

## **REVIEW**

by **Prof. Dr. Valentina Christova Madjova, Ph.D.**

Head of the Department of General Medicine,

Medical University Varna

of the dissertation on the topic

**"LEVEL OF AWARENESS OF PATIENTS WITH CKD IN RELATION TO KIDNEY  
TRANSPLANTATION AND IMPORTANCE OF AWARENESS IN THE CHOICE OF  
KIDNEY REPLACEMENT TREATMENT"**

**of Dr. Aleksandar Aleksandrov Petrov**

full-time doctoral student at the Second Department of Internal Medicine

Medical Faculty at the Medical University – Varna and

assistant at the Clinic of Nephrology of University Hospital "St. Marina", Varna

**for awarding the educational and scientific degree "DOCTOR"**

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

According to the Order of the Rector of the Medical University - Varna № 109-472 / 05.11.2021, Report № 53 / 28.10.2021 and Report of a meeting of the Scientific Jury I was elected its Chairman and reviewer of the scientific work of Dr. Aleksandar Aleksandrov Petrov.

The set of materials provided to me on paper / electronic media fully complies with the requirements of the Procedure for acquisition of "Doctor" degree according to the Regulations of MU - Varna.

I did not find any violations of the procedure for awarding "Doctor" degree.

## **2. Brief biographical data about the doctoral student**

Dr. Aleksandar Aleksandrov Petrov completed his secondary and higher education in Varna. After graduating with a master's degree in medicine in 2015 at MU - Varna, he began working as an intern at University Hospital "St. Marina" - Varna at the Clinic of Nephrology, and a year later was elected assistant at the Second Department of Internal Medicine at MU - Varna.

In 2020 Dr. Aleksandar Petrov acquired a degree in Nephrology.

## **3. Relevance of the topic and expediency of the set goals and objectives**

The dissertation of Dr. Aleksandar Aleksandrov Petrov treats a very topical and important practical problem for nephrology - chronic kidney disease (CKD), which is one of the main and socially significant health problems affecting society globally.

An important circumstance that directs Dr. Aleksandar Petrov and his supervisor to develop the dissertation is the fact that at this time in Bulgaria no comprehensive study has been conducted on the level of awareness of patients with CKD regarding kidney transplantation and the importance of awareness, when choosing renal replacement therapy

According to the World Health Organization (WHO), the incidence of CKD worldwide is estimated at about 13.4% (11.7-15.1%), and the number of patients who have reached end-stage renal disease (CRF) is between 4.9 - 7 million.

I highly appreciate the topicality of the topic of the dissertation of Dr. Aleksandar Petrov as very important for the clinical nephrological practice in our country, for several reasons: the increasing prevalence of CKD among the elderly population in our country - 12.8%; the worrying fact that 90% of them have advanced kidney disease; the data of the Bulgarian Nephrological Society (2007) that in 26% of the Bulgarian population criteria for CKD are found and the more impressive fact that 12% of the surveyed persons did not suspect that they have such a disease.

## **4. Knowledge of the problem**

Dr. Aleksandar Petrov knows very well the material he treats in his dissertation. In the review part, he examines in detail the possibilities of kidney patients who have reached the terminal stage of their disease to continue living, and these are: hemodialysis (HD), peritoneal dialysis (PD) and kidney transplantation (KT). The doctoral student points out that the proven best method for kidney replacement treatment is kidney transplantation (KT), both in terms of maintaining a healthy metabolism and the quality of life of the patient, because it allows the patient to gain the self-confidence of a healthy person, and thus proven to reduce the risk of developing depressive syndrome in patients with end-stage renal disease.



On the other hand, Dr. Aleksandar Petrov points out that there are many "myths" about this treatment and it is their debunking that holds the key to successful kidney transplantation. It looks in detail at the main ways that can change and overcome the fear of kidney transplantation. These are the good health culture and awareness that can be achieved through training of patients with CKD and especially the candidate recipients.

Dr. Aleksandar Petrov makes an in-depth analysis of studies in this area, which show that the health literacy of the population is extremely low, but an important fact is that awareness of kidney transplantation is low among patients in pre-dialysis and dialysis.

The doctoral student analyzed studies that found that a large percentage of prospective recipients only encountered some aspects of the posttransplant period for the first time after a kidney transplant, such as continuous immunosuppressive therapy and possible disease complications.

Therefore, the thesis that Dr. Aleksandar Petrov proves in his dissertation is that determining the current awareness regarding kidney transplantation is important on the overall prognosis of the disease and a way to detect "pitfalls" in communication with the patient and the possible kidney transplantation, which will directly reflect on the quality of life of the recipients in the future.

## **5. Research methodology**

The larger section of the dissertation is a study in which Dr. Aleksandar Petrov actively participates as a researcher. It surveyed 126 respondents, divided into 4 groups: healthy controls; persons in pre-dialysis stage; persons on renal replacement therapy (hemodialysis and peritoneal dialysis) and persons with a kidney transplant.

