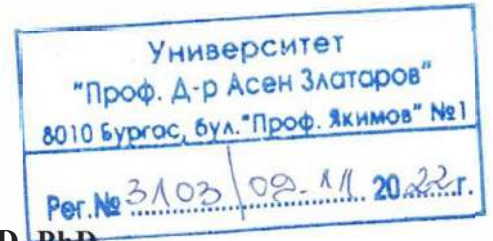


REVIEW



By Prof. Hristo Stoyanov Bozov, MD, PhD

Dean of the Faculty of Medicine

University "Prof. Dr. Asen Zlatarov" - Burgas

Member of the Scientific Jury by Order No. RD - 272/15.09.2022
of the Rector of "Prof. Dr. Asen Zlatarov" University Burgas

Regarding the competition for the academic position "Professor" in the field of higher education 7. Healthcare and sports, professional direction 7.1. Medicine, specialty "Nervous diseases", for the Faculty of Medicine, "Prof. Dr. Asen Zlatarov" University, Burgas

The competition was announced in the State Gazette no. 45/17.06.2022

In the announced competition for "Professor" in "Nervous Diseases" within the legally established deadline, documents were submitted by one candidate: Dr. Ivan Nikolov Dimitrov.

The review is in accordance with the requirements of the Law on the Development of the Academic Staff, the Regulations for its application, and the specific Regulations for the Terms and Conditions for Acquiring Scientific Degrees and Academic Positions at "Prof. Dr. Asen Zlatarov" University, Burgas.

Biographical data and career profile of the candidate

Dr. Ivan Dimitrov was born in 1977. He graduated from the Medical University of Varna. He has been a specialist in nervous diseases since 2007, and a "Doctor" since 2009 with a dissertation entitled "Study of dementia and mild cognitive impairment among the population of the city of Varna". In 2017 he acquired the scientific degree "Doctor of Sciences" for his dissertation "Brain volumetric parameters and cognitive status in relapsing - remitting multiple sclerosis".

In the Department of Neurology of the University of Varna, Faculty of Medicine, he has been a full-time doctoral student since 03.2003, since 10.2003 he has been an assistant professor, since 11.2006 - senior assistant professor, from 02.2010 to 03.2013 he has been chief assistant professor, from 03.2013 to 09.2015 he worked as associate professor, Head of the Department of Nursing at the Sliven Affiliate of Varna Medical University, and from 09.2015 to 2021 he was director of the affiliate. Between 2018 and 2021, he was professor at the same institution.

From October 2003 till 2021, he worked in the First Clinic for Nervous Diseases, UMHAT "St. Marina"-Varna. Since the beginning of 2022 he has been Head of the Department of Nervous Diseases, MHAT "Heart and Brain" - Burgas. His experience in the specialty and general teaching experience exceed 18 years.

Additional qualification

He has acquired the following professional qualifications: Clinical neuropsychology, Clinical electroencephalography, Evoked potentials, and Ultrasound diagnostics of the nervous system. He has obtained a pedagogical qualification for trainers from medical institutions.

Teaching activity

Dr. Dimitrov has conducted lecture and practical training in neurology for medical and dental students in Bulgarian and English, practical training in neurology for students majoring in Nursing and Midwifery, lecture-based and practical training for neurology and general medicine specialists, lecture-based teaching of neurobiology to medical students. He was the supervisor of three successful doctoral students. His academic indices cover the requirements of the present competition.

Membership in scientific societies and professional organizations

Dr. Dimitrov is a member of the Bulgarian Medical Union, the Bulgarian Society of Neurology, the Association of Movement Disorders and Multiple Sclerosis, the Union of Scientists - Varna. He is a member of the Organizing Committee of the I-IV international meetings of BANO with training courses, and chairman of the Organizing Committee of two scientific conferences on nursing. He is a consultant for the Compassion Alzheimer Foundation.

Participation in projects, scholarships, awards

He participated in scientific projects, including an international one under the leadership of the University of California at Berkeley, USA, concerning distribution and access to medical care, costs and quality of life in Alzheimer's disease and other forms of dementia. He received a French Government Scholarship for a three-month specialization in France in 2005, and scholarships to attend scientific forums. He was awarded a Certificate of Appreciation by the Association of Medical Students in Bulgaria for conducting English language training for students at the Medical University - Varna.

