New Advances in Psychopharmacology: From Basic Science to Clinical Research

Psychopharmacological agents, since their appearance in the 50s of the 20th century, have not undergone a considerable evolution. Its pharmacodynamic targets remained somehow the same (dopaminergic, serotonergic, noradrenergic and gababergic neurotransmitter systems), only side effects were reduced [1]. This scarce evolution is partly explained by important methodological problems in the area of psychopharmacology, namely with regard to the integration of different paradigms that are not present in other medical specialties [2]. Psychiatry is a multiparadigm science. It is always essential to integrate different disciplines (neurobiology, clinical psychiatry, psychology, etc.), that are assessed by means of different kinds of evaluations, and, many times, are explained by different types of causality and models. There are specificities in this area related to the integration of neuroimaging and neurobiological data with psychopathological assessment, for example [3, 4].

But first of all, before initiating any study, including psychopharmacological ones, concepts have always to be well defined so that research is embedded in a good conceptual basis. Only this way, one can ask the right questions and design the best methodology to find the answers [2].

In this thematic issue, several review articles contributed to show the new advances in multi-level research in this area, from basic science to clinical research.

This issue begins with a review article titled “Precision Psychiatry: Machine learning as a tool to find new pharmacological targets”, by Rema et al. This article reviews current evidence regarding the contribution of machine-learning and precision psychiatry to the discovery of new drug targets [5].

The next article of this issue by Reynolds Sousa et al, reviews the current evidence regarding the potential contribution of psychedelics and hallucinogens to the discovery of new drugs for treating different psychiatric disorders [6].

The third article of this issue by Murillo-Rodríguez et al, reviews the recent advances that contribute to the comprehensive understanding of the actions of stimulants and depressor compounds, such as alcohol and cannabis, in sleep regulation [7].

The fourth article included, by Herrera-Morales et al, presents alternatives under study that would allow the customization of pharmacological treatments to overcome these drawbacks and achieve more reliable improvement of ADHD symptoms [8].

In the fifth article included, Murillo-Rodríguez et al, review some of the neurobiological mechanisms of the regulation of dream activity, with special emphasis on the effects of stimulants on dreaming [9].

In this special issue, some contributions were presented for a possible innovation in the field of psychopharmacology. More efforts are needed to create new methodological insights in the field of psychopharmacology.

REFERENCES


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