

**Review on Educational and scientific degree „Doctor”**

**REVIEW**

**from**

**Assoc. Prof. Radost Spiridonova Asenova, MD, PhD, DSc**  
**Head of the Department of Urology and General Practice, Faculty of Medicine,**  
**Medical University - Plovdiv**

**on**

dissertation work for awarding the educational and scientific degree "**Doctor**"  
professional direction **7.1. Medicine**, in the doctoral program "**General Practice**"  
according to Order No. R-109-449/18.11.2022. of the Rector of the Medical University - Varna

**Author:** Dr. Raditsa Aleksovska

**Form of doctoral studies:** full-time

**Department:** "General Practice" - MF, MEDICAL UNIVERSITY "PROF. DR. PARASKEV  
STOYANOV" - VARNA

**Topic:** CLINICAL PRESENTATION AND PREVENTION OF THE RISK OF DEVELOPING  
URINARY TRACT INFECTIONS IN CHILDHOOD

**Scientific supervisor:** Prof. Dr. Valentina Madzhova,

**Scientific consultant:** Prof. Dr. Dimitrichka Bliznakova, MD

**1. General presentation of the procedure and the doctoral student:**

The presented set of materials in paper and electronic format is in accordance with the requirements for obtaining the educational and scientific degree "DOCTOR" at the MU-Varna; Regulations of MU-Varna and includes the following documents:

- Application to the Rector of the University of Varna for the disclosure of the procedure for the defense of a dissertation work;
- CV signed by the doctoral student;
- Copy of diploma for completed higher education, Educational Degree of Qualification "Master" with its annex;

- Enrollment order;
- Protocol of an exam held for the doctoral minimum;
- Protocol from the faculty council with a positive decision on the readiness to defend;
- Deduction order with right of defense;
- Declaration of originality;
- List of publications related to the topic of the dissertation work (not less than 3 publications) with the doctoral student's signature;
- A copy of the publications related to the topic of the dissertation work
- Declaration of authenticity of the presented documents

Dr. Raditsa Alexovska obtained the Master's degree in Medicine at the Medical University of Varna in 2006. Dr. Alexovska's professional path includes experience in various fields. After graduating, started working as a doctor in a primary care practice, and in this field has accumulated the most work experience over the years. Additionally, Dr. Alexovska specialized for a certain period of time in two other areas - rheumatology and anatomy, histology and embryology.

She has been the owner of a primary care practice since 2017.

From 2018 has acquired a specialty in "General Practice" in the system of Postgraduate studies.

Her academic career development started in 2010 to the Department of Anatomy, Histology and Embryology, after which was directed to general practice and as a full-time doctoral student at the Department of General Practice, actively participated in the training of medical students and trainee doctors in Bulgarian and English.

In connection with her scientific interest, she has taken courses to upgrade her knowledge and skills, one of which is in the field of ultrasound diagnostics of the urinary-excretory system.

She is a member of the Bulgarian Medical Association and the European Academy of Teachers in General Practice/Family Medicine (EURACT).

### **Actuality of the topic**

The dissertation examines an important and current problem in general practice related to a specific group of patients, such as children. Urinary tract infections (UTIs) in childhood are a common problem in general practice and are distinguished by specifics in the clinical presentation, which changes depending on the age of the child and the localization of the infection. UTIs in children differ from UTIs in adults in terms of clinical presentation, diagnosis, course and treatment, which requires special attention from the general practitioner. Accurate and timely diagnosis in childhood and subsequent timely and appropriate treatment is important to prevent chronic diseases and their



consequences in adulthood. Although a great deal of clinical experience regarding UTIs in childhood has been accumulated in recent decades, UTIs remain one of the most controversial clinical issues to be resolved in primary healthcare practice. Dealing with the problem requires a multidisciplinary approach and close collaboration with the child's parents, taking care of their children on a daily basis.

### **General description of the dissertation:**

The dissertation is written on 178 pages, illustrated with 48 tables and 26 figures and 5 appendices. The doctoral student refers to 314 literary sources, of which 22 are in Cyrillic and 292 are in Latin.

