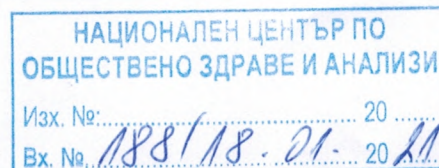


Translation from Bulgarian

## REVIEW



by Prof. Dr. Lyubomir Haralanov Haralanov, Ph.D. in Medicine

On the grounds of Art. 30, para. 3 of the Regulations on implementation of the Law on the Development of Academic Staff in the Republic of Bulgaria, in conjunction with Art. 4, para 3, item 6 of the Rules on the structure and activity of the National Center of Public Health and Analyses (NCPHA), Art. 69. para. 2, in conjunction with para. 1 of the Rules on the conditions and procedure for acquiring scientific degrees and holding academic positions in the NCPHA, and a decision of the Scientific Board of NCPHA, and by virtue of Order No. PD – 4611/01.12.2020 of its Director, I was elected member of the Scientific Jury and was assigned the task of presenting a **review on**:

the dissertation of **Dr. Vladimir Pavlov Damyanov**, doctorand of individual preparation, on the topic: **'STUDY ON THE QUALITY OF LIFE IN SOME SOCIALLY SIGNIFICANT DISEASES OF THE CENTRAL NERVOUS SYSTEM'** to confer the educational and scientific degree of Ph.D., the supervising professors being: Prof. Valentina Petkova, D.Sc. in Pharmaceutical Sciences, and Assoc.Prof. Evgeni Grigorov, Ph.D. in Medicine.

**Dr. Vladimir Pavlov Damyanov** was born in Sofia in the year 1957. In 1975 he graduated from 28<sup>th</sup> Secondary School, Sofia and in 1983 he finished his higher education studies, graduating from the Medical Academy, Sofia (Diploma No. 004101). From the year 1983 until 1990 he worked at the Neurological Clinic of the Military Medical Academy (MMA), Sofia, as well as an aviation doctor in the Military Air Force. In 1988 he acquired a specialty in nervous diseases (Diploma No. 33149/03.06.1988). In the year 1989 he acquired a specialty in aviation medicine. From 1990 until 2000 he worked as a neurologist at the Neurological Clinic of the Medical Institute at the Ministry of the Interior. Since 2000 he has been working as a neurologist at the 8<sup>th</sup> Diagnostics & Consultation Centre (DCC), and since the year 2007 he has also been Deputy Director of the said DCC. He also worked as a consultant-neurologist at 'St. Panteleimon' Hospital. Dr. Damyanov has competence in the highly specialized activities of Acupuncture and Electroencephalography, this competence being recognized through documents issued by the Medical University, Sofia. Dr. Damyanov has regularly participated in national and international symposiums and congresses in neurology and neuroscience, through which he maintains the high level of his postgraduate qualification. He has submitted data on 25 real scientific publications and reports presented at congresses in Bulgaria and abroad. He fulfils the criteria for publications related to the dissertation work, two out of a total of four publications being with an impact factor. He is a member of the Bulgarian Medical





Association (BMA) and in the period 2006-2009 he was a member of the Regional College of the BMA. He has the necessary computer skills and has good competence in several languages. He is fluent in both English and Russian languages.

**The dissertation of Dr. Vladimir Pavlov Damyanov** is dedicated to an important problem of great social significance and topicality associated with the outpatient practice of a neurologist investigating the quality of life (QoL) in patients suffering from severe neurological disorders such as cerebral stroke (CS), epilepsy, Parkinson's disease (PD) and multiple sclerosis (MS). The concept of QoL contains a wide range of physical, psychological and social characteristics that are influenced by the severe neurological impairment. For example, MS is not characterized by high sickness rate or morbidity, but it is of great medical and social significance because it mainly affects young and middle-aged people at their creative age. Dr. Damyanov's contingent of patients with severe neurological disorders is associated with a poor QoL not only of those diseased, but also of their family members. Moreover, the treatment of these patients requires large financial resources. Therefore, it is quite justified to study their specificity as well as to search for markers that could predict the need for special care for this contingent of patients that must be provided by their attending neurologist in outpatient conditions. In this respect, the dissertation of Dr. Vladimir Pavlov Damyanov is extremely topical.

**Volume and structure.** The dissertation of Dr. Damyanov is structured according to the standards adopted in our country. Its volume is 175 standard pages comprising: Introduction – 4 pages, Literature review – 71 page, Objective and tasks – 1 page, Material and models – 3 pages, Methodology of studies conducted – 3 pages, Analysis and discussion of results of the author's own studies – 55 pages, Conclusions – 1 page, Contributions – 1 page, Recommendations – 1 page, Publications and scientific reports – 2 pages, Bibliography – 12 pages. The bibliography contains 220 literature sources, most of which date back to the last decade (25 in Cyrillic alphabet and 195 in Latin alphabet). The Eclosures come at the end and consist of 36 pages. 21 tables and 69 figures are used in the dissertation and illustrate it in accordance with the requirements.

**Literature review.** The doctorand presents basic data on sickness rate, morbidity and the clinical picture of the 4 groups of severe neurological diseases. In several sections the author consistently examines the historical and modern aspects of the pathomorphology and pathophysiology of these diseases, their diagnosis and treatment. Clarification is given – on the basis of the literature review – of their social significance, which is associated with the neurological consequences and their influence upon various aspects of the quality of life. A contribution of the literature review is the analysis of modern perceptions and different aspects of the term 'QoL'. A new generation of high-tech solutions aimed at improving the QoL in each group of neurological disorders has been highlighted.

