

## REVIEW

**By: Prof. Dr. Angelina Kiselova-Yaneva, MD, PhD**

External member of the Scientific Jury (Order № R-109-256/23.06.2022 of the Rector of the MU "Prof. Dr. Paraskev Stoyanov" - Varna (Published in State Gazette, № 32/26.04.2022))

**Regarding:** procedure for occupying the academic position "associate professor" in the specialty "Dental Clinical Allergology", professional direction 7.2. Dental medicine, area of higher education 7. Health care and sports (based on report № 105-870/09.06.2022 of the Head of the Department of Conservative Dentistry and Oral Pathology" and decision under protocol № 3/17.06.2022 of the Faculty Council of the Faculty of Dental Medicine - Varna)

**Candidate: Ch. Assistant Dr. Christiana Rosenova Madzova-Chokanova, MD**

In the current competition, the presented set of documents (on paper and electronic media) from Ch. Hristina Rosenova Madzova, assistant professor, PhD, meet the requirements of the National Academy of Medical Sciences (Article 4, Paragraph 1 and Paragraph 2 of the Law on the Development of the Academic Staff in the Republic of Bulgaria (Article 57, Paragraph 1 and Paragraph 2 of The Regulations for the Implementation of ZRASRB, Article 6, Paragraph 1, Article 127, Paragraph 1 and Paragraph 2 of the Regulations for the Development of the Academic Staff at the Medical University - Varna.

### **Brief biographical data**

Dr. Christiana Rosenova Madzhova-Chokanova, MD, was born in 1987 in Varna.

2013 – Master of Dental Medicine

2015 – Master of Health Management

2016 - obtained the title of doctor after successful defense of a dissertation on the topic "Complex oral diagnosis of children and adolescents with diabetes mellitus and obesity"

2013/2017 - assistant at the Department of "Conservative Dentistry and Oral Pathology", FDM, MU - Varna

2017/2022 – chief assistant at the same department

Specialty: Dental clinical allergology; currently specializes in: Operative dentistry and endodontics

Languages: Bulgarian, English, Russian, German.

### **Research activity**

In the current competition, Dr. Madzova, PhD, participated with 49 scientific papers. The publication activity exceeds the minimum requirements for holding the academic position "associate professor".

Presented: printed abstracts: 32: dissertation - 1; monograph - 1; published chapter of a collective monograph/textbook - 2; full-text articles - 29 (related to the dissertation work – 7; for the main assistant – 10; for the associate professor – 13); participation in scientific forums - 64; 24 citations.

Publications in specialized scientific publications:

- In scientific publications, referenced and indexed in world-famous databases with scientific information - 5;
- In non-refereed journals with scientific review - 7.
- Full-text publications in scientific journals and collections, beyond the minimum scientometric requirements - 1.

The presented scientific works and the results of the research work are thematically separated into the following scientific directions:

- Oral health in patients with diabetes mellitus and obesity;
- Oral medicine, clinical and paraclinical studies;
- Adenotonsillar hypertrophy in childhood and its associated symptoms - treatment options with physical therapy methods;
- Health management, patient awareness and optimization of general and oral health;
- Various frequent clinical problems in the work of the dental doctor.

The distribution of the presented works by scientific fields is in table 1. The places of the author in the presented scientific works are distributed in table 2.

### **Assessment of contributions from research activities by thematic areas**

#### *1. Oral health in patients with diabetes mellitus and obesity*

- For the first time in our country, a complete complex oral diagnosis of children and adolescents with DM and those with obesity was performed to establish the frequency and characteristics of oral pathology, the state of the hard tissues of the teeth, the periodontium and the mucosa of the oral cavity.
- A directly proportional relationship between oral lesions and disturbances in metabolic homeostasis was established.
- The positive influence of the adequate methods of treatment of the chronic disease (diet, type of insulin, metabolic control, physical activity, etc.) on the control of DM, resp. on the organs in the oral cavity.
- The peculiarities of the physical, biochemical and immunological characteristics of saliva were analyzed as specific diagnostic indicators for assessing the oral status in diabetics.
- An original survey card was developed, collecting information on oral hygiene and health habits, regular dental examinations, the main risk factors for obesity. After analyzing the risk factors in children and adolescents, they were found to have diabetes, as well as those with obesity, which affect their dental health.
- Oral pathology and observed symptoms are described in detail in patients with diabetes mellitus as well as those with obesity. A comparison was made with healthy controls.
- An algorithm for a complex medico-dental approach to the prevention and treatment of children and adolescents with DM and obesity and a protocol for the behavior of dental doctors has been developed.
- The role of oxidative stress in oral complications in diabetics has been studied.

#### *2. Oral medicine, clinical and paraclinical research.*

- The relationship between poor oral hygiene and the development of oral cavity pathology has been established.
- A special survey was created for patients regarding their oral hygiene practices and visits to the dentist. After the examination, the patients' oral hygiene, dental

status and periodontal status were analyzed. Data on tooth brushing and the use of additional biofilm control techniques are also presented.

