STATEMENT

by Prof. Dr. Maria Stoyanova Dencheva, Doctor of Sciences

Sofia Medical University, Faculty of Dental Medicine, Department of Imaging and OralDiagnostics.

According to the order of the Rector of Medical UniversityVarna No.R109-200/ 15.07.2024.

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

professional direction .....Dentistry..... .....

doctoral program .....Therapeutic Dentistry.....

Author: Dr. Silvia Evtimova Stankova

Form of doctoral study: full-time doctoral study

Department: "Conservative dentistry and oral pathology"

Topic: STUDY OF THE INFLUENCE OF SOME FACTORS ON TOOTH BLEACHING

Scientific supervisor: Prof. Dr. Vladimir Panov, MD, PhD, FDM Varna

(academic title, name, surname, last name, scientific organization)

1. General presentation of the procedure and the doctoral student

The presented set of materials on an electronic medium is in accordance with Art. 69 of the Rules for the Development of the academic staff of the Varna University of Medical Sciences. Dr. Silvia Evtimova Stankova was born in Vidin. She completed her secondary education in the same city at "Exarch Antim 1" high school . In 2003 she graduated as a dentist at FDM, MU Plovdiv. Since 2008, she has been an assistant in the Department of Conservative Dentistry and Oral Pathology. In 2012, she acquired a specialty in Operative dentistry and endodontics. Dr. Stankova is fluent in written and spoken English and Russian.

2. Relevance of the topic

Dr. Stankova's dissertation is aimed at researching one of the main areas in dentistry, namely the color aesthetics of the dentition. And if in one of the stages of human development it was considered that black teeth were a symbol of aristocracy, since people could afford a greater consumption of sweet foods that were inaccessible to the poor, then very quickly this view was refuted. It is proven that the cleanliness of the teeth and, accordingly, their shine and natural whiteness can only be associated with health. Unfortunately, we live in a consumerist society in which the patient is almost never satisfied from an aesthetic point of view. The individual marks and changes in the human organism are not only not accepted, but on the contrary, easier and faster ways are sought for their mindless change and removal, e.g. Implantation of breast implants in adolescent girls, lip augmentation, striving for perfect smoothness of the skin, especially on the face, a never-ending war against the scars of time, including faster and more drastic teeth bleaching.....and the medical industry is not late. She meets these requirements, provides everything that patients can think of. Critical thinking on the part of doctors seems to be forbidden, because even if the side effects of some manipulations are reasonably presented to the patient, he finds a more commercially minded colleague and things end with a " triumph", no matter that the result is grotesque and is part of the clinical cases in oral pathology textbooks. Examples of the use of substances for whiter teeth also without the necessary knowledge of the side effects of these systems are no exception.

In this sense, I consider that the topic of the dissertation "STUDY OF THE INFLUENCE OF SOME FACTORS ON TOOTH BLEACHING" is an example of critical thinking and I congratulate the supervisor of the dissertation, Prof. Vladimir Panov, for this formulation.

3. Knowledge of the problem, methodology and results

Dr Stankova examines in detail the issues related to tooth whitening - types of tooth staining, types of whitening systems, with and without activating agents, mechanism of the whitening process, as in the literature review she uses 23 sources in Cyrillic, 401 sources in Latin, 82 of the sources are from last 5 years.

Various evaluation methods of bleaching as well as activation of bleaching agents with chemical means are presented. Attention is paid to the side effects and risks of whitening vital teeth. On the basis of the detailed literature review, the aim of the dissertation is to study the awareness of the two subjects - dentists and patients about the types of dental whitening and, in parallel, to investigate the influence of some physical and chemical factors on the whitening mechanism and the effects of applying whitening products on teeth.

Dr. Stankova formulated 4 tasks.

The first task includes the collection and analysis of information from the surveys she developed, aimed at doctors of dental medicine and patients, presented in Annexes 1, 2 and 3.

Tasks 2, 3 and 4 are laboratory.

The samples from each group were subjected to iodometric concentration determination on HP in dynamics: on the fifth, tenth, fifteenth; the twentieth and thirtieth minutes with a goal to investigate the influence of light and electric current on the rate of decomposition of HP over time.

In sub-task 2.1, the goal is to determining the HP concentration in dynamics by means of iodometry, by examining the influence of light and electric current on the HP decomposition rate. Dr. Stankova found that the application of physical factors (blue light - 450 nm and electric current) as activators of whitening products leads to an initial increase in HP concentration with a peak at the fifth minute, followed by a gradual decrease without reaching its initial values.

In subtask 2.2, a spectrophotometric study was conducted to track the dynamics of the degradation of chromogenic compounds in tea extract subjected to the action of HP included in teeth whitening products. The results show that the whitening effect after application of a whitening product without or with blue light activation is equal, but occurs almost twice as fast after activation, and iontophoretic activation results in a weaker but gradually occurring whitening effect.

The third task presents an in vitro experiment on 43 extracted teeth and an experimental setup aiming to investigate the potential of metal salts and enzymes to activate products for teeth whitening with products with different concentrations of HP.

The fourth task was defined as a study of enamel morphology and roughness of teeth subjected to in vitro bleaching according to task 3 with bleaching products with different HP concentrations with/without chemical activation.

I highly appreciate the performance of all tasks with their corresponding subtasks, due to the comprehensiveness and precise implementation of the experimental methods. I believe that their implementation marks the beginning of modification and new clinical protocols for whitening hard dental tissues, which provide significant lightening of the color of the teeth by excluding the risk of enamel demineralization, changes in the tooth surface and damage to the dental pulp from the action of whitening products, as well as from temperature damage to the dental pulp as a result of an applied process activator.

4. Characterization and evaluation of the dissertation work and contributions

The dissertation has a volume of 191 pages. It is structured correctly as follows: introduction - 1 page, scientific overview - 45 pages, aim and tasks 1 page, description of material and methods 17 pages, results - 57, conclusions 2 pages, contributions - 1 page, bibliography - 20 pp., including 4 appendices - three self-developed surveys and tables of roughness research results.

I accept the the scientific and applied contributions.

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

Dr. Stankova has attached three scientific publications in which she is the first author. This scientific production is in accordance with the requirements approved by the Regulations for the Development of the Academic Staff of the MU - Varna, Appendix 1.

6. Abstract

The abstract presented by Dr. Stankova has a volume of 64 pages and reflects the most important results of the conducted scientific research.

Conclusion

The dissertation contains scientific and scientific-applied results, which represent an original contribution to science and meet the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria, the Regulations of the MU - Varna for the Development of the Academic Staff. The dissertation shows that Dr. Silvia Evtimova Stankova possesses in-depth theoretical knowledge and professional skills in the scientific specialty of therapeutic dentistry, demonstrating qualities and skills for independent conduct of scientific research.

Due to the above, I give my positive assessment of the conducted research, presented by the above-reviewed dissertation work, abstract, achieved results and contributions, and I propose to the honorable scientific jury to award the educational and scientific degree "doctor" to Dr. Silvia Evtimova Stankova in doctoral program in Therapeutic Dentistry.

21.08.2024

Prepared the opinion:

Assoc.Prof. Dr. Maria Dencheva, MD, D.S.