

INTEGRATING PSILOCYBIN AND EXISTENTIAL-HUMANISTIC PSYCHOTHERAPY FOR PATHOLOGICAL GAMBLING TREATMENT: A NEW PERSPECTIVE

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ABSTRACT: In the last years, the debate on the use of psychedelics in psychotherapeutic settings has intensified, attracting a lot of interest and attention from the scholarly community as well as from clinicians and paving the way for new therapeutic paradigms. Besides classical addictions and addictive behaviors, there exist forms of addictions, the so-called new addictions or behavioral addictions, whose characterization is not linked so much to substances but to widespread and socially accepted activities such as games, shopping, internet use, sex, love relationships, work and exercises, physical activities or sports. Among the various addictions, the gambling disorder is the first form of behavioral addictions officially recognized by the DSM-V, in accordance with a wealth of neurobiological and clinical data showing the activation in patients of the gratification systems (especially dopamine). Orthos, as intensive residential intervention program envisaging a non-moralistic approach to gambling, can be combined with the administration of psilocybin, a substance characterized by a very low potential for abuse, modulating brain areas and networks affected by addictive behaviors. Therefore, our proposal would be to start treating behavioral addictions combining psilocybin administration with existential-humanistic psychotherapy, like Orthos.

KEYWORDS: Psychoactive drugs; Psilocybin; Behavioral addiction; Gambling disorder

Addictive behaviours and addictions can be considered as complex, chronic, multi-factorial psychiatric conditions in which a subject is compulsively engaged in rewarding stimuli and obtaining gratification, despite the insurgence of severe side-effects and harmful consequences.

Classical addictions include tobacco smoking, alcoholism, cocaine or heroin abuse, among others. However, there exist different forms of addictions and addictive behaviours, with the so-called new addictions or behavioural addictions being an emerging phenomenon. Including these addictions implies expanding and updating the classical definition of addictions, in that the characterization of addictive behaviours is now not anymore linked to drugs and chemical substances use disorder (SUD), which is socially depreciable, if not illegal, but also to commonly widespread and socially accepted activities, such as games, shopping, internet use (known also as cyber-addiction), food, sex, love relationships, work (termed as workaholism) and exercise, physical activities or sports.

The idea that even a different stimulus, compared to drugs and chemical substances, can lead to a dependence condition has been introduced by the prominent psychologist and psychotherapist Stanton Peele in the early 70s, positing that addiction can occur with a wide range of situations and experiences (Peele and Brodsky, 1975). Together with Simon (1975; 1982), Peele has, indeed, pioneered the modern concept of love addiction (Earp et al., 2017).

Within this new conceptual framework, individuals can become addicted to a range of stimuli, experiences, activities and situations, that can generate gratification, where the pathological response becomes one of the most qualifying epiphenomena from an epidemiological and clinical standpoint, often sharing traits and features overlapping with other types of clinical syndromes or personality disorders.

In the case of new addictions, a habitual behaviour typical of our daily life – which would be otherwise defined or perceived as normal (for example, to chat, to surf the web or to go shopping) - becomes a forced/compelling behaviour induced by the urgent need to be replicated, degenerating in a disability, more or less severe, of the individual functioning, and interfering with social relationships, family and neighbourhood, school or workplace, or other social situations.

In the latest version of the Diagnostic and Statistical Manual of Mental Disorders fifth edition (DSM-V), some scholars and clinicians have proposed to insert a new chapter - Behavioural Addictions - in accordance with a wealth of

data, more and more consistent, coming from clinical practice, evidence-based medicine (EBM), and neurosciences/neurobiology, according to which behavioural addictions are in fact attributable to the impairment/imbalance of a similar pool of neurotransmitters, and produce the same neurobiological effects of drugs and chemical substances that more or less directly affect these circuits, in particular the dopaminergic system.

In 1996, Kenneth Blum has coined the term of Reward Deficiency Syndrome (RDS), as an innovative way to include all addictive, obsessive and compulsive behaviours, ranging from substance and process addictions, to personality and spectrum disorders. This new concept has been officially embraced and endorsed by the American Society of Addiction Medicine (ASAM) in the new definition of addictions and addictive behaviours.