- It was established that the oral and dental status of the Bulgarian patients can be assessed as moderately impaired with high needs for treatment.
- Co-author of a textbook on oral pathology in English, which systematizes the most important information about the normal anatomy of the oral mucosa, diagnostic tests, pathology and its treatment.
- Saliva as a biomaterial for research has a number of advantages over blood serum and other biological materials. An up-to-date reading of the studies of Bulgarian and foreign authors was made and the data from the scientific literature were summarized with a view to revealing the clinical potential of saliva for its full use in diagnostic dental practice and in a number of areas of medical science and practice.
- The biocompatibility of oral hygiene products, their effects, as well as the different allergens in the products and the possible oral dysplasias they can cause, were evaluated.

### *3. Adenotonsillar hypertrophy in childhood and its associated symptoms - treatment options are physical therapy methods*

- For the first time in our country, an original complex physiotherapy program with polarized polychromatic incoherent low-energy light and ultrasound was developed for use in children with adenotonsillar hypertrophy, symptoms of disturbed night breathing, nocturnal enuresis and daytime behavioral symptoms.
- An original questionnaire was developed for effective selection of treatment-appropriate children with adenotonsillar hypertrophy, symptoms of disturbed night breathing, nocturnal enuresis and daytime behavioral symptoms.
- A developed algorithm for behavior in children with adenotonsillar pathology and disturbed breathing during sleep and a change in their behavior.

### *4. Health management, patient awareness and optimization of general and oral health.*

- The health awareness of the parents of children of preschool age attending kindergartens in Varna, regarding the need and methods for caries prevention among children, was established.
- It has been established that the national program for the prevention of children's caries is not sufficient and additional training of parents by medical and health specialists is required.
- The awareness of doctors and students of dental medicine regarding the assessment of the risk of infectious diseases and the protection of patients and themselves has been established.
- An original questionnaire was developed, on the basis of which we found that the adequate academic training of dental medicine students in the city of Varna presupposes future responsible work.
- The relationship between oral and general health is summarized, the importance of joint practice between dentistry and general medical practice, which has a positive impact on optimizing oral and general health, is confirmed.

- The benefits for patients in process optimization have been confirmed - improved access to dental and general services, reduced cost and increased productivity and better quality of health care services.
- Recommendations on how the dentist should acquire the skill and adequate training to consider the way of presenting information and the pace of perception of the patient, so that he can participate in decision-making, are considered.

#### 5. *Clinical problems in the dentist's work*

- A study was conducted among drug-addicted patients to determine the relationship between methadone therapy and sleep apnea, and a positive correlation was established.
- It has been established that the combination of treatment and monitoring of patients on methadone therapy is the key to success in improving the condition of sleep apnea.
- On the basis of a systematic review of the scientific literature and own clinical experience, the methods for diagnosis and treatment of dental and skeletal open bite, etiological factors and different types of treatment are described and summarized.
- Based on a systematic review, the role of early diagnosis and treatment of human papillomavirus infection in the oral cavity is discussed.
- The latest scientific literature on the issues of the topical diagnostic significance of nocturnal manometry of the upper airways in snoring and obstructive sleep apnea is systematized.
- It is confirmed that prevention and timely treatment of bruxism prevent severe damage to the masticatory apparatus, as well as neurological and vestibular deviations.
- The importance of collaboration between a dentist and otorhinolaryngologist for the treatment of dental and skeletal open bite is described.

#### **Participation in research projects**

1. Project under the "Science" Fund - Competition Session 2017" on the topic "Investigation of the effectiveness of the low-energy infrared laser for influencing oral pain symptoms".
2. Project under the "Science" Fund - Competition session 2015" on the topic "Complex oral diagnosis of children and adolescents with diabetes mellitus and obesity".
3. Project under the "Science" Fund - Competition Session 2014" on the topic "Investigation of the influence of fresh aronia melanocarpa fruit juice intake on carbohydrate metabolism and oxidative stress in patients with type 2 diabetes mellitus at different ages".

#### **Teaching and learning activity**

Attached is a report on Dr. Madzova's academic workload, which reflects her activity. Leads classes in academic disciplines: dental allergology, oral pathology, clinic and internship in conservative dentistry - in Bulgarian and English.

#### **Therapeutic and diagnostic activity**

As a specialist in dental clinical allergology in her treatment and diagnostic work, Dr. Madzova conducts complex oral and allergological diagnostics of clinically healthy and medically compromised patients using specialized diagnostic and treatment

methods and gives an expert assessment of the appearance of various systemic diseases and specific changes in the mouth mucosa and dento-jaw area.

### **Conclusion**

I want to share my personal impressions: I have known Dr. Christiana Rosenova Madzova since her first year as a student at FDM - Varna. Throughout the course of study, she showed persistence, consistency, diligence and a marked scientific interest. This helped her to be an excellent academic teacher today.

I give a positive assessment of the overall activity and personal qualities of Dr. Christiana Rosenova Madzhova-Chokanova, MD. I will definitely vote "yes" for her to take the academic position of "associate professor" in the Department of Conservative Dentistry and Oral Pathology at FDM, MU - Varna.

Sofia, 29/08/2022

**Reviewer:**

*Angelina Kiselova*

(Prof. Angelina Kiselova-Yaneva, Ph.D.)