REVIEW

from

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Department of Health Care

FPH "Prof. Dr. Tz. Vodenicharov, DSc" of the Sofia University

Appointed as a member of the Scientific Jury by order of the Rector of the Medical University "Prof. Dr. Paraskev Stoyanov – Varna

No. R-109-90/21.03.2024

REGARDING: Competition for the occupation of the academic position "Professor" in the specialty "Public Health Management" in the professional direction 7.4. Public health and field of higher education 7. Health care and sports for the study sector "Medical laboratory assistant" at the Medical College - Varna, with additional conditions for the competition: candidates must have a recognized specialty "Public health" and acquired professional qualification "Medical laboratory assistant".

Documents for participation in the competition were submitted by one candidate - Associate Professor Emilia Petrova Georgieva, PhD. - Deputy. Director "Career Development, Quality and Accreditation" of Medical College at Medical University "Prof. Dr. Paraskev Stoyanov" - Varna.

Biographical data

Associate Professor Emilia Georgieva, Ph.D. graduated in the specialty "medical laboratory assistant" in 1995 at Medical College - Varna and later she continued her professional and academic development in the following order:

- Since 2005 until 2008 Bachelor's program in "Health Care Management", MU - Varna

- Since 2008 until 2010 Master's program in "Marketing", SHU - Varna

- Since 2012 until 2013 Master's program in "Health Care Management", MU - Varna

- From 2015 - 2016 - independent doctoral student at the "Health Care" Department, specialty in "Health Care Management", MU-Varna, with the topic of the dissertation work: "Providing medical - laboratory services in the general medical practice in northeastern Bulgaria"

- 2023 - Specialty: "Public Health"

- Specialization: 22.05.2023-02.06.2023 "Good Practices in Bio-Laboratory Technology", Torino, Italy

Assoc.Prof. E. Georgieva, Ph.D., began her professional career as a medical laboratory assistant in Hospital "St. Marina" Varna, in 1995. From 2008 to 2012, she was a medical representative of laboratory equipment, consumables and reagents for scientific activity at "Sofbiolife - Biomedika" OOD Sofia. Since 2012 until 2018 she was a teacher in the specialty "Medical Laboratory Assistant" at the Medical College of the Medical University "Prof. Dr. P. Stoyanov" - Varna. From 2018 to 2021 she is an associate professor at the Medical College of the Medical University "Prof. Dr. P. Stoyanov" - Varna, and from 2021 - Deputy Director for "Career Development, Quality and Accreditation" of the Medical College at the Medical University "Prof. Dr. P. Stoyanov" - Varna.

Associate Professor E. Georgieva, Ph.D. is the academic supervisor of 2 successfully defended doctoral students at the MU - Varna.

Scientific activity

For participation in the competition, Assoc. prof. E. Georgieva submits the following publications:

- Habilitation thesis - monograph on the topic: "Rapid tests, qPCR systems and mobile applications - the key in the battle against the SARS-COV-2 pandemic";
- 11 publications and reports published in scientific publications, referenced and indexed in global databases with scientific information;
- 23 publications and reports published in peer-reviewed scientific journals or editorial collective volumes;
- 1 book chapter;
- 4 participations in study guides;
- 48 participations in national and international scientific forums.

Associate Professor E. Georgieva is the head of one project and a member of the team of two scientific research projects financed by the "Science" fund of the MU - Varna. Assoc. prof. Georgieva is the head of the research team of a project on the topic: "Combination of essential oils from representatives of the Lamiaceae family and antibiotics, reducing microbial resistance of significant clinical isolates". She is a member of the research team of the following projects:

- "Determination of the antimicrobial activity of newly synthesized nitroimidazole derivatives with potential application in transplantation medicine";
- "Evaluation of the microbial safety, physico-chemical characteristics and consumer health benefits of farm white brined cow's milk cheese".

For participation in the competition, Assoc. prof. E. Georgieva presents a monographic work on the topic: "Rapid tests, qPCR systems and mobile

applications - a key in the battle against the SARS-COV-2 pandemic. The monograph describes global practices in the use of rapid diagnostic methods based on the development of microfluidics, nanotechnology, etc. Areas related to the development of point-of-care methods for spot detection of infectious diseases. As a result of the COVID-19 pandemic, equipment for faster PCR diagnostics entered our country. A significant contribution of the monographic work is the emphasis that the author places on the role of mobile technologies, their accessibility and widespread distribution in the management of emerging epidemics. Various database platforms are preferred, as well as international experience in their use.

The citations of the scientific publications of Assoc. prof. E. Georgieva, Ph.D. are total – 9:

- 5 citations in scientific publications, referenced and indexed in world-famous databases;

- 1 citation in monographs and collective volumes with scientific review;

- 3 citations in non-refereed peer-reviewed journals.

