

Abstract

Background: Pathological gambling (PG) has been widely propagated as an important public health care problem. Despite the various controversies, the medical model remains influential in the field of gambling studies. There is a plethora of neurobiological research on pathological gambling published in the recent decades, and some of them also advocate drug treatment. Review of the medical literature found different theoretical models in explaining PG, namely seeing PG as a form of non-pharmacological addiction, impulse control disorder, obsessive-compulsive spectrum disorder, or a manifestation of affective disorder.

Aims: To have an overview of the available evidence on the neurobiological basis and pharmacological treatment on PG, and to examine the validity of the proposed models in context of the limitations of the current medical model.

Method: A comprehensive literature search was carried out in the electronic databases Medline and PsychINFO, from 1970 to June 2005, to look for original articles on the neurobiology of pathological gambling, and published drug trials on the condition.

Result: A total of 55 original studies on the neurobiology of PG were found: six papers on neuroimaging, 12 on genetics, 16 on neurochemistry, and 21 on pharmacotherapy. Amongst the four aforementioned models, the “addictive” and “impulsive” models appear to be better supported by the current neurobiological research. Initial findings from the therapeutic trials also provide preliminary evidence

on the efficacy of SSRIs, naltrexone and mood stabilisers, but the results are significantly limited by methodological problems.

Conclusion: Research into the neurobiological basis of PG remains limited and the validity and generalisability of the results were complicated by various methodological and diagnostic problems associated with the current medical concept. While some fundamental problems associated with the medical model remain unresolved, research focusing on psychological process in gambling should be an important direction of future research. It highlights the importance of looking at the problem from a more comprehensive bio-psych-social perspective.

Keywords: medical model, pathological gambling, neuroimaging, neurochemistry, genetics, psychopharmacology