### **Knowledge of the problem and characterization of the dissertation work**

The topic of the dissertation is presented and analyzed in depth and multifaceted. In the Literature Review chapter, the doctoral student referred to large-scale studies, citing relevant and up-to-date literary sources from Bulgarian and foreign authors. It is noteworthy that Dr. Alexovska has a command of the scientific terminology on the subject, makes a critical analysis and synthesis of the scientific information under consideration. The literature review formed in this way contributes to enriching knowledge on the problem of UTIs among children. Examples from practice and scientific evidence are presented in a systematized form. The literature review is structured in sixteen subsections presenting highlights starting from the very definition of the problem, followed by classifications, incidence of UTIs in childhood, guidelines in the clinical presentation and ending with reflection of the problem in later life and the role of GPs and parents in its prevention and management. In the chapter Objective, tasks and working hypotheses, the same are clearly and precisely defined, in a logical sequence. In the Material and Methods chapter, the methodology of the entire study is described in detail. The design of the conducted study combines a retrospective analysis of medical records (epicrisis) and two questionnaire surveys among parents and GPs, respectively. The doctoral student was personally involved in the collection of data in paper and electronic format, as well as in data entry, processing and analysis. Documentary and sociological methods and techniques for gathering information were applied in the study. The systematization, processing and analysis of the primary databases in the form of quantitative and qualitative variables was implemented with the statistical package IBM SPSS for Windows v.25. Microsoft Office (Excel) for Windows 10 and jamovi v.2 were used for the graphic design of the presented information. The produced brochure and poster, based on the data obtained from the research, were pre-designed with Adobe Illustrator. In the Results chapter, the doctoral student makes an in-depth analysis of the researched observation units, and the own results of the study are visualized and

presented in detail and cover all the tasks set. The results and discussion are presented on 76 pages and occupy more than 40% of the total volume of the dissertation. An analysis of the data from the literature sources brings out the idea that in recent years, attention has been focused on the search for a solution to improve the timely diagnosis of UTIs, as well as the identification of risk factors. It is here that the GP plays an important role in the primary and secondary prevention of UTIs among children. This statement is also supported by the results of a survey of parents, according to which they trust the information received from GPs more than that from other sources. Based on the own results, the leading risk factors for the development of UTIs have been identified. Among the most common barriers to the timely diagnosis and management of UTIs among children, the specifics of the course of UTIs in children, insufficient awareness of the problem by GPs and parents, as well as the time resource in general practice have been identified. The conclusions drawn correspond to the research objective and tasks.

The contributions of the dissertation work are presented as original and confirmatory in nature. An important conclusion of an original nature is that for the first time in our country, a large-scale study was conducted on the current problems regarding UTIs in childhood, including general practitioners and parents, with a view to establishing the most common reasons that make it difficult to make a timely diagnosis. Of those of a confirmatory nature, I consider it important to emphasize the needs of GPs for practical training aimed at the new non-invasive methods of urine collection, as well as information about the new biomarkers in the diagnosis of UTIs. Particularly useful is the developed algorithm of action in general practice in case of suspected UTI and recurrent UTI in childhood, as well as rules of action in the form of an educational brochure and poster, with the help of which GPs can inform parents about UTI in childhood.

### **Evaluation of the PhD student's publications and personal contributions**

The doctoral student has submitted 5 full-text publications in scientific periodicals in which the doctoral student is the lead author.

From the review of the presented materials, as well as from personal impressions, I could conclude that the presented idea, design, methodology, own results and the overall layout of the dissertation work were carried out with the personal participation of the doctoral student. I believe that Dr. Alexovska has taken a responsible approach to the realization of the overall scientific development.

I have no critical remarks and recommendations to the conducted research and presented materials.

The abstract is written according to the requirements, includes all sections, in a volume of 72 pages, richly illustrated with figures and tables reflecting the main results achieved in the dissertation.



## **Conclusion:**

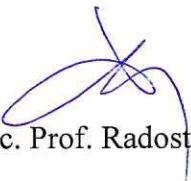
The dissertation contains scientific-theoretical and applicable results, which represent an original contribution to science and meet the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria (ZRASRB), the Regulations for the Implementation of ZRASRB and the Regulations of the Ministry of Education - Varna. The presented materials and dissertation results correspond to the specific requirements adopted in connection with the Regulations of the Ministry of Education - Varna for the application of the ZRASRB.

The dissertation shows that Dr. Raditsa Aleksovska possesses theoretical knowledge and professional skills in the scientific specialty of General Practice, demonstrating qualities and skills for independent conduct of scientific research.

Due to the above, I confidently give my **positive assessment** of the conducted research, presented by the above-evaluated dissertation work and abstract, and I propose to the honorable scientific jury to award the **educational and scientific degree "Doctor"** to **Dr. Raditsa Alexovska** in a doctoral program in **General Practice**, Professional direction **7.1 Medicine**, Field of higher education **7. Health care and sports**.

14.01.2023

Reviewer:

  
Assoc. Prof. Radost Spiridonova Asenova, MD, PhD, DSc