

Review

By Prof. dr Elena Milkova Ilieva, m.d,

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Concerning the contest for occupying Academic title "Associate Professor", higher education area 7. "Health and Sport" in professional field 7.1 "Medicine" and scientific specialty "Physiotherapy, balneology and rehabilitation" for the needs of the Faculty of „Public Health“, Department of „Physiotherapy, rehabilitation, thalassotherapy and occupational diseases ", the Training sector of Physiotherapy, Rehabilitation and thalassotherapy – Medical University - Varna and the Clinic of Physical and Rehabilitation Medicine at the University Multipurpose Hospital for Active Treatment "St. Marina", promulgated in State Gazette – issue 12 from 8.02.2019

By Order No P-109-141/8.04.2019 of the Rector of the Medical University – Varna I am an internal member of the Scientific Jury and according to the decision of the first absent meeting of the SJ from 17.04.2019. I am determined to write a review.

The participation in the competition is admitted Dr. Mariyana Mihaylova Krasteva – Ruseva, M.D, only one candidate. The submitted documents, according to LDASRB , meet all the requirements for occupying this position.

I. Summary presentation of the candidate.

Dr. Mariyana Mihaylova Krasteva – Ruseva, M.D was born in 1969r in the town of Kavarna. She graduated from the Medical University - Varna in 1995 with excellent marks. Since 1996 she has been working as a junior doctor in the Kavarna Regional Hospital, Children's ward, from 1999-2004 – doctor for Agrospektar OOD, Kavarna. In 2000-2004 she was a doctor – specializing in MPHAT "St. Marina" Varna, Clinic of physical therapy and rehabilitation. Her academic career has begun in 2004. - assistant, 2008 - assistant professor, and from 2011 - Ch. Assistant at the Department of Physiotherapy, Rehabilitation, Thalassotherapy and Occupational Diseases and Clinic of Physiotherapy, Rehabilitation and Thalassotherapy at the University MPHAT "St. Marina", Varna, where she is currently working.

In 2004, she has acquired specialty in "Physiotherapy, balneology and rehabilitation". Since 2010, she has a capacity in Manual Medicine (Highly specialized activity).

In 2016 she acquired an educational – qualification degree in "Physiotherapy, balneology and rehabilitation" after a successfully defended thesis entitled "The Role of Extensive Therapy in the Complex Treatment of lumbar disc disease". Dr. Mariyana Mihaylova Krasteva-Ruseva, M.D. has specialized in:

Training for the rehabilitation of patients suffered myocardial infarction and cardiac surgeries. Medical University - Varna (2005); Novelties in Manual Diagnosis and Therapy. UMPHAT "St. Marina", Varna (2005); Excitomotor electro-diagnostics. Association of Physical Medicine and Rehabilitation (2005); Manual medicine. BMA, Medical University - Varna (2006); Extension therapy. MPHAT "St. Marina" (2007); Acupuncture. Cycle A, B, C, D. BMA, Medical University - Sofia, Department of postgraduate training (2008); Laser therapy. Medical University - Sofia (2009); Prolotherapy. Lecturer: J. D. Watson, MD, FRCPC. Varna, Bulgaria (2012); Neural Therapy. Medical University - Varna, Austrian Medical Association of Neural Therapy (2012); Pedagogical qualification of trainers from health institutions Medical University - Varna (2012); Training on "Quality of Life and How to Get Out of therapy

framework? How can children with physical disabilities participate in everyday activities?" Karin Dom Foundation, Varna (2018); Training on: Motor development, gymnastics for children with special needs. CCP – importance of posture, positioning and assisting children, "Karin Dom" Foundation, Varna (2018).

She has participated in 28 national and international scientific forums, on 11 of them with a report.

Since 1996 she has been working as a junior doctor in the Kavarna Regional Hospital, Children's ward, from 1999-2004 – doctor for Agrospektar OOD, Kavarna. In 2000-2004 she was a doctor – specializing in MPHAT "St. Marina" Varna, Clinic of physical therapy and rehabilitation. Her academic career has begun in 2004. - assistant, 2008 - assistant professor, and from 2011 - Ch. Assistant at the Department of Physiotherapy, Rehabilitation, Thalassotherapy and Occupational Diseases and Clinic of Physiotherapy, Rehabilitation and Thalassotherapy at the University MPHAT "St. Marina", Varna.

