

REVIEW

by Dimitar Bogdanov Maslarov, MD, PhD, DSc

Head of Neurology Clinic,

University First MHAT "St. Joan Krastitel" - Sofia

Medical University - Sofia

Medical College "Yordanka Filaretova"

on a dissertation on the topic

"HEALTH RELATED QUALITY OF LIFE IN PATIENTS WITH DISC DISEASE"

For the award of the educational and scientific degree "Philosophy Doctor"

**In the field of higher education 7. Health and Sports, the professional field 7.1 medicine
and the scientific specialty "Neurology",**

Of Dr. Rositsa Gancheva Krasteva, part-time doctoral student in the doctoral program "Neurology" (03.01.19), professional field 7.1 Medicine, enrolled with order No. R-109-254/01.08.2019 at the Medical University "Prof. Dr. Paraskev Stoyanov" - Varna with scientific supervisor Prof. Dr. Ara Garabed Kaprelyan, MD

Dr. Krasteva was enrolled with Order No. R-109-301/25.09.2024 of the Rector of MU - Varna on the basis of a report with No. 102-2213/26.08.2024 by Prof. Dr. Silva Peteva Andonova-Atanasova – Head of the Department of Neurology and Neurosciences by decision under Protocol No. 26/09.09.2024 of the Faculty Council and report with No. 103-4385/11.09.2024 by Prof. Dr. Yoto Trifonov Yotov – Dean of the Faculty of Medicine at the Medical University "Prof. Dr. Paraskev Stoyanov" – Varna.

According to Order No. R-109-102/ 28.01.2025 of the Rector of MU – Varna and on the basis of Protocol No. 1/06.02.2025 of the first meeting of the Scientific Jury, I have been appointed as an external member of the Scientific Jury and reviewer, by virtue of which I present this review.

The review was prepared in accordance with the Law on the Development of the Academic Staff in the Republic of Bulgaria, the Regulations for the Implementation of this Law and the Regulations for the Development of the Academic Staff at the Medical University "Prof. Dr. Paraskev Stoyanov" - Varna.

Education and career development:

Dr. Rositsa Gancheva Krasteva was born in 1972 in Pavlikeni and completed her secondary education in Ruse, at the Geo Milev English Language School in 1991.

In 1997, she graduated with very good results from the Medical University - Pleven as a Master in Medicine (Higher Education Diploma "Master", MES No. 000117 series MIEN 97, Reg. No. 003497/1997).

In 2008, Dr. Krasteva acquired a specialty in "Neurology" at the Medical University "Prof. Dr. Paraskev Stoyanov" – Varna (Certificate of recognized specialty No. 2668, Reg. No. 013603/20.06.2008, Series MUV – 2008). In 2009, she acquired additional qualification for highly specialized activity in neurology – electroencephalography, in 2015 for electromyography and Ultrasound Doppler sonography. Dr. Krasteva's professional path began in 1998 as a doctor in the Emergency Medical Care and Emergency Admission Department at the United Regional Hospital – Ruse. From 2002 to 2013, she was a resident doctor in the First Neurological Department at the Ruse Hospital. From 2013 to 2014, he worked as a resident physician in the Cardiology Department at the Medica Ruse University Hospital, and from 2014 to the present, she is the Head of the Department of Neurology at the Medica Ruse University Hospital.

Since 2019, she has been an assistant professor at the Angel Kanchev University of Ruse at the Faculty of Public Health and Health Care, Department of Health Care.

She is a member of the Bulgarian Society of Neurology and the Bulgarian Medical Union, a member of the Management Board of the Regional College of the Bulgarian Medical Association - Ruse for the terms of 2019 - 2021 and 2021-2024, and for the term of 2024-2027, she is the Chairman of the Control Commission of the Regional College of the Bulgarian Medical Association - Ruse. She is a member of the Standing Committees on Ecology and on Health and Social Policy at the Municipal Council, the city of Ruse for the term of 2023 - 2027.

Relevance and structure of the dissertation:

The dissertation submitted to me for review is structured according to the standards adopted in our country for a dissertation for the acquisition of the educational and scientific degree "Philosophy Doctor". It is developed on 178 standard pages, structured as follows: introduction - 1 page, literature review - 48 pages, goal, tasks and hypotheses - 1 page, clinical contingent and methods - 2 pages, own results and discussion - 80 pages, conclusions - 3 pages, contributions - 2 pages, bibliography - 25 pages and a list of publications related to the dissertation - 1 page. It is illustrated with 94 figures and 31 tables. The bibliography contains 257 literary sources, of which 12 in Cyrillic and 245 in Latin, with over 80 % of the citations being from the last 10 years.

The dissertation work has been discussed and directed for defense by the Department of Neurology and Neurosciences at MU-Varna with protocol No. 8/23.08.2024 by the Department Council.

Literature review:

The topic of the dissertation covers an important health and social problem – the quality of life of patients with disc disease. In the literature review, the author discusses in detail the etiology, pathophysiology, clinical picture, diagnosis and treatment of disc herniation, emphasizing the differences in the profiles of patients suffering from non-specific low back pain or neck pain and those with a specific cause of pain due to disc herniations. The author pays special attention to neuropathic pain as a significant factor that can affect the quality of life.

The importance of research on health-related quality of life for public health is emphasized, and the tools used for this purpose are discussed in detail.

