

## REVIEW

Dr. Valentina Dimitrova was born on July 25, 1970. In **1988-1989** she is pursuing a Bachelor's degree in Clinical Laboratory Science at "Dr. Nikolaev" Medical College in Varna. In **1989-1995** she is awarded a **Master's degree in Medicine** by the "Prof. Dr. Paraskev Stoyanov " Medical University - Varna. In **2002** she specializes in **Internal Medicine** and in **Pneumology and Phthisiology - 2006**. In the period from 2000 to 2011 she works as an intern at the Lung Diseases and Inspiratory Reserve Volume Clinic within St Marina University Hospital. In the period from 2011 to 2014 she works as a Physician Assistant at the Clinic of Lung Diseases within St Marina University Hospital. In the period from 2014 to 2017 she practices as a Physician Assistant at the Clinic of Lung Diseases within St Marina University Hospital, Medical University of Varna.

**Professional qualifications** (2009-2017) – 7, including a Diploma in **Highly Specialized Healthcare Activities** - Bronchology, as well as a course in spirometry.

**She also teaches: pulmonology.**

### *Academic development*

2016/2018 MU-Varna

A PhD student on a self-study basis at the Department of Internal Medicine, Department of Pulmonary Diseases and Allergology, Specialty "Pneumology and Phthisiology".

Thesis on "**Clinical and prognostic characteristics of patients with Chronic Thromboembolic Pulmonary Hypertension (CTEPH).**"

**2019 Chief Assistant**, First Department of Internal Medicine, Board of Lung Diseases and Allergology

**Monographs:** 1 with a total volume of 144 pages.

**Textbooks:** 2 with a total volume of 25 pages.

**Articles:** 30 with a total volume of 185 pages.

Dr. V. Dimitrova, MD, participates in the current competition with the following publications

Indicators	Content	Points	Total	Points missing to reach minimal requirements
Indicator 1	Dissertation work for awarding the educational and scientific degree "Doctor".	50	50	0
Indicators 3	Habilitation treatise	100	100	0
Or 4	Habilitation - scientific publications (not less than 10) in issues that are referenced and indexed in the top list of academic research databases.	0		
Sum of indicators from 5 to 9				
5	Published Habilitation treatise but not presented as a major habilitation thesis.	0	218	18
6	Published book on the basis of a defended dissertation for the award of the educational and scientific degree "Doctor" or for the award of a non-scientific degree "Doctor of Science".	0		
7	Publications and reports published in scientific journals, referenced and indexed in the top list of academic research databases.	131		
8	Publications and reports in non-peer-reviewed journals with scientific review or published in edited collective volumes.	86.5		
9	Published chapter of a collective habilitation treatise.	0		
Sum of indicators from 10 to 12				
10	Citations or reviews in scientific journals, referenced and indexed in the top list of academic research databases or habilitation treatises and collective volumes.	45	50	0
11	Citations in habilitation treatises and collective volumes of scientific peer review.	0		
12	Citations or review in non-peer-reviewed journals with scientific review.	5		

**Study load - 174 hours** (out of standard 220), but given the main activity of Dr. V. Ivanova (head of IRV), I believe that she teaches knowledge and techniques that will serve young doctors in acute conditions.

Citations (IC) 6

Membership in scientific organizations:

Bulgarian Association of Pulmonary Diseases /BAPD/, ERS, Bulgarian Medical Association - plus 4 years as its secretary.

Participation in a **research project at the Science Fund** of the Medical University - Varna. Prognostic biochemical markers in patients with Pulmonary embolism (PE). She speaks English and Russian.

Main interests of Dr. V. Dimitrova in the scientific and applied activity:

The scientific and clinical interests of Dr. Valentina Dimitrova as a pulmonologist are in the field of pulmonary embolism, pulmonary arterial hypertension, chronic thromboembolic pulmonary hypertension, non-invasive ventilation in acute and chronic respiratory failure and bronchology. Topics that in most cases require a multidisciplinary approach and teamwork with medical professionals from other specialties.

She is the author and co-author of full-text publications in foreign and Bulgarian scientific journals and collections (36, 2 of which in international scientific journals) on the problems of pulmonary vascular diseases, pulmonary embolism, pulmonary hypertension, non-invasive ventilation in patients with chronic lung disease, dyspnea, tuberculosis and pneumonia. She has participated in the textbooks: Manual of Pulmonary Diseases 2 with chapter "Pulmonary arterial hypertension", in the textbook on Internal Medicine for healthcare professionals - two chapters: "Pulmonary arterial hypertension" and "Vascular diseases of the lungs. Pulmonary embolism". She has also participated in the making of a Patient's guide for home oxygen therapy, an important issue in the modern treatment of patients with chronic lung disease.