She has had proficiency in English and Russian

She has excellent computer and statistical skills. She has a high professional competence, shows collegiality and tolerance, has good communication skills and teamwork skills

She's been a member of the Bulgarian Medical Association, the Association of Physical and Rehabilitative Medicine, the Bulgarian Society of Manual Medicine and Confederation of Independent Trade Unions in Bulgaria (CITUB).

II Teaching activities..

From the submitted documents it is evident that Dr. Mihaylova has a long teaching experience and the report on the teaching schedule exceeds the required minimum of 220 hours a year.

Dr. Mihaylova delivers lectures and exercises in the "Physiotherapy" major of the specialties of "Obstetrics", "Nurse", "Rehabilitation therapist", "Physiotherapy and rehabilitation" of the "Medicine" specialty. The applicant participates in the development of curricula and tests, actively participates in examination boards.

She has been course manager in the Master program in "Rehabilitation, thalassotherapy, wellness and spa".

Participation in project: Participation in project 2014-2020 – Project No BG05M20P001-2.002-0001 „Student practices – Phase 1“ of MES, implemented with the support of the “Science And Education For Intelligent Growth” Operative Program 2014 – 2020 and the European Union, as a mentor for the training institution being the University MPHAT „St. Marina” EAD – Varna.

Dr. Mariyana Mihaylova Krasteva – Ruseva has participated in the project as a mentor of 20 students, and as academic mentor of 15 students in 2017 and 2018 in the specialties "Medicine" and "Rehabilitation therapist"

III. Evaluation of the medical-diagnostic activity

The attached transcript shows that Dr. Mihaylova has had 19 years and 8 months of work experience as a medical doctor, 14 years and 7 months as a specialist in "Physical and Rehabilitation Medicine" and has been actively involved in the medical activities of the "St. Marina" hospital – Varna. She is a proven specialist with many additional qualifications and skills. In her daily practice she treats patients with diseases of the locomotory system, peripheral and central nervous system and works in close collaboration with colleagues from different specialties like orthopedics, neurologists, rheumatologists, etc.

IV. Overall assessment of the scientific-theoretical and practical-applied contributions of the candidate.

For the competition Dr. Mariyana Mihaylova Krasteva-Ruseva, M.D. has presented 40 scientific papers. In the present contest, Dr. Mariyana Mihaylova Krasteva-Ruseva, M.D., participated with 1 monographic work, out of which 29 were included as evidence in the report on the fulfillment of the minimum requirements for obtaining the "Associate Professor" title, as per LDASRB from 2018. There were also 11 publications presented, other than the evidence for the fulfillment of the minimum requirements for obtaining the "Associate Professor" title..

It is also essential that she is the sole author of 4 of the articles and of the monograph, is the first author of 12 articles, second author of 11 articles, and third 9 articles. and follow-up of 2 articles.

Scientific-theoretical and practical-applied contributions are in the following directions:

1. Extension therapy, preformed physical factors and prevention of lumbar disc disease
(A/1-1, G/8-8, G/8-9, G/8-12, G/8-18; I-1, I-2, I-3, I-4)
2. Management and prevention of low back pain
(G/7-2, G/8-7, G/8-11, G/8-17)
3. Manual medicine and tests for the diagnostics of MSS and peripheral neural system diseases
(G/8-1, G/8-2, G/8-3, G/8-4, G/8-5; G/8-6, II-2, III-1, III-2)
4. Application of physical factors in MSS diseases
(G/8-10; II-1, II-4)
5. Physiotherapy and prevention in osteoporosis
(B/3-1, G/8-13, G/8-25)
6. Physiotherapy and prevention in childhood
 - A. Physiotherapy and prevention of common diseases in childhood
(G/8-14, G/8-16, G/8-19, G/8-21, G/8-22, G/8-23)
 - B. Rehabilitation and testing in children with special educative needs and autism
(G/7-1, G/8-15, G/8-20, G/8-24; II-5)
7. Other
(II-3)

The research papers of Dr. Mariyana Mihaylova Krasteva-Ruseva have 11 citations (10 of Bulgarian authors and 1 in a monograph).

V. Characterization and contribution of scientific publications

The scientific researches of the applicant have a significant contribution to science in Bulgaria.

The monographic work "Osteoporosis - Physical Therapy and Prevention", which presents the most contemporary possibilities of physical therapy for the prevention and treatment of this socially significant disease, is of considerable practical application.

Underlined is the fact that conservative non-medication treatment of osteoporosis is still an insufficiently absorbed resource.

