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Editorial

Special addiction issue editorial

Drug addiction is a costly disease in both developed and undeveloped nations, having major societal impact from social, medical, and economic perspectives. These costs are both direct and indirect, from law enforcement and medical aspects to the drug addiction-induced disintegration of the social fabric of large cities and cultures.

Drug addiction has proven to be exceedingly difficult to treat. Focused efforts over the past few decades have yielded some partial successes, such as disulfiram for alcoholism [1], buproprion and various nicotine replacements including varenicline for smoking cessation [2–4], and methadone and buprenorphine for opioid dependence [5]. Although these treatments confer significant benefit as compared to placebo, they lack efficacy in many individuals, and no generally accepted pharmacotherapies exist for other drug dependencies including cocaine, methamphetamine, and marijuana. For these reasons, there is still a great need for further research on the genes, molecules and pathways involved in addiction, and the development of novel therapies.

The National Institute of Drug Abuse (NIDA), whose mission is to strategically support and conduct research over a broad range of disciplines and to facilitate the use of these findings to improve treatment, has identified a number of target areas to focus on in the coming years [6]. Among these future directions are: (a) the use of new technologies, such as brain imaging, to further understanding of brain and behavioral development, addiction, and its consequences; (b) identifying genetic and environmental factors that predict vulnerability to addiction and treatment response; (c) applying knowledge gained from basic and cognitive neuroscience to develop improved prevention and treatment strategies; (d) developing and testing new medications to treat addiction.

The purpose of this special issue of Biochemical Pharmacology has been to assess the current state of the field as it pertains to these objectives, and to identify cutting edge theories, technologies, genes, and proteins that are likely to shape future addiction research and treatment strategies.

I would like to personally thank the authors and Lynn LeCount, Cindy Martin, and the Biochemical Pharmacology editorial staff for their dedicated hard work in bringing this Special Issue to fruitarian and hope that it provides readers of the journal with food for thought as they conduct their own research.

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