She has participated in national BAPD forums with published abstracts (21), as well as in international forums with published abstracts (13), 7 of which at international congresses of the European Respiratory Society, and the rest at the annual international conferences on "Lung health". The topics discussed in these publications are related to contemporary and scientific observations made among Bulgarian patients.

She is a co-author in the making and presentation of a report, together with students from MU-Varna, on "Respiratory infections in immunosuppressed patients."

Dr. Dimitrova actively participates in the recruitment and research of patients on Research Project no. 16030 "Prognostic and diagnostic markers in patients with pulmonary embolism", approved by the Science Fund - competitive session 2016 at "Prof. Dr. Paraskev Stoyanov" Medical University - Varna, with registration no. НИ-2/December 05, 2016. The aim of the project is to assess the NT pro BNP plasma concentration in patients with right ventricular dysfunction after experiencing PE.

The introduction of this biochemical marker in clinical practice is an original contribution to Bulgarian science, as the prognosis and survival in PE and CTEPH patients in our country has not yet been reported. NT pro BNP can screen potential patients for highly specialized and expensive research in specialized centers for rare diseases. It also allows for better selection and follow-up of patients with proven disease and optimizes their pharmacotherapy and surgical treatment assessments. Proving CTEPH following acute and recurrent PE is a challenge due to the lack of validated risk factors. Early CTEPH diagnosis is essential, as delayed diagnosis may be associated with poorer prognosis and higher perioperative mortality. The widespread use of biochemical markers to assess pulmonary hemodynamics has not yet found a place in routine practice, so the development of this project and its results have a particularly significant contribution to medical science.

PAH symptoms are often nonspecific and their appearance is discrete, which delays the diagnosis. Recent advances in science have led to greater opportunities for early diagnosis and the introduction of new therapies.

PAH is a rare, progressive and fatal disease characterized by elevated mean pulmonary arterial pressure.

The predominant reason for increased PVR is the loss of vascular cross-section due to remodeling.

PAH prognosis is poor with a mortality of approximately 15% within 1 year despite targeted therapy. Poor prognosis predictors may be: advanced functional class, poor physical performance as measured by a six-minute walk test (6MWT) or cardiopulmonary exercise test, high right atrial pressure (RA), significant right ventricular (RV) dysfunction, low heart rate, elevated brain natriuretic peptide (BNP) levels.

PAH is a severe, devastating and disabling disease characterized by dyspnea and limited physical capacity. If left unchecked, it progresses rapidly to right heart failure and leads to premature death.

The subsequent articles on idiopathic pulmonary hypertension, its diagnosis and targeted treatment and the respective problems are logically derived from this main topic.

As a doctor in the intensive care unit, Dr. V. Dimitrova has the difficult task of monitoring patients with non-invasive pulmonary ventilation (NIBV), as well as patients with invasive pulmonary ventilation to assess the indications, possibilities and subsequent home oxygen therapy, to summarize 18 months of experience (for the first time in Bulgaria). OSA patients also fall into this category.

Other clinical practice issues include the presentation of Covid-19, severe pneumonia - Community-acquired pneumonia (CVD) and Nosocomial pneumonia, pathomorphosis of pulmonary tuberculosis, pneumonia in HIV and other casuistic cases.

**Contributions:** The diverse interests and developments of Dr. V. Dimitrova, MD, include: PE, primary and secondary PH, CTEPH, shedding light on little-studied pathology. The defined algorithm for sequence of research and treatment activities with a view to early death in high-risk patients, the created register of patients with acute and recurrent PE. Treatment of Respiratory failure - acute and chronic - Non-invasive Pulmonary Ventilation and Artificial Ventilation (OSA); bronchology, severe pneumonia (including immunocompromised) and other useful scientific papers.

### CONCLUSION

I believe that the original and scientifically applied value of the work outlined in this way does not need comment. I have worked with Dr. V. Dimitrova, MD, (for 20 years) and I know she is an excellent clinician, intensive pulmonologist, a serious researcher who can be relied on. I am impressed with both the ability to work in a team and multidisciplinary research, and the introduction of a new marker (NT pro BNP) for CTEPH screening and diagnosis. I am convinced that the scientific work of Dr. V. Dimitrova, MD, fully satisfies the requirements of the Development of the Academic Staff of the Republic of Bulgaria Act and I propose to the members of the esteemed jury to award Dr. Valentina Dimitrova, MD, the academic position of "Associate Professor".

**Reviewer:**

Prof. Dr. Krasimira Kisova, MD

