#### **STATEMENT**

## by Assoc. Prof. Dr. Dobrinka Dineva Savova, MD, PhD, Head of Clinical Laboratory, UGHALEM "N. I. Pirogov" EAD, Sofia,

member of a scientific jury for the award of the educational and scientific degree 'doctor' procedure, determined by order No. R-109-159/24.02.2023 of Prof. Dr. Svetoslav Georgiev, MD, Deputy Rector of "Career Development" of Medical University "Prof. Dr. Paraskev Stoyanov" - Varna.

Regarding on a PhD thesis for the award of the educational and scientific degree 'doctor', professional direction 7.1."Medicine" under the doctoral program "Clinical Laboratory" on the topic:

## "Role of vitamin D and vitamin B12 in pregnant women and newborns"

**Author thesis:** Dr. Monika Toshkova Todorova - full-time doctoral student at the Department of Clinical Laboratory, Faculty of Medicine, Medical University "Prof. Dr. Paraskev Stoyanov" - Varna.

Scientific leader: Assoc. Dr. Daniela Ivanova Gerova, MD

# General presentation of the procedure and the author thesis

The set of materials presented by Dr. Monika Todorova in electronic format complies with the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria and the Regulations for its Application - Article 24, Paragraph 6 and Article 30 par. 3 and is in accordance with Art. 68 par. 1 of the Regulations for the development of the academic staff at the Medical University - Varna. I do not find any gaps in the presented documentation.

**Brief biographical data about the doctoral candidate:** Dr. Monika Todorova completed her higher education in medicine in MU "Prof. Dr. Paraskev Stoyanov" - Varna in 2004. She has held the following positions: Clinical laboratory doctor at the Central Clinical Laboratory at UMBAL "St. Marina" JSC. Varna from 2007 to 2016; Clinical laboratory specialist at Medical Center Medica Ruse Ltd., Ruse DCC 2 Ruse Ltd. from 2016 to 2017; Clinical laboratory specialist at the DCC "St. Marina" EOOD, Varna from 2017 to 2018. From 2018 to this moment, Dr. Todorova is a Clinical Laboratory assistant at the Department of Clinical Laboratory of the Medical University- Varna and from 02.01.2019 to 01.31.2023 is a full-time doctoral student at the Department of Clinical Laboratory at the Medical University - Varna.

Dr. Todorova acquired the specialty "Clinical Laboratory" at the Medical University - Varna in 2013. In 2019, she obtained a master's degree in Health Management - VUARR Ploydiv.

She is a member of the Bulgarian Society of Clinical Laboratory

The PhD student has presented 3 scientific publications in connection with the dissertation work and 6 published abstracts of scientific research presented , presented at home and abroad.

From the data provided, it is clear that the PhD student possesses the necessary competencies to develop and complete a dissertation on the indicated topic, in the doctoral program

"Clinical Laboratory", professional field 7.1."Medicine", field of higher education 7. Health care and sports.

### Relevance of the topic

The topic of the developed dissertation work is relevant in a scientific and scientific-applied sense - in the world literature, more and more data are accumulating on the prevalence of vitamin D and vitamin B12 deficiency among various groups, including pregnant women. The adverse health effects and complications of pregnancy as a result of their insufficiency or deficiency are summarized. The short-term and long-term consequences for the health of both the mother and the child in the insufficiency and deficiency of the two vitamins provide grounds for the implementation of health policies with a view to limiting these insufficiency and/or deficiencies.

### Knowledge of the problem

The presented literature review of 40 pages is well structured and up-to-date. It demonstrates a good knowledge of the topic by the doctoral student and the conclusions drawn show a creative appreciation of the literary material.

The author has reviewed 350 information sources, of which 343 in Latin, 8 in Cyrillic, which shows a very good literary awareness.

The cited sources in the overview part of the work comprehensively cover the thesis. They are related to the topic of the dissertation, they are cited adequately, which enabled the author to correctly define the purpose and tasks of the dissertation work. The conclusion of the literature review supports the need for studies to investigate vitamin D and vitamin B12 status in pregnant women in Bulgaria with both normal and pathological pregnancies, in order to assess the role of their deficiency or insufficiency in the course of pregnancy and its outcome.

### Research methodology

A total of 259 pregnant women with a singleton pregnancy aged 18 to 48 were included in the study, of which 210 (81.08%) were outpatients and 49 (18.91%) were hospitalized with a diagnosis of preeclampsia.

Depending on their health status, the pregnant women included in the present study are divided into three main groups:

Group I – healthy pregnant women - 167 (64.5%) altogether. Out of them 114 (68.3%) were in their second trimester of pregnancy, while 53 (31.7%) in their third trimester.

Group II – pregnant women with GDM- 43 (16.6%) altogether, out of them 26 (60.5%) in their second and 17 (39.5%) in their third trimester of pregnancy

The III group - pregnant women with preeclampsia 49 (18.9%) in total, 6 (12.2%) out of whom in the second and 43 (87.8%) in their third trimester of pregnancy, hospitalized in the Department of Pregnancy Pathology at the Specialized Hospital for Obstetrics and Gynecology for Active Treatment "Prof.Dr D. Stamatov", Varna.

The study was prospective and was conducted over a period of two and a half years.

The material and methods are described in detail and informatively.

laboratory tests to determine vitamin D and vitamin B12 levels. 6. The results of the study may warrant supplementation with vitamin D and vitamin B12 containing supplements as early as possible after confirmation of pregnancy to avoid the likelihood of adverse complications developing in pregnant women and their newborns.

The contributions have significance for the development of science and have the character of enriching scientific knowledge.

## Evaluation of the publications and personal contribution of the doctoral student

In connection with the dissertation, 3 scientific articles were published in Bulgarian periodicals and 6 scientific reports presented at international forums. In all articles, Dr. Todorova is the first author, as well as in five of the scientific communications. The publications reflect the main theoretical propositions, the obtained results and contributions. It can be considered that the dissertation work is the personal work of the author and has been published to a sufficient extent, having become known to the scientific community in the field. The number and quality of the publications correspond to the Regulations for the terms and conditions for the acquisition of ONS "Doctor".

#### Dissertation abstract

The dissertation abstract corresponds to the content of the dissertation and the requirements for an abstract, reflects the main results achieved in the dissertation.

#### CONCLUSION

The dissertation work of Dr. Monika Todorova contains scientific, scientific - applied and applied results, which represent an original contribution to science and clinical practice and meet all the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria (ZRASRB), the Regulations for the Implementation of ZRASRB and the Regulations for the development of the academic staff at the Medical University - Varna. The dissertation shows that the author's thesis Dr. Todorova possesses in-depth theoretical knowledge and professional skills in the scientific specialty of clinical laboratory, demonstrating qualities and skills for independent conduct of scientific research.

In view of the above, I give my positive assessment on the conducted research and propose to the honorable scientific jury to award the educational and scientific degree "doctor" to Dr. Monika Todorova in the doctoral program in Clinical Laboratory.

21.04.2023 Author of the statement:

(Assoc. Dobrinka Dineva Savova, MD, PhD)