

REVIEW

from

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Subject: competition for the academic position of “Associate Professor” in the field of higher education 7. Health and Sport, professional field 7.1. Medicine (Internal Medicine), published in the State Gazette 37/26.04.2024 for the needs of the Faculty of Medicine, Department of “Internal Medicine, Pharmacology, Clinical Pharmacology, Pediatrics, Epidemiology, Infectious and Skin Diseases”

1. Presentation of the procedure

On the basis of orders of the Rector of the University of “St. Kliment Ohridski” No. RD-38-356/05.07.2024 and RD-38-250/27.05.2024, I have been appointed Chairman of the Scientific Jury for the above competition.

Applications for the announced competition have been received from Dr. Rada Nikolaeva Gancheva, PhD, Dr. Nonka Nikolova Yurukova, PhD, and Dr. Valentina Simeonova Reshkova, PhD, DMSc. On 19.07.2024 Dr. Valentina Simeonova Reshkova, PhD, DMSc, submitted an application to the Dean of the Faculty of Medicine of the Sofia University “St. Kliment Ohridski” for withdrawal and non-participation in the competition.

I have received the set of materials electronically within the regulated deadline, which corresponds to the requirements of the announced competition. On examination of the materials, I have found no irregularities in the competition procedure.

Dr. Rada Nikolaeva Gancheva was born in 1985 and completed her secondary education in 2004 at the First English Language School with excellent grades. In 2010 she completed her higher education at the Medical University of Sofia (Diploma of Higher Education “Magister”, Reg. No.

20298 of 16.12.2010, series MUS No. 028754) with excellent grades and after a competition she was appointed as a PhD student at the Department of Internal Medicine of the Faculty of Medicine in the Clinic of Rheumatology of the University Hospital “St. Ivan Rilski”. In 2015, she defended her dissertation on “Gout and cardiovascular risk” (Diploma No. 350-D, issued on 20.10.2015, series MUS No. 000415), and in 2018 she acquired the specialty “Rheumatology” (Diploma Reg. No. 022041 of 24.07.2018, series AC No. 016389). From 2017 to 2021 she was a resident physician, and from 2021 after a competition she was appointed as a full-time assistant professor at the Department of Rheumatology of MU-Sofia. Since 2022 she is a part-time assistant of rheumatology at the Faculty of Medicine of the University “St. Kliment Ohridski”.

Dr. Rada Gancheva is a member of the Bulgarian Society of Rheumatology, the Bulgarian Society of Osteoporosis and Osteoarthritis and the Gout, Hyperuricemia and Crystal-Associated Disease Network (G-CAN).

2. Research activities

The research activities of Dr. Rada Nikolaeva Gancheva, PhD, which are presented for the competition can be summarized as follows:

- Own monograph;
- Six published book chapters;
- 54 publications, of which 40 are in refereed and indexed journals in Scopus and Web of Science. Two publications are in journals refereed in Google Scholar, Crossref, Semantic Scholar. Eleven publications are in journals with IF (total IF - 24.794).

Dr. Gancheva is first author in 27 publications, second in 8, third in 9 publications, and subsequent in the rest. Prestigious is her co-authorship in the International Consensus of Gout, Hyperuricemia and Crystal-Associated Disease Network (G-CAN) published in Ann Rheum Dis 2019 with IF for that year - 16.102.

Dr. Gancheva is the first author in the elaboration of the National Consensus for the Diagnosis and Treatment of Gout [IV A - 11].

Dr. Gancheva presented 22 congress and conference participations with abstracts published in Scopus and Web of Science with a total IF of 149.329. Seventeen participations in congresses and conferences with published abstracts in peer-reviewed journals (9 in Bulgarian sources and 8 in international journals), nine participations in scientific forums, one of them international without published abstracts.

Certificates for participation in three Scientific Projects at MU-Sofia and certificate for participation as a reviewer of the journal *Rheumatology International* for 2017 with IF for the respective year - 1.952. A list of 70 citations is also provided, which excludes all self-citations, hidden self-citations and citations to and in dissertations. Her Scopus H-index is 4.