These include recommendations on early inclusion of educational programs to inform risk contingents about existing prevention and treatment options. Consensus has been achieved on the need to change lifestyle and to maintain a healthy diet and moving activity, as well as to give up harmful habits. The primary, secondary and tertiary prevention of osteoporosis have been considered in detail. An emphasis has been put on the need to include educational programs ever since childhood and adolescence to promote a healthy lifestyle including optimal motor activity, healthy nutrition, elimination of harmful habits and raising young people's knowledge of bone health. Mandatory preventive measures to ensure good bone health in adolescents have been presented. The monograph exhaustively summarizes all the issues related to the incorrect management of the corrective risk factors leading to osteoporosis, there have been provided recommendations for their management and timely correction. In conclusion, it is stressed on the fact that the conscious and purposeful implementation of primary prevention of osteoporosis is a necessary investment because, as field leading experts say, "osteoporosis is one of the most preventable epidemics in the history of mankind" ..., and the key is in our hands, adds the author.

Another important topic in the scientific research of the applicant is physical therapy and prevention of lumbar disc disease.

The articles deal with the basic principles for the diagnosis and treatment of lumbar disc disease through the application of physical factors and intermittent extension therapy. For the first time in Bulgaria an in-depth study was carried out of the effectiveness of the complex application of preformed physical factors and intermittent extension therapy with Eltrac 471 on the functional recovery of patients with lumbar disc disease. The evaluation of the effect of physical therapy was carried out by dynamic monitoring of the subjective and objective neurological status, indicators of active volume of movement in the lumbar section.

For the first time in Bulgaria, the Roland-Morris Disability Assessment Questionnaire and the SAM questionnaire for evaluation of the psycho-functional state of individuals (self-esteem, activity, mood) were applied before, after treatment at the end of the first and third month in patients with disc pathology. The analysis of the obtained results proves that the developed complex physiotherapeutic program applied at the appropriate stage of the disease is highly effective and contributes to the complete recovery of patients with lumbar disc disease. There has been given a scientific justification of the pathogenetic effects of extension therapy in disc hernias. It has been proven that with the right approach, extension therapy has good success and contributes to improving the quality of life and the psycho-emotional state of patients with disc disease. An algorithm has been developed for the diagnosis and physiotherapy treatment of lumbar disc disease with included intermittent extension therapy. Recommendations have been provided on the basis of theoretical formulations and practical experience gained for the proper conduct of an extension procedure. Presented are the capabilities of modern physical medicine for treatment and prevention of lumbar disc disease. It has been proven that an adequate therapeutic approach consistent with the stage of the disease is crucial for early and complete recovery of patients. Recommendations have been provided for preventive measures to patients with disc pathology to maintain the spine in good condition and to prevent recurrence of the disease.

In the scientific studies, attention has also been paid to the place of physical medicine and the specialist in physical therapy in the management of low back pain. The articles also discuss the basic principles on which the management of stubborn back pain is based. The role of prevention and a competent therapeutic approach for preserving patients' capacity to work, reducing the economic loss to society and improving the quality of life of affected persons has been highlighted. Based on the analysis of medical literature, the importance of a multidisciplinary approach to managing chronic back pain is emphasized. The role of specialist physicians in physical and rehabilitation medicine in the

conservative, non-medical management of LBP has been considered. A physician's professional knowledge and skills oblige him to be able to identify patients with severe spinal pathology and direct them to the most appropriate specialist. At the appropriate stage of recovery, he should provide more intensive rehabilitation and encourage patients to early return to daily activities. Throughout the process of recovery, physicians and physiotherapists and patients are in close collaboration. For the first time in Bulgaria, a purposeful study was carried out on the possibilities of polarized polychromatic non-coherent low energy light (PPL) emitted by the Biopton lamp in combination with conventional physical factors to influence the pain syndrome, the quality of life and the physical function of patients with LBP. Based on the results obtained, it has been shown that PPL contributes to a faster and more complete recovery of patients with LBP.

Numerous scientific papers are focused on manual medicine and diagnostic tests in diseases of the MSS and the peripheral nervous system.

Articles present a deeper study of blockage as a major functional substrate of modern manual medicine. All the known theories about the occurrence of the blockade have been considered, the usual clinic and the chain links were revealed, the trends in the development of the blockage interpretations have been outlined.

I believe that scientific studies, dedicated to childhood have a significant contribution to physical therapy and prevention. They are mainly in two directions: Physiotherapy and prevention of common diseases in childhood and Rehabilitation and research of children with special educative needs and autism.

An in-depth study has been carried out on the possibilities of physical therapy to affect tonsillar hypertrophy and associated symptoms of disturbed night breathing in often ill infants affected by URT infections.

