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**MODERN PROTOCOL OF CLINICAL AND FUNCTIONAL RESEARCH AND PREVENTION OF  
TEMPOROMANDIBULAR JOINT DISEASE****Anvarova Mukhtasar***Samarkand State Medical University, Uzbekistan*

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**ABOUT ARTICLE**

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**Key words:** Orthodontics, Electronic axiography, rheumatoid arthritis, direct joint injury, morphology.**Received:** 13.02.2024**Accepted:** 18.02.2024**Published:** 23.02.2024**Abstract:** The problem of forecasting, prevention and treatment of patients with diseases of the temporomandibular joint occupies a leading place in national and international dental programs [Puzin M.N., Vyazmin A.Ya., 2002; Slavicek R., 2006; Manfredini D., 2013; Roshchin E.M., Panteleev V.D., Roshchin A.V., 2014; Schiffman E., 2014]. The results of scientific research indicate a high prevalence of temporomandibular joint dysfunction among the population, reaching 45-80% [Sysolyatin P.G. et al., 2001; Bezrukov V.M., Semkin V.A., Grigoryants L.A., Rabukhina N.A., 2002; Sulimov A.F., Savchenko K.R., Grigorovich E.S., 2004; Khvatova V.A., 2005; Silin A.V., 2006; Bulycheva E.A., 2013; Beatriz Minghelli, 2014). Of these, internal violations account for 70 to 82% [Ivasenko P.I. et al., 2007; Maglione H.O., 2013].

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**INTRODUCTION**

The relevance of research. Our data coincide with the results of a study by E.I. Boikova (2015), who proved that facets of tooth erasure, abfraction defects, chips of restoration material and orthopedic structures are indirect signs and dental symptoms of bruxism due to the parafunctional activity of the chewing muscles. According to her data, during cone-beam computed tomography of the temporomandibular joint in 25.6% of the supervised patients, changes in the area of the temporomandibular joint were detected in the form of a change in the shape of the articular heads, which indicates the presence of pathology of the temporomandibular joint in the examined patients and the relationship of the latter with bruxism.

The use of the computer program developed by us provides the following advantages: auscultation using an electronic stethoscope allows detecting sound signals of small amplitudes, amplifying them and performing frequency selection, and the ability to transfer information to a personal computer and store it in a database allows dynamic monitoring at different stages of complex therapy. The use of the proposed audiographic examination protocol facilitates and improves the diagnosis of internal disorders of the temporomandibular joint, makes it possible to assess the course of the disease in dynamics, as well as the effectiveness of therapy at its various stages, which ultimately reduces the duration of treatment and improves the quality of life of patients. To implement the technique, equipment available for most dental clinics is used, this method can be used during dispensary examinations by a dentist of children and adolescents during the examination of conscripts at the military enlistment office, since the great advantage is the absence of radiation exposure, which is a very important advantage for early diagnosis of TMJ pathology. The computer program developed by us captures the data of audio diagnostics of the TMJ, excluding subjective reactions of the patient and the doctor, increases the accuracy and effectiveness of diagnosis of internal disorders of the temporomandibular joint in the early stages of the disease, conducts long-term recording of audio signals for research into the dynamics of the course of the pathological process in the TMJ, allows evaluating the effectiveness of treatment, correctly documenting the data of examination and treatment of the patient in the medical history.

The purpose of the study. improving the effectiveness of early diagnosis of internal disorders of the temporomandibular joint in people aged 14 to 25 years.

1. Objectives of the study: To conduct a screening examination of persons aged 14-18 years and 19-25 years to study the frequency of occurrence of internal disorders of the temporomandibular joint and analyze the dental status.
2. To analyze the methods of diagnosis and treatment used by dentists in Smolensk in patients with internal disorders of the temporomandibular joint.
3. To investigate the psychoemotional characteristics of patients aged 19-25 years with internal disorders of the temporomandibular joint.
4. To develop and create a diagnostic computer program for the analysis of internal disorders of the temporomandibular joint.

5. To develop an algorithm for diagnosing internal disorders of the temporomandibular joint in patients aged 14-25 years.

6. Establish criteria for identifying risk groups among people aged 14-25 years who are predisposed to the occurrence of internal disorders of the temporomandibular joint.

### **MATERIALS AND METHODS OF RESEARCH**

It was established for the first time that the prevalence of internal disorders of the temporomandibular joint in persons aged 14-18 and 19-25 years in Smolensk was 25.4% and 39.5%, respectively.

1. Insufficient awareness of dentists in Smolensk on the pathology of TMJ was revealed, the diagnostic methods they use are not informative enough, and the treatment is symptomatic.

2. For the first time, a technique has been developed for the combined use of electronic axiography and audiography using an electronic stethoscope for the diagnosis of internal TMJ disorders.

3. For the first time, an algorithm for diagnosing internal TMJ disorders in people aged 14-18 years and 19-25 years has been developed.

4. Based on electromyography data, it was established for the first time that individuals with internal TMJ disorders have pronounced changes in the muscles of the maxillofacial region, which are manifested by a general decrease in their potential activity, functional asymmetry, increased fatigue in response to static load.

5. For the first time, a computer program "Diagnosis of diseases of the temporomandibular joint" was developed, clinically tested and scientifically substantiated for the analysis of audiography data obtained using an electronic stethoscope.

6. For the first time using the ITO technique, it was found that patients aged 19 to 25 years with internal TMJ disorders have the following typological characteristics of an individual: extroversion with an increased craving for communication, sensitivity, sometimes to maladaptation, features of pronounced demonstrativeness, sometimes, in severe cases, even hysteroid manifestations.

7. For the first time, the diagnostic value and informative value of criteria for identifying risk groups among people aged 14 –

9.25 years who are predisposed to the occurrence of internal disorders of the temporomandibular joint were determined.

The results of the study and their discussion. Diseases of the temporomandibular joint (TMJ) belong to widespread pathological processes and are observed, according to various authors, in 27.5—56% of individuals. The same authors claim that the majority of patients (95.3%) who seek medical help for TMJ pathology have TMJ dysfunction of muscular origin [4; 5; 7]. Practically all pathology in the TMJ area is due to the discoordination of the contractile ability of the muscles involved in the movement of the mandible. This discoordination is a consequence of occlusion disorders as a result of changes in proprioceptive information from periodontal tissues and teeth, which leads to a change in muscle tone. In 23.2% of patients, impaired movement of the lower jaw is combined with noise phenomena. The main role in the etiology of musculoskeletal dysfunction (MCD) is played by the loss of lateral supporting teeth, the occurrence of premature contacts on individual teeth, uneven tooth contacts, pathological eras ability. Functional characteristics of the rods of the lacerated and temporal mouse.

## CONCLUSIONS

All patients with musculoskeletal dysfunction of the TMJ had changes that differed from the norm. The spontaneous activity of the chewing muscles proper on the part of complaints and on the opposite side at rest exceeds the norm by 3 times (25 MV). Also, the bioelectric activity of the chewing muscles at a given load is 2 times higher than the proposed norm of the comparison group (369 MV).<sup>2</sup> The bioelectric activity of the temporal muscles under physiological load from the complaints and the opposite side is 1.5 times higher than normal (280 MV). Spontaneous muscle activity on the side of complaints and on the opposite side increased 2-fold (36 MV).<sup>3</sup> When drawing up a treatment plan, it is necessary to take into account changes in bio-electrical activity.

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