

## Pathological gambling new therapeutical approach

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INSERIRE GRAFICO. Pathological gambling or gambling disorder (GD) has been defined by the DSM-5 as a behavioural addiction. DG is estimated to affect 2-4% of Italian population, representing a major public health problem. In Italy the Decree 13th September 2012, no. 158 and the Law 8th of November 2012 no. 189 included the prevention, treatment and rehabilitation of people affected by GD in the Essential Level of Assistance for Italian population. To date, the pathophysiology of DG is not completely understood and there is no FDA-approved treatment for GD. Glutamate is the principal excitatory neurotransmitter in the nervous system and it has been recently involved in the pathophysiology of addictive behaviours; manipulation of glutamatergic neurotransmission appears to be promising in developing improved therapeutic agents for the treatment of GD. Our research was based on the following background 1) preclinical and clinical research implicate several neurotransmitter systems in the pathophysiology of GD. In particular, neurobiological research suggests alterations in serotonergic, dopaminergic, glutamatergic and opioid receptors functioning 2) substantial evidence has accumulated indicating that ligands acting on glutamatergic transmission are also of potential utility in the treatment of drug addiction, as well as various behavioural addictions such as GD. 3) increasing evidence support the role of glutamate in obsessive-compulsive disorders, this led to the development of new treatment strategies based on drugs targeting glutamate system as memantine. Manipulation of glutamatergic neurotransmission is a relatively young but promising approach for the treatment of drug and behavioural addictions Recent data suggest that an herbal extract from *Nepeta* can be used in the treatment of addictions, especially in GD. Nepelactone administered in an animal model showed that the extracellular glutamate level decreased significantly after single dose of *Nepeta cataria* (200mg/kg) (Fig). The decrease remained statistically significant for the time of observation (3 hrs). This effect was patented in 2016 n 102016000044577

Ref

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