

Sexual Addictions

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The potential adverse consequences, personal distress, shame and guilt presented by patients who suffer from sexual addiction require a more in-depth understanding of the phenomenology and psychobiology of this disorder. *Methods:* A bibliographic review was conducted using MEDLINE and EBSCO databases with the following keywords: “sexual addiction,” “hypersexuality,” “compulsive sexual behavior,” “behavioural addiction,” “treatment,” and “addiction.” *Results:* Several conceptualizations of excessive nonparaphilic sexual disorder have been proposed based on the models of, respectively, obsessive compulsive disorder, impulse control disorder, out of control excessive sexual disorder, and addictive disorder. Despite the lack of robust scientific data, a number of clinical elements, such as the frequent preoccupation with this type of behavior, the time spent in sexual activities, the continuation of this behavior despite its negative consequences, the repeated and unsuccessful efforts made to reduce the behavior, are in favor of an addictive disorder. In addition there is a high comorbidity between excessive sexual behavior and other addictive behaviors. *Conclusion:* The phenomenology of excessive nonparaphilic sexual disorder favors its conceptualization as an addictive behavior, rather than an obsessive-compulsive, or an impulse control disorder. Moreover, the criteria that are quite close to those of addictive disorders were recently proposed for the future DSM-V in order to improve the characterization of this condition. Finally, controlled studies are warranted in order to establish clear guidelines for treatment of sexual addiction.

Keywords addiction, behavioral addiction, compulsive sexual behavior, hypersexuality, paraphilia-related disorder, sexual addiction, sexual desire, treatment

INTRODUCTION

Due to the substantial potential adverse consequences and levels of personal distress, shame, and guilt presented by patients

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who suffer from excessive nonparaphilic sexual behavior, a better understanding of this disorder is required.

Excessive nonparaphilic sexual behavior and its potential consequences have been described since antiquity. It has been considered either as a sin or as a disease, depending on the religious or political perspective at the time. The numerous terms employed to name this behavior—satyriasis, nymphomania, Don Juanism, perversions, paraphilias, compulsive sexual behaviors, impulse control disorders, and sexual addictions—illustrate the difficulty in conceptualizing and establishing diagnostic criteria. The lack of consensus about a clear definition of excessive sexual disorder as well as a limited number of robust scientific data have hampered the specific characterization of excessive nonparaphilic sexual behavior as an addictive disorder (1). We systematically reviewed the literature, using MEDLINE/PubMed (1960 up to December 2009) and EBSCO databases with the following key words: “sexual addiction,” “hypersexuality,” “compulsive sexual behavior,” “behavioral addiction,” “treatment,” and “addiction.” All available papers in English or French were considered. Only cited papers were included in this review and subsequent references.

1. HISTORY OF THE CONCEPT

Krafft-Ebbing (2) described the first case of abnormally increased sexual desire in Western Europe, which he named “*hyperesthesia sexual*.” Many years later, Kinsey and colleagues (3) developed the concept of total sexual outlet (TSO), which corresponded to the total number of orgasms achieved by any combination of sexual outlets (e.g., masturbation, sexual intercourse, oral sex) per week. These authors reported that only 7.6% of American males (younger than 30 years of age) reported a mean total sexual outlet per week above seven for at least five years. Considering these data and other confirmatory studies, Kafka et al. (4) proposed that hypersexual behavior could be characterized by TSOs of at least seven times per week.

The first conceptualization of excessive nonparaphilic sexual behavior as an addiction was proposed by Orford, who described it as a “maladaptative pattern of use and impaired control over a behavior with associated adverse consequences.” This condition was further popularized as a psychopathological condition in Carnes’ book *Out of the Shadows: Understanding Sexual Addiction* (5). Other authors (6, 7) have developed the sexual addiction concept, but considerable controversy surrounds the issue of how it should be classified.

The mention of a clinical phenomena of excessive nonparaphilic sexual behavior in an official nosologic classification was reported in the Diagnostic and Statistical Manual of Mental Disorders DSM-III (8), as “Psychosexual Disorder Not Elsewhere Classified” described as “Distress about a pattern of repeated sexual conquests with a succession of individuals who exist only as things to be used (Don Juanism and nymphomania).” In the revised version of the DSM-III (9) the concept of excessive nonparaphilic sexual behavior was included in the category of “Sexual Disorders Not Otherwise Specified” defined as “a distress about a pattern of repeated sexual conquests of other forms of nonparaphilic sexual addiction, involving a succession of people who exist only as things to be used.”

In the DSM-IV (10), due to the lack of empirical research and consensus validating sexual behavior as an addiction, the “nonparaphilic sexual addiction” terminology was discontinued. “Sexual Disorder Not Otherwise Specified (coded 302.90)” was reformulated as follows: “Distress about a pattern of repeated sexual relationships involving a succession of lovers who are experienced by the individual only as things to be used.” Kafka (1) recently proposed a revision for the Fifth Edition of the DSM, published on the American Psychological Association (APA) Web site (11). In the International Classification of Diseases and Related Health Problems 10th revision (12), the term “excessive sexual drive” provided a diagnostic category representing excessive nonparaphilic sexual behavior. This syndrome was divided into satyriasis and nymphomania, based only on whether the patient was male or female.

Several broad concepts for excessive nonparaphilic sexual behavior have been proposed, based on the models of obsessive compulsive disorder (OCD), impulse-control disorder, “out of control” excessive sexual behavior, and addictive disorder. Each concept has been developed based on assumptions about etiological mechanisms and to propose effective treatments (6).

