

REVIEW

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For the competition for the academic position "PROFESSOR" in the scientific specialty "Pathophysiology" for the needs of the University "Prof. Dr. Asen Zlatarov" - Burgas, with the participation of Prof. Ganka Yordanova Bekyarova, MD, PhD, DMSc.

From Corresponding Member Prof. Stefan Stoilov Kostianev, MD, PhD, DMSc, Director of the Research Institute at the Medical University - Plovdiv and Professor at the Department of Pathological Physiology, 4000 Plovdiv, 15A Vasil Aprilov Blvd., GSM 0887 623 776, e-mail : skostianev@pathophysiology.info.

The competition was duly announced after a decision of the Academic Council of the University "Prof. Dr. Asen Zlatarov"- Burgas and was published in the State Gazette № 105/2020.

The review of the materials submitted for the competition is based on the requirements of the Law for the development of the academic staff in the Republic of Bulgaria, the Regulations for its application, as well as the Regulations for the acquisition of scientific degrees and occupancy academic positions at the University "Prof. Dr. Asen Zlatarov"- Burgas.

At the announced competition for a professor in the scientific specialty "Pathophysiology" were presented the documents of the only participant Prof. Ganka Yordanova Bekyarova, MD, PhD, DMSc, who was admitted to the Commission for acceptance of the necessary documents.

I declare that I have no joint publications with Prof. Ganka Bekyarova, MD, PhD, DMSc.

I. Brief biographical data of the candidate.

Ganka Yordanova Bekyarova was born on July 24, 1952. In 1977 she graduated from the Medical Academy - Sofia. After successfully passing a competitive exam in 1980, Dr. Ganka Bekyarova, MD, was appointed an Assistant at the Department of Pathophysiology at the Higher Medical Institute - Varna. In 1984 she acquired the specialty "Pathophysiology". In 1984 she was promoted to Senior Assistant, and in 1989 - to Chief Assistant. In 1999 she was elected Associate Professor of pathophysiology. In 1990 she defended a dissertation on the topic: "Changes in the functional properties of erythrocytes associated with free radical oxidation in thermal trauma" in the scientific specialty "Pathophysiology". In 2014 she

defended her dissertation for a dissertation on the topic: "Study of some possible mechanisms of liver damage associated with oxidative stress in the conditions of experimental thermal trauma and the role of melatonin in hepatoprotection."

In 2016 she was elected Professor of pathophysiology at MU-Varna.

Prof. Ganka Yordanova Bekyarova's research interests are related to cell damage in oxidative stress, the mechanisms of liver damage in thermal trauma and hepatoprotection with melatonin, experimental studies in metabolic syndrome and teaching methods in pathological physiology.

II. Teaching and administrative activities.

The teaching activity of Prof. Ganka Bekyarova, MD, PhD, DMSc is huge in volume. She has more than 40 years of teaching experience.

For the last years work in MU-Varna has had a very high educational load from training in pathophysiology of students of medicine (in Bulgarian and English), dentistry, pharmacy and specialties in medical college and PHC. She has developed curricula and lecture courses in the taught disciplines, implementing modern approaches in the teaching of pathophysiology.

Professor Ganka Yordanova Bekyarova, MD, PhD, DMSc actively participates in the publication of textbooks and teaching aids (9 in total), providing teaching in pathophysiology for students of medicine, dentistry and pharmacy. The textbooks are written in clear and understandable language and are scientifically and didactically sound.

She has worked actively with student groups, with whom she has joint publications and participation in scientific forums.

Based on the above, I give an excellent assessment of the teaching and administrative activities of Prof. Ganka Bekyarova, MD, PhD, DMSc.

III. Research activity.

In the announced competition for professor of "Pathophysiology" at the University "Prof. Dr. Asen Zlatarov"- Burgas, Prof. Ganka Yordanova Bekyarova, MD, PhD, DMSc, participated with 73 publications, 9 textbooks and manuals and 50 reports. 13 of the articles have been published in journals with impact factor, 65 - in referenced foreign and Bulgarian journals, and 8 - in scientific journals. Professor Ganka Bekyarova, MD, PhD, DMSc is the first author in 31 scientific articles.

The total impact factor of publications (IF = 10.87) and abstracts (IF = 15.39) is 26.25.

