

Letter

A paradigm shift to treat psychoneurological disorders

Nikolay G. Neznanov

V. M. Bekhterev National Research Medical Center for Psychiatry and Neurology, Saint-Petersburg, Russian Federation; spbinstb@bekhterev.ru

* Correspondence: spbinstb@bekhterev.ru; Tel.: +7-812-670-02-20.

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Personalized medicine is an approach to providing medical care based on the individual characteristics of patients. This is a new doctrine of modern healthcare based on practical application of new molecular technologies (the so-called "omics": genomics, transcriptomics, proteomics, metabolomics, microbiomics) to improve the estimation of predisposition to diseases (prediction), and their prevention and treatment with the use of interventions including medicinal therapy and surgery. New biomedical products emerging in the recent years as a result of implementation of the genome research project allow scientists and clinicians to more accurately determine the genetic basis of many neuropsychiatric disorders, to control the predisposition to the development of an increasingly wide range of diseases, as well as to personalize more effective and safe ways of their treatment and prevention. These include the forefront advances of the burgeoning personalized medicine industry such as DNA sequencing, proteomic analysis, microarrays, and advances in optics and imaging technologies. Pharmacogenomics seeks to find and characterize correlations between the genotype (genetic profile) and the phenotype (therapeutic response) of a patient in order to develop individual medications and treatment regimens. At the same time, it is generally recognized that the closest to implementation in real clinical practice and most promising technology of personalized medicine is pharmacogenetic testing.

Significant progress in the treatment of mental and neurological disorders as well as diseases of addiction over the past fifty years has been achieved due to the initial empirical discoveries of the psychotropic properties of certain drugs. Discoveries in pharmacology have revolutionized psychiatric and neurological clinical practice and resulted in unconditional recognition of psychiatry and neurology as independent clinical disciplines adding effective medicinal treatment to other therapeutic interventions. However, a significant problem to face was low predictability of the drug response and serious side effects

of psychotropic drugs of the first generation that may significantly worsen the quality of life of patients and cause low adherence to drug therapy.

The recent improvement of the therapeutic process in psychiatry and neurology involves two complementary approaches. The first seeks to improve the synthesized pharmacologically active molecules, which provides an increase in the drug effectiveness and safety. The second approach involves considering the patient's genotype as a possible marker of the response to a drug in order to confront the extremely difficult prediction of an individual response to a drug making the treatment of mental and neurological disorders a problem area.

In the form of original and review articles, clinical cases, and expert opinions, our journal is planning to present both the latest achievements in the field of personalized psychiatry and neurology, and the applied aspects of its use in the clinic: issues of implementation methodology, indications for use, clinical interpretation, pharmacoeconomical aspects. The journal will also publish articles in related areas of psychiatry, neurology, clinical pharmacology, molecular biology and genetics connected with the issues of personalization of the use of medicines in patients. We sincerely hope that the work of the journal will contribute to the expansion of the principles of personalized medicine in psychiatry and neurology.

Here is the first issue of the journal and this is an exciting moment for all of us. We welcome your articles, as well as any suggestions for improving the journal.

Editor-in-Chief,
Doctor of Medical Sciences,
Professor Nikolay Grigoryevich Neznanov