

Are Behavioral Addictions a Specific Chapter of the Postmodernist Psychopathology?

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Abstract: Postmodernist societies are confronted with new challenges in the domain of psychopathology, as a result of the cultural paradigm shift, globalization, higher sense of alienation, and increasing access to technological developments. Although behavioral addictions have common features with drug-related dependence, they are quite a distinct category within current psychopathology and further research is needed until clear-cut diagnosis criteria and therapeutic guidelines will be formulated. Internet surfing addiction, gaming dependence, food addiction, exercise addiction, smartphone/SMS addiction, compulsive shopping, spending addiction, Internet pornography addiction and many more nosological entities have been described in the literature in the last decades. Several scales for screening and monitoring some of these disorders have been published, but for many behavioral addictions there is a paucity of instruments, and the clinical monitorization is based solely on the case manager's experience. Neurobiology of these conditions has been presumed to be similar with the drug-related dependence, with the dopamine reward circuits being the cornerstone for understanding behavioral addictions pathophysiology. Exposure with response prevention, cognitive restructuring, self-help group therapy based on 12-steps approaches and eclectic techniques have been applied in these patients with variable degree of success. Still, the question of which is the best way to conceptualize behavioral addictions persists: are these disorders an extreme manifestation of a new way of life in an increasingly technologized environment, or are they only different forms of manifestations of the old drug-related disorders?

Key-Words: behavioral addictions, postmodernism, Internet, compulsive shopping, food addiction, psychotherapy, gaming dependence

1 Introduction

In the context of postmodernist societies new challenges appear for the mental health specialist. On the one hand, different traditional disorders may begin to have different ways in which they manifest themselves, on the other hand new pathologies developed as a consequence of the appearance of new technologies, globalization and intensive cultural exchanges, immigration, changes in lifestyle, more involvement of mass media in personal lives, increases of living status and life expectancy, increasing the access to various economical resources etc.

Regarding the first category there are many efforts from the mental health specialists to delineate changes observed at the nosological level during the last century. These preoccupations are reflected in the continuously updated medical and psychiatric classifications (International Classification of Mental Disorders elaborated by WHO and American Psychiatric Association's

Diagnostic and Statistical Manual of Mental Disorders) [1, 2]. Several examples are changes to the attention deficit hyperactivity disorder (ADHD), schizophrenia and personality disorders diagnosis criteria throughout the last 50 years.

From the second category it's worth mentioning the inclusion of hoarding disorder and skin-picking disorder in the obsessive-compulsive spectrum, caffeine withdrawal and cannabis withdrawal in the drug related disorders chapter, and Internet gaming disorder in the section III of the latest edition of American Psychiatric Association's Manual, as a condition that requires further investigation [2]. Also, new pathologies which are not yet clearly defined on an epidemiological basis tend to impose themselves to the clinical psychologists and sometimes even to the psychiatrists. One example is orthorexia, a condition defined as a pattern of disordered eating which involves a pathological fixation with healthy food consumption [3].

A shift in epistemology related to postmodernity has been described as a result of cultural, societal and technological changes, and this shift is supposed to be the cause of several important changes in communication and coping with various stressors [4]. This phenomenon is reflected in the appetite for new ways of communication, d.e. the Internet or smartphones, while several traditional ways of information exchange like the letters tend to be considered obsolete. Spending more time in the virtual reality than in the concrete one is a reported phenomenon in many children, adolescents and young adults [5]. While the Internet brings people closer and make the information more available for all users, this kind of communication is not without negative effects over the personal health, both on a psychological level (the way a person perceives the reality, with a tendency to blur the boundaries between the virtual and concrete reality), and on a more physical level (d.e. a higher incidence of obesity) [6]. Also, various forms of aggression are associated with on-line communication (d.e. cyberbullying), which creates the premises for anxiety, depression, and a tendency to self-retreat, as a consequence of a general negative view of others, or even suicide [7].

This epistemological change in the perception of reality have impact at the ontological level. Being-in-the-world and Dasein's becoming have different nuances now than they could have several decades ago, if we consider the possibility of one person to alienate himself through excessive use of virtual reality, or, on a positive side, the opportunity to develop one's abilities through the use of Internet in communities where the access to other forms of education is limited.

