

Abstract of Habilitation Thesis

The habilitation thesis titled *“Contributions of Physical Activity and Kinetotherapy in the Prevention and Rehabilitation of Weight, Postural and Musculoskeletal Disorders”* comprises the presentation of the activity conducted on an academic, didactic and research dimension, starting with 2006, the year that I have defended my PhD thesis titled *“Considerations on the Value of Physical Therapy in the Rehabilitation of Traumatic Lesions of the Knee”*.

The first part of the habilitation thesis presents the important achievements of the last 7 years; it is structured into 5 chapters, according to the directions in which relevant scientific contributions have been achieved. These concern, on the one hand, the benefits that physical activity has on maintaining health, the prevention of certain weight or postural disorders or the complications associated with them and, on the other hand, the importance that kinetotherapy brings especially regarding the rehabilitation of postural deficiencies and musculoskeletal disorders. Each of these research directions has been approached in the context of the existing premises at the local, national or international level, of the determinants and complications of these disorders, which confirms the necessity of taking measures both on a preventive and/or therapeutic level, but also in the field of research, with the aim of kinetically approaching these affections.

The chapter *“Assessment, prevention and rehabilitation in obesity and related disorders”* makes reference to studies that have highlighted the incidence and prevalence of these disorders, but also the existence, even among youths, of numerous elements considered to be factors of cardio-vascular and metabolic risk; the research conducted highlights the importance of initiating and maintaining a healthy lifestyle, of an early detection and intervention in the case of weight disorders, in the prevention of cardiac and metabolic complications linked to excessive weight and obesity, and, most significantly, the research confirms the efficiency of implementing specific individualized programs for young obese people. Two major projects, won in a competition, have supported the following research ventures in 2009-2013: “Obesity

and cardio-metabolic risk management in students from Timișoara and Szeged University Centres” (code HURO/1001/116/2.4.2), conducted in a partnership with the University of Szeged, and “Optimizing the somatic and cardio-metabolic parameters in the case of obese youths through changing their lifestyle and implementing an individualized protocol of kinetoprophylaxy”, the “Ideas – Exploratory Research Projects” (code CNCSIS 2330/2008).

“Assessment, prevention and rehabilitation in postural disorders” is a chapter based on research conducted in the context presented by an increase in the prevalence of such disorders in the last 4-5 years, especially in the case of secondary school and high school students; research has been initiated regarding the optimization of an early detection of such disorders and improving the effectiveness of applying kinetic programs in the case of the changes that have appeared, especially at the level of the spine; these research ventures have been supported by local and national financing. In this sense, within a project with external financing, the students from the Kinetotherapy and Special Motricity specialization have been initiated in posturology and have taken part in an international exchange of good practices; furthermore, an informatic system for posture analysis has been purchased.

The chapter *“Kinetotherapy in orthopaedic and traumatic rehabilitation”* sums up the results of the studies that continue, to a certain extent, the research I have conducted as a PhD student. Some of these studies have highlighted the effects of kinetotherapy in the degenerative and traumatic lesions of the knee; others were concerned with the degenerative affections of the spine. The rising interest that the students have for this subject and the visible need towards training specialists in this field have led to the initiation and coordination of the accredited *Kinetotherapy in orthopaedic and traumatic rehabilitation* masters’ program, which draws an ever-increasing number of students.

“Physical activity and kinetotherapy in prevention and rehabilitation in other health-related disorders” is a chapter which contains proof of the significant role of kinetotherapy in the cardiovascular pathology, in cystic fibrosis and in physiologic and pathologic disorders of pregnancy. To these one might add the implementation of standardized protocols of rehabilitation and of an information system aimed at a complex approach of patients that require such procedures, all made possible within a

national project, in partnership with the County Hospital of Timisoara; this project, titled “Streamlining the rehabilitation treatment through the elaboration and implementation of SOP kinetotherapy protocols and optimizing therapeutic strategies of rehabilitation” (PNCDI2, project code 41028/2007), has allowed for the development of a material base of the faculty’s laboratories. Furthermore, the specific and vast topics tackled in the 115 bachelor and master theses I have coordinated and which have confirmed through the results of the research conducted the benefits that kinetotherapy has in the case of numerous medical conditions.

“Timișoara Physical Education and Rehabilitation Journal” is a chapter which presents the faculty's journal - an important fulfilment of the past 5 years.

Special attention has been given to optimizing evaluation methods specific to the research through the purchase, within the aforementioned projects, of valuable instruments that may support such undertakings in the future.

The research activity conducted after I have obtained the PhD degree has resulted in numerous studies, out of which 20 have entered the main international scientific level – in ISI-indexed/quoted publications (2 in journals with a relative score of influence), 29 papers published in journals indexed in IDBs, and through the publication of books and book chapters. The level of professional training has been supplemented in the post-doctoral stage through participating in numerous scientific events, lectures and workshops on physical education and sports, kinetotherapy and managing research projects.

The second part of the thesis contains the career development plan based on a SWOT analysis of the academic, teaching and research achievements, which also stipulates the objectives and strategies on a short, medium and long term considered defying for my future professional activity. Pursuing professional training, scientific research, and increasing the quality of the educational act are the main aims for developing my professional career; to these, one might add the tackling of new opportunities for supporting research and overall development for the Faculty of Physical Education and Sports.