

REVIEW

by Prof. Virginia Ivanova Zhelyazkova, DSc, Ph.D., from
VUZF University - Sofia

of a dissertation work for the award of a scientific degree "Doctor of Science"
in Higher Education Area 3. Social, economic and legal sciences
Professional Field 3.8. Economics

Author: Dr. Irena Brukvitska

Topic: "Impact of Economic Aspects on the Medical Industry Using the Example of the
Treatment of Patients with Diabetic Foot in Poland "

1. General description of the presented materials

By order No. 816 of 12.12.2023 of the Rector of VUZF University, Prof. Boris Velchev, Doctor of Law, I have been appointed as a member of the scientific jury to ensure a procedure for the defense of a dissertation on the topic "Impact of Economic Aspects on the Medical Industry Using the Example of the Treatment of Patients with Diabetic Foot in Poland" for the acquisition of a scientific degree "Doctor of Sciences" in Field of higher education 3. Social, economic and legal sciences, Professional field 3.8. Economics. The author of the dissertation is Dr. Irena Brukvitska - candidate at the Department of "Finance and Insurance"

The materials handed over by Dr. Irena Brukvitska include the following documents:

- Autobiography
- Dissertation for the award of the scientific degree "Doctor of Sciences"
- Abstract of the dissertation
- List of scientific publications related to this procedure
- List of scientific contributors
- Summaries of scientific publications
- Reference on the fulfillment of the national minimum requirements for awarding the scientific degree "Doctor of Science" according to the Law on the Development of the

Academic Staff LDASRB) in the Republic of Bulgaria and the Regulations for its implementation

- A reference to the applicant's citations
- Diploma for acquired educational and scientific degree "doctor"
- Declaration of originality of the dissertation.

The applicant has submitted the following publications for review:

- 14 large papers, of which 12 were co-authored, in non-refereed peer-reviewed journals or published in edited collective volumes
- 109 articles and reports published in non-refereed peer-reviewed journals or published in edited collective volumes, some co-authored
- 30 chapters of collective monographs, some of them co-authored
- 3180 citations in various scientific publications

A book based on this dissertation is also attached.

The presented impressive number of publications and citations significantly exceeds the national minimum requirements for awarding the scientific degree “Doctor of Science” according to the LDASRB and the Regulations for its implementation.

I have notes on the layout of the papers, and they are technical - articles presented as published in journals, refereed and indexed in world-renowned databases of scientific information are actually published in refereed peer-reviewed journals. This necessitates a recalculation of the applicant's points, but, due to the significant number of publications, does not have any impact on the evaluation of the fulfillment of the requirements of the LDASRB. Also, the dissertation has already been issued as a book and designated as a "habilitation thesis" in the reference for fulfilling the national minimum requirements, and this is actually a "book based on the dissertation for the degree “Doctor of Science”. For the purposes of this procedure, a habilitation thesis is not required, and the fact that the text of the dissertation has already been published is only an advantage for the candidate.

2. Brief biographical data about the candidate

Dr. Irena Brukvitska has an impressive biography. She was born on February 12, 1968 in Wlodawa, Poland. She has graduated from the Medical Professional College in 1991 and in

1992 began training as a nurse at the Medical Academy in Lublin, graduating in 1996. She has received the Doctor of Humanities degree in 2000 from the Faculty of Social Sciences of the University of Silesia in Katowice with a dissertation on the topic: "Socio-Economic Conditions of the Problem of Alcoholism in the Communities of Yaroslavl County". After that, she started working at the State Higher Vocational School in Yaroslavl as a lecturer. From 2000 to 2002, Dr. Brukvitska was the Rector's Plenipotentiary for student support, and from 2001 she was appointed Director of University Training for Postgraduate Nursing and Midwifery at Yaroslavl State University of Applied Sciences. In the years 2005-2015, she was the director of the Institute for Health Protection.

In 2016, Dr. Brukwicka started working at the Higher School of Health Sciences in the town of Girardów, Poland, where she was responsible for the master's programs. In parallel, from 2022 she is the director of the university's postgraduate nursing and midwifery education.