2 Objectives

Several entities have been described by the specialists in behavioral addictions, although diagnostic criteria and epidemiological data are very limited for most of these recently discovered conditions.

A review of the actual stage of research in the field of behavioral addictions is considered necessary because of the lack of guidelines and good practice recommendations the mental health specialists are confronted with when dealing with adolescents and young adults that could have severe secondary conditions, like major depression, panic disorder, suicidal behaviors etc.

This analysis of the clinical, neurobiological, psychological and therapeutic aspects of behavioral addictions is intended as a first

step in the formulation of good practice recommendation, at a pragmatic level, and in the delineation of a conceptual framework of these nosological entities in the context of postmodernist societal challenges.

3 Literature analysis

Internet surfing addiction, gaming dependence, food addiction, exercise addiction, smartphone/SMS addiction, compulsive shopping, spending addiction, Internet pornography addiction and many more psychiatric and psychologic entities have been described in the literature in the last decades.

Each entity is being analyzed on the four basic dimensions previously mentioned, starting from (1) the clinical features, followed by (2) neurobiology and cognitive models, continuing with (3) psychometric instruments available for screening and/or monitoring, ending with (4) psychotherapy and other treatments available.

3.1. Internet addiction

In the context of exponential exposure to the Internet, especially in young population, addiction to Internet has been suggest as a psychological condition in 1995 and core diagnosis criteria have been formulated [8]. These psychopathological dimensions referred to the essential features of any addiction, like salience, change in mood, tolerance, withdrawal, interior conflict, relapse [9].

This condition has been defined as excessive or poorly controlled preoccupations, urges or behaviors related to Internet use, which leads to functional impairment or discomfort in various areas of daily activities [10]. Reported data regarding prevalence varies in different age and professional categories, from 0.3-0.7% (telephone survey in the general US population) [10], to 7.5% (1-year incidence in Taiwanese students) [11].

A generalized and a specific Internet addiction have been described by R.A. Davis [12]. This distinction is based on a cognitive theory and states that the specific Internet addiction (or Pathological Internet Use) refers to the subjects that use the Internet for a particular purpose, like shopping or gaming, while the generalized type includes a more global set of behaviors [12]. The difference underlines the possibility of the specific type to develop outside the virtual space, since the focus is not specific to the Internet use, like gambling or sex, while the generalized type is directly related to the abusive use of Internet.

Neurobiology of this addiction involves the dorsolateral prefrontal cortex and fronto-striatal loops, which explains the participation of the executive functions and decision making, but also the orbitofrontal cortex and ventromedial prefrontal cortex, which are critically connected to reward anticipation and emotional processing [13]. At a molecular level, Internet addiction is characterized by an overall reward deficiency, correlated to dopaminergic deficits, while at a neural circuitry level, this addiction leads to neuroadaptation and structural changes due to prolonged increased activity in areas associated with any addiction, data that have been confirmed by neuroimaging studies [14].

Internet Addiction Scale was created by Kimberly Young and includes 20 items scored by frequency of the behaviors [15]. Based on the overall score, the subject could be an average online user (full control of his/her usage), a problematic user (frequent problems related to the Internet use), or a significant problematic user (severe impairments due to the use) [15].

The target of any therapeutic intervention for this problem should be, by consensus, not a total abstinence from the Internet use, but a controlled and balanced use [16]. However, there is no evidence-based treatment for Internet addiction, no proven role for psychotropics, but cognitive behavioral approaches could be useful [10].

Selective serotonin reuptake inhibitors (SSRIs), methylphenidate, naltrexone or bupropion have been administered for decreasing the Internet craving, with potentially good results [17-20].

Group based reality therapy is focused on the alternative activities training and a study reported good results in students with Internet addiction [21].

Still, cognitive-behavioral therapy (CBT) is the most validated method for the Internet addiction until present day, with various methods and techniques being applied either individually or in group sessions [22-23].

3.2. Internet gaming disorder

This clinical entity is a new appearance in the research appendix of the latest DSM edition, published in 2013 [2]. The diagnosis is based on a set of 9 criteria from which 5 are required [2]. Although not an official diagnosis yet, the importance of this addiction is supported by its inclusion in the research chapter of DSM-5 and it opens the subject of behavioral addictions, a subject not yet approached by this Manual.

