



## OPINION

In connection with the procedure for holding the academic position of "Associate Professor" in the field of Higher Education 7. Health and Sports in the professional field 7.1 "Medicine" and scientific specialty "Cardiology", for the needs of the Clinic of Cardiology at MHAT National Cardiology Hospital EAD

Member of the Scientific Jury, who prepared the review - Prof. Dr. Arman Snork Postadjian, MD, Medical University of Sofia, Cardiology Clinic, St. Anna University Hospital, Sofia

The competition for "Associate Professor" in the scientific specialty of cardiology for the needs of the Clinic of Cardiology at MHAT National Cardiology Hospital EAD was announced in the State Gazette no. 45 of 28.05.2021

The scientific jury for the competition was appointed by order of the Executive Director of MHAT National Cardiology Hospital №309 / 22.07.2021.

The opinion was prepared in accordance with the Academic Staff Development Act (ACAS), the Regulations for the Implementation of the Academic Staff (PRAS) and the Regulations on the Terms and Conditions for Acquisition of Scientific Degrees and Occupation of Academic Positions (PURPNSZAD) at MHAT National Cardiology Hospital.

The presented set of materials on paper / electronic media is in accordance with the procedure for acquiring the academic position "Associate Professor" and the rules of the National Cardiology Hospital.

The only candidate is Dr. Elena Svetlozarova Dimitrova, MD, Ph.D. assistant at the National Cardiology Hospital

I declare the following circumstances in preparing this opinion - in the period 2013-2017 I was the scientific supervisor of the doctoral thesis of Dr. Dimitrova, developed in the Department of General Medicine, Medical University - Sofia, and in this period I have joint scientific papers with the candidate, which according to ZRASRB are not subject to review in this competition, but are part of the overall scientific activity of Dr. Dimitrova.

When reviewing the scientific production of Dr. Dimitrova, I do not establish data on plagiarism in the preparation of scientific papers.

### Biographical data

Dr. Elena Svetlozarova Dimitrova was born on February 14, 1984 in Sofia. He completed his secondary education at the First English Language High School, and his Higher Medical Education at MU-Sofia in 2008 with excellent results.

Since 2009 she has been enrolled as a specialist in cardiology with a training base at the Cardiology Clinic of St. Anna University Hospital. In 2013, after successfully passing a state exam, Dr. Dimitrova acquired a degree in cardiology. Since 2014 he has been working in the Department of Emergency Cardiology of the National Cardiology Hospital. Since 2019 he has held the academic position of Chief Assistant at the Cardiology Clinic of the National Cardiology Hospital. He is a member of the Society of Cardiologists in Bulgaria and the European Society of Cardiology.

In 2017 Dr. Dimitrova obtained a scientific and educational degree "Doctor" after defending a dissertation on "Prospective follow-up of patients with pulmonary arterial hypertension and evaluation of the effect of specific therapy on the functional class and clinical course of the disease in compliance with a protocol for monitoring and escalation of the therapy" - Diploma № 000611, reg. № 545-D / 24.07.2017 MU-Sofia

In the course of her professional development Dr. Dimitrova has a number of specialized courses for advanced training in the field of diagnosis and treatment of arterial hypertension, pulmonary hypertension, heart failure, cardiomyopathies. He has a basic echocardiography certificate.

#### Research activity

In the course of her research, Dr. Dimitrova has made numerous scientific participations in international (17 in total) and national forums (18 in total), directly related to the scientific specialty and its practical application. Excerpts from the papers are presented in a series of National Congresses of Cardiology, organized by the Society of Cardiologists in Bulgaria and at international forums organized by Acute Cardiovascular Care of ESC and ACC

The documentation submitted by the applicant does not contain data on implemented national research projects through the medical universities or the Ministry of Education and Science. Notwithstanding the above, Dr. Dimitrova has experience in the field of organization and conduct of clinical trials, as evidenced by his participation as a researcher in international registries and clinical trials - phase 2b and 3 (PLATO, CURRENT, SOLID, MAESTRO, ACCELERATE, BALKAN- AF REGISTRY, AEGIS-I, AEGIS-II). I especially want to distinguish her work on the creation and follow-up of patients in the register of pulmonary hypertension at St. Anna University Hospital.