However, the proposal of a full and comprehensive chapter of the DSM-V, in which the concept of addictions and addictive behaviours is expanded to incorporate new addictions, was rejected, and is still nowadays debated, due to the unavailability/lack of evidence-based data that are sufficiently methodologically strong and compelling to meet with the diagnostic criteria for classifying and qualifying such psychological conditions as new forms of mental disorders.

The theme of behavioural addictions and addictive behaviours still appears to be an emerging topic from an epidemiological and clinical point of view, as well as a fascinating and complicated issue from a diagnostic and therapeutic standpoint. In this regard, in a recent study that has recruited a cohort of 4,121 adult Canadians (Konkolý Thege et al., 2015), an overall prevalence rate of 10.2% of addictive behaviours was computed in the period from 2011 to 2012, in relation to at least one excessive behaviour at risk of clinically resulting in addiction in different spheres (physical activities, sports, exercises, sex, internet or playing video games, shopping, and eating).

A systematic review published in 2011 and pooling together data from 83 studies showed different prevalence rates in relation to the different types of addictions/addictive behaviours: while the SUD, nicotine smoking, alcoholism, shopping and workaholism showed rather higher rates (between 5% and 15%), food dependence, gambling, sex addiction, internet and exercise addictions were, instead, characterized by lower prevalence rates, in the range between

2% and 3% (Sussman et al., 2011).

These discrepancies and, often, the lack of comparability among different researches and studies may reflect methodological differences (sample recruited, in terms of main features and characteristics, study design, instrument utilized, etc.), which supports the need for more accurate studies, in particular using larger sample sizes, being representative of the general population and not only of clinical settings and contexts.

However, despite these differences, it is tempting to speculate about the existence of an addiction-prone personality, a concept that aims at unifying personality risk factors (including the biological and genetic make-ups of the individual) and addictive behaviours and addictions within an integrated, coherent perspective.

Among the various addictions and addictive behaviours, the gambling disorder represents the first form of behavioural addictions officially recognized by the DSM-V in accordance with a wealth of neurobiological data showing the activation of the gratification systems and circuits in patients (especially those involving dopamine as neurotransmitter).

From an epidemiological standpoint, it is estimated that about 1% of the US adult population has a severe gambling problem. Data collected from the US National Comorbidity Survey Replication (NCS-R), a nationally representative US household survey, showed a prevalence rate of 2.3% and 0.6% for lifetime problem gambling and problem gambling, respectively (Kessler et al., 2008).

A recent review, even though limited to the older population (aged 60 years), showed a prevalence rate of 10.6% (Subramaniam et al., 2015). The IPSAD study (Italian Population Survey on Alcohol and other Drugs) computed that 42% of the Italian population had a gambling experience at least once in life (in 2015) with a 2% of them classified as problematic gamblers (Bastiani et al., 2013).

Accurate estimates of the size of the phenomenon, however, are difficult to obtain since the attention of clinicians and researchers reaches only a small portion of subjects with gambling problems, like those being referred to assessments or treatments. These difficulties in obtaining reliable estimates of

the phenomenon result in further complications concerning the precise definition of the clinical needs of the population affected by the problem and, above all, of the development and implementation of the therapeutic program for people with gambling disorder, also taking into account the frequent comorbidity with other psychiatric disorders (Lorains et al., 2011).

Concerning the different therapeutic programs currently available, Orthos (Figure 1) is an Italian existential-humanistic based therapy for gambling treatment.



Figure 1. Orthos setting.

Classical options for the treatment of compulsive gamblers in professional care programs include counselling and cognitive-behavioural treatment (stimulation control techniques, live exposure, cognitive restructuring, problem solving, reinforcement, self-strengthening, self-education, and prevention of relapses). However, it has been found (Russo et al., 1984) that about one third of pathological gamblers involved in a specific treatment program tended to drop out during the follow-up phase that lasted one year, with about half of the patients remaining in abstinence. Of these, in a follow-up of 2 to 9 years, Blaszczynski, McConaghy and Frankova (1991) reported that 45% of patients continued to play but in a controlled manner.