Neurobiology of the Internet gaming disorder is shared by the Internet addiction and was described previously. From a cognitive perspective, this condition is a specific Internet addiction, because the main focus is the gaming, which can be approached in real world, not only on the virtual space.

Internet Gaming Disorder Test (IGD-20) [24], Clinical Video Game Addiction Test [25] and Video Game Dependency Scale [26] have been created for evaluation of this pathology's severity.

Internet Gaming Disorder Scale – Short Form is a 9-item instrument validated in English, Portuguese, Italian and Slovenian languages, with a cut-off point of 21, and a single factor structure [27].

A comparative study with bupropion and escitalopram in adolescents and adults with Internet gaming disorder (N=119) reported improvement on all clinical scales after 6 weeks compared to controls, with a slight superiority for bupropion in improving attention and impulsivity [28].

A systematic review of 36 studies on Internet gaming disorder identified 4 main cognitive factors which can be approached in the psychotherapy: (1) beliefs about game reward value and tangibility; (2) over-reliance on gaming to meet self-esteem needs; (3) maladaptive and inflexible rules about gaming behavior; (4) gaming as a method of gaining social acceptance [29]. Although currently there are not sufficient data to support interventions that could lead to a long-term therapeutic benefit [30].

3.3. Internet gambling disorder

When the Internet user is focused on gambling, rather than just gaming, the criteria for both Internet addiction and pathological gambling could be met. Regulating and legalizing Internet gambling is not an easy task, and the increase of the gambling providers is spectacular [31].

A peculiarity of this disorder is that subjects use digital money, therefore the feeling of losing “real money” is attenuated, comparative to the real casino gamblers, for example [32].

Scales used for the measurement of the pathological gambling severity could be modified in the context of the Internet users. For example, Gambling Symptom Assessment Scale (G-SAS) or Gambling Urge Scale could be used for screening patients with risk factors for Internet gambling addiction [33].

Psychopharmacological treatments for pathological gambling could be administered in Internet gambling diagnosed patients as well, at

least on intuitive basis, due to the lack of controlled data. A systematic review reported as the most validated drugs for pathological gambling SSRIs, naltrexone, lithium carbonate, and nalmefene [34].

The most extensive researched psychological treatments for pathological gamblers are Gambler's Anonymous, CBT, psychodynamic therapy, and family therapy, but to date no single therapy emerged as being the most efficacious [35].

3.4. Internet pornography addiction

An operational definition of this disorder is offered by K.Young as involving typically viewing, downloading, and trading online pornography or engagement in adult fantasy role-play rooms [36].

A systematic review focused on behavioural addictions revealed that Internet pornography addiction and compulsive sexual behaviour have a common neurobiological basis with other addictive disorders, mainly reward brain areas involved in sexual arousal, love and attachment [37]. An fMRI study focused on this pathology detected the same brain activity as in psychoactive and alcohol addicted subjects [38].

Sexual Addiction Screening Test (SAST) is a 25-item self-report symptom checklist created for identifying individuals with risk of compulsive sexual behaviors [39]. A new version of this instrument, SAST-R, with 45 items is harder to be applied in general population and is more time consuming [40]. Both instruments can be accommodated for Internet pornography addiction, but large scale validation on this specific population are still missing.

SSRIs, naltrexone, mood stabilizers, and anti-androgens have been proposed as an effective intervention for Internet pornography addiction [20, 41].

Sexual Addicts Anonymous, Sexaholics Anonymous are self-help groups, modeled on 12-step theory. Individual and group CBT, as well as individual psychodynamic psychotherapy have been studied in this population [41].

3.5. Social Networking Sites addiction

Recent studies suggest the possibility of abusing social networking sites, with the tangible risk of developing an addiction [42]. According to a systematic research which included 33 studies examining the potentially addictive behaviors related to Facebook revealed as substrate for this phenomenon the tendency to escape from negative emotions [42]. When other social networking sites have been explored, the motivation was different. For example, YouTube and Pinterest users indicated

as the need for self-expression and entertainment as main motivators [43].

Facebook Intrusion Questionnaire and Bergen Facebook Addiction Scale are some examples of newly created instruments that try to quantify this new type of addiction [44,45].