Dr. Dimitrova participates in the competition with her scientific production including 30 scientific publications outside the dissertation for the acquisition of educational and scientific degree "Doctor" and are subject to review. Their distribution is as follows: in foreign periodicals - a total of 3 publications published in international periodicals, referenced and indexed in world-famous databases with scientific information Sci Rep, Adv Ther and JAFIB.

In Bulgarian periodicals - 21 publications, most of the original articles (1 in a national journal with ISI impact factor (Comptes rendus de l'Academie bulgare des Sciences); 15 - in Bulgarian peer-reviewed and peer-reviewed editions); Dr. Dimitrova has also published 6 chapters in five specialized scientific journals - Biomarkers in cardiovascular diseases, Facts, contradictions, debates in the diagnosis and treatment of cardiovascular diseases 2018/2019 and 2020/2021,

Comorbidities in cardiovascular diseases. vascular diseases and a comprehensive approach to therapy in the elderly and in the elderly.

In 21 of all 30 publications outside the dissertation, Dr. Dimitrova is the first author, in 1 - the second author, and in the rest - the third and subsequent author.

According to a reference provided by the Central Medical Library of the Medical University of Sofia, the total number of citations of Dr. Dimitrova's publications (excluding self-citations) is 15 in national publications - articles, scientific books, dissertations, etc. : 43 citations in Scopus and Web of Knowledge. In the documentation submitted by the applicant there is no information about general and individual impact factor of the publications or about h index.

#### Main accents in research

The research activity of Dr. Dimitrova is focused on the following main areas:

- in the field of pulmonary hypertension and pulmonary thromboembolism

The author has a clear scientific interest in the field of pulmonary hypertension and has actively participated in the diagnostic and therapeutic process in patients with pulmonary arterial hypertension, as well as in the creation, implementation and validation of a specific tracking algorithm in one of the established expert centers in the country. St. Anna ", Sofia).

Of particular importance is the publication for the first time in Bulgaria of summarized data on the topic in long-term follow-up, the analysis of mortality and direct comparisons with the results of major world registers.

Another contribution in the field is that based on own data from consecutive hospitalized patients with moderate and high risk pulmonary embolism, the author participated in the creation of a new non-invasive indicator that can be used to predict the risk of nosocomial mortality (abstract 35). . As is well known, risk stratification in patients with pulmonary thromboembolism is essential for the selection of appropriate therapy and prognosis.

- coronary artery disease and acute coronary syndrome

A significant contribution to the field is the participation in a study conducted among 200 patients with invasively proven coronary artery disease, which examined whether polymorphisms in several candidate genes are associated with the presence of multifocal atherosclerosis (carotid or peripheral atherosclerosis). PCR-based angiotensin-converting enzyme (ACE I / D) genotyping, eNOS G894T, endothelin-1 138A I / D and matrix metalloproteinase-3 5A / 6A were performed. A high incidence (29.5%) of multifocal atherosclerosis was found in patients with coronary heart disease and its association with the ACE genotype DD and ET-1 genotype II.

Another series of publications analyzes the relationship between proinflammatory status and long-term prognosis after ACS, duration of dual antiplatelet therapy in this group of patients,

significance of available comorbid conditions and demographic characteristics on long-term prognosis - age, previous anemia, heart failure, glycemia and others.

The analysis of the impact of the first wave of the COVID-19 pandemic on the basis of own data and the imposed restrictive measures on the number of hospitalized patients with myocardial infarction, their characteristics and the course of the disease are especially relevant, as the results are compared with the same period in the previous year. and have been commented on in the light of published data from Europe and the United States (publication 13). These are the only data published so far about Bulgaria on the subject.

- atrial fibrillation, electroshock therapy and pacing

The author has participated in the one-of-a-kind registry of patients with atrial fibrillation from the Balkan region BALKAN-AF, presenting results from real clinical practice concerning the therapeutic strategy and in particular the use of anticoagulant therapy in patients with atrial fibrillation from the Balkan region (publications 28 and 29).

Another contribution in the field is the author's participation in a register of patients with atrial fibrillation / oscillation undergoing elective synchronized electrocardioversion. A series of publications present real data on the efficacy and safety of a non-escalating energy protocol compared to standard electrocardioversion protocols for atrial fibrillation and vibration with increasing shock energy at each subsequent stage (abstract 20), as well as an individualized electrocardioversion protocol. A contribution in the field of pacing is the presented series of patients with implanted permanent pacemaker due to recurrence of intraventricular obstruction after alcoholic septal ablation due to hypertrophic obstructive cardiomyopathy relative to the patient's body surface.

