



TO THE CHAIRMAN AND MEMBERS OF THE SCIENTIFIC JURY APPOINTED BY ORDER No. R-2444/16.07.2024 OF THE DEPUTY RECTOR OF MU-PLOVDIV FOR THE COMPETITION FOR THE ACADEMIC POSITION OF DOCTOR IN THE DEPARTMENT OF PROSTHETIC DENTAL MEDICINE, FDM, MU - PLOVDIV

Opinion

by Assoc. Dr. Nikolay Asenov Apostolov, Ph.D

MU-Sofia, FDM, "St. G. Sofia" 1, 1431

of a dissertation for awarding the educational and scientific degree 'doctor'

doctoral program "Prosthetic Dentistry"

Author: Dr. Viktor Yordanov Hadjigaev

Form of doctoral studies: independent preparation

Department: "Prosthetic Dentistry"

Topic: 'APPLICATION OF ENDOCORONAS AS A BRIDGE REINFORCEMENT'

Scientific leader: Assoc. Dr. Stefan Zlatev, MD, Department of Prosthetic Dentistry, FDM, MU-Plovdiv

I. General presentation

The structure of the dissertation work submitted for review meets the requirements of the RASRB and the Regulations for its application in the Regulations of MU-Plovdiv and contains the subheadings: introduction, literature review, analysis of lit. overview, aim and tasks, own research - material and methods, results and discussion of the results, conclusions, contributions, bibliography, appendices. The author's publications in connection with the dissertation work and his contributions are also presented.

Publications and participation in scientific specialized publications or forums:

Full text publications:

1. Hadzhigaev V, Zlatev S, Apostolov N, Kazakova R, Yankova M, Todorov R. Use of endocrowns in everyday practice - a survey. *Dental Medicine*. 2021;103(1):20–25.
2. Hadzhigaev V, Zlatev S, Manchorova N. Clinical evaluation of tree-unit FPD with endocrown preparation of the distal abutment tooth. *J of IMAB*. 2017Oct–Dec;23(4):1773–1777.
3. Zlatev S, Kissov C, Hadzhigaev V, Hristov I. Natural language processing as a method for evaluation of factors influencing smile attractiveness. *J of IMAB*. 2017Oct–Dec;23(4):1784–1789.

Participation in scientific forums:

1. Hadzhigaev V, Manchorova-Veleva N, Zlatev S. Stress distribution in FPD with endocrown a 3D FEA study. In: 2012 IADR/LAR General Session. Iguacu Falls, Brazil: IADR; 20–23.
2. Hadzhigaev V, Manchorova N, Zlatev S, Kalachev Y. One-year clinical evaluation on conventional and endo-crown retained three-unit FPDs. Pilot study. In: Continental European and Scandinavian Divisions Meeting of the IADR (Antalya, Turkey). Antalya, Turkey; 2015.
3. Hadzhigaev V, Zlatev S, Manchorova N, Kalachev Y. A survey of dentists on the application of endocrowns in their daily clinical practice. In: *Folia Medica*. Suppl. 1. 2015

The dissertation itself, submitted to me for opinion, is written in 160 pages and is illustrated with 17 diagrams, a number of high-quality figures and appendices. The bibliography includes 244 literary sources, of which 16 are in Cyrillic and the rest in Latin. It includes multiple modern scientific studies.

The dissertation is structured as follows: 1 page used abbreviations, 2 pages introduction, 31 pages literature review, aim and objectives, 117 pages own research and their summary, bibliography and autobiography.

II. Dissertation:

1. Relevance of the topic:

The relevance of the developed problem in a scientific and scientific-applied sense is emphasized already in the introduction of the dissertation work, as the subject of endocrowns and their specific application as fasteners in the manufacture of bridge structures is touched upon. The critical comparative analysis of materials, techniques and technologies, types of preparation boundaries and the relationship with bridge prosthetics have a high degree of relevance in scientific and scientific-applied terms.

2. Knowing the problem:

The literature review examines in detail and consistently the materials, techniques and technologies, types of preparation margins and their relationship with bridge prosthetics. At the end, a precise analysis of the literature review was carried out and the fully clarified, insufficiently clarified and unresolved scientific questions were formulated, which logically lead to the selection of a goal and the tasks related to it.

3. Material and Research Methodology:

The goal and set tasks are precisely formulated, correspond to the title and content of the dissertation:

Task #1. To study, by means of a survey method, the awareness of dental medicine doctors about the application of the endocrown in dental practice.

Task #2. To examine the area of the prepared surface (the contact area) in two preparation designs - classic and endocrown with a circumferential threshold.

2.1. Creation, testing and validation of a method for measuring the area of a complex geometric object.

2.2. Examination of differences in adhesive bonding area between the two preparation designs.

Task #3. To study the fracture resistance of three-member bridge structures made of zirconium dioxide ceramics.

Task #4. To make a clinical evaluation of metal-free three-member bridge constructions with different distal bridge fasteners - conventional crown and endocrown.

The material on which the research was conducted is sufficient to derive statistically reliable scientific results. For the purposes of my presented dissertation, 228 surveys among dentists, 15 test single-extracted teeth, phantom models were created in connection with types of edentulism, as well as 66 patients.

The selected research methods allow achieving the set goal and obtaining an adequate and objective answer and analysis of the tasks solved in the dissertation work.

The researched material, as well as the methods applied for the purpose, are a prerequisite for obtaining reliable and valuable scientific results.

4. Characterization and evaluation of the dissertation work and contributions

The results obtained on all four tasks, with their subtasks, are reliable, correctly statistically processed and comprehensively presented in the dissertation. All of them have a markedly valuable and scientific-applied nature

In the discussion of the results, a comparative analysis was carried out with similar scientific studies of other authors, and the reasons for the difference or coincidence of the established data were highlighted. The results, which are the contribution of the doctoral student and have significance in scientific and applied terms, are emphasized.

The conclusions are well formulated and emphasize the significance of the dissertation work. The following conclusions are of particular interest to me:

The majority of LDM respondents believe that the endocrown has a future in dental practice and would use it as a bridge retainer.

The area for adhesive bonding of the endocrown is over 25% larger compared to the classic crown.

The endocrown can be used as an alternative to classic crowns in prosthetics with metal-free bridges.

The contributions of the dissertation work are highlighted in it, but of most significant importance to me are:

Establishing a methodology for measuring differences in cementation area between conventional and endocrowns.

Conducting a clinical study on the survival and success rate of metal-free bridge structures with an endocrown abutment.

Metal-free MCs made of ZrO₂-based ceramics have been confirmed to have sufficient fracture resistance to be used in the distal region of the dentition.

5. Assessment of the publications and personal contribution of the doctoral student

The publications related to the dissertation represent the most essential parts of the dissertation work, and the contributions of the doctoral student are significant for the development of this specific scientific topic.

6. Abstract

The content and quality of the auto-reference are in accordance with the accepted requirements.

III. Critical remarks and recommendations. I have no critical or other kind of remarks, and my only recommendation is related to the future further development of this rich scientific topic with practical application.

CONCLUSION

The dissertation contains scientific, scientific-applied and applied results, which represent an original contribution to science and meet all the requirements of the Law on the Development of Academic Staff in the Republic of Bulgaria (ZRASRB), the Regulations for the Implementation of ZRASRB and the Regulations of the Ministry of Education - Plovdiv. The presented materials and dissertation results fully correspond to the specific requirements adopted in connection with the Regulations of the Ministry of Education - Plovdiv for the application of the ZRASRB.

The dissertation shows that the doctoral student Dr. Hadjigaev possesses in-depth theoretical knowledge and professional skills in the scientific specialty "Prosthetic Dentistry", demonstrating qualities and skills for independent conduct of scientific research.

Due to the above, I will vote unequivocally YES and give my positive assessment for the awarding of the educational and scientific degree "Doctor" in the doctoral program in "Prosthetic Dentistry" for the scientific research conducted by Dr. Hadjigaev, presented by the reviewed -above dissertation work, abstract, achieved results and contributions.

16.08.24

Assoc. prof. N. Apostolov



Залчено на основание
Чл.5 §1, 6."Б" Регламент (ЕС)2016/679