Proficiency in foreign languages

French and English at a high level, Russian at an intermediate level.

Scientific production

The total scientific and publication activity of the candidate is presented in 148 publications. He has submitted 83 of them for review: 1 monographic work, one abstract of a dissertation, 6 chapters of a collective monograph and 75 articles. From the articles, 14 were published in referenced and indexed journals, and 61 – in journals with scientific review. Dr. Dimitrov is the first author of 12 (14.5%) of all papers submitted for participation in the current competition, and an independent author of 4: 1 monograph, 1 abstract and 2 articles.

The candidate presents his works in ten sections dedicated to: multiple sclerosis, cognitive disorders, dementias and neuropsychology, electroencephalography and epilepsy, extrapyramidal diseases, neurooncology and neurosurgery, cerebrovascular disease, syndromes and clinical cases, occupational diseases, quality of life and health cares.

Contributions by Section: Multiple Sclerosis. A substantial part of the publication activity, in terms of both the quantitative indicators and the significance of the results achieved, is related to multiple sclerosis (MS). An important place is occupied by the contributions resulting from the dissertation on "Brain volumetric parameters and cognitive status in relapsing - remitting multiple sclerosis", which have a theoretical and applied nature. A concept for a complex study of brain volumetric indicators and cognitive status with neuropsychological tests and evoked responses in relapsing- remitting multiple sclerosis has been validated and can be recommended for future studies. An original set of accessible neuropsychological instruments for the study of cognitive disorders in MS patients was compiled, which was successfully applied in the study and may serve to solve other scientific and clinical tasks in the future. The software for morphometric analyzes of MRI data in MS was used for the first time in the country and the accumulated in-house experience creates an opportunity to carry out future studies (83).

Co-authored and topic-related publications by one of the supervised PhD students addresses the issue of the importance of comorbidities in MS patients. A rare clinical case of MS and syringomyelia (24) has been described, as have those of MS and structural epilepsy (38), and MS and Lyme disease (54). The incidence and significance of gastrointestinal (25), liver (37), and thyroid (35) diseases in MS patients have been determined. Common comorbidities in MS patients have been found to require careful clinical judgment and proper management to reduce the neuropsychological burden and provide a better quality of life (10). An original contribution is the publication concerning quality of life of MS patients as affected by comorbidity (55).

The frequency of sexual disorders as an element of the individual quality of life was investigated using the MSQOL-54 specialized questionnaire in 80 patients with MS, some of them with accompanying diseases. The importance of sexual disorders, which further worsen the vitality of the patients in the studied groups, is emphasized, necessitating timely diagnosis

and treatment (63). The study of the feeling of happiness in MS patients, again with and without comorbidity, is an original contribution (64).

Positron emission tomography (PET) with (18F)-FDG can detect hypometabolic disorders in patients with MS. The method is not yet routinely used in the diagnosis of the disease. However, it provides valuable information regarding the underlying pathogenetic mechanisms and the relationship of functional brain disorders to the clinical manifestations of the disease process, as described in a review article on the subject (31).

Contributions by section: Cognitive disorders, dementias and neuropsychology.

Dr. Dimitrov presents current information on the epidemiology of dementia in review articles (36, 70). A significant contribution is focusing readers' attention on the importance of rethinking the methods of handling neuroepidemiological parameters, especially in view of new classifications and criteria.

An important place among the works is occupied by the monograph "The clock drawing test in clinical practice" (82). It includes a review of the literature and a presentation of multiple scoring methods. This theoretical part is supplemented and illustrated with 62 drawings by patients which have been evaluated by five different methods. Thus, the author demonstrates the evaluation criteria, and the different strategies for evaluation in terms of complexity and time. An analysis of own results is presented. Neurologists, neuropsychologists and other specialists would have a direct practical benefit from this book. Work with the test continues in the dissertation of one of Dr. Dimitrov's doctoral students. Among the results are the optimal threshold values for distinguishing mild from moderate dementia on different variants of the test (61).

A contribution aimed at the neuropsychological practice is the publication devoted to the calculation of a total score of the CERAD neuropsychological battery (9). Chandler's method is used, and it is suggested that the method be routinely used for Bulgarian subjects.

