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

THE CONTRIBUTION OF BIOLOGICAL DATA TO THE UNDERSTANDING AND TREATMENT OF PSYCHIATRIC DISORDERS

ABSTRACT

Conf. Dr. Dehelean Liana

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After defending my doctoral thesis entitled “The role of the family and personality factors in the etiopathogeny of anxiety disorders” in 2004, I focused my research interest towards the field of biological psychiatry.

The habilitation thesis is structured into four main chapters referring to the scientific, academic and professional activities and future plans for career development.

The first chapter begins with the description of what biological psychiatry means and its importance for the practitioner. Next, the main research themes are presented in a way that underlines the natural connection between science and clinical practice.

Recently, my research activity was dedicated mainly to psychopharmacology studies intended to explore the safety of long acting injectable formulations of atypical antipsychotics. These new formulations represent an important breakthrough in the maintenance treatment of patients with schizophrenia. The results of my collaborative studies on the endocrine, metabolic and cardiovascular side effects of antipsychotics are presented in the context of existing literature data.

A promising research field in biological psychiatry is immunology. Through its bilateral connections with the central nervous system, the immune system may participate in the pathogeny of some psychoses and neurodegenerative diseases. It could also provide valuable biomarkers for the psychiatric disorders.

The vulnerability-stress paradigm in psychiatry is of main interest in clinical practice in order to prevent unnecessary recurrences and to assess the short- and long-term prognosis. In this respect, my research focused on topics such as the personologic vulnerability to stress, the ability to regulate emotions (coping strategies to stress) and social cognition. Personality disorders and the inability to regulate emotions may result in suicide, drug addiction and other risk-related behaviours.

In the case of psychotic disorders, vulnerability is mainly based on biological factors so, finding diagnostic and prognostic biomarkers would be critical for good clinical practice. As a consequence, I joined a research project using mass

spectrometry to identify and quantify ganglioside species as possible markers for neurodevelopmental and neurodegenerative diseases.

In the field of biological psychiatry, I published an illustrated monograph, several book chapters, reviews and research articles. Regarding my work that is indexed in the Web of Science, I have published 23 articles (19 in ISI journals and 4 as ISI proceeding papers), 4 full papers in monographs / proceeding books (1 monograph review, 3 articles in proceedings books) and 38 abstract conference papers.

The second chapter of the habilitation thesis discusses my academic activity. In my educational career I gave lectures to medical students (general medicine, dental medicine, general nursing) and residents in psychiatry. I also supervised their practical activities. Furthermore, I published several psychiatric textbooks intended for the use of medical / master students, residents in psychiatry / general medicine and junior / senior psychiatrists. I was involved in the translation of two books, one concerning the field of community psychiatry and one intended to prepare medical students for the national residency examination.

I conceived, elaborated and introduced in my teaching practice two e-learning web 2.0 platforms which are currently used by medical students and residents. Lecture notes, PowerPoint presentations, didactic materials and educational animations are accessible for free or upon registration on these platforms and on the discipline’s website. The interactive concept of this type of electronic learning is assured by the possibility to rapidly verify the students’ theoretical and practical knowledge ad hoc or on a recurrent basis (formative and summative evaluation).

Apart from my teaching and supervising activities with students and residents, I encouraged their participation in scientific and editorial projects.

The third chapter of the thesis relates to my professional activity which is both hospital and ambulatory based. It consists of medical and administrative work. The challenges raised by my activity in a psychiatric clinic, belonging to a general county emergency hospital, have determined me to focus my research on topics such as psychopharmacology (safety profile of psychotropic medication, risk factors for treatment resistance) and vulnerability issues (personologic vulnerability, coping strategies and social cognition abilities). The ambulatory practice made me interested in the prevention of psychotic recurrences using long acting injectable antipsychotic medication.

As recognition of my scientific, academic and professional activities, I was invited as a speaker at local, regional and national conferences in the field of psychiatry and neuropsychoendocrinology. Some of my published papers were awarded by UEFISCDI, as well as the monograph “The Biological Bases of Psychiatry” by the Romanian Association of Psychiatry and Psychotherapy.

The fourth chapter refers to academic and scientific career perspectives. It describes my project of developing new e-learning technologies for distance teaching as a complementary strategy to classical methods. My intentions to expand the academic collaborations with technical and humanistic departments of other universities are also discussed in this chapter. My editorial projects in the educational field are also mentioned. Concerning scientific activity, my main objectives are finalizing the ongoing projects and extending collaboration to new research centers. The new projects target collaborative research with preclinical disciplines, in the fields of pathophysiology of the oxidative stress, immunology, pharmacogenomics and electrophysiology.

The international multicenter randomized controlled trials in which I took part as a study coordinator, sub-investigator, investigator or site-principal investigator, are listed in the appendix.