

Abstract of the habilitation thesis

Interdisciplinary management of rheumatic and cardiopulmonary disorders - from research to clinical practice

The habilitation thesis entitled “Interdisciplinary management of rheumatic and cardiopulmonary disorders - from research to clinical practice” comprises the presentation of the activity conducted on an academic, didactic and research domain, starting with 2009, the year that I have completed my PhD research programme in the field of physical therapy in cardiometabolic disorders, finalized with the thesis entitled “Comprehensive rehabilitation in metabolic syndrome”.

The first part of the habilitation thesis presents my academic, professional and scientific achievements of the last thirteen years; it is structured into four chapters according to the directions in which relevant contributions have been achieved.

The “Interdisciplinary research for improving treatment management in rheumatic patients” chapter refers to studies that have highlighted the importance of interdisciplinary collaboration with biology and chemistry researcher in order to develop new transdermal delivery of drugs for improving treatment management of rheumatic patients. The chapter also emphasizes the research collaboration with ultrasound specialists, in order to identify the echography signs of the precipitating seric uric acid in gouty patients. An extensive interdisciplinary clinical analysis was developed in order to find the anthropometric, metabolic and pharmacologic factors that may predict nonresponse status to rheumatoid arthritis therapies.

The “Evaluation and management of patients with rheumatic and cardiometabolic disorders” chapter highlights the association between arterial stiffness, disease activity and functional impairment in ankylosing spondylitis patients. It also highlighted the functioning and health of patients with primary Sjögren's syndrome. A collaborative research project with physical therapists, emphasizing the importance of forward head posture and ergonomics assessment, are presented in detail in this chapter. Primary cardiometabolic prevention was one of my research directions during PhD studies. This research direction was continued with the investigation of hemodynamic parameters and arterial stiffness in hypertensive patients and the benefits of exercise training during hemodialysis sessions.

The chapter “Evaluation and management of patients with rheumatic and pulmonary disorders” describes the efficiency of inspiratory muscle training for improving aerobic capacity and pulmonary function in ankylosing spondylitis patients. It also emphasized the importance of balance impairment and systemic inflammation assessment and the comparative presentation of changes in physical activity in healthy people and chronic obstructive pulmonary disease patients.

The second part of the habilitation thesis presents my academic achievements since PhD graduation. My academic career followed all the consecutive academic steps: assistant professor, lecturer, associate professor, professor, in the Physical Therapy Department, West University of Timisoara. In 2022, I did a major step in my professional

career by obtaining, through academic competition, the transfer to "Victor Babeș" University of Medicine and Pharmacy Timisoara, Faculty of Medicine, in order to have the possibility to teach students in my medical field of expertise (rheumatology).

The third part of the habilitation thesis presents my professional activities after PhD graduation. In the initial phase of my professional career, I dedicated my focus to cultivating expertise in cardiopulmonary exercise testing and interpretation. The second part of my career I was dedicated to the ongoing improvement of my professional skills and medical techniques, particularly in the investigation and treatment of rheumatic patients.

The fourth part of the habilitation thesis presents my future directions in research, academic and professional career. The medical profession gives me the privilege and challenge of being active in three areas: education, clinical medicine and research. Each of these fields requires continuous training, to be able to cope with the specific, constantly increasing requirements. A successful career in these conditions requires maintaining and achieving performances that aim equally at all three areas.

I have always considered research activity as an important part in the development of my career. Despite the existence of an active research center in my department, I plan to establish a new research center aiming to broaden the scope of research for both my colleagues and students by exploring new research directions. Having a double specialization, both in rheumatology and in physiotherapy, I will try to use this advantage in favor of the development of new research directions.

The continuation of research activity, as well as the quality of doctoral supervisor, I believe will provide me with the necessary support to coordinate an important number of research projects, thus estimating an increase in scientific production, materialized through the publication of scientific articles and participation in educational programs and scientific events, thus contributing to increasing the national and international visibility and prestige of the department and Faculty of Medicine within the "Victor Babeș" University of Medicine and Pharmacy Timișoara.

In my role as an educator, my commitment has been directed towards continually enhancing my teaching abilities. I prioritize incorporating both traditional and contemporary teaching and assessment methods to ensure my students receive a robust foundation in the field of physical therapy.

Dimensioning and adapting the educational offer to the quality and performance requirements of modern medicine is a necessity but also an opportunity of the present time. For me, this means high-level professional training, an improvement in the method of training students in the field of rheumatology and rehabilitation medicine, according to European standards.

Following the endorsement of the pro-rectorship of postgraduate studies and residency of the "Victor Babeș" University of Medicine and Pharmacy Timișoara, I will contribute to the development of the residency programme in the medical specialty of rheumatology.

I am dedicated to continuing my participation in the national and regional projects of Romanian Society of Rheumatology by organizing together with my colleagues from this professional association a series of educational events dedicated to specialists in

rheumatology and rehabilitation medicine, thus contributing to the development of the medical profession and the prestige of the educational institution of which I belong.

Timisoara,
20.03.2024

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