

To the Chairman
of the Scientific Jury

REVIEW

By Prof. Dr. Petya Filipova Pechalova-Petrova, PhD,
Department of Oral Surgery, Faculty of Dental Medicine, Medical University of Plovdiv,
Member of the Scientific Jury, designated by Order No. № P-109-129/ 01 April 2024 of the Rector
of the Medical University “Prof. Dr. Paraskev Stoyanov”, Varna, and Official Reviewer according
to Minutes No. 1 of 10 April 2024 and Letter with Exit Number № 109-327/ 15 April 2024 from the
acting Head of the School for PhD Students at the Medical University of Varna

Regarding: Dissertation titled **“Studies on the Changes Occurring in Masticatory and Speech Functions during Prosthetic Treatment”** for awarding a doctoral degree in the doctoral program of **Prosthetic Dental Medicine**, professional field: **7.2 Dental Medicine**, sphere of higher education: **7. Healthcare and Sports.**

Author: Dr. Dimo Krasimirov Nedelchev

Form of doctoral study: Full-time

Academic supervisors: Prof. Mario Milkov, MD, PhD and Assoc. Prof. Desislava Konstantinova, DMD, PhD

Biographical Notes:

Dr. Dimo Krasimirov Nedelchev was born in 1989. In 2014, he obtained a Master's Degree in Dental Medicine from the Medical University of Sofia. Since 2015, he has been a part-time assistant professor in the Department of Prosthetic Dental Medicine at the Faculty of Dental Medicine, Medical University of Varna. Since 2016, he has been a full-time assistant professor in the Department of Dental Materials Science and Prosthetic Dental Medicine at the same institution. In 2023, he earned his specialist rights in prosthetic dental medicine.

Significance of the Theme:

The study of the relationship between defects in the maxillary dentition and sound articulation is of ongoing interest in international scientific literature. In Bulgaria, this topic is also gaining popularity; however, the focus has primarily been on the influence of removable prosthetics on speech function. There is a lack of scientific information in Bulgaria on the impact of single frontal maxillary defects, often restored with fixed prosthetic structures, on the pronunciation of sounds in Bulgarian speech. Additionally, the quality of mastication and food bolus formation in various masticatory apparatus defects, as well as correct speech production, is crucial in determining the success of prosthetic treatments with fixed structures in single frontal maxillary defects. Therefore, I consider that the problem addressed in this dissertation holds both scientific and practical significance.

The objective of the dissertation is to study the changes in speech and masticatory functions following the prosthetic treatment of single frontal maxillary defects. To achieve this, four tasks were completed, one of which includes two subtasks.

Knowledge on the Problem:

The dissertation of Dr. Dimo Nedelchev demonstrates a thorough understanding of the problem. The literature review is logically structured on several selected topics: voice function, speech mechanism, pathological processes in the larynx, instrumental methods for studying laryngeal pathologies, speech function, maxillary diastema, diagnostic modeling, influence of prosthetics on speech function in Bulgarian language in patients treated for single frontal maxillary defects, influence of prosthetic treatment on masticatory function, methods for masticatory function study, and objective and subjective methods for assessing masticatory function. Summarizing the existing data, the doctoral candidate has clearly formulated the objective of his dissertation and the tasks needed to achieve it.

Material and Methods of the Study:

To meet the dissertation's objective, the doctoral candidate completed four tasks.

For task 1, through clinical examination, the doctoral candidate selected 80 individuals needing prosthetic treatment with non-removable structures for single frontal maxillary defects.

Task 2 is focused on a retrospective analysis of the prevalence of maxillary dental defects among the population in North-Eastern Bulgaria and was carried out by analyzing 149 diagnostic cast dental models.

For task 3, the change in speech function of 40 patients with single frontal maxillary defects was analyzed before and after prosthetic treatment.

Task 4 covers a survey conducted among 462 patients with maxillary prosthetic structures.

After carrying out the research on the four tasks, the results were subjected to statistical analysis. The research methods enabled the achievement of the dissertation's objective and provided adequate responses to the tasks set.

Characteristics and Evaluation of the Dissertation and Contributions:

Dr. Nedelchev's dissertation is well-structured and includes all necessary components: introduction, literature review, objective and tasks, material and methods, results and discussion, findings, conclusion, contributions, bibliography, and appendices.

The dissertation of Dr. Dimo Nedelchev, presented to me for review, spans 182 pages and is illustrated with 32 tables, 61 figures, and 3 appendices. It cites 251 references, with 16 in Cyrillic and 235 in Latin alphabet.

The results are comprehensively described, analysed, interpreted and critically discussed. The conclusions are logically derived from the results.

Contributions and Significance of the Dissertation for the Science and Practice:

The research on the impact of dentition defects on Bulgarian speech, including the development of a method for conducting a logopedic assessment, which identifies the most affected consonants, is a significant contribution to dental science and practice in Bulgaria. I also acknowledge the confirmatory and applied contributions presented by the doctoral candidate.

The author's summary effectively reflects the essential aspects of the dissertation.

Assessment of the Doctoral Candidate's Publications and Personal Contribution:

The presented dissertation is the personal work of the doctoral candidate.

Dr. Nedelchev has published the results of his dissertation research in three articles. These publications meet the quantitative requirements set by the Act for the Development of the Academic Staff in the Republic of Bulgaria and its Implementation Rules.

CONCLUSION:


The dissertation of Dr. Dimo Krasimirov Nedelchev, titled: **“Studies on the Changes Occurring in Masticatory and Speech Functions during Prosthetic Treatment”**, addresses a significant scientific problem and makes a valuable contribution to dental practice.

The above gives me a reason to vote positively for awarding Doctoral Degree in the scientific specialty of **Prosthetic Dental Medicine** to Dr. Dimo Nedelchev.

23 May 2024

The review was prepared by:

(Prof. Petya Pechalova, PhD)


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