The dissertation and most of her publications cover hyperuricemia and gout as cardiovascular risk factors. Determining the independent significance of hyperuricemia and gout as cardiovascular risk factors is problematic because they are part of the metabolic syndrome and usually occur together with other strong cardiovascular risk factors such as arterial hypertension, diabetes mellitus, dyslipidemia, etc. The approach that Dr. Gancheva uses to solve the problem is very original. She thoroughly investigated most of the conventional cardiovascular risk factors such as arterial hypertension, diabetes mellitus, dyslipidemia, etc. and divided the disease gout into gout without tophi and with tophi. For her, tophi are not inert structures but active granulomas and are a stronger cardiovascular risk factor through the chronic inflammation they cause. In her studies, she applies complex multimodal sonography - simultaneous examination with various advanced sonographic techniques (conventional sonography, Doppler sonography with color, pulsed, steady-state, power and tissue Doppler) of the kidneys, heart, vessels and joints. Investigating the morphology and blood flow of the kidneys, the morphology and function of the heart, the morphology and blood flow of the great vessels and changes in the joints at different stages of the disease, and comparing indicators that themselves reflect cardiovascular risk, provides measurable and important evidence to support the hypothesis, with original contributions to evidence-based medicine.

The originality and significance of her research can be demonstrated by the fact that at the American College of Rheumatology Congress in San Francisco in November 2015, her oral presentation entitled: *How Strong Cardiovascular Risk Factor Are Gouty Tophi?* was preceded by an interview and subsequently by participation in a press conference together with other leading authors in the field [VI A - 16; IV A - 33].

A prospective study of 53 patients on target organ involvement in gout and their influence by xanthine oxidase inhibitors is also on this topic [IV A - 35; VI A - 5, 19]. Of interest are investigations demonstrating that individuals with a greater intra-articular load of monosodium urate crystals have greater vascular stiffness and a greater load of crystals in the renal interstitium [IVA - 40; VI A - 24; VI C - 20]. Publications in patients with gout in the intercritical period,

searching for the relationship between serum IL-1 β and IL-18 concentrations with cardiovascular changes, and studies of correlations between serum levels of reactive oxygen radicals (ROS), NO radicals and ascorbate radicals with vascular changes in the kidneys and common carotid arteries in subjects with gouty arthritis without tophi and patients with subcutaneous tophi, are also original contributions. These examinations again prove that chronic inflammation has a leading role in the process of atherogenesis [IV A - 10, 38; VI A – 22, 23; VI C - 18, 21; VII - 2].

Studies of renal biopsies and evaluation of changes in patients with asymptomatic hyperuricemia and gout shed new light on the problem [IV A – 41; VI A – 25].

Original contributions are the papers related to the research of cardiorenal syndrome. On the one hand, the increased cardiovascular risk in chronic renal failure and the examination of the factors that determine it, and on the other hand, the investigation of cardiorenal syndrome mainly in its hemodynamic aspect. The concept of “risk hemodynamics” has been introduced - a state of heart failure and varying degrees of renal failure and varying degrees of large vessel stiffness. Determination of the parameters of risk hemodynamics at the bedside of the patient even in severe condition by complex multimodal sonography is important for the diagnosis and management of treatment [III - 5, 6; IV A - 5, 25; VI C - 6; VI D - 11].

Dr. Gancheva has published on a wide range of diseases not only in the field of rheumatology (ankylosing spondylitis, rheumatoid arthritis, lupus erythematosus, Sjögren's disease, giant cell arteritis, Behcet's disease, etc.), but also diseases in the field of gastroenterology, hematology, nephrology, pulmonology, endocrinology, neurology, dermatology, etc. [III - 3; IV A - 2, 4, 8, 9, 12, 13, 14, 15, 19, 22, 23, 24, 28, 30, 32, 34, 44,; IV B - 1, 2; IV C - 9, 13, 14; VI A - 6, 10, 12, 20; VI C - 11, 19, 22; VI D - 4, 9].

3. Teaching activities

Dr. Gancheva teaches in Bulgarian and English 5th year medical students, trainee doctors and postgraduate students. The documents submitted show that her teaching load at the Medical University of Sofia for 2020-2021 was 262 hours and for 2021-2022 - 258 hours. For the years 2022-2023 at MU “St. Kliment Ohridski” is 117 hours and for the winter semester of 2023-2024 is 45 hours. These data give me grounds to conclude that Dr. Gancheva's teaching activity meets the requirements of the competition.

4. Diagnostic and treatment activities

I know Dr. Gancheva as an excellent rheumatologist and internist, proficient in all basic diagnostic and therapeutic methods in the field of rheumatology - joint ultrasonography, capillaroscopy, intra-articular diagnostic and therapeutic manipulations, etc. She thoroughly uses the multidisciplinary approach to solve the patient's problems and has a deserved authority among colleagues not only in Bulgaria, but also internationally.

