

Review

Reviewer: Prof. Evgenia Dimitrova, DSc, Department of TMKT, NSA "Vasil Levski", Sofia

of materials submitted for participation in a competition to occupy the academic position "Assoc. professor"

In the professional direction 7.4. Public health

Specialty "Physiotherapy"

In the competition for "Assoc. professor", announced in the State Gazette, issue No. 45/17.06.2022. and on the website of the University "Prof. Dr. Asen Zlatarov" - the city of Burgas, for the needs of teaching the specialty "Rehabilitator", as the only candidate participated Chief Assistant Gergana Angelova Angelova - Popova, Ph.D. When the competition is announced the requirements of the Law for development of the academic staff of the Republic of Bulgaria, and its rules of application, and the Regulations of the University "Prof. Dr. Asen Zlatarov" - Burgas are met.

1. Short biographical data

Gergana Angelova Angelova - Popova graduated with a Specialist's degree in Rehabilitation at the Medical College, University "Prof. Dr. A. Zlatarov" - Burgas (2001), and "Bachelor" in Kinesitherapy at the Nasional Sport Academy (2005), and "Master" in "Business Administration - Health Management" at University "Prof. Dr. A. Zlatarov" - Burgas (2011). She has over 20 years of clinical experience as a rehabilitator and kinesitherapist. She worked as a rehabilitator (in TDKTC OOD - Burgas, SPA center "Diamant" - Sunny Beach, in SPA center "Rose" - hotel "Sol Nessebar Palace") and as a physiotherapist (in Physiotherapy center "Vita" and MBAL "Heart and brain" - the city of Burgas).

Since 2005, she has been a practice teacher and assistant at the "Medical College", University "Prof. Dr. Asen Zlatarov" - Burgas (2006) and since 2019 -

chief assistant at the Faculty of Health Sciences University "Prof. Dr. "Asen Zlatarov" and "Medical College". She was awarded the title of Ph.D. after successfully defending her dissertation on the topic: "Kinesitherapy after fractures of the distal radius" (2018). She is a member of the Association of Physiotherapists in Bulgaria (AFB) and through it a member of the World Confederation for Physical Therapy (WCPT). She is a member of the Bulgarian Sports Physiotherapy Organization (BSPA). Her professional interests are in the field of sports kinesitherapy, kinesitherapy in orthopedics and traumatology, kinesiology and pathokinesiology, functional diagnostics and kinesitherapy in musculoskeletal dysfunctions. Fluent in English and Russian.

2. A general description of the materials presented

The candidate Chief Assistant Gergana Angelova Angelova - Popova, Ph.D. participates in the competition with the following scientific production:

- Monographs-1 number;
- Publications-20 numbers

Publications can be classified as follows:

- Publications and reports published in scientific publications, referenced and indexed in world-famous databases of scientific information (Indexed in Web of Science, Indicator D 7.) – 2 pieces [Г.7.1., Г.7.2].
- Publications and reports published in unreferenced journals with scientific review or published in edited collective volumes (Indicator D 8.) – 18 pieces [Г.8.1-18].

Classification according to the language of the publication:

- Publications and reports in Bulgarian – 11 pieces.
- Publications and reports in English – 9 pieces.

Classification by number of co-authors:

- Standalone - 4 pieces [Г.7.2., Г.8.4., Г.8.7., Г.8.18.];
- With one co-author - 8 pieces [Г.8.2., Г.8.3., Г.8.5., Г.8.11., Г.8.12., Г.8.13., Г.8.14., Г.8.17.];

- With two or more co-authors - 8 pieces [Г.7.1., Г.8.1., Г.8.6., Г.8.8., Г.8.9., Г.8.10., Г.8.15., Г.8.16.];

All publications are peer-reviewed prior to publication.

The candidate is the author of 1 monograph on the topic: "Kinesitherapy for subacromial impingement syndrome and rotator cuff tears" (2022).

3. Impact of the candidate's scientific publications in literature (known citations)

Chief Assistant Gergana Angelova Angelova - Popova, Ph.D. submitted information about the following 9 citations:

- Citations quoted in scientific journals, referenced and indexed in world-famous databases with scientific information – 3 articles.
- Citations quoted in the monographs and scientific peer-reviewed volumes – 3 articles.
- Citations or reviews in non-referenced journals with scientific review – 3 articles.

