

Letter

Personalized approach to addiction care

Evgeniy M. Krupitsky

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

* Correspondence: addictionhospital@gmail.com; Tel.: 8 (812) 670-02-53.

Citation: Krupitsky, E.M Personalized approach to addiction care. *Personalized Psychiatry and Neurology* 2021, 1 (2): 1.

Chief Editor: Nikolaj G. Neznanov,
D Med Sci, Professor

Publisher's Note: V. M. Bekhterev NMRC PN stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Copyright: © 2021 by the authors.



Pharmacogenetics in addiction psychiatry is a relatively young and quickly growing area of science. Indeed, associations of treatment outcomes with some genetics polymorphisms have been demonstrated for virtually all evidence based pharmacotherapies for addictive disorders in retrospective data analysis of candidate genes. For alcohol use disorder associations of genetic polymorphisms with treatment outcomes and side effects were shown for naltrexone, acamprosate, topiramate, pregabalin, ondansetron, disulfiram, selective serotonin reuptake inhibitors, and baclofen. For nicotine use disorders the same was demonstrated for varenicline, bupropione, and nicotine replacement therapy. For opioid use disorders – for all opioid agonists (methadone, buprenorphine) and antagonists (naltrexone). However, in two recent prospective studies of associations of single nucleotide polymorphisms with treatment outcomes revealed in retrospective data analysis had not been confirmed. So apparently, further studies in this promising area of medicine are needed. Pharmacogenetic approach will help to develop personalized and individually tailored pharmacotherapies for addictive disorders.

Gene therapy is another new and very promising approach to treatment of alcohol and drug dependencies. In particular, it was shown that microRNA might substantially decrease synthesis of aldehyde-dehydrogenase – an enzyme essential for alcohol catabolism - that makes drinking aversive. Another possible gene therapy is injection of RNA coding a special subtype of dopamine receptors in the brain that lead to the increase of the number of dopamine receptors in the membranes of the neurons and brings about a significant reduction of alcohol consumption by alcohol dependent rats.

To conclude, pharmacogenetics and gene therapy might significantly increase efficacy of treatment of addictive disorders and in its turn reduce negative consequences they cause to society!

Deputy Editor-in-Chief (Addiction Psychiatry),
Doctor of Medical Sciences,
Professor Evgeniy M. Krupitsky