3.6. Problematic Series Watching

TV problematic use is not a new phenomenon, but tend to be a very important one due to the television programs large availability.

A Problematic Series Watching Scale (PSWS) based on a 6 components model was created for quantifying an addictive aspect of the mass-media [46]. However, the scale's authors underline the need to avoid an overpathologization tendency for an important segment of the general population, and for this purpose larger scale studies are needed [46].

3.7. Food addiction

Similar brain areas are activated by drugs with abuse potential and "hyper-palatable" food, meaning food with a high concentration of sugar, salt or fat, which favor the development of an addiction [47].

Instruments for determination of this disorder's severity have been created, for example Yale Food Addiction Scale (YFAS) [48]. Increased scores on this scale were associated with higher rates of obesity and more severe eating disorders [48].

CBT interventions have been recommended for patients with food addiction, based on the assumption that these are efficient in both binge eating disorder and drug dependence [49]. Craving-focused coping skill development, contingency management, desensitization in imagination all can be useful in this population, but still no large scale trial has been conducted [49].

3.8. Exercise addiction

Distinguishing between healthy exercise and abusive, potentially addictive, physical exercise is not an easy task for mental health specialists. Addictive behaviors become obvious when exercises are done for intrinsic rewards and experience (not for prizes or other external benefits) and are continued regardless of physical injury, discomfort or disruption in other areas of daily functioning, according to E.Landolfi [50]. Exercise addiction has an obsessive-compulsive dimension and intricated rewarding components [51].

Endorphins, cannabinoids and, of course, dopamine have been suggested as neurobiological

substrate of this addiction, while reward, habituation, social support, stress-relief, avoidance of withdrawal and reduction of anxiety have been claimed as psychological motivators for exercise addiction [51].

Several questionnaires and diagnosis instruments have been developed and validated, for example Exercise Addiction Inventory (EAI) or Exercise Dependence Scale (EDS) [52,53].

CBT approaches have been applied in these patients, but no clear effectiveness have been demonstrated for any specific technique [51]. There are no validated pharmacological interventions for this disorder until now.

3.9. Smartphone/SMS addiction

A review of the studies focused on new mobile phone technology suggest a different profile for cell-phone addiction than for the Internet addiction [54]. Female and young people are more vulnerable to this addiction, and other risk factors are extraversion, neuroticism, self-esteem, impulsivity, self-identity, and self-image [54].

Cellular Phone Dependence Questionnaire (CPDQ) and Mobile Phone Dependence Questionnaire (MPDQ) are two from more than 10 existing instruments for measurement of mobile phone addiction [55,56].

3.10. Compulsive shopping and spending addiction

Excessive shopping cognitions and buying behavior leading to distress or impairment constitute a health problem recently cornered by psychiatrists [57].

Most subjects are women, and the lifetime prevalence is estimated to be 5.8% in the general US population [57].

Serotonergic, dopaminergic, or opioid systems have been presumed as etiologic mechanisms of the compulsive shopping [57].

Several scales have been tested and validated for the measurement of compulsive shopping severity, for example Edwards Compulsive Buying Scale, Questionnaire About Buying Behavior and Richmond Compulsive Buying Scale [58].

A systematic review of the available treatments for compulsive shopping that included 29 articles concluded that group psychotherapy and pharmacotherapy had large effects, but the quality of researches was poor [59]. Most data were derived in the field of psychotherapy from CBT, self-group and eclectic approaches, and in the field of

pharmacotherapy from naltrexone, tricyclic antidepressants and SSRIs [59].

4 Conclusion

After analyzing the available data from literature it could be concluded that behavioral addictions represents a new chapter of the psychopathology, a chapter which could be linked to postmodernist societal and technological changes.

Several scales for screening and monitoring some of these disorders have been published, but for many behavioral addictions there is a paucity of instruments, and the clinical monitorization is based solely on the case manager's experience.

Neurobiology of these conditions has been presumed to be similar with the drug-related dependence, with the dopamine reward circuits being the cornerstone for understanding behavioral addictions pathophysiology.

CBT, self-help group based on 12-step method and eclectic techniques have been applied in these patients with variable degree of success. Pharmacotherapy's effectiveness has yet to be demonstrated in good quality, large scale, clinical trials.

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