

# STATEMENT

from

**Associate Professor Ilian Vangelov Hristov, DMD, Ph.D.**, Department of Prosthetic Dentistry, FDM - Plovdiv, external member of the Scientific Jury, elected by Decision of a meeting of the Faculty Council of the FDM at the MU - Varna according to Protocol No. 29/27.03.2024. and by Order No. R – 109-129/01.04.2024. of the Rector of the MU - Varna, regarding a dissertation on the topic:

## **RESEARCH ON THE CHANGES OCCURRING IN THE SPEECH AND MASTICATORY FUNCTIONS DURING PROSTHETIC TREATMENT**

for the awarding of the educational and scientific degree "Doctor" in the doctoral program "Orthopedic Dentistry " in professional direction 7.2. Dentistry by field of higher education 7. Health care and sports. Doctoral student of self-study, **Dimo Krasimirov Nedelchev**, regular assistant-professor in the Department of Prosthetic Dentistry, FDM, MU - Varna.

*Scientific supervisors:*

**Assoc-Prof. DESISLAVA ATANASOVA KONSTANTINOVA, DMD, PhD**  
**PROF. MARIO PETROV MILKOV, MD, PhD.**

### **General presentation of the procedure and structure of the dissertation work**

The presented set of materials on paper and electronic media is in accordance with the procedure and regulations for the acquisition of the "PhD" of the MU - Varna. The dissertation submitted for review is written in 182 pages, includes 32 tables, 61 figures and three appendices. 251 literary sources are cited, of which 16 are in Cyrillic and 235 are in Latin.

### **Relevance of the topic, purpose and tasks**

The topic of the dissertation is current, emphasizing the problems related to phonetics and nutrition after prosthetic treatment. Sound generation and disorders observed after prosthetic restorations are a very common problem, which is unfortunately not sufficiently well studied. Orthopedic and therapeutic

restorations in the frontal area can be the cause of poor articulation and unsatisfactory aesthetics. The goal and tasks are correctly and accurately formulated. Upon fulfillment of the four tasks set by the doctoral student, some of the gaps in the previous studies of other authors on the subject are filled.

### **Analysis of the literature review**

The literature review is voluminous and detailed covering as many as 53 pages. The author examines in detail the anatomy and pathology of the larynx and vocal cords, instrumental research methods, the role of individual organs involved in sound articulation. An essential role is assigned to one method of otorhinolaryngology, namely videostroboscopy of the larynx. The epidemiology, etiology and various methods of treatment of maxillary diastema are described.

### **Analysis of the set goal and related tasks**

After a critical analysis of the literature review, the doctoral student sets a precise and clear goal, namely: *to study the changes occurring in speech and masticatory function after prosthetic treatment of single frontal maxillary defects*. For the fulfillment of this goal, the doctoral student formulates four tasks, the third of which has two subtasks. The materials and methods used in the research are described in details.

- **According to the first task:** From the research carried out by the author's team, it is established that 80% of the patients do not have pathological changes in the larynx. According to nosological units, some disorders, which do not affect the voice function are observed in 6.3% of the examined patients. Functional disorders of the larynx are found in 7.5% of the researched respondents. No statistical relationship was established between the age of the patients and the prevalence of those diagnosed with laryngeal pathology. Gender is also not a statistically determining factor in the development of pathological processes in the vocal cords.
- **According to the second task:** The analysis of 149 plaster diagnostic models of patients from North-Eastern Bulgaria shows that they are of participants equally distributed between the two sexes - men and women. The average age for men is  $45.64 \pm 1.92$  years, and for women –  $33.59 \pm 2.04$  years. A symmetrical distribution of maxillary diastema is observed between the sexes. It has been found that with increasing age, the size of the diastema increases.

- **According to the third task:** In the study, the data of 40 patients were processed and analyzed. For each of them, 60 speech therapy indicators were evaluated during the primary and during the secondary speech therapy assessment. They are evaluated before temporary correction of frontal maxillary defects. The same indicators are also evaluated after making, adjusting and fixing a mockup with predictive value. The greatest improvement in pronunciation after temporary restoration of single frontal maxillary defects is observed with alveo-dental consonants (S, C, L). An inversely proportional statistical relationship was found between the age of the examined patients and the improvement in speech therapy indicators.
- **On the fourth task:** From the studies done on this task, it is clear that: there is a directly proportional statistical relationship between the age of the patients and the presence of a removable prosthetic dentures. As age increases, the percentage of patients with removable prosthetic restorations increases. The relative share of women with fixed prosthetic dentures is greater than that of men. The relative share of men with removable prosthetic restorations is higher compared to that of women. Almost all of the respondents with fixed structures and model-cast prostheses could consume normal and solid food.

### **Contributions**

The doctoral student completes the dissertation with scientific and applied contributions, of which four with original, two with confirmatory and two purely applied contributions. The most important are the following: for the first time, a multidisciplinary complex study of speech was conducted in our country, including otorhinolaryngological screening, speech therapy assessment and an auditory method for functional phonetic assessment in clinical conditions, while at the same time a methodology was developed for speech therapy assessment of patients with defects in the dental arches, before and after carrying out prosthetic treatment.

### **Publication activity of the doctoral student**

Three full-text publications in English are presented. The doctoral student was part of a research group under project No. KP-06 ПН53/11 of 11.11.2021 from the summer session of the Scientific Research Fund 2021.

### Abstract

The presented abstract, contains 71 pages, meets all the requirements of the law and the regulations of the University of Varna and reflects the set goals, tasks, conclusions and contributions related to the dissertation work.

### CONCLUSION

The dissertation on the topic **"RESEARCH ON THE CHANGES OCCURRING IN THE SPEECH AND CHEWING FUNCTIONS DURING PROSTHETIC TREATMENT"** contains scientific-applied and applied results, representing an original contribution to science and fully complying with the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria, the Regulations for the Implementation of this law and the Regulations of the Medical University-Varna.

From the materials provided, it is clear that the doctoral student has made a detailed and comprehensive analysis of the literary facts. He has thoroughly familiarized himself with the research materials and methods. The contributions are significant and with a substantial practical application. The dissertation indisputably proves that **Dr. Dimo Krasimirov Nedelchev** possesses in depth theoretical knowledge and practical abilities in the specialty "Prosthetic Dentistry" by demonstrating qualities and skills for independent conduct of scientific research and interpretation of the obtained results.

As a result of all above mentioned, I will vote convinced and categorically **"POSSITIVE"** the awarding of the educational and scientific degree **"PhD"** to **Dr. Dimo Krasimirov Nedelchev** in the doctoral program "Orthopedic Dentistry" in professional direction 7.2. Dentistry by field of higher education 7. Health care and sports.

Prepared the statement:

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