1.1. Obsessive-Compulsive Hypothesis

Coleman et al. (13) were the first to propose the term “compulsive sexual behavior,” (CSB) making a parallel between the phenomenology of OCD and excessive nonparaphilic sexual behavior. CSB is characterized by recurrent and intense normaphilic or paraphilic sexually arousing fantasies, sexual urges, and behaviors that cause clinically significant distress in social, occupational, or other important areas of functioning. These fantasies, sexual urges, and behaviors are not simply due

to another medical condition or to a substance use disorder. Excessive nonparaphilic sexual behavior is marked by repetitive thoughts, described as intrusive, repeatedly experienced, generally associated with anxiety or tension which are characteristic of obsessional thoughts previously described in OCD. Moreover, sexual “compulsions,” while initially resisted, are enacted to reduce anxiety and are often followed by feelings of distress. Other authors (14) have highlighted the comorbidity rates between obsessive-compulsive behavior and excessive nonparaphilic sexual behavior and their similar response to treatment using selective serotonin reuptake inhibitors (SSRIs) and cognitive behavior therapy. The study of Black and colleagues (15) described a sample of 28 men and 8 women volunteers (mean age 28 ± 8) years self-reporting CSB, recruited through advertisements with a mean duration of the disorder of nine years. In this sample, 42% of individuals reported the presence of intrusive and repetitive sexual fantasies, and 67% presented repetitive sexual behavior initially resisted and followed by negative self-esteem. Moreover, Raymond et al. (16) reported that in a sample of 23 men and two women (mean age of 38 ± 11 years), who responded to newspaper advertisements and met criteria for CSB according to diagnostic criteria established and assessed by expert clinicians, 83% reported a release of tension, and 70% reported a sense of gratification after engaging in CSB.

There are some inconsistencies in this model regarding the fact that, in contrast to obsessive thoughts, repetitive sexual thoughts and fantasies may be perceived as exciting and positive (i.e., ego syntonic) rather than ego dystonic. Moreover, these positive emotions are triggers for excessive sexual behaviour (17). Contrary to excessive nonparaphilic sexual behavior, patients with obsessive-compulsive disorder rarely engage in a behavior which truly reflects their obsessional ideas. Finally, the comorbidity rates between both disorders are generally below 15% (6, 16).

1.2. Impulse-Control Disorder Hypothesis

An impulse control disorder is characterized by the failure to resist an impulse, drive, or temptation to commit an act that is harmful to oneself or others (18). Impulse control disorder is marked by an increased sense of tension or arousal prior to the behavior, a sense of gratification or relief during the behavior, and feelings of guilt following the act. The impulsive component (e.g., pleasure, arousal, or gratification) could be responsible for the initiation of the cycle while a compulsive component could be involved in the persistence of the behavior. This model proposes that patients with excessive nonparaphilic sexual behavior may present a failure to resist a sexual activity impulse (19). They experience transient relief from negative emotional states and subsequent distress resulting from the sexual behavior and, as such, would satisfy DSM criteria for an “impulse control disorder not otherwise specified” (6). Empirical data for this hypothesis were provided by Grant et al. (20), 204 inpatients

(112 women and 92 men) were interviewed using the Minnesota Impulsivity Disorders Interview. Thirty-one percent of patients had a lifetime diagnosis of impulsivity disorder and among them, 4.9% had excessive nonparaphilic sexual behavior.

1.3. "Out of Control" Excessive Sexual Behavior

Bancroft and Janssen (21) developed the "dual control model" of sexual arousal, postulating that sexual arousal depends on a balance between sexual excitation and inhibition of sexual response. An increase of sexual interest occurring during periods of negative mood states and low levels of inhibition of sexual response could be responsible for "out of control" excessive sexual behavior presented by some subjects.

Bancroft and Vukadinovic (22) developed and validated several scales, such as the Mood and Sexuality Questionnaire (MSQ) to assess the relationship between anxious, depressive affects, and sexual behavior, and the sexual inhibition (SIS1 and SIS2) and sexual excitation (SES) scales. A sample of 31 self-defined male sex addicts, assessed by interview and questionnaires, had higher scores on the MSQ and SES scales compared to male controls. In contrast, they showed comparable scores using the SIS1 or SIS2 scales compared to male controls. In this study, there was no clear evidence for a lack of inhibition of sexual behavior in subjects with excessive nonparaphilic sexual behavior. These authors concluded that "out of control" sexual behavior may result from a variety of mechanisms that still need further research.

1.4. Sexual Addiction

The addictive component of excessive nonparaphilic sexual behavior was first described by Orford (7) who made a parallel between this disorder and substance addiction. Similarities between sexual addiction and chemical addiction include an escalation of sexual activity as the disorder progresses, withdrawal symptoms such as depression, anxiety, rumination, and guilt related to a reduction of sexual activities, as well as difficulties to stop or reduce the frequency of sexual activities. There is also an increased amount of time spent in seeking out potential partners, reduction of other activities, and maintenance of sexual behavior despite knowledge of the potential adverse consequences such as contracting sexually transmitted diseases, having marital or legal problems, or being subjected to physical violence (23). All these clinical features fit within the framework of the diagnostic criteria for an addictive disorder. Furthermore, comorbidities between excessive nonparaphilic sexual behavior and other addictions were, respectively, of 71% in 23 men and two women who responded to newspaper advertisements and met criteria for CSB (16), and of 64% in another sