

STATEMENT

by

Assoc. Prof. Maya Dimitrova Doychinova, MD, PhD,

Assoc. Prof. of Operative Dentistry and Endodontics from the Department of Conservative Dentistry and Oral Pathology, FDM, MU-Varna, internal member of scientific jury, according to order № P-109-174/06.06.2024 of the Rector of MU-Varna.

About: Dissertation on the topic: „**Study of the properties of temporary filling materials**“ for awarding the educational and scientific degree "Doctor" in the scientific specialty "Therapeutic Dentistry" in the professional field 7.2. Dental Medicine 7. Health and sports.

Author: D-r Boris Sashev Valkov, full-time PhD student from the Department of Conservative Dentistry and Oral Pathology, FDM, MU-Varna.

Scientific supervisor:

Assoc. Prof. Miglena Balcheva – Eneva, MD, PhD

The dissertation contains 165 standard pages and is illustrated with 34 tables and 55 figures. Structurally, the proportional relations between the main parts of the dissertation have been observed.

The bibliography consists of 211 sources, of which 9 are in Cyrillic and 202 are in Latin.

The treatment of dental caries and its complications in a large percentage of cases is carried out in multiple stages. It is an absolute necessity that between the stages, the prepared cavities, whether for the treatment of caries or those for endodontic access, are securely sealed, in order to prevent their contamination. There are a variety of materials and recommendations for temporary obturation, and in this sense, I consider any effort aimed at further elucidating their sealing properties and their ability to restore, albeit temporarily, the shape and function of the tooth to be worthy of attention.

Literature review: The literature review systematically introduces the accumulated knowledge about the types of temporary obturation materials, their use in operative dentistry and endodontics, the presence of microleakage around temporary obturation, the influence of temporary obturation materials on cracks and fractures of hard dental tissues during endodontic treatment. The author draws attention to their sensifying potential, the factors that determine the choice of temporary filling material, as well as the difference between temporary and provisional restorations in the literature.

The literature review ends with an analysis and motivation regarding the necessity of the dissertation.

The formulated **Aim** comes together with three appropriately selected **tasks**.

Materials: The material for all three tasks is sufficient, carefully selected according to strict criteria and correctly distributed. The processing methods are well thought out and scientifically sound. The statistical methods are precisely and skillfully selected for processing the collected material.

Results and Discussion: The results for all three tasks have been thoroughly checked.

In the first task, the author investigates the antimicrobial potential of materials for temporary obturation. It is established that eugenol has antimicrobial activity against all tested strains, and that when eugenol is combined with ZnO, the results overlap to some extent with eugenol alone. Zinc oxide shows antimicrobial activity against *E. coli*, *C. albicans* and *K. pneumoniae*.

Second task aims to establish the microleakage of various temporary sealing materials. The PhD student proved that the smallest values of microleakage are observed by the use of the light cured materials for temporary obturation, and this fact does not change based on the duration of the stay. All three groups of materials tested showed increased microleakage for the period of 14 days compared to the 2-day period.

Third task is dedicated to the study of the sensifying potential of the ingredients of different temporary obturation materials. Dr. Valkov reached results that allowed him to formulate the following conclusions: Sensitization and polysensitization to the examined dental materials was registered more often in women, and among the components of the temporary obturation materials zinc sensitized the most; cross hypersensitivity is due to the presence of acrylates and methacrylates. There is an extremely low risk that the ingredients of the temporary obturation materials will cause oral symptoms.

Contributions: I consider the self-assessment of the contributions from the developed scientific work, which the author unites in 2 scientific-applied with original and 3 scientific-applied with a confirmatory nature, to be correct.

The dissertation work was carried out entirely by the PhD student under the guidance of his scientific supervisor. In relation with his dissertation, the author has popularized his scientific work in 3 full-text publications and 2 scientific statements.

The abstract is properly structured, well illustrated and corresponds to the individual parts of the dissertation. I believe that it is presented in the appropriate volume, required by the rules laid down in the Regulations for the Development of the Academic Staff of the

Medical university of Varna, as well as in proportion to the full volume of the scientific work.

There are no omissions in the documentation attached by Dr. Boris Sashev Valkov.

Recommendations: I would like to make the following recommendation to the PhD student:

1. To pay attention to the correct spelling and abbreviation of the names of many of the mentioned bacteria. For the purposes of scientific development, it is appropriate to choose one of the accepted ways of spelling or abbreviation, and to introduce the relevant bacteria throughout the text in the chosen way.

This remark does not reduce the semantic value of the scientific work and therefore does not change my final assessment.

Conclusion:

The dissertation of Dr. Boris Sashev Valkov is complete and represents his own contribution to science. The scientific work, as well as the publications on the subject, show that the PhD student has theoretical knowledge of the treated problem and skills for independent research. Good professional skills, in-depth knowledge are evident throughout the entire course of the scientific work, in which theoretical literature data, own results and their interpretation are arranged and relevant conclusions are drawn. In this sense, I consider that the set goal has been fulfilled.

My opinion is that Dr. Valkov and his dissertation have the necessary merits and deserve to be evaluated positively, and therefore, I will vote "Yes" for awarding the educational and scientific degree "Doctor" to Dr. Boris Valkov. I recommend the members of the scientific jury to give a positive vote for awarding the educational and scientific degree "Doctor" to Dr. Boris Sashev Valkov in the scientific specialty "Therapeutic Dentistry".

26.06.2024., Varna

Signature:

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/ Assoc. Prof. Maya Dimitrova Doychinova, MD,

PhD./