The respondents fill in a specially created questionnaire containing:

- Demographic data - gender, age, education, employment and religious affiliation
- questions about their awareness of chronic kidney disease (CKD)
- questions about their level of awareness regarding kidney transplantation
- questions about their knowledge of hemodialysis as a method of substitution treatment
- questions about their knowledge of peritoneal dialysis as a replacement treatment
- questions about their quality of life

In his dissertation Dr. Aleksandar Petrov uses the following methods:

- 1) Documentary method (study of published studies and data on chronic kidney disease, kidney transplantation, patient awareness and a number of normative documents)



2) Historical method - reference to Bulgarian and foreign language literature sources, scientific articles, information sites, medical literature, dissertations and monographs, which affect the level of awareness regarding chronic kidney disease and kidney transplantation among the population.

3) Sociological methods - all persons fill in a specially created survey.

4) Statistical methods - analysis and interpretation of experimental data in order to reveal the nature of the observed phenomena and their interdependencies, which are the subject of this dissertation: analysis of variance (ANOVA); variation analysis - assessment of quantitative characteristics of the condition of the studied trait; correlation analysis; regression analysis; comparative analysis (hypothesis evaluation); assessment of the reliability of the questionnaire used (Cronbach' $\alpha$ ).

Data were statistically processed using SPSS v.20, using descriptive indicators for quantitative and qualitative variables and presented in tabular and graphical form. The chosen research methodology allows overall achievement of the set goal and obtaining an adequate answer to the tasks solved in the dissertation.

## **6. Characteristics and evaluation of the dissertation**

The dissertation of Dr. Aleksandar Petrov is written on 145 standard pages and is illustrated with 2 tables, 84 figures and 1 appendix. The literature includes 233 literary sources, of which 11 in Cyrillic and 222 in Latin.

In the literature review he considers the problem of chronic kidney disease, which is one of the main and socially significant health problems affecting society globally and relevant for the same reasons for Bulgaria.

Dr. Aleksandar Petrov examines the incidence of CKD worldwide, which is 13.4% (11.7-15.1%) and is comparable to that in our country - 12.8%.

The main goal of the dissertation of dr. Aleksandar Petrov is "to study the level of awareness of patients with chronic kidney disease regarding kidney transplantation and the importance of awareness in the choice of renal replacement therapy."

To achieve it, he has defined 5 main tasks to be answered in his dissertation:

- 1) Assessment of the level of awareness regarding chronic kidney disease (CKD)
- 2) Determining the level of awareness regarding kidney transplantation
- 3) Determining people's awareness of hemodialysis as a method of replacement therapy
- 4) Measuring the level of awareness of peritoneal dialysis as a method of replacement therapy

5) Development of a plan for a Guide for patients with chronic kidney disease and treatment methods based on which the patient to make an informed choice

Dr. Aleksandar Petrov defines the following hypothesis in his dissertation: "We assume that the Bulgarian patient is not sufficiently informed about his disease and needs accurate, synthesized information to help him make an informed choice regarding his treatment".

From his research, the doctoral student formulates 7 main conclusions. All of them correspond to the set goal and the indicated tasks.

### **7. Contributions and significance of development for science and practice**

The data in the study of Dr. Aleksandar Petrov summarize for the first time in our country the awareness of patients with chronic kidney disease regarding kidney transplantation and the importance of awareness in the choice of renal replacement therapy. He points out in his dissertation 6 scientific contributions. They have a theoretical and applied character for the daily practice of nephrologists in our country.

I fully accept the conclusions made and the contributions made by the doctoral student.

### **8. Evaluation of the publications on the dissertation**

The doctoral student has attached to the documentation the required number of publications and communications related to the dissertation. The attached list meets the requirements for acquiring "Doctor" degree.

### **9. Personal participation of the doctoral student**

The conducted dissertation research, the formulated contributions and the obtained results are the merit of Dr. Aleksandar Petrov and are supported by his supervisor - Prof. Dr. Svetla Staykova, MD.

### **10. Abstract**

The abstract is completely sufficient in content and quality to present the main results achieved in the dissertation. It meets the requirements of the Regulations of MU - Varna.

### **11. Critical remarks and recommendations**

I do not have any critical remarks and recommendations to the conducted research and the materials provided to me.

### **12. Personal impressions**

I know Dr. Aleksandar Petrov from the competition for assistant at the Clinic of Nephrology and I have excellent impressions of him as an intelligent and ambitious young doctor. The



dissertation and abstract proposed for evaluation are distinguished by accuracy, precision, consistency and depth of the formulated conclusions and contributions.

### **Conclusion**

In general, I evaluate the dissertation of Dr. Aleksandar Petrov as relevant and valuable as a scientific work of practical importance for assessing the level of awareness of patients with CKD about kidney transplantation and the importance of their awareness in the choice of replacement therapy.

The dissertation contains important scientific and applied results and meets all the requirements of The Academic Staff Development Act, the Regulations for its application and that of MU - Varna.

The presented materials and dissertation results fully comply with the specific requirements of MU - Varna.

The dissertation shows in-depth theoretical knowledge and professional skills of the doctoral student in the scientific specialty "nephrology" and demonstrates his qualities and skills for independent research.

As a reviewer, I confidently give my positive assessment of the research, dissertation, abstract, results and contributions and propose to the esteemed scientific jury to award the educational and scientific degree "Doctor" of Dr. Aleksandar Petrov in the scientific specialty "nephrology".

15.11.2021

Reviewer: Prof. Dr. Valentina Madjova, MD

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