”VICTOR BABEŞ” UNIVERSITY OF
MEDICINE AND PHARMACY TIMIŞOARA
DOCTORAL SCHOOL
MEDICINE

Childhood obesity from epidemiology to genetics

ABSTRACT

Associate Professor Dr. Chiriță-Emandi Adela, PhD

T i m i ş o a r a
ANUL 2022

Abstract

Most of my professional activity in the last 9 years has evolved around the Genetics Discipline of the University of Medicine and Pharmacy "Victor Babeș" Timișoara. During this period I participated in various scientific, research, didactic and collaborative activities. For seven years I held a position of assistant professor in the discipline of Genetics. For one year I was a lecturer in the discipline of Genetics. Since 2022, I am an Associate Professor in the Discipline of Genetics.

The first research topic addressed in my academic career was related to childhood obesity and included epidemiological studies, assessment of causes (including genetics) and contributing factors of childhood obesity, its treatment and barriers encountered. The second area addressed the field of genetics in rare diseases, which is extremely vast. I have focused mainly on primary immunodeficiencies, rare cancers and intellectual disability syndromes. However, the second field is more briefly presented in this thesis. The two fields are interconnected and associated with the two professional specialties that I obtained, namely: pediatrics and medical genetics. Research in the field of medical genetics allowed me to gain a deep understanding of genetics in obesity.

My main achievements and contributions to the development of the fields of pediatrics and genetics are focused on childhood obesity, and have generated national and international collaborations, articles, research grants and an invention patent. I have published as the main author 17 articles in ISI journals and 25 as a co-author (including in Journals such as The Lancet and Nature). The Hirsch Web of Science Index is (WOS)/Clarivate 13 (August 2022). Other achievements are represented by articles published in CNCSIS B+ journals, multiple book chapters (of which 2 in international publishing houses), numerous abstracts published in national and international medical congresses. The list of publications can be accessed at: ORCID https://orcid.org/0000-0001-7554-4625.

After my PhD, one of the most important achievements of my research, was the publication of the most significant study from Romania, on the epidemiology of childhood obesity published in Obesity Facts in 2016 - through a national collaboration. The results of the study showed that the prevalence of underweight, overweight and obesity in Romania. Overall, between 2006-2015, in Romanian children aged between 6 and 19, the prevalence of underweight was 5% (WHO), while the prevalence of overweight (including obesity) was 28.3% (WHO). This collaborative work published in the journal Obesity Facts was the

launching pad that allowed the continuous collaboration with an international group (NCD Risk Factor Collaboration NCD-RisC), and the alignment of the epidemiological data related to obesity from Romania, to the global trends. This collaboration resulted in 9 high-impact articles, published in Nature, Lancet and other prestigious journals, gathering more than 7000 citations already. In addition, this collaboration led to my participation, as a local coordinator, in the project STOP (2018-2022) Science and Technology in childhood Obesity Policy - project financed by the European Horizon 2020 program.

The research activity in the field of genetic diseases was augmented by my role as a researcher in the Genomic Medicine Center of the "Victor Babeş" University of Medicine and Pharmacy, Timișoara, Romania. This center, in collaboration with the Louis Țurcanu Children's Hospital, coordinates a diagnostic program for rare diseases, from the Ministry of Health. In clinical practice, I was involved in the enrolment process and the daily activity of the Timiș Regional Center for Medical Genetics (from the Louis Țurcanu Children's Emergency Clinical Hospital Timisoara), to the European Reference Network for Rare Malformation Syndromes, Intellectual and Other Neurodevelopmental Disorders ERN ITHACA. Starting from clinical practice, as a geneticist and pediatrician I developed an interest in primary immunodeficiencies, rare cancers and intellectual disability syndromes.

The dynamics of teaching and academic research activities developed and fueled my desire to constantly enrich my knowledge, to increase the quality of the teaching and to be able to contribute significantly to research, especially in relation to obesity and genetics. This characteristic of the professional activity in the university environment, as well as the professional quality of the team I was part of, motivates me to continue my university career and obtain the habilitation. I consider my habilitation will help me educate and guide young PhD students, on the path of academic research.

My career development plan is based on the principle of continuity in academic, research and professional activities by leveraging previous expertise and achievements and combining and correlating teaching activities with research activities. By persistently implementing the proposed actions, I will be able to maintain high quality learning process within the Genetics Discipline and to improve the position of the University of Medicine and Pharmacy Timișoara, in the national research rankings.