A total of 90 points – exceeds the minimum national requirements for the academic position of "Assoc. Professor".

4. General characteristics of the applicant's activities

4.1. Educational and pedagogical activities (work with students and doctoral candidates)

Chif. ass. Gergana Angelova Angelova - Popova, Ph.D. is an established lecturer in the field of kinesitherapy and rehabilitation – she has over 16 years of teaching experience in her specialty at the University "Prof. Dr. "Asen Zlatarov" and "Medical College" - Burgas. Leads lectures, exercises, and clinical practice in the disciplines: "Kinesitherapy", and "Therapeutic Massage", as well as a pre-diploma internship in the specialty "Rehabilitator" at the "Medical College" - Burgas. As the chief assistant at the University "Prof. Dr. "Asen Zlatarov" - the city of Burgas she taught the subject "Kinesitherapy" in

the specialty "Medical rehabilitator - occupational therapist" - "Bachelor" degree. Her total audience occupancy for the last 4 years is above the norm of 360 hours (until the 2020-2021 academic year) and 400 hours (from the 2021-2022 academic year) (476 hours on average), of which an average of 58 hours lectures. Chief Assistant Gergana Angelova Angelova - Popova, Ph.D. participates in the discussion and development of new curriculum for specialty "Rehabilitator" at "Medical College" - Burgas, tailored to the contemporary requirements for providing knowledge, skills and competencies in the profession. She is the co-author of the curricula on "Kinesitherapy", "Massage therapy", "Pre-graduate training", "Kinesiology" and "Pathokinesiology". Conducts scientific supervision of students' coursework. She participates in examination committees for the taught disciplines and the state practical exam.

She maintains a high level of continuing education through participation in 17 specialized courses to increase hers professional qualification (Brian Mulligan's Concept - Mobilization with movement, NAGS, PRP's, ETC; PNF Basic Course; Soft tissue mobilization of the lumbosacral region and lower limb; Neuromuscular taping; Yumeiho therapy; Manual mobilization of the lower body and lower limb; Peripheral nerve mobilization; Muscle relaxation and stretching in manual therapy; Elastic resistance, proprioceptive training and myofascial relaxation in physical therapy and sports; Manual therapy techniques for shoulder injuries; Kinesitherapy for arm stiffness and contractures; Kinesiology taping; Manual therapy techniques for knee injuries; Orthopedic Cyriax medicine; Dry kneeling; Osteopathic manipulation techniques and muscle release - OsteoMTMR, etc.)

4.2. Scientific and scientific applied activities

From the 20 publications presented, Chief Assistant Gergana Angelova Angelova - Popova, Ph.D. is the first author in 9 of them and is the author of 1 monograph.

She has participations in 11 national and international scientific forums, organized by the NSA, the University "Prof. Dr. Asen Zlatarov" - Burgas, the Bulgarian Association of Physiotherapists (BAPT), Bulgarian Orthopedic and Traumatology Association (BOTA), Institute of Knowledge Management, Skopje, etc. She successfully promoted her in-depth studies in the field of kinesiological research, kinesitherapy and functional restoration of the hand, shoulder joint, the possibilities of sanatorium treatment, etc. She is a scientific consultant in student scientific sessions (8 papers, 3 awards). She participates in the review of articles and reports. She is the scientific supervisor of more than 20 successfully defended course works of students from the "Rehabilitator" specialty at the College of Medicine.

4.3. Implementation activity

Chief Assistant Gergana Angelova Angelova - Popova, Ph.D. performs organizational and methodological work with kinesitherapists and directors from basic medical institutions at the University "Prof. Dr. A. Zlatarov" - Burgas. Develops schedules for educational and practical activity (clinical practice) and State pre-diploma internship in the specialty "Rehabilitator" at the Medical College. Assists in the provision of activities in a practical environment outside the university.

She participated as an expert in 7 intra-institutional scientific research projects, which ended with scientific and scientific applied results, on the following topics: "Generalized network modeling in the field of orthopedic and trauma rehabilitation" (2022-2023); "Study on telemedicine, telerehabilitation and telepharmacy to improve care for the sick and medical education" (2020-2021) "Exploring the possibilities of complex rehabilitation and drugs in children and students who are overweight and with obesity" (2018-2019); "Rehabilitation opportunities and food additives in metabolic syndrome" (2017); "The role of kinesitherapy, natural physical factors and

massage in the prevention, treatment and rehabilitation of osteoporosis" (2016-2017); "Complex rehabilitation and ergotherapy after hip prosthesis" (2016); "Medico-social rehabilitation of the leading socio-significant diseases in the Burgas region" (2010). She participates in the organization and equipment of classrooms, teaching offices, rooms for practical exercises in kinesitherapy, etc.