The scientific works of Assoc. prof. Emilia Georgieva, Ph.D. are in the following main directions:

- **Introduction of innovative technological solutions, as an opportunity to improve the quality and access to medical-laboratory services**

A study of the quality of medical-laboratory services and the introduction of new standards was conducted. The distribution of resources in outpatient care in terms of territory and access has been studied. The complex management of all types of related activities in the diagnostic process is analyzed, namely planning and quality assurance, control and analysis of the causes of errors. The

benefits of introducing new methods and POST tests in laboratory diagnostics, aimed at increasing the diagnostic possibilities, have been studied.

- **The role of the medical laboratory assistant, as part of the interdisciplinary team during the diagnostic and treatment process**

The role of the medical laboratory assistant in the interdisciplinary team is defined, assisting other medical professionals in the diagnostic-treatment process by performing various tests prescribed by a doctor. The training of medical laboratory assistants and their responsibilities in the modern dynamic environment is analyzed. The relationships between medical staff in daily practice regarding the observance of professional ethics have been investigated. The need to create an atmosphere of trust and empathy in the work process of the medical staff from different structures of hospital care is substantiated. An analysis of the opportunities for professional realization outside the country of health professionals is presented. Normative regulations and legal restrictions resulting from the specifics of health systems are described, which make the labor market of health professionals accessible only to participants with high professional qualifications.

- **Laboratory diagnostics as part of an integrated approach in the diagnosis and control of chronic diseases**

It is essential to achieve effective health care for chronically ill patients with multiple problems, are the possibilities for the participation of more specialists and the application of an integrative approach. The frequency of chronic diseases was studied, as well as the importance of laboratory-diagnostic screening for diagnosis and referral to a specialist. The basic care of patients with chronic diseases is analyzed, as well as the need of families for psychological support. The importance of rapid tests for the timely control of various infectious agents as a consequence of the COVID-19 pandemic has been

investigated. The world experience in the use of rapid tests and diagnostic methods in order to control diseases and limit their spread has been summarized and analyzed.

- **Investigation of the antimicrobial effect of natural products (essential oils) alone and in combination with approved antibacterial dosage forms**

The use of natural products (Oenotherabiennis oil, Glycine max, Cimicifuga racemose extract, etc.) to control menopausal symptoms has been studied. The antimicrobial activity of alcoholic mouthwash with essential oils (propolis and peppermint oil) was studied by the agar diffusion method. The data indicated the highest antimicrobial activity of the chlorhexidine-chlorobutanol combination and suppressed the natural microbiome. The antimicrobial properties of essential oils and the possibilities of their application in the pharmaceutical industry have been investigated. The results of a study conducted on the determination of MIC and MBC of thyme and oregano oils show that E. coli, S. aureus and C. albicans have high sensitivity and can be used in therapeutic practice.

- **New approaches in the fight against antimicrobial drug resistance**

Antimicrobial drug resistance necessitated the search for new dosage forms. The simultaneous application of a two-component system could lead to a multi-target action in the microbial cell, since the two active units attack different parts of it. Methanol and ethanol solutions of metronidazole derivatives show antimicrobial activity against S. aureus and C. Albicans.

An increasing number of laboratory studies support the use of rapid laboratory tests in routine diagnostics. Controlled trials have shown benefit in using procalcitonin (PCT) algorithms to guide decisions to initiate and/or discontinue antibiotic therapy.

Teaching activity

Assoc. prof. Emilia Georgieva, Ph.D. participates in the training of students from the "medical laboratory assistant" specialty with the following workload:

- For the 2019/2020 academic year – exercises, practical training and internship – 1057 hours

- For the 2020/2021 academic year – lectures, exercises, study practice and internship 1360 hours

- For the 2021/2022 academic year – lectures, exercises, practical training and internship 1215 hours

- For the 2022/2023 academic year – lectures, exercises, practical training and internship 1042 hours

From 2021, Assoc. prof. E. Georgieva, Ph.D. performs the administrative position of Deputy Director of the Medical College for "Career Development, Quality and Accreditation".

Associate Professor Emilia Georgieva, Ph.D. actively participates in the development of the "medical laboratory assistant" specialty with hers teaching, expert and administrative activities.

Minimum requirements by indicator group for the academic position "Professor"

group indicator	professor	Candidate Assoc. Prof. Emilia Georgieva, Ph.D.
А	50	50
Б	-	-
В	100	100
Г	200	349,06
Д	100	100
Е	100	179,41

Conclusion

The research and teaching activity of Assoc. prof. Emilia Petrova Georgieva, Ph.D. show her deep interests and professional development in the field of public health and the training of students in the specialty "medical laboratory assistant". The submitted documents for participation in the competition fully correspond to and exceed the minimum requirements for occupying the academic position "Professor" in the specialty "Public Health Management". The above gives me reason to give a positive assessment and to recommend to the scientific jury to award Assoc. prof. Emilia Georgieva, Ph.D. the academic position "Professor".

15.05.2024

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Prof. G. Tchaneva, PhD