Tonsillary hypertrophy is difficult to be therapeutically influenced with drug therapy. In the conducted study it has been proven that the inclusion of physical factors in the complex treatment is a good alternative both for children non-responding to medication therapy, and as a method that works synergistically with it and accelerates the healing process. For the first time in Bulgaria, a study was conducted on the effectiveness of PPL (polarized - polychromatic, non-coherent light) and ultrasound sounding in children with tonsillar hypertrophy. Specific results from the applied program were presented, proving the high efficiency of the method.

The articles deal with the role of adequate realization of the prevention of widespread nowadays spinal distortions among adolescents. Indicated is the need to take timely measures to prevent them. The analysis of medical literature dedicated to the prevention of vertebral distortions proves that prevention should begin as early as possible at pre-school age in order to avoid spinal deformities in adolescents resulting in series of health failures.

The significance has been considered of another relatively common deformity of the foot, the flatness that is neglected at a young age, but in the later years of life appears as a prerequisite for the development of more serious problems - pains in the feet, low back pain, rapid fatigue and reduced mobility. Timely prevention of flat feet has made an important contribution to preventing these complications.

The articles also pay the deserved attention to the reduced motor activity among today's "digital" generation. A study has been carried out to analyze the resources of school education to improve the physical activity of students in order to prevent socially significant diseases such as diabetes, obesity, hypertension, spinal deformities. Specific recommendations have been synthesized to stimulate and increase motor activity among adolescents.

Subjects of studies are also the autistic spectrum disorders in childhood, which are increasing in frequency today, and therefore the demand for effective methods for their treatment is a very important commitment of the medical community.

The possibilities for influencing general development in children with autism and in children with special educative needs (SEN) are presented through the application of adapted physical activity. Consideration has been given to the need to create an appropriate environment to ensure optimal motor activity in children with SEN in order to avoid the effects of a sedentary lifestyle, to identify the main principles of working with such children and the relevant recommendations have been provided.

For the first time in Bulgaria, a study was conducted on the effects of transcranial electrostimulation in children with autism on their general intellectual, mental, linguistic and physical development in collaboration with a child neurologist, psychologist and speech therapist. The reported results show an improvement in all tracked parameters and provide a basis for the method to continue to be applied in practice, and the research to that end should continue.

The applicant successfully combines her scientific and research work with lecturing activity.

The opinion presented by me reflects the basic scientific and research and teaching activity of Dr. Mihaylova.

VI. Basic scientific and practical contributions

Contributions of original character

- For the first time in Bulgaria, a dissertation was published, representing a profound and systematic study of the effectiveness of intermittent extension therapy in the treatment of lumbar disc disease.
- For the first time in Bulgaria a "SAM" questionnaire was used to evaluate self-esteem, activity and mood after extension treatment of patients with lumbar disc disease.
- For the first time in Bulgaria an in-depth study was carried out on the possibilities of the "Bioptron" lamp to influence tonsillar hypertrophy and the symptoms of night breathing in children.
- For the first time in Bulgaria a research was carried out on the capabilities of direct transcranial current stimulation (tDCS) on a number of impaired functions, such as physical development, cognitive skills, speech skills in children with autism spectrum disorder.

Contributions of scientific – applicable character

- A complex physiotherapeutic program has been developed including an extension procedure with proven efficacy in patients with lumbar disc disease.
- An algorithm has been developed for conducting intermittent extension therapy in patients with lumbar disc disease.
- A complex physiotherapeutic program has been developed for the treatment of children with tonsillar hypertrophy and symptoms of disturbed night breathing.
- The monographic work presents the modern possibilities of physical therapy for treatment and prevention of osteoporosis.

- Specific preventive measures have been developed and presented to prevent low back pain in adolescents and adults

Conclusion

The opinion presented by me reflects the main scientific and research activity of **Dr. Mariyana Mihaylova Krasteva-Ruseva, M.D.**, which fully complies with the criteria for LDASRB, the Rules for application of the LDASRB and the Regulations of the Medical University - Varna for being awarded the academic title "**Associate Professor**".

Based on the positive evaluation of the overall teaching activity of Mariyana Mihaylova Krasteva-Ruseva, I propose to the Honorable Jury to award the Academic title "Associate Professor" in the field of higher education. 7. Health and Sports, professional field **7.1. Medical specialty "Physical and Rehabilitation Medicine"**.

24.04.2019r.

Sincerely:

(Prof. dr Elena Milkova Ilieva, m.d.)