibular braces show a low level of anxiety. At the same time the students who use lingual braces for the treatment of dentofacial anomalies show a proven increased level of trait and state anxiety which can be interpreted as moderate anxiety using quantitative evaluation techniques. It seems that the data obtained should be taken into account when choosing techniques and methods of treatment of dentofacial anomalies in students of higher military educational institutions, due to the specific conditions of their everyday life and military service.

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