Hypothesis, goal and tasks:

The goal of the dissertation submitted to me for review is to study the health-related quality of life of patients with disc disease and its relationship with disability, pain and depression. To achieve this, the doctoral student sets the following tasks:

1. To investigate the health-related quality of life, pain intensity, disability level and depression level in patients with disc disease using self-assessment scales.
2. To investigate the influence of some demographic factors - gender, age and place of residence.
3. To investigate the influence of the localization of disc pathology on health-related quality of life, disability level, pain and depression.
4. To determine the relationship between depression, pain, disability and health-related quality of life.

The author's working hypotheses are as follows:

1. The location of the herniated disc, age, gender and place of residence affect the quality of life in different ways.
2. Disability in patients with herniated disc is related to the location of the hernia, gender, age and place of residence.
3. Depression affects all factors determining the quality of life.
4. There is a relationship between pain, depression and disability.

The goal of the dissertation is clearly and precisely formulated, and the tasks are structured according to the goal.

Clinical contingent and methods:

A total of 120 patients with herniated discs, aged 18 to 65 years, were included in the study. For the purposes of the study, the patients were divided into groups by gender (64 men

and 56 women), age (5 age groups), place of residence (70 urban and 50 rural residents) and localization of the herniated disc (76 with lumbar disc herniation and 44 – in the cervical region). A survey method was used with a total of seven questionnaires for self-assessment of pain, disability, depression and health-related quality of life.

All data were processed with appropriate statistical methods, which is the basis for accepting the results obtained from the study and the conclusions drawn.

The conduct of the study was approved by the Research Ethics Committee at the Medical University of Varna with Protocol/Decision No. 135/28.09.2023.

Own results and discussion:

The results are grouped into six sections. The first section reflects the demographic characteristics of the subjects, the second to fourth sections consistently reflect the results of the study of pain intensity, depression level and disability level. The fifth section reflects the results for the individual domains of health-related quality of life, studied using the SF-36 questionnaire, and the sixth section presents the summarized correlation analysis of the results. All results are analyzed in detail and illustrated with 87 figures and 31 tables.

The detailed discussion summarizes the obtained results, comparing them with data from the contemporary specialized literature.

Conclusions and contributions:

I agree with the conclusions made by Dr. Krasteva:

A strong statistically significant relationship between the localization of the herniated disc and gender has been established, with a higher prevalence of cervical herniated disc in women. Lumbar herniated disc is more common among the rural population, but the established statistical relationship is weak.

Disability has no statistically significant relationship with any of the studied factors - gender, place of residence, localization of the herniated disc and age.

A strong statistically significant relationship between place of residence and depression and higher levels of depression among rural residents has been established.

A strong statistical relationship between gender and the perception of pain and higher levels of pain in women has been proven.

Depression and pain are strongly interconnected and together have a strong negative impact on all separate domains of mental and physical health.

The individual factors studied: gender, age, place of residence and location of disc herniation have a different impact on the individual domains of health-related quality of life. Physical functioning is worse in lumbar disc herniation and in men, role limitation due to

emotional problems is more pronounced in women, in older participants and in patients with cervical disc herniation, and energy is weaker in women, and a statistically significant relationship between gender and this domain has been established. In the assessment of health-related quality of life, the strong negative influence of age on the General Health domain has also been proven.

The seven contributions of the dissertation are scientific - theoretical, original and confirmatory in nature.

Original in nature contributions:

- For the first time in our country, a study of the health-related quality of life of patients with disc disease among a Bulgarian population has been conducted.
- For the first time in our country, a comparative analysis of the individual domains of the health-related quality of life, as well as pain, depression and disability, has been made in separate groups of patients depending on the localization of the disc herniation and on some sociodemographic factors such as age, gender and place of residence.

Of a confirmatory nature:

- It is proven that disc disease has a negative impact on the health-related quality of life, with a greater impact on physical than on mental health.
- It is confirmed that cervical disc herniation is more common among women.
- It is proven that women have a lower pain threshold and a correlation of pain intensity with gender is established.
- A negative correlation of age with General health and with the development of depressive symptoms in patients with disc herniation is established.
- The strong correlation between depression and pain is confirmed, which together and separately influence disability and all indicators of health-related quality of life to the greatest extent.

On the topic of the dissertation, the doctoral student has presented three full-text scientific publications in periodical scientific publications from the period 2021 - 2024.

The abstract is presented on 118 pages, with a larger volume of requirements and reflects in detail the main results achieved as a result of the scientific work.

As a **recommendation** to Dr. Rositsa Krasteva, I could make a continuation of the work on the topic of the dissertation, as well as greater publication activity and participation in national and international congresses and conferences to present the results obtained.

CONCLUSION:

The dissertation submitted to me for review is the author's own work. The results derived are of a contributing nature to practical neurology.

The dissertation "Health-related Quality of Life in Patients with Disc Disease" covers all scientometric requirements of the the Law on the Development of the Academic Staff in the Republic of Bulgaria and the Regulations for Development of Academic Staff of the Medical University of Varna for the acquisition of the educational and scientific degree "Philosophy Doctor".

Based on the above, I give my positive assessment of the presented dissertation and propose to the members of the esteemed Scientific Jury to vote positively for awarding the educational and scientific degree "Philosophy Doctor" to Dr. Rositsa Gancheva Krasteva - doctoral student at the Department of Neurology and Neurosciences of the Faculty of Medicine at the Medical University "Prof. Dr. Paraskev Stoyanov" - Varna.

24 February 2025

Sofia

Reviewer:

Dimitar Maslarov, MD, PhD, DSc

Заличено на основание чл. 5,
§1, б. „В“ от Регламент (ЕС)
2016/679