From the beginning of his professional career, Dr. Brukvitska actively participated in didactic activities, conducting lectures, exercises, practical classes, seminars and practical exams with students from various majors. She currently teaches classes in sociology, obstetrics and gynecology nursing, psychiatry and psychiatric nursing, health promotion, an undergraduate seminar with nursing students, as well as environmental psychiatry and social work first aid, and also in cosmetology and homeland security.

Dr. Brukvitska is the author of a significant number of scientific publications, some of which have a pronounced interdisciplinary character. Her rich scientific production testifies to her extraordinary creative activity, as well as to her ability to work together with other scientists, evident from the sound number of joint scientific publications she has submitted for review. It is her long-term experience that has helped shape her as a thorough scholar and practitioner, which she demonstrates in the high quality of her dissertation work.

3. Actuality of the topic and appropriateness of the set goals and tasks

Diabetes is among the common chronic diseases of the world's population, and Poland is no exception to this situation. The diabetic foot develops as a result of the course of the disease and leads to a permanent impairment of the working capacity of the affected persons. Therefore, it is very important that the necessary economic prerequisites are present in the state, in order to be able to organize adequate treatment of this serious health problem.

The dissertation is dedicated to this important question and therefore has relevance and dissertability. The aim of the paper is clearly defined: ".....to reveal the trends in the Polish system of monitoring the treatment and care of diabetics in the treatment of diabetic foot

syndrome." Candidate Dr. Brukwicka defines three research hypotheses that she investigates in her work, detailing them in a number of additional hypotheses. I find this approach of decomposing the main claims that will be tested within the framework of the study to be interesting and I consider it appropriate for the purposes of the paper.

4. Knowing the problem

The author is obviously very well acquainted with the subject of the study. This becomes clear, first of all, from the impressive list of referenced literature - a total of 283 sources of an interdisciplinary nature in different languages. Secondly, the clarity in the presentation of the hypotheses and the deployment of the evidential part in the presentation speaks of the candidate's deep knowledge and understanding of the researched problem. Thirdly, the logical structure of the dissertation, the consistency and the ease with which the candidate presents the complex and interdisciplinary nature of the research problem, speaks of her deep knowledge of the subject.

The choice of methodology undoubtedly corresponds to the set hypotheses, purpose and research questions. It is of a mixed nature – methods from both qualitative and quantitative analysis are used. Thus, the chosen hybrid approach supports the realization of the goal and the proof of the hypotheses formulated in the introduction of the work.

4. Characteristics and evaluation of the dissertation

The dissertation has a volume of 264 pages (including a list of reviewed literature) and 5 pages of appendices. The work consists of an introduction, three chapters and a conclusion.

In the introduction, the relevance of the work is motivated, the purpose of the study, the main research tasks and hypotheses, as well as the chosen methodology, are presented.

The first chapter is devoted to the essence of the disease, whose economic aspects in a global plan are the object of the study - type II diabetes and its complications. Here, the candidate presents detailed information about the nature of the disease, the causes of its occurrence, and then the prerequisites for reducing the growth of its negative consequences, such as the diabetic foot. Interestingly, from the outset the candidate places these important questions in their economic context in terms of the cost of treatment both to the health system and to individual sufferers. At the end of the chapter, the candidate analyzes the place and role of the treatment of diabetic foot syndrome for the medical industry as a whole.

In the focus of the second chapter candidate Dr. Brukvitska places the socio-economic losses for the treatment of the diabetic foot. First of all, she analyzes the value of conservative treatment of diabetic wounds in diabetic steps and its economic importance. Then she examines in detail and critically the amputation of limbs from the point of view of economic losses in the process of preparation for surgery, operative treatment, as well as the period immediately after the operations. Finally, the role of multidisciplinary treatment of the diabetic foot in its economic perspective is presented.