Dr. Nonka Nikolova Yurukova, PhD was born in 1971 in Pazardzhik. She graduated from Medical University - Sofia in 1996. He started working as a ward therapist in the city of Pernik in 1996, a resident doctor in the "Racho Angelov" ORB Pernik, then she was a resident doctor, part-time assistant and assistant since 2010 in MBAL "Lozenets" until now.

She acquired a specialty in internal medicine in 2003 and in gastroenterology in 2007. She has a recognized legal capacity in conventional ultrasound - abdominal ultrasound and surface structures, in abdominal Doppler ultrasound and in interventional and endoscopic abdominal ultrasound.

She defended his PhD thesis on metabolic syndrome, non-alcoholic steatosis and cardiovascular complications in 2019.

Participated in the competition with a total of 13 works. Of these, 9 articles in scientific journals, 1 published book based on a defended dissertation work, 1 monograph and 2 articles in a collection of scientific conferences. Of these, 4 works are independent, 2 have two authors and 7 have three or more authors. Of the actual 9 publications, 6 are in Western journals, with no impact factor data.

Since the beginning of her work experience, Dr. Yurukova has a total of 18 publications, 1 monograph and 1 book.

The scientific activity of the candidate is in several directions.

1. Metabolic syndrome, non-alcoholic steatosis and cardiovascular complications - diagnosis and treatment. Includes one book and one monograph. The importance of known risk factors and non-alcoholic fatty liver disease for cardiovascular disease is confirmed.

2. Mathematical models to assess outcome in adult liver transplantation and predictors of severe Covid-19. Includes 6 publications, one of which is a clinical case. Published data from the Bulgarian Liver Transplantation Program, changes in blood parameters of recipients after infection with COVID-19, their mortality and survival, survival analysis to determine the prognostic significance of the age of the recipient at the time of transplantation.

3. Role of T cells in liver transplantation - 2 publications. Following transplantation, a specific population of T cells was followed to assess immunological surveillance.

4. Gut microbiome, irritable bowel syndrome and food intolerance – 3 publications. The presence of specific antibodies against various food antigens has been found to be a possible mechanism by which food may mediate the pathophysiological changes in irritable bowel syndrome.

Citations in foreign sources are 50 in Scopus, 36 in Web of Science and 9 in freely available sources. Citations in Bulgarian sources - 1.

The study load of Dr. Yurukova for the period 2021-2024 is respectively 512.5 hours (440 classroom hours), 470 classroom hours and 175 classroom hours.

Comparative analysis of the two candidates shows higher scientific activity in terms of quantity and scientific contributions of Dr. Gancheva. From the activity for participating in the competition, Dr. Yurukova has a total of 589.8 points. Dr. Gancheva has a total of 2033,4 points, which are 5 times more than the minimum number of 400 points required to acquire the academic position "Associate Professor" according to the Reference for the fulfillment of the minimum national requirements under Art. 2b according to the Law on the Development of the Academic Staff in the Republic of Bulgaria Art. 2, al. 1, 2 of the Regulations for the Implementation of the Law on the Development of the Academic Staff in the Republic of Bulgaria and the fulfilled criteria under Art. 105 Art. 107 of the Regulations on the conditions and procedures for acquiring scientific degrees and holding academic positions at Sofia University "St. Kliment Ohridski", Sofia.

CONCLUSION:

Dr.Gancheva is an authoritative scientist with contributions to the development of rheumatology and internal medicine, with a large number of publications in scientific publications and monographs, a good and respected doctor, an excellent lecturer, an ambitious and responsible teacher. He is proficient in modern diagnostic instrumental methods – MS Ultrasound, capillaroscopy, intra-articular manipulations. From the data presented, I conclude that the candidature of Dr. Rada Nikolaeva Gancheva, PhD is to a great extent above the minimum scientific requirements and meets all the criteria for the academic position of “Associate Professor”. This gives me the reason to rank her first in the current competition and to vote positively for her election. I propose to the esteemed members of the scientific jury to vote positively for Rada Nikolaeva Gancheva, PhD to take the academic position of “Associate Professor” in Internal Medicine at the Department of Internal Medicine, Pharmacology, and Clinical Pharmacology, Pediatrics, Epidemiology, Infectious and Skin Diseases at the Faculty of Medicine of Sofia University “St. Kliment Ohridski”.

20.08.2024

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