Contributions by section: Electroencephalography, epilepsy. An important contribution in this section is the participation in separate chapters of the published manual "A Brief Guide for Conducting Training in Clinical Electroencephalography" (76-81). The manual helps in the implementation and interpretation of EEG and is a valuable contribution to the medical literature in the country.

A contribution to clinical practice is the proposal that a non-invasive method for recording brain dysfunction, such as the study of evoked potentials, finds routine application in epileptology (16).

Quantitative EEG is not a routine method, but it has been shown to be useful in patients with autism spectrum disorders and attention deficit hyperkinetic disorder (7). This is a contribution to the search for specific neurophysiological changes, with a view to improving early diagnosis, detection of specific biomarkers and early treatment.

As a scientific and practical contribution, the demonstrated increase in the diagnostic value of PET/CT co-registration for the localization of epileptogenic brain lesions in patients with structural epilepsy is evaluated (15).

Contributions by Section: Extrapyrarnidal Diseases. Data have been published on the comorbidity of patients with Parkinson's disease (PD) with type 2 diabetes mellitus (18), as well as on gastrointestinal comorbidity in PD and essential tremor (ET) (29). These publications support the search for a connection between the two diseases, a modern trend in the literature. A contribution to the neurological literature is the description of olfactory disturbances in PD compared with normal olfactory function in patients with ET, progressive supranuclear palsy, and corticobasal degeneration (30).

Of importance are the publications considering the elevated cholesterol and triglycerides in PD and ET as a possible indicator of the pathophysiological mechanisms in both diseases (6); the possible association of head trauma and general anesthesia with an increased risk of developing PD and ET (58); sleep disorders (60) and psychosis (59) in patients with PD. Of interest are the reported results of (18F)-FDG PET/CT in patients with ET (4). The article on the dental health of patients with PD is an interdisciplinary contribution (23).

Contributions by section: Neuro-oncology and neurosurgery. The publications in this section were developed in collaboration with neurologists and neurosurgeons. The article on the quality of life in patients with brain tumors in neuro-oncology practice has a contributive character, given the relevance of the subject under consideration (21). A practical contribution is the implementation of safety checklists in neurosurgery (22). Knowledge of the various possible incidents and errors is important for neurosurgical practice, suggesting the creation of systems for their detection and reporting (19, 20).

Contributions by section: Cerebrovascular disease. Several articles have been published, Dr. Dimitrov not being the leading author. They present analyzes of various parameters and comorbidities in stroke patients, which are a contribution to the characterization and confirmation of certain factors and interrelationships. Recommendations have been made for their proper management (26-28, 32, 33).

Contributions by Section: Syndromes and Clinical Cases. The following publications include contributions to neurological practice and to the literature describing rare syndromes: a clinical case of keratoconus (1), hypertrophic spinal syphilitic meningitis with manifestations of transverse spinal cord lesion (17), a review article on the topic (2), Parry-Romberg syndrome (34), osteoid-osteoma of the femoral head and disc herniation (5), multiple sclerosis and glioblastoma multiforme (3), anti-NMDAR encephalitis (11), Huntington's disease (71), Gerstmann's syndrome (14), Miller Fisher's syndrome (72), Ollier disease and its neurological complications (73), stiff man syndrome (74), and brain abscess in a child (62). A contribution to practice is the description of a clinical case illustrating the influence of stigmatizing beliefs and prejudices of ethnic minorities on mental health (8).

Contributions by section: Occupational diseases

Two publications with contributions to the specialized literature in this field are presented, describing neurological syndromes associated with occupational exposure to harmful substances: amyotrophic lateral sclerosis and the role of vibration as a possible risk

factor for the disease (12), chronic neurotoxicity of lead as a risk factor for cognitive impairment (13).

Contributions by section: Quality of life

The translation and adaptation into Bulgarian of the KINDL^R questionnaire (75) are described. They were conducted with the active participation of Dr. Dimitrov, according to a generally accepted procedure developed by the authors of the original version and applied to translations into other languages. An indisputable contribution of the work is the approval to use the KINDL^R questionnaire in its final form in Bulgarian for scientific research, as well as in Bulgarian pediatric practice.

