

STATEMENT

by **Assoc.Prof. Rostisa Tsvetanova Dimova, MD, PhD**
Department of Healthcare Management and Health Economics
Faculty of Public Health, Medical University of Plovdiv

ON DISSERTATION
FOR AWARDING AN EDUCATIONAL AND SCIENTIFIC DEGREE **DOCTOR**,

Professional field: **7.1 MEDICINE**,
Scientific specialty: **GENERAL PRACTICE**

Author: Petar Atanasov Kosev, MD,
Department: **General Practice, Faculty of Medicine, Medical University of Varna**
Topic: ***Features, diagnostic approach and strategy in the treatment of patients with pyonephrosis. Analysis of hospitalized patients for a 5-year period***

The Statement is written pursuant to the Order of the Rector of the Medical University of Varna № P-109-38/20.01.2022 and in the assigned role as an external member of the Academic Jury, and according to Protocol №1 produced following the first meeting of the Academic Jury, dated 21.01.2022. In the above mentioned role, I prepared and present this statement.

The presented set of electronic materials is prepared accurately and pursuant to the procedure for acquiring an educational and scientific degree *Doctor*, in accordance with the Rules and Regulations for Academic Development at the Medical University of Varna and includes all the necessary documents related to the procedure.

About the procedure:

Dr. Petar Atanasov Kosev was enrolled in 2019 as an independent PhD student in the doctoral program "General Medicine" in the professional field 7.1. Medicine, section 7 of the High Education Regulations - Healthcare and sports, following order № P-109-206 / 24.06.2019. of the Department of General Medicine, the Faculty of Medicine of the Medical University - Varna.

Personal data and professional development:

Dr. Petar Atanasov Kosev was born in 1984. in the city of Varna. He completed his secondary education at the Mathematical School "Dr. Petar Beron" in Varna. He obtained a Master's degree in Medicine at the Medical University of Varna - Prof. Dr. Paraskev Stoyanov in 2009 and in 2016 he completed a residency program and was board certified in "Urology". His academic career started in 2010 after he consecutively acquired the positions of: resident doctor and consultant urologist at the Nephrology Clinic, Transplantation Department at the University Hospital "St. Marina" LTD, Varna. From 2015 to date, he works there as an assistant professor.

He has won several international awards in the Erasmus Program in the academic year 2008-2009 and has participated in a number of prestigious qualification courses in many countries, including Bulgaria, Turkey, Italy, USA, Germany, Russia, Austria etc.

His command of English and Russian is excellent (C1 and C2 level). He has a good knowledge of German and Italian (level B1), defined according to the European language framework.

Relevance of the dissertation topic:

Urinary tract infections are among the most common in Europe following the respiratory tract infections. Pyonephrosis is a relatively rare pathology worldwide, affecting all age groups. In most cases, it has severe clinical symptoms and leads to partial or complete loss of renal function or to complications, even lethal outcomes. Pyonephrosis could cause or be a consequence of other urinary tract diseases. In Bulgaria, data on pyonephrosis are limited. The above mentioned are some of the grounds for conducting more detailed research in this scientific topic. In addition, the dissertation draws the attention of the general practitioners to the condition and ascertains their role in the early diagnosis of infection and the timely referral to consultant urologist, providing adequate treatment and management, thus preventing the consequences of improper therapy. The above mentioned arguments confirm the relevance of the dissertation as it applies an individual approach and evidence based algorithm for the outpatient and inpatient medical practice. Thus, it will improve the quality of diagnosis, and therefore the quality of health and economic outcomes in patients with pyonephrosis.

General description of the dissertation:

The dissertation is written on 127 standard typewritten pages and is illustrated with 36 figures, 41 tables and one appendix. Ten conclusions were made, that logically follow the original results. The reference includes 180 literature sources, of which 17 in Cyrillic and 163 the Latin script.