The list of scientific works of Prof. Ganka Bekyarova, MD, PhD, DMSc includes 12 participations in international and 38 in national scientific forums with published abstracts.

She was the scientific supervisor of three PhD students, two of whom already graduated and acquired the PhD-degree.

She has led or participated in a number of research and educational projects.

She is the author of a monograph on the topic: "Endothelial dysfunction, oxidative stress and cardiometabolic disorders" (Varna, 2015).

The works of Assoc. Prof. Ganka Bekyarova, MD, PhD, DMSc have been cited positively over 240 times. The Hirsch index (h-index, Google Scholar) is 11.

She has been repeatedly elected a member of scientific juries for academic positions and scientific degrees, a reviewer of articles in Bulgarian and foreign journals, as well as a reviewer of research projects.

She is a member of the Union of Scientists in Bulgaria, the Scientific Medical Society of Physiological Sciences and the European Physiological Society (FEPS).

She is a member of the editorial boards of the journals: Journal of Biomedical & Clinical Research, Oxidants and Antioxidants in Medical Science and Scientific Journal.

IV. Scientific and applicable contributions.

Professor Ganka Yordanova Bekyarova, MD, PhD, DMSc, presented a report on the contributions of her scientific works, which shows that there are methodological, scientific and scientific-applicable contributions of original and confirmatory nature. They can be summarized as follows:

Original contributions: These are studies on the pathophysiological mechanisms of liver and gastric mucosal damage associated with oxidative stress in an experimental model of thermal trauma, as well as the results of a study of the effect of melatonin on NF-kB and its modulating effect on the inflammatory response and apoptosis, Nrf2 / ARE signaling pathway, increasing antioxidant capacity and haemoxygenase-1, pleotropic enzyme with protective action.

A fructose-induced model of metabolic syndrome was used to study the mechanisms of hepatocyte survival and the effect of S-adenosylmethionine and allopurinol. The key role of oxidative stress and low-grade inflammation for increased apoptosis in steatotic liver and its

progressive damage has been proven, as well as the need to introduce biomarkers for non-invasive assessment of the degree of damage in nonalcoholic fatty liver disease.

Applicable contributions: The data on the antioxidant, anti-apoptotic and anti-inflammatory effect of melatonin are of an applicable nature, which expand the medical-biological knowledge and the possibility to optimize the clinical-therapeutic protocol in patients with thermal trauma.

The established beneficial effect of S-adenosylmethionine (SEMe) (nutrient and precursor of glutathione) and Allopurinol (xanthine oxidase inhibitor) on the cytoprotection of hepatocytes in the conditions of fructose-induced metabolic disorder opens new possibilities for prevention and treatment of neuralgia.

The methodological contributions are related to the creation of an experimental model of thermal trauma and a fructose-induced model of metabolic syndrome for the study of cellular-molecular mechanisms of liver damage. New methods have been introduced to record oxidative damage and the degree of apoptosis by examining the expression of dialdehyde 4-hydroxynonenal and apoptotic (Bax and Bcl-2) factors. Methods have been introduced to study the early markers of endothelial dysfunction, the expression of transcription (Nrf2 and NF-kB) factors, and the enzyme chemoxygenase-1 in tissues.

V. Conclusion.

Professor Ganka Yordanova Bekyarova, MD, PhD, DMSc is an extremely experienced and erudite scientist and lecturer. Her scientific output exceeds the requirements for a professor of "Pathophysiology", reflected in the Regulations on the terms and conditions for obtaining scientific degrees and holding academic positions at the University "Prof. Dr. Asen Zlatarov" - Burgas.

My personal impressions of Professor Ganka Yordanova Bekyarova are excellent. I know her academic development, as I participated in her election as an associate professor, as a professor and I was a reviewer of her "big" doctoral dissertation and her monograph.

I would also like to mention the perfectly finished documentation for the competition.

Based on the presented data and their analysis, I propose with full conviction to the members of the jury to confirm the academic position "PROFESSOR" in the scientific specialty "Pathophysiology" of Professor Ganka Yordanova Bekyarova, MD, PhD, DMSc in the competition for the needs of the University "Prof. Dr. Asen Zlatarov" - Burgas.

Plovdiv, March 28, 2021.

Reviewer:

Corresponding Member. Prof. Stefan Kostyanov, MD, PhD, DMSc