**The objective of the dissertation is clearly formulated:** 'To assess the quality of life of patients suffering from cerebral stroke, epilepsy, Parkinson's disease and multiple





sclerosis in Bulgaria.' In order to achieve the said objective, the doctorand sets himself 4 tasks. The first task is accomplished by citing data on the specificity and severity of these diseases worldwide. The second task consists in validating the questionnaire instruments for QoL assessment. The third and fourth tasks are accomplished by adequately selecting a range of statistical methods that provide an opportunity for a demographic analysis of questionnaire results, as well as for detection of the interrelationship of individual factors that influence the QoL in these patients.

### **Contingent and methods**

The contingent includes a group of 30 patients of full age who have suffered a cerebral stroke and are selected according to preset criteria for inclusion. In these patients, an SS-QoL questionnaire was used, containing 36 questions divided into 12 domains – socially significant factors. The study was conducted in 3 medical institutions within a period of 6 months. The second group included 40 patients with epilepsy who were selected on the basis of criteria for inclusion. The specific QOLIE-31 questionnaire, comprising 7 domains, was used. The third group consisted of 40 patients with Parkinson's disease, who were also examined in the 3 medical institutions and were given the PDQ-39 questionnaire in its Bulgarian adaptation, this questionnaire also containing a specific assessment scale. Here the domains are 8 in number. The last group – the 4<sup>th</sup> one – consists of patients with MS who, just like those from the other groups, have their dispensary registration. The specific MCQOL-54 questionnaire was used. The scores concern 14 domains.

All data are processed with adequate statistical methods, which provides grounds for approval of the conclusions drawn as a result of the study.

**The results** are well illustrated with 14 tables (6 tables are neither numbered nor entitled) and 40 figures. The studies conducted in the first group (CS) show that the most significant influence on QoL, especially in men, is the influence of disease-related problems in the lower limbs and the associated autonomous walking. In the second group (epilepsy), one of the main serious factors influencing QoL is the fear of a sudden seizure and the traumatism relating thereto. In this group, a detailed study is made of factors such as emotions, mood, energy and fatigue, and their impact on everyday activities and the proper conduct of treatment is studied as well. The QoL studied in group 3 (PD) has been shown to be associated with patients' mobility, everyday activities, emotional well-being, stigma, social support, cognition and bodily discomfort. Mobility is most highly affected, while social support is least affected, which is explained by the mechanism of 100% reimbursement of some of the medicines taken by patients suffering from late PD, this mechanism being introduced in Bulgaria. As for the last group – the 4<sup>th</sup> one – where women prevail, the QoL study has shown that daily exercise is most constrained, while everyday activities create fewest problems. In addition to physical problems, attention is also given to emotional ones, pain syndromes, emotional well-being, impaired cognition and aggravated subjective perception of one's own health. Changes in the individual parameters are reflected and correlation dependencies among them are sought as well.





**The conclusions** (6 in number) are a logical result of the planned study that has been conducted. It is established that the indicators of the study can also be used as markers for future QoL studies in these types of diseases.

I accept the self-assessment of **the contributions of the dissertation** (5 in number). They are divided into two groups: scientific & applied and affirmative in nature. They ensue directly from the conclusions drawn. A merit of this study is the introduction of a range of questionnaire instruments containing a wide scope of studied categories and features that are directly related to the specificity of the QoL in people suffering from severe neurological diseases, in the conditions of outpatient dispensary registration. The conclusions drawn are in line with the contributions, and constitute a rich supplement to the assessment of everyday activities and their impact on socially significant diseases.


Dr. Vladimir Damyanov **has published 4 articles in connection with the dissertation**, in 1 of which he is the first author, 1 of which is in Bulgarian and 3 in English, and 2 of which are published in a reputable international magazine. He has presented **2 scientific reports** at national congresses and conferences, in 1 of which he is the first author.

**Conclusion.** The dissertation of Dr. Vladimir Pavlov Damyanov is a genuine one. It is dedicated to a problem of great medical and social importance. It is his personal deed. He shows excellent knowledge of the literature, he clearly formulates his objective and tasks, he applies modern questionnaire instruments (some of them being applied for the first time to these contingents) and statistical methods, he analyzes the results and draws well-founded conclusions. His contributions are of great scientific and practical importance. The objective of this study and the related tasks have been fulfilled. The Author's Abstract correctly reflects the dissertation data. All this gives me reason to give **my positive assessment as well as to recommend** that the members of the Scientific Jury vote **positively** for the award of the scientific and educational degree of **Ph.D. in Medicine** to Dr. Vladimir Pavlov Damyanov.

8 January 2021

Prof. Dr. Lyubomir Haralanov, Ph.D. in Medicine

*I, the undersigned Merdjanova certify the fidelity of the translation I have made from Bulgarian into English of the document attached hereto – Review dated 8 January 2021 of a dissertation on the topic: ‘STUDY ON THE QUALITY OF LIFE IN SOME SOCIALLY SIGNIFICANT DISEASES OF THE CENTRAL NERVOUS SYSTEM’. The translation consists of 4 pages.*

Sworn translator :   
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