The object of the third, last and largest chapter of the dissertation is the economic and financial analysis of the benefits of treating diabetic foot in Poland. This part of the work represents the author's actual research on her chosen topic. Here she analyzes in detail and critically a series of real and significant problems of resource provision and the overall organization of the treatment of the diabetic foot. She starts with a presentation of the services that are offered within the treatment facilities in Poland, moves on to predict the number of benefits that are provided during the treatment of diabetes mellitus in Poland. She then moves on to treatment procedures that end in amputations and concludes with an analysis of the indirect and intangible losses of diabetic foot treatment.

The text is enriched with a respectable number of graphic materials - 48 tables and 66 diagrams - which illustrate the analysis and argue the candidate's positions.

In the conclusion, the main inferences of the study are clearly and concisely presented.

The dissertation thus presented gives me reasons to assume that it contains scientific and scientific-applied results that represent an original contribution to science. The dissertation shows that the candidate has in-depth theoretical knowledge in the relevant scientific field and demonstrates abilities for independent scientific research.

5. Contributions and significance of the development for science and practice

The dissertation submitted for review undoubtedly has significance for science and practice. A specific, yet often widespread, complex and multidisciplinary problem, such as the treatment of the diabetic foot, is investigated in its economic context. The candidate has analyzed in serious depth the entire process of the onset of the disease, its progress and deepening in relation to how appropriate the chosen treatment is, what its costs and benefits are, what the consequences of inappropriate treatment are, but she also critically examines the causes for the application of not the best treatment in a number of cases, proving that economic motives are often behind it.

Considering all this, I attribute the candidate's contributions primarily to the practical-applied family.

6. Personal participation of the doctoral student

At the moment, there is no information that would give grounds to doubt the authenticity of the presented dissertation and scientific publications of candidate Dr. Irena Brukvitska.

7. Abstract

The abstract is prepared in accordance with accepted good academic practices, it is 30 pages long and correctly presents the dissertation in a concise form.

12. Critical remarks, recommendations and questions

I have no significant critical notes and recommendations. I would like to applaud the candidate Dr. Brukvitska for her choice of topic, scientific approach and clarity of presentation of a problem with such severe significance for any health system.

I would like to ask her the following questions:

- Does insulin therapy, when applied early enough, save patients from enduring amputation and the health system from the related expenses?
- What is in your opinion the approximate share of cases of diabetic foot that reach amputation due to inappropriate treatment and the play of other than health – financial – motives, i.e. what is the share of patients that could be saved from amputation (and the subsequent use of health insurance), if proper treatment is in place?

13. Personal impressions

I do not personally know the candidate, Dr. Brukvitska, but I have impressions of her work during the process of preparing her dissertation at VUZF. She is an extremely analytical scientist with serious experience and knowledge in both theoretical and practical-applied terms.

14. Recommendations for future use of dissertation, contributions and results

I recommend that Dr. Brukwicka publish the results of her work in the form of separate articles in publications indexed in world-renowned databases of scientific information, as well as consider the publication of her dissertation work in English in some prestigious world publishing house, such as Springer, McGraw Hill or another, although she has already done it in the publishing house of the University of Health Sciences in the city of Gerardov. There is probably a way to do this after permission from this publisher.

CONCLUSION

The dissertation contains scientific, scientific-applied and applied results, which represent an original contribution to science and meet all the requirements of the LDASRB and the Regulations for its implementation. The presented materials and dissertation results fully comply with the specific requirements of the Rules for the terms and conditions for obtaining the scientific degree "Doctor of Sciences" at VUZF.

The dissertation work shows that the candidate, Dr. Brukvitska, has in-depth theoretical knowledge and professional skills in Professional Field 3. 8. Economics, 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-reviewed dissertation, abstract, achieved results and contributions, and I propose to the honorable scientific jury to award the scientific degree "Doctor of Sciences" to Dr. Irena Brukvitska in Field of higher education 3. Social, economic and legal sciences; Professional Field 3. 8. Economics.

10/01/2024

Reviewer:

(Prof. Virginia Zhelyazkova, DSc, Ph.D.)