

STATEMENT

by **Assoc. prof. Dr. Georgi Stoyanov Nikolov, MD,**
National Center of Infectious and Parasitic Diseases, Sofia ,
department of „Immunology”, National Referent Laboratory of Immunology,

on a thesis for the acquisition

of the scientific degree "Doctor of Sciences"

in Medical University – Plovdiv, Faculty of dental medicine

Department of Diagnostic Imaging, Dental allergology and Physiotherapy

Higher education field: **7. Healthcare and sports**

Professional field: **7.2. Dentistry**

Scientific specialty: **Clinical dental allergology**

Author: **Associate Professor Iliyana Ivanova-Stoeva PhD**

Topic: **Work-related skin and respiratory symptoms among dental staff**

General presentation of the procedure and the candidate

The set of materials presented to me on paper and electronic media is in accordance with Article 123 (1) of the Procedure for the Acquisition of the Scientific degree “Doctor of Science” in MU – Plovdiv, The Rules and Regulations of MU-Plovdiv from 06.11.2014 and includes all required documents.

Copies of 3 chapters from collective monographs are presented on the topic of the dissertation. There are also 12 articles published in international and Bulgarian peer-reviewed scientific journals. There are 6 scientific reports, of which 5 participations in scientific forums abroad and 1 participation in scientific forums in our country.

Assoc. Prof. Dr. Iliana Stoeva was born on May 18, 1977. In 2002 she graduated from the Medical University- Sofia, Faculty of Dental Medicine as a dentist.

During the period 2004 - 2008 she was a full-time doctoral student in the Department of Imaging and Oral Diagnostics and a resident in the Department of Prosthetic Dentistry at the Faculty of Dental Medicine of the Medical University - Sofia.,

In 2009 she defended her dissertation on the topic: "Intraoral contact hypersensitivity to

dental prosthetic materials" for the acquisition of the scientific degree "Doctor" in the scientific specialty "Therapeutic Dentistry".

During the period June 2008 - May 2010 she was a full-time assistant professor at the Department of Imaging and Oral Diagnostics at the FDM at MU-Sofia. Since May 2010 she has been an assistant professor, and since 2011 he has been an associate professor in the Department of Diagnostic Imaging, Dental allergology and Physiotherapy at the Medical University - Plovdiv.

Since 2020 she has been the Head of the Department of Imaging Diagnostics, Dental Allergology and Physiotherapy and Vice Dean of Science and Research Activities, Medical University of Plovdiv..

In 2010 she acquired a degree in Prosthetic Dentistry.

In 2015 she acquired a degree in Dental Clinical Allergology.

She is a member of Bulgarian Scientific Society of Dental Medicine.

The scientific production of Assoc. Prof. Stoeva includes a total of 63 articles in national and international journals, including such with impact factor. She is a co-author of four textbooks and one student Practical guide. Independent author of a practical guide to Dental Clinical Allergology.

Conducts theoretical and practical training of students in dental medicine in the discipline Dental Clinical Allergology.

She was a research supervisor and participant in 6 research projects in Bulgaria.

The scientometric indicators of Assoc. Prof. Stoeva are in accordance with the national requirements by groups of indicators for the academic degree "Doctor of Sciences" in Professional field 7.1. Medicine (under Art. 2b, para. 2 and 3 of Law For The Development Of Academic Staff In The Republic Of Bulgaria – promulgated SG, amended and supplemented, issue 30 of 03.04.2018, amended, SG No. 17 of 26 February 2019 and the Regulations for the application of Law For The Development Of Academic Staff In The Republic Of Bulgaria - amended and supplemented, SG No. 56 of 6 July 2018, amended and supplemented, SG No. 15 of 19 February 2019)

Topicality of the thesis

In their practice, dentists, dental technicians and nurses are in daily contact with a wide range of dental materials, protective equipment and disinfectants with diverse composition and allergenic potential. In addition, other factors in the professional environment, such as the use of specific cutting and polishing tools, which further disperse irritants and allergens, frequent hand washing and the use of antimicrobials, favor the development of occupational diseases.

Among them, the most common are skin lesions, in particular - occupational contact dermatitis. In recent decades, respiratory hypersensitivity related to the work environment has also been characteristic and is constantly increasing among dental professionals..

In the context of the growing data on the widespread prevalence of occupational diseases among dentists, there are few studies that examine the importance of allergic mechanisms for the occurrence of work-related skin and respiratory symptoms among dental staff in Bulgaria. The main difficulty in this direction is that dermatologists and clinical allergists are not familiar in detail with the nature of the work of dental professionals, as well as with the constantly improving dental materials, and in most cases do not have the specific tools for accurate diagnosis. All of this is the reason why a large part of the existing work-related sensitization remains undiagnosed.

In this regard, the thesis of Assoc. Prof. Iliana Stoeva is a detailed description of her many years of personal clinical and practical experience in characterizing and studying the risk factors for the occurrence of work-related skin and respiratory symptoms among dental staff..

The original results of the dissertation have been published in Bulgarian and international scientific journals.

Knowledge and understanding of the problem

The candidate demonstrates good knowledge on the problem. The literature review has a volume of 54 pages. It presents up-to-date data on the epidemiology of work-related skin and respiratory symptoms among dental staff and describes in detail the main sensitizing agents in dental practice. Current data on the etiology, diagnosis, treatment and prevention of occupational contact dermatitis, occupational latex allergy and specific respiratory hypersensitivity among dentists.

The review shows that the lack of up-to-date information on the problem seen in the country does not allow for the preparation of specific strategic measures leading to limiting the occurrence and development of adverse reactions to chemical compounds and allergens from the work environment, which should be set as early as the period of student training in dentistry, prosthetic dentistry and nursing care.