4.4. Contributions (scientific, scientifically applied, applied)

I believe that the most serious scientific and scientifically applied are the contributions of the candidate in the field of *kinesitherapy for trauma and diseases of the musculoskeletal system*, examined in detail both in hers monograph on the topic "Kinesitherapy after subacromial impingement syndrome and rotator cuff tears"(2022), as well as in a number of publications for the acquisition of an educational and scientific degree "doctor" and for participation in the current competition. The monograph analyzes the role of dynamic stabilization of the scapula for restoring the normal range of motion and function of the shoulder joint, describes a complete rehabilitation protocol for conservative treatment of impingement syndrome, suggests some author's modifications of movement mobilization techniques, systematizes the special functional tests to distinguish the different types of impingement syndrome and the affected structures, a complete kinesitherapeutic methodology for arthroscopic repair of rotator cuff tears is presented. The monographic work helps to enrich the modern views on physiotherapy rehabilitation in shoulder injuries. The monograph was developed on the basis of a thorough critical analysis of modern literary sources and practical experience of the author. It is a contribution to science and kinesitherapeutic practice.

In some of the publications, the studies on the subject were expanded and clinical results were published [Г.7.2., Г.8.1., Г.8.2., Г.8.3., Г.8.4., Г.8.18.]. The application of kinesitherapeutic methodology was investigated and its

therapeutic effect was proven in patients after arthroscopic repair of rotator cuff tears [Г.7.2.]. The three-dimensional rotational movements and the dynamic stabilization of the scapula were analyzed to restore the range of motion of the shoulder joint in impingement syndrome. Based on the kinesiology analysis, a selection of manual therapeutic techniques and means to strengthen the stabilizing muscles of the scapula is made [Г.8.18.]. A rehabilitation protocol was developed for a patient after surgical treatment of trapeziometacarpal osteoarthritis and proved its effectiveness in overcoming subjective complaints such as pain, motor deficits of the thumb, limitations in ADL and restoration of the functionality of the arm, registered through Disabilities of the arm, shoulder and hand (DASH) [Г.8.1.]. The effect of the application of a specialized kinesitherapeutic approach for functional recovery in a clinical case with a fracture in the proximal part of the tibia, treated surgically and with simultaneously imposed plaster immobilization for a period of 3 months, was investigated. The applied techniques for restoring the range of motion, postural control, proprioception and equilibrium reactions lead to a positive influence on the kinematic parameters of the gait and a complete painless loading of the affected lower limb after a 10-day rehabilitation course [Г.8.2.]. A rehabilitation program with proven effectiveness was applied in the treatment of a patient after an open fracture of the distal radius [Г.8.3.]. The effect of the application of positional release therapy techniques in patients after an open fracture of the distal radius was studied and a significant reduction in pain symptoms and an increase in the range of motion in the wrist joint and fingers were found [Г.8.4.]. The created and approved methods of kinesitherapy in this scientific field have a significant scientific and applied contribution to kinesitherapeutic science and practice. Part of the kinesiological analyses, research methods and kinesitherapy are also implemented in her pedagogical activities, by including them in the curricula of the taught disciplines.