- Other, less common pathologies

Based on many years of clinical experience and scientific interest, clinical cases are described and practical algorithms are derived for conditions that present a challenge in everyday clinical practice - the presented rare clinical case of severe metformin-associated lactic acidosis complicated by shock, acute renal failure, vision loss and subsequent episode of BTE, myxedema coma complicated by cardiac arrest and status epilepticus (publication 14), chronic type B aortic dissection with formation of a giant aneurysm and rupture of the false lumen (publication 4) and heparin-induced thrombocytopenia in a patient with acute myocardial infarction and cancer (publication 25). A detailed review of the literature, including the definition, etiology, pathogenesis, clinical picture, diagnostic and therapeutic algorithm for orthostatic hypotension, is a scientific contribution - a common condition whose importance increases with population aging and increasing comorbidity (publication 19).

Teaching activity

The teaching activity of Dr. Dimitrova as a senior assistant at the National Cardiology Hospital is related to participation in the training (theoretical, practical and methodological guidance) of medical students and postgraduate doctors specializing in cardiology.

#### Diagnostic and therapeutic activity

Dr. Dimitrova has over 17 years of experience and extensive experience in clinical cardiology and emergency diagnosis and treatment of cardiovascular disease. From the impressive number of studies and publications, it is obvious that he has a taste for research.

#### Compliance with minimum national requirements

Dr. Dimitrova presented a completed table according to PPZRASRB. The fulfillment of the minimum requirements by groups of indicators is as follows:

- Group A - completed 50 points.
- Group B - not required for AD "Associate Professor"
- Group B - 190.4 tons of scientific publications (10) in publications that are referenced and indexed in world-famous databases with scientific information
- Group D - completed. The candidate estimates his sum at 108.5 out of 16 publications and reports published in non-peer-reviewed journals with scientific review or published in edited collective volumes and 243 tons of Publications and reports published in non-refereed scientific peer-reviewed journals or published in edited collective volumes and the collection. D exceeds the required 200t.
- Group D - completed. The candidate presents 5 citations in Bulgarian journals, as well as 10 citations in scientific journals, referenced and indexed in world-famous databases with scientific information or in monographs and collective volumes with which it exceeds the required minimum of 50 tons.
- Group E- The candidate covers the requirements of the recognized medical specialties and the teaching of specialists in the scientific specialty of the competition

In conclusion, the significance of the results obtained by Dr. Dimitrova is essential given the large number of publications focused on epidemiology, prevalence and specific therapeutic behavior in common, socially significant diseases such as coronary heart disease and acute coronary syndrome, atrial fibrillation, pulmonary hypertension and others. . Based on the above, I highly appreciate the research and applied value of the candidate's research papers.

In the competition Dr. Dimitrova presents herself as an exceptional specialist with sufficient medical, research and teaching experience. She has a recognized specialty in cardiology, received a doctorate in medicine. He has moved up the academic ladder to chief assistant and has significant teaching, clinical and administrative experience.

Dr. Dimitrova is an established cardiologist, mastering and applying virtually all modern methods of modern emergency and non-invasive cardiology. The scientific production is completely sufficient in volume and content, and in its significance, degree of novelty and justification of scientific achievements, covers the requirements of the Regulations on the terms and conditions for acquiring scientific degrees and holding academic positions and terms and conditions for awarding academic position "Associate Professor" at the National Cardiology Hospital.

The contribution of the scientific production is significant, as evidenced by the positive citations in medical periodicals. The candidate is a member of prestigious national and international societies in the field of cardiology.

On these grounds, I give my positive vote and propose to the esteemed members of the Scientific Jury to vote positively Dr. Elena Svetlozarova Dimitrova, MD, to take the academic position of "Associate Professor" in Cardiology, for the needs of the Clinic of Cardiology at MHAT National Cardiology Hospital EAD



14.09.2021

Prof. Dr. Arman Postadjian, Ph.D.

Head of Cardiology Department at the Cardiology Clinic of St. Anna University Hospital,

MU - Sofia

Member of the Scientific Jury