Aim and method of research

The aim and tasks of the thesis are expertly set.

The thesis aims to study the prevalence, characteristics and risk factors for the occurrence of work-related skin and respiratory symptoms among dental staff.

To achieve the set aim, Assoc. Prof. Stoeva has focused her efforts on solving 5 tasks,

which structure a sound approach to the study.

The chosen design of the research allows successful implementation of the specific tasks and ensures the achievement of the main aim of the thesis.

The part involving the questionnaire survey includes 4675 dentists, 539 dental technicians, 312 dental nurses and 467 students of dental medicine.

89 safety data sheets of materials and agents used in the dental environment were analyzed. The study included 329 patients who were tested with a Dental Screening Series with 30 allergens and 10 additional allergens identified in protective gloves and disinfectants.

Various, modern clinical, laboratory, immunological and allergological methods are used, which contribute to the completion of the development tasks. The results are statistically processed with appropriate methods of analysis and are illustrated with a sufficient number of figures and tables.

Characteristics and evaluation of the dissertation

The dissertation is written on 270 pages and is done following the generally accepted academic form. It is illustrated with 57 tables and 45 figures. Literature includes 546 sources, 9 of which are in Cyrillic script.

The results of each task of the study are presented in a comprehensive volume and are discussed competently, with an in-depth analysis and specific conclusions are formulated.

The analysis of the current questionnaire survey shows that a significant part of the dental staff reported work-related skin symptoms, with the highest relative share being registered in the group of dental nurses (33.3%), followed by dentists (31.6%) and dental technicians (29.3%). Slightly more than one-fifth (21.2%) of dental students report skin symptoms due to laboratory and / or clinical work during the training process. The most significant risk factors for the occurrence of work-related skin symptoms for clinical staff have been identified: frequent hand washing, female gender, longer work experience, contact with gloves > 4 hours per day, the use of > 10 pairs of gloves per day and anamnestic data for atopic dermatitis and contact allergy.

The study shows that the prevalence of work-related respiratory symptoms among dental staff varies from 12.4% to 26.2% in the different subgroups, with the highest relative share being among dental technicians. The most significant risk factors for the occurrence of occupational respiratory symptoms for clinical staff are work experience of over 10 years, anamnestic data of atopic diseases, exposure to substances from the work environment > 6 hours a day and female gender. In dental technicians, the lack of an ventilation systems in

laboratories is also a factor for the development of work-related respiratory symptoms..

Based on a detailed analysis of possible contact allergens in all groups of dental materials, it was found that the professional series of 10 allergens intended for testing of dental staff is insufficient to identify all causes of contact allergy from the laboratory or clinical environment. As new, modern materials are constantly introduced in practice, their composition is constantly changing, which exposes the dental staff to various and novel allergens. In this regard, Assoc. Prof. Stoeva proposes to introduce the electronic register of dental staff with skin and respiratory symptoms created by her, through which the problem can be monitored. Data visualization allows easy tracking of trends in occupational sensitization of dental staff over a period of time.

The obtained results are appropriately illustrated, which makes their perception and understanding easy and convincing.

The conclusion and the summarizing implementations of the work are well formulated and reflect the essence of the obtained results.

Assoc. Prof. Stoeva presented 6 final implementations, which are derived from the specific results of the study. They emphasize the topicality of the research and can serve as a theoretical justification and practical application of effective prevention plans to prevent work-related skin and respiratory diseases among dental staff..

The dissertation is precisely formed and I have no significant remarks on the methodology, presentation of the results and their analysis.

Assessment of the candidate's contributions, publications and personal contribution

I accept the formulated contributions of original and confirmatory nature and I believe that they objectively reflect the real results of the conducted research..

I consider the following contributions to be more significant:

- A comprehensive epidemiological assessment of the prevalence has been made and the risk factors for the occurrence of work-related skin and respiratory symptoms among dental staff in the country have been studied in detail.
- An evaluation of the role of allergic mechanisms in the occurrence of ocwork-related skin reactions in dental staff was made.
- An electronic register of the dental staff with work-related skin and respiratory symptoms has been developed and proposed for introduction in the daily practice.

In connection with the dissertation, Assoc. Prof. Stoeva has published 3 chapters from

collective monographs. There are also 12 articles presented in international and Bulgarian peer-reviewed scientific journals.

There are 7 scientific reports, of which 6 participations in scientific forums abroad and 1 participation in scientific forums in Bulgaria.

The number and quality of the publications related to the dissertation exceed the requirements for recognition of the Scientific degree "Doctor of Sciences" at MU - Plovdiv.

Author's summary


The summary is written on 60 pages and is prepared according to the requirements, reflecting the dissertation research, results and conclusions in a precise manner.

CONCLUSION

In conclusion, I would like to summarize that the presented thesis of Assoc. Prof. Dr. Iliana Stoeva, MD on "Work-related skin and respiratory symptoms among dental staff" is a scientific study on a topical issue with a well-planned and implemented design. Original results of significant scientific and applied value have been obtained.

The dissertation fully meets all the requirements of the Law For The Development Of Academic Staff In The Republic Of Bulgaria; The Regulations for the application of the same law and the respective Rules and Regulations of MU- Plovdiv.

All of the above gives me reason to give a positive assessment of the research and I propose to the members of the esteemed scientific committee that Assoc. Prof. Dr. Iliyana Lyubomirova Stoeva, MD be awarded the scientific degree "Doctor of Science" in the Scientific specialty "Dental Clinical Allergology", Professional field: Medicine.



Assoc. prof. Dr. Georgi Stoyanov Nikolov, MD

11.02.2021