The **literature review** is structured in sixteen sections. After introducing the pathophysiological characteristics and the etiology of pyonephrosis, the dissertation examines in detail the features and the course of the clinical picture of the disease. A critical and skillful analysis is made of the results of the contemporary Bulgarian and foreign literature. Special attention is paid to the contemporary methods for optimizing and improving the accurate assessment of the condition of patients with pyonephrosis, as well as for their adequate treatment. Dr. Petar Kosev expresses ably his personal attitude towards the cases from the practice, draws conclusions and outlines the differential diagnoses of the condition. These facts confirm his in-depth professional knowledge. The review ends with a summary, which justifies the need for in-depth scientific analysis of the problem.

The aim of the dissertation and the related six tasks are clearly and precisely formulated. An appropriate methodology has been selected for implementation of the aim, including document, sociological, laboratory and statistical methods.

The **material** includes 166 men and women, all hospitalized and treated at the Clinic of Urology of MHAT "St. Anna"AD, Varna, for the period from 01.01.2016. to 31.12.2020. All patients who met the inclusion criteria underwent a retrospective analysis of medical data, followed by clinical, laboratory, and imaging studies and subsequent monitoring of the effect of the surgical treatment

with nephrectomy and /or open drainage, or with placement of renal drainage by percutaneous nephrostomy.

The data processing was performed using the statistical package IBM SPSS Statistics v. 20.0. Descriptive statistics, non-parametric analysis χ^2 Chi-square Test, Binominal Test, Marginal Homogeneity Test at a significance level $\alpha = 0.05$, and graphical analysis were applied.

The results of the PhD thesis are presented in detail and are discussed in twenty-one sections in the **Results chapter**.

The most important highlights of the dissertation are illustrated with a sufficient number of figures and tables which enhance the expression of analyses of the results. The analysis of the demographic factors, main symptoms, and features of the clinical cases, the features from laboratory and imaging tests and related underlying medical conditions, including renal malformations in patients with pyonephrosis, give grounds to draw important conclusions. His own results are compared to the results of other authors in the seven separate sections of the **Discussion Chapter**. The retrospective analysis is presented by a large number of Bulgarian and foreign scientific specialized literature, which describes in detail the advantages and disadvantages of the methods used for diagnosis and treatment. The extensive literature review and in-depth analyzes of the **Discussion Chapter** increase the merits of the PhD thesis. All this contributes to the comprehensive and contemporary perspective of the subject by enriching the current scientific knowledge in the field. As a result of in-depth, critical analysis of the available literature and personal experience, the doctoral student offers an original algorithm for diagnosis and behavior in patients with pyonephrosis, which is undoubtedly one of his merits.

The **Conclusion** emphasizes the key role of GPs in providing comprehensive medical care for patients with pyonephrosis, which includes diagnosis, monitoring, treatment, coordination, and control with specialists from ambulatory and hospital care.

The **conclusions** are precisely formulated, logically following the overall development and fully meet the set goals, objectives and hypotheses. The thesis has five main contributions with scientific and applied nature and four of confirmatory essence, which prove the scale of the scientific work, its relevance, medical and social significance.

The summary of the dissertation is properly structured, well illustrated, following the content and the main elements of the dissertation in a synthesized form.

In connection with the dissertation, three full-text publications in peer reviewed Bulgarian journals are attached, one of which is in SCOPUS indexed journal.

Summary of the dissertation:

The presented summary of the dissertation is prepared according to the requirements and reflects systematically, clearly, and precisely the aim, tasks, materials and methods, main results and conclusions.

I have no critical comments on the nature of the dissertation and the presented materials.

Conclusion:

The dissertation contains scientific and applicable results which are original contribution to the research in this area and will aid the promotion of the specialty General Practice. It is scientifically substantiated, thoroughly and completely meets the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria (LDASRB), the Rules and

Regulations for application of LDASRB and the Rules and Regulations of the Medical University of Varna.

All this gives me the right and the grounds to give my positive assessment of the conducted research and to suggest to the members of the Honorable Scientific Committee to award to Petar Atanasov Kosev the educational and scientific degree of *Doctor* in the scientific specialty *General Practice*, professional field 7.1 Medicine, section 7 of the High Education Regulations - Healthcare and sports.

26.01.2022


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Assoc.Prof. Rositsa Tsvetanova Dimova, MD, PhD