Her contributions in the field of rehabilitation for *metabolic diseases* are also essential [Г.8.6., Г.8.14., Г.8.16.]. In the author's team, a body weight study with an "OMRON BF511" device was approved, which enables the assessment of the body mass index and the percentage of body and visceral fat. A new method for processing anthropometric data obtained from the Medical College Student Survey by applying InterCriteria Analysis (ICA) ICrA is described. Based on the research, important conclusions for clinical practice have been formulated [Г.8.6.]. The possibilities of physical modalities in the rehabilitation of the metabolic syndrome and its complications are systematized. A positive effect of the application of a complex 20-day rehabilitation program, including peloidotherapy, hydrotherapy, movement regime, dietary regime and educational lectures was proven in 42 patients with metabolic syndrome [Г.8.14.]. A collective screening study of height, weight, body mass index, percentage of fat and muscle mass was conducted among 213 children, aged 10-11 years, in several Burgas schools. Alarming results have been found regarding overweight among adolescents. Recommendations are given for a complex approach to solving the problem [Г.8.16.]. The co-authored research on the impact of balneotherapy in common diseases also made a significant applied contribution [Г.8.5.]. The attitude and evaluation of the patients in the Hospital for Treatment, Long-Term Treatment and Rehabilitation "St. George" – Pomorie, about their choice of treatment with Pomorie mud and lye and their effectiveness in terms of clinical parameters and their health status were studied and analyzed. The fastest therapeutic effect was found in patients with gonarthrosis and lumbar spondylosis. Based on the results of the study, it is concluded that treatment with Pomorie mud and lye in combination with other physical and rehabilitation methods gives significantly better results in terms of pain,

function and performance of daily activities and is a preferred therapy by many patients to maintain and improve their health status.

Results of research on *children with autism and hypotrophy* (Г.8.7-10) have been published with a contribution to practice. A survey was conducted among relatives and parents of children with autistic disorders regarding their awareness of autism spectrum disorders, treatment options and meeting the specific needs of their children, as well as regarding the effectiveness of applied therapies, programs, and interventions. The opinion of health professionals, parents, and relatives regarding the special care that children receive in one of the day care centers in the city of Burgas, the possibilities for meeting their needs, the necessary support and understanding of parents was studied. The opinion of medical workers regarding specialized medical and psychological assistance and the effectiveness of applied therapeutic interventions in their work with children with this problem was studied. A survey was conducted among the medical staff providing specialized care for children with hypotrophy. Some options for the prevention of hypotrophy in children with disabilities were discussed at the Home for Medical and Social Care for Children "Faith, Hope and Love" - Burgas.

Publications in the field of *telemedicine and telerehabilitation* are modern and interesting (Г.7.1., Г.8.15.). The reduced GN-model developed in the authors' collective, representing the patient/therapist interaction in real time, through a video conference platform, has a significant scientific-applied contribution (Г.7.1.). The possibilities of implementing teleconsultations in the field of balneotherapy and in the process of recovery of patients from Covid19 have also been studied (Г.8.15.). Research in this area is also the basis for innovations in clinical practice and in the way of teaching.

Three studies in author collectives are aimed at *optimizing the quality of education and the preparation of students* (Г.8.11., Г.8.12., Г.8.17.). A study was made of the personal and professional orientation and motivation of 198 candidate students from 3 specialties in health care at the University "Prof. Dr.

Asen Zlatarov" Burgas (Г.8.11.). The recovery process was analyzed in 1560 student-athletes from all units of the university involved in athletics. Recommendations have been formulated for faster recovery of the body after training (Г.8.12., Г.8.17.).

The studies in the field of *health management* outline some strategic possibilities for the development of the department of "Physical and Rehabilitation Medicine" at MBAL-Burgas (Г.8.13) and have important implications for practice.

5. Assessment of the applicant's personal contribution

Chief Assistant Gergana Angelova Angelova - Popova, Ph.D. is a lecturer with excellent theoretical and practical training, respected by her colleagues and students. The scientific publications submitted for review establish a serious personal contribution of the candidate and good teamwork. I accept its self-assessment, as indicated in the author's report on the contributions of scientific papers that correspond to the significance of the results obtained. I haven't established plagiarism.

8. Conclusion

The overall work of the Chief Assistant Gergana Angelova Angelova - Popova, Ph.D. includes scientific, medical, and teaching activities. Her scientific papers contain scientific and theoretical and scientific and applied contributions that enrich kinesitherapy as science and practice. The materials with which the candidate participates in this competition fully meet the requirements of the Law on Development of the Academic Staff of the Republic of Bulgaria and the rules. After familiarization with the submitted materials and scientific works and based on the scientific, scientific applied and applied contributions contained therein, as well as on the basis of its teaching activity and high professional qualification, I can confidently give a *positive assessment* of the overall research and training activity and I recommend to the Scientific Jury to

propose the Chief Assistant Gergana Angelova Angelova - Popova, Ph.D. to be selected as "Associate Professor" in professional direction 7.4. Public health, Specialty "Kinesitherapy".

October 30, 2022

Reviewer:

Prof. Evgenia Dimitrova, DSc