Contributions by section: Nursing. Given Dr. Dimitrov's professional involvement in the affiliate of Varna Medical University in Sliven in recent years, he also presents publications developed in co-authorship with healthcare specialists. They address issues such as pregnancy in women with epilepsy (41, 42), nursing in patients with multiple sclerosis (46, 48), the application of the Glasgow Coma Scale by nurses (47), the risks of infection while performing manipulations (39, 51, 52, 68), care for children with diabetes mellitus (43, 50, 56, 65) and with Waterhouse-Friderichsen syndrome (66), cervical cancer prevention (69), sexual health of adolescents (44, 49), in-hospital nutrition (40), communication with the patient, his awareness and satisfaction with healthcare (53, 57), and also the role of methodological training of healthcare specialists (45, 67).

The main contributions of the candidate's works can be divided into original contributions and such of applied nature.

Among the contributions of original nature, the following can be mentioned:

1. For the first time, a monograph is presented in Bulgarian, dealing with the different systems for evaluating the clock drawing test, with a practical part, useful for different categories of specialists.
2. KINDL^R quality of life questionnaire in childhood has been translated and adapted into Bulgarian and approved for use in its final form for scientific research and in Bulgarian pediatric practice.
3. An article has been published dealing with the calculation of a total score for the CERAD neuropsychological battery in a Bulgarian sample.

Contributions of scientific and applied nature include:

1. The manual for training in clinical electroencephalography is a contribution to Bulgarian educational medical literature.
2. The following descriptions of clinical cases are a contribution to Bulgarian neurological literature and clinical practice:
 - "keratoconus personality";

- hypertrophic spinal syphilitic meningitis, demonstrating important highlights of the differential diagnosis in spinal pathology;
 - Parry-Romberg syndrome: clinical manifestations, potential pathogenesis, and the role of the multidisciplinary team in the diagnosis and treatment of progressive hemifacial atrophy;
 - the psychopathological dynamics of a victim of a disaster refusing treatment, and the importance of stigmatizing beliefs, prejudices of ethnic minorities and their impact on the ability of professionals to provide comprehensive medical care;
 - anti-NMDAR encephalitis that debuted with epilepsy, the description of which in a 12-year-old girl is among the few in the country.
3. The risks of infection among practicing nurses and students when performing manipulations are examined, and strategies to reduce them are proposed.
 4. Some problems in patients with neurological diseases (pregnancy in epilepsy, quality of life and level of awareness in multiple sclerosis) are identified and the opportunities for healthcare professionals to participate in solving them are highlighted.
 5. The involvement of healthcare professionals with specific actions in the prevention of diabetes, obesity and reduced physical activity and in improving the lifestyle of school-aged children is motivated.
 6. Emphasis is placed on the growing problem of sexual health in adolescence, highlighting the need for timely training and stimulating measures for its implementation, including the participation of healthcare professionals.
 7. Guidelines are proposed to overcome some shortcomings of communication with the patient, leading to insufficient information regarding the treatment process and satisfaction with care in the hospital department, with a view to increasing the quality of care.

**COMPLIANCE WITH THE MINIMUM SCIENTOMETRIC REQUIREMENTS FOR
THE ACADEMIC POSITION "PROFESSOR"**

Group of indicators	Contents	Professor (number of points)	Candidate (number of points)
A	Indicator 1	50	50
C	Indicators 3 or 4	100	100
D	Sum of indicators 5 to 9	250	656.49
E	Sum of indicators from 10 to 12	150	615

F	Sum of indicators from 13 to the end (F14 at least 60 points)	120	251.8 (F14 = 80 points)
Total		670	1673.29

Conclusion

Dr. Ivan Dimitrov is a well-established specialist, a neurologist with achievements in his scientific, teaching and clinical activities, with administrative experience in university structures. His scientific production has indisputable contributions. It meets and even exceeds the scientometric requirements of the current competition. This gives me reason to confidently propose to the respected Scientific Jury to vote positively for the election of Dr. Ivan Nikolov Dimitrov for the academic title of "Professor" in the professional field of Medicine, specialty "Nervous Diseases", for the needs of the Faculty of Medicine of "Prof. Dr. Asen Zlatarov" University, Burgas.

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