All these findings taken together seem to indicate that, in addition to the

definitive abstinence, the reduction of the game play and the development of greater self-control should represent important therapeutic goals. These results can become more realistic and feasible if accompanied by a significant change in lifestyles, greater awareness of risky situations and behaviours, and restructuring of the family, employment and social contexts.

Orthos is a three-week intensive residential humanistic-existential approach bridging public and private services and the territory, in the Tuscany Region, Italy, established by Professor Riccardo Zerbetto (Figure 2).



Figure 2. Orthos setting.

Orthos philosophy envisages a non-moralistic and non-prejudicial approach to gambling. The task of the therapeutic program is, therefore, to intervene in the use of dysfunctional and self-destructive patterns associated with gambling. In the phase of outcomes evaluation, the following outcomes are considered as effective results of the gambling disorder treatment:

- the achievement of a total abstinence;
- the achievement of a controlled, non compulsive game;
- the prevention of sudden relapses and the return to an uncontrolled game play.

Concerning the feasibility of integrating psilocybin within psychotherapeutic settings, new researches on psilocybin's potential applications in psychiatry and psychotherapy have been carried out in the last few years. This substance has a very low potential for abuse. Furthermore, several clinical trials seem to suggest a potential role of this substance in changing patterns of behaviours and habits (de Veen et al., 2017).

For example, a quasi-randomized, double-blind, between-group, crossover trial (Griffiths et al., 2006) showed positive effects on attitudes, mood, and behaviour in a sample of eighteen volunteers. In the past, some psychologists and psychotherapists had pioneered the use of psychedelics understanding from their clinical experience that a single high-dose-induced overwhelming experience could exert a stronger therapeutic effect than small, gradually increased doses (Griffiths et al., 2006).

In psychiatry, psilocybin has been used to experimentally treat obsessive compulsive disorder, treatment-resistant depression and anxiety in patients with malignancies. Recently, Michael P. Bogenschutz and colleagues have proposed psilocybin for addictions (Bogenschutz and Pommy, 2012), in that this substance seems to finely tune several brain functional networks, enhancing their connectivity (including areas such as amygdala, prefrontal cortex, insula, basal ganglia, anterior cortex and posterior parietal cortex), and modulating fronto-limbic 5HT_{2A} receptor density (Kraehenmann et al., 2015), among others.

Based on these findings, further studies (Bogenschutz et al., 2015) attempted to develop and implement a psychotherapeutic model (based on cognitive behavioural therapy, CBT, and the Motivational Enhancement and Taking Action or META approach) for psilocybin-assisted treatment of alcoholism. Similarly, another study (Johnson et al, 2014) developed a model for treating smoking addiction. Psilocybin can be potentially utilized also for treating other addiction disorders (de Veen et al., 2017).

Recent researches have shown that gambling disorder may arise from an imbalance between bottom-up emotional systems and prefrontal control systems (Clark et al., 2013). Psilocybin could be, as such, utilized for the management of compulsive gambling within a psychotherapeutic setting that incorporates Orthos philosophy, which has been shown to be effective in the

treatment of such addiction.

Concluding, in the last years, the debate on the therapeutic use of psychedelics has intensified, attracting a lot of attention and interest and paving the way for new therapeutic paradigms. Orthos, as intensive residential intervention program envisaging a non-moralistic approach to gambling, can be combined with the administration of psilocybin, a substance characterized by a very low potential for abuse, modulating brain areas and networks affected by addictive behaviours. Therefore, our proposal would be to start treating behavioural addictions combining psilocybin administration with existential-humanistic psychotherapy.

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REFERENCES

Bastiani, L.; Gori, M.; Colasante, E.; Siciliano, V.; Capitanucci, D.; Jarre, P.; Molinaro, S. (2013). Complex factors and behaviors in the gambling population of Italy. *J Gambl Stud*, 29(1), 1-13.

