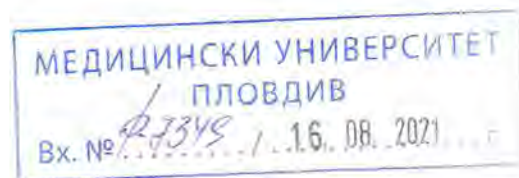


REVIEW



Of: Dissertation for PhD Degree “Doctor” of **Dr. Atanas Vaskov Doshev**, self-preparation PhD student in department of Prosthetic Dentistry in Faculty of Dental Medicine, Medical University of Plovdiv, on subject „**Retrospective analysis of the color change of provisional restorations in fixed prosthodontics**” for Dissertation for PhD Degree “Doctor” in the higher education field of 7."Health and Sports", in the professional field 7.2 "Dental Medicine" and scientific specialty "Prosthetic Dentistry".

Scientific supervisor - Prof. Dr. Diyan Slavchev, DMD, PhD

From: **Prof. Dr. Mariana Iordanova Dimova-Gabrovska, Doctor of Science**, Department of Prosthetic Dentistry, Faculty of Dental Medicine, Medical University Sofia, elected a member of the scientific jury by order of the Rector of MU-Plovdiv № P-11.57/13.07.2021.

General presentation of the procedure and the PhD student

The presented set of documents is in accordance with the regulations of MU-Plovdiv. Dr. Atanas Vaskov Doshev is enrolled by Order № P-1187 / 23.07.2020 of the Rector of MU-Plovdiv as a self-preparation PhD student in the Department of Prosthetic Dentistry, Faculty of Dental Medicine Plovdiv with scientific supervisor Prof. Dr. Diyan Slavchev, DMD, PhD. On May 13, 2021 he was deducted with the right to defense and a decision for readiness for defense of the dissertation (Department Council №7 / from 13.05. 2021 and Order of the Rector of MU-Plovdiv № P-999 / 23.06.2021).

Short CV data of the PhD student

Dr. Atanas Vaskov Doshev was born in Plovdiv on 02.08.1990. He graduated at Language High School “Ivan Vazov” with German, Russian and English language in 2009. In 2016 he graduated Dental Medicine at MU-Plovdiv. (From 2017 Dr. Doshev works) Dr. Doshev has been working as an Assistant Professor in the Department of Prosthetic Dentistry, FDM, MU-Plovdiv since 2017. He is a member of the BDA.

General characteristics of the dissertation

The presented dissertation is written on 196 pages. It contains 62 figures, 22 tables and 5 applications. The bibliography cites 230 literary sources, of which 33 are in Cyrillic and 197 in Latin letters. The dissertation is structured correctly. It contains introduction (1.5 pages), literature review (51 pages), aim and objectives (1 page), material and methods (20 pages), results and discussion (69 pages), conclusion (3 pages), deductions (2.5 pages), bibliography (34 pages) and applications (6 pages).

Relevance and significance of the dissertation

The selected topic is current. Its significance is determined by the desire for optimal satisfaction of the aesthetic medical-biological indicator in the stage of restoration of the dentition with temporary non-removable prosthodontics. Clinical and scientific interest is the change of their color under the influence of various factors - type of materials for manufacture and duration of intraoral stay. The author argues the need to develop the work, referring to the results of a broad literature review and outlines the debatable and unresolved issues related to color stability over time. Scientific contribution of the dissertation is a detailed literature review aimed at examining modern materials for temporary restorations, their shortcomings, physical properties and more. It is presented in 15 sections, among which: classification of provisional restorations; materials and methods for their manufacture, properties; marginal adaptation; color perception; factors that change the color of the teeth; types of matrices; prototypes, etc. The presented data argues the relevance of the issue and point to the need for additional laboratory and clinical studies, under uniform conditions, tracking the change in color of provisional restorations.

Aim and objectives of the dissertation

The aim logically follows the analysis of the literature review - to track the change of color in laboratory and clinical conditions and to determine the material with the best color stability to different colorants. To achieve this goal, four objectives are set:

1. To conduct a survey on the color changes of provisional restorations;
2. To create own matrix with individual parameters for studying the color change of experimental bodies of different materials for provisional restorations;
3. To study the laboratory staining of the created forms;
4. To conduct clinical monitoring of the color change of provisional restorations in the area of the frontal and lateral teeth.

Sufficient **material** has been presented on each of the objectives and own research has been conducted to achieve reliable results and objective conclusions.

The research **methods** are appropriately selected and they are described in the following sequence: a survey among dentists (task 1), the creation of a matrix for experimental bodies (task 2); color determination of pre-treated samples from Protemp II, Protemp IV and LuxatempStar (task 3); clinical monitoring of the change in the color of provisional restorations made by the direct method (task 4). All methods are described accurately and clearly. Adequate methods for statistical processing of all tasks are applied.

Results and discussion

The obtained results from the conducted own researches confirm the change of the color of the provisional restorations and are described by tasks. The first task presents the results of a survey, which shows that a significant proportion of dentists (79%) make temporary non-removable restorations mainly by direct method with color A3 (51%), A2 (29%) and others and have no color change after cementation. The coloring of the temporary restorations is observed in all methods of manufacturing after a stay in the oral cavity. Under the second task, a brass matrix with an individual design and configuration using the technology of vacuum casting for the needs of laboratory tests has been created. The brass matrix resembles as much as possible the anatomical shape of the natural teeth. The author considers that 3D CAD / CAM printing and milling technology are unsuitable for creating the shape of the matrix.

In the third task, the author finds a significant change in color with prolonged exposure to some of the dyes, and in others visible stainings on the first day of the study. The objective hardware evaluation (Spectroshade and Vita Easyshade) shows different color values of the same sample under the same conditions, but with the same tendency to change color. On the fourth task the author establishes an advantage in the color stability of some materials for temporary constructions over others. In neither of the measurements with both devices were the colors A1 and B1 taken into account, and with the highest frequency there were measured areas with darker colors such as C3, B4 and A4. The presented results by tasks are very well illustrated with figures, diagrams and tables, interpreted convincingly and show that the dissertation is an authentic author work of Dr. Doshev.

The deductions are 17 and formulated correctly and correspond to the obtained results. The main contributions to the dissertation are the following:

Contributions with original and scientifically applied character

1. For the first time in our country a matrix has been created, resembling the natural tooth surface.
2. For the first time in our country the change in the color of the provisional restorations in laboratory conditions was studied with the help of two different spectrophotometric devices - Vita Easyshade and Spectro Shade.
3. For the first time in our country a clinical study of the change in the color of the provisional restorations was conducted.
4. Brass matrices have been created for the production of experimental bodies of the same size and shape.
5. For the first time in our country the change in the color of the provisional restorations, restoring incisors, canines, premolars and molars is studied.

Contributions with confirmatory character

1. Our scientific results from 2003 are confirmed, according to which some of the dentists make temporary constructions in their practices.

2. The importance of the frequent intake of coloring drinks for the change of the color stability of provisional restorations is confirmed. The author presents three publications in connection with the dissertation and three participations in scientific forums.

Conclusion

The dissertation of Dr. Atanas Vaskov Doshev on "Retrospective analysis of the color change of provisional restorations in fixed prosthodontics" is an original scientific work, personal work of the author, with scientific contributions of original, applied nature and confirmatory nature. I highly value the work and the contributions of the dissertation and I will confidently vote with "Yes" for awarding the educational and scientific degree "**Doctor**" to **Dr. Atanas Vaskov Doshev**.

Sofia, 10.08. 2021

REVIEWER: 
Prof. Dr. Mariana Dimova-Gabrovska, DSc