



## STATEMENT EVALUATION

by

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On the Dissertation for awarding the educational and scientific degree

**"Physical Doctor / PhD"**

to **Dr Zhaneta Hristova Zhelyazkova**

entitled **"Epidemiological, clinical and immunological aspects in pemphigus"**

**Supervisor: Assoc. Prof. Dr. Tsvetana Abadjieva, MD, PhD**

According to the procedure for public defense of the above-mentioned dissertation work, I was selected as a reviewer by order № P-3039/ 23.10.2023 of the Rector of MU - Plovdiv. The documentation provided to me complies with the requirements of the Law for development of the academic staff in the Republic of Bulgaria, the Regulations for its application and the Regulations for development of the academic staff of MU - Plovdiv. I have no scientific works in common with PhD student Dr Zhaneta Hristova Zhelyazkova.

### **Relevance of the dissertation topic**

The topic of Dr. Zhaneta Hristova Zhelyazkova's dissertation is distinguished by its originality and current sound, as it is dedicated to pemphigus, which remains one of the most severe and life-threatening autoimmune dermatoses. The indisputable medical and social importance of pemphigus and the still unresolved therapeutic aspects of the disease determine the relevance and seriousness of the developed dissertation topic.

Despite the serious progress in the understanding of the pathogenesis of pemphigus in recent years, there are still a number of unresolved clinical-epidemiological and

immuno-serological aspects of the disease, more specifically related to the diagnosis of its variants and their course, therapy and follow-up.

### **Structure, general characteristics and evaluation of the dissertation work**

The main sections of the dissertation of Dr. Zhaneta Hristova Zhelyazkova fully meet the scientific requirements. It is written on 150 standard pages including: contents – 3 pages, abbreviations – 1 page, introduction and literature review – 54 pages, aim and tasks – 1 page, materials and methods – 6 pages, results – 28 pages, discussion - 16 pages, conclusions - 2 pages, contributions - 1 page, publications related to the dissertation - 1 page, references - 29 pages, summary in Bulgarian and English – 4 pages, acknowledgments – 1 page.

The literature review is extensive and thorough and competently presents the current state of the problems related to the epidemiology of pemphigus and the factors contributing to its understanding. The good literary language is impressive, it is not written mechanically, but is distinguished by an analytical approach and reference to the goal and tasks of the thesis based on the currently existing ambiguities and missing links in the diagnosis of the various subtypes of pemphigus. The review concludes with a summary highlighting the still unresolved issues that are under debate and that are a prerequisite for in-depth research and study.

The list of cited references is rich and includes a total of 336 literary sources, of which 18 are in Cyrillic and 318 in Latin. The reference to a wide range of literature sources from the recent years is impressive.

**The goal** of the dissertation work is clearly formulated and scientifically supported. The dissertation aims to study and to analyze some epidemiological, clinical, therapeutic and immunological aspects in patients with pemphigus. For its implementation, 7 well-defined tasks have been formulated.

### ***Knowledge of the problem and literature review***

The literature review is thorough and comprehensive and demonstrates the PhD fellow's excellent knowledge of the research problem. The good literary language, which is also characteristic of the entire dissertation work, is impressive. The overview is analytical and is a very good basis for the well-formulated goals and tasks of the scientific work, which logically comes to fill the currently existing ambiguities and missing links in the diagnosis of fungal infections caused by dermatophytes.

*The literature review* covers 4 main sections, namely: 1) general characteristics and systematization of mushrooms; 2) general characteristic of fungal diseases; 3) characteristic of the most common mycoses; 4) methods for diagnosing fungal infections, including modern molecular ones. In each of the sections, the historical data, the epidemiological situation of the problems worldwide and in Bulgaria are carefully analyzed.

#### ***Aim and tasks***

The aim of the dissertation work is clearly and specifically formulated, namely to study and prove the usefulness and importance of real-time PCR for the diagnosis of dermatophyte infections. In fulfillment of this goal, the dissertant has set 5 tasks, which are also precisely and clearly formulated.

#### ***Material and Methods***

The dissertation work covers a sufficient amount of material, which includes a total of 109 patients with pemphigus (69 women, 40 men) aged 15 to 87 years, diagnosed, treated and followed up at the Dermatology Clinic at UMHAT St. George, Plovdiv. The number of included patients is sufficient to adequately conduct the statistical processing of the obtained own results.

The design, stages and participants of five studies are presented:

1. Epidemiological study.
2. Clinical trials.
3. Study on the impact of the COVID-19 pandemic in patients with pemphigus.

4. Laboratory studies.

5. Correlations.

The methods used are listed and described: clinical /analysis of anamnestic data, assessment of disease severity/, laboratory methods /histological examination, direct immunofluorescence, enzyme-linked immunosorbent assay/, storage of research results and statistical methods.

A strength of the dissertation work in terms of applied methods is the selection of several statistical analyses, including descriptive analysis, frequency analysis of the investigated signs, non-parametric tests, correlation analysis, regression analysis and graphic analysis.

The work is methodologically sound and guarantees the reliability of the obtained results.

*The results* of the studies are illustrated with 28 figures and 2 tables of excellent content and quality. The results are described precisely and clearly and in good scientific language. Their presentation follows the logical sequence of the formulated aims and objectives of the dissertation. Dr. Zhelyazkova thoroughly and correctly analyzes the obtained results and reaches logical summaries and conclusions.

The obtained results are published as a matter of priority in our country. The conclusions and contributions logically present the results of the conducted studies.

Contributions and significance of the development for science and practice

In her project-dissertation work, Dr. Zhelyazkova presents a total of 9 conclusions, which logically follow the results of her own studies and their analysis. 7 contributions are indicated, divided into those of an original nature, of which 2 are priority and 2 for Bulgaria, and 3 contributions of a confirmatory and theoretical nature. I accept the conclusions and contributions of the dissertation work.

I consider the study on the incidence of SARS-CoV-2 infection, vaccination status and compliance with anti-epidemic measures in a large group of pemphigus patients, conducted for the first time in Bulgaria, to be particularly valuable.

#### **Assessment of the publications related to the dissertation**

According to the requirements, a sufficient number of publications related to the topic of the dissertation are presented - 4. The doctoral student is the first author in one of the works, which shows the ability of the doctoral student for independent scientific research. One of the articles is in English in a periodic peer-reviewed edition, presented in world secondary literature sources (Scopus).

#### **Critical remarks and recommendations**

I have no comments on the substance of the thesis. Dr. Zhelyazkova has complied with the critical comments and recommendations made in the review of her draft thesis and, accordingly, I have no additional comments and recommendations.

#### **CONCLUSION**

In conclusion, the dissertation work of **Dr. Zhaneta Hristova Zhelyazkova** on the topic "**Epidemiological, clinical and immunological aspects of pemphigus**" was originally conceived and executed. The goal is correctly defined and the tasks are developed, the examined groups of patients are appropriately selected, and the clinical, laboratory and statistical methods are applied. The results of the own studies are thoroughly analyzed, well presented and illustrated and lead to logical and well-formulated conclusions and contributions.

I believe that Dr. Zhelyazkova's dissertation is a valuable development and contribution to the few scientific studies on the difficult and thankless topic of the pemphigus group of diseases. I believe that the dissertation on the topic "Epidemiological, clinical and immunological aspects of pemphigus" meets the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria. This gives me reason to recommend to the respected members of the

scientific jury to give their positive vote and award Dr. Zhaneta Hristova Zhelyazkova the scientific and educational degree "Doctor".

Sofia, November 14<sup>th</sup>, 2023



Reviewer:

(Prof. Snejina Vassileva, MD, PhD)