Blaszczynski, A.; McConaghy, N.; Frankova, A. (1991). Control versus abstinence in

- the treatment of pathological gambling: a two to nine year follow-up. *Br J Addict*, 86(3), 299-306.
- Bogenschutz, M.P.; Pommy, J.M. (2012). Therapeutic mechanisms of classic hallucinogens in the treatment of addictions: from indirect evidence to testable hypotheses. *Drug Test Anal*, 4(7-8), 543-555.
- Bogenschutz, M.P.; Forcehimes, A.A.; Pommy, J.A.; Wilcox, C.E.; Barbosa, P.C.; Strassman, R.J. (2015). Psilocybin-assisted treatment for alcohol dependence: a proof-of-concept study. *J Psychopharmacol*, 29(3), 289-99.
- Clark, L.; Averbeck, B.; Payer, D.; Sescousse, G.; Winstanley, C.A.; Xue, G. (2013). Pathological choice: the neuroscience of gambling and gambling addiction. *J Neurosci*, 33(45), 17617-23.
- de Veen, B.T.; Schellekens, A.F.; Verheij, M.M.; Homberg, J.R. (2017). Psilocybin for treating substance use disorders? *Expert Rev Neurother*, 17(2), 203-212.
- Earp, B.D.; Wudarczyk, O.A.; Foddy, B.; Savulescu, J. (2017). Addicted to love: What is love addiction and when should it be treated? *Philos Psychiatr Psychol*, 24(1), 77-92.
- Griffiths, R.R.; Richards, W.A.; McCann, U.; Jesse, R. (2006). Psilocybin can occasion mystical-type experiences having substantial and sustained personal meaning and spiritual significance. *Psychopharmacology (Berl)*, 187(3), 268-83; discussion 284-92.
- Johnson, M.W.; Garcia-Romeu, A.; Cosimano, M.P.; Griffiths, R.R. (2014). Pilot study of the 5-HT_{2A}R agonist psilocybin in the treatment of tobacco addiction. *J Psychopharmacol*, 28(11), 983-92.
- Kessler, R.C.; Hwang, I.; LaBrie, R.; Petukhova, M.; Sampson, N.A.; Winters, K.C.; Shaffer, H.J. (2008). DSM-IV pathological gambling in the National Comorbidity Survey Replication. *Psychol Med*, 38(9), 1351-60.
- Konkolý Thege, B.; Woodin, E.M.; Hodgins, D.C.; Williams, R.J. (2015). Natural course of behavioral addictions: a 5-year longitudinal study. *BMC Psychiatry*, 15, 4.
- Kraehenmann, R.; Preller, K.H.; Scheidegger, M.; Pokorny, T.; Bosch, O.G.; Seifritz, E.; Vollenweider, F.X. (2015). Psilocybin-Induced Decrease in Amygdala Reactivity Correlates with Enhanced Positive Mood in Healthy Volunteers. *Biol Psychiatry*, 78(8), 572-81.
- Lorains, F.K.; Cowlishaw, S.; Thomas, S.A. (2011). Prevalence of comorbid disorders in problem and pathological gambling: systematic review and meta-analysis of population surveys. *Addiction*, 106(3), 490-8.
- Peele, S.; Brodsky, A. (1975). *Love and Addiction*. Taplinger, New York.

- Russo, A.M.; Taber, J.I.; McCormick, R.A.; Ramirez, L.F. (1984). An outcome study of an inpatient treatment program for pathological gamblers. *Hosp Community Psychiatry*, 35(8), 823-7.
- Simon, J. (1975). Love: addiction or road to self-realization? *Am J Psychoanal*, 35(4), 359-64.
- Simon, J. (1982). Love: addiction or road to self-realization, a second look. *Am J Psychoanal*, 42(3), 253-63.
- Subramaniam, M.; Wang, P.; Soh, P.; Vaingankar, J.A.; Chong, S.A.; Browning, C.J.; Thomas, S.A. (2015). Prevalence and determinants of gambling disorder among older adults: a systematic review. *Addict Behav*, 41, 199-209.
- Sussman, S.; Lisha, N.; Griffiths, M. (2011). Prevalence of the addictions: a problem of the majority or the minority? *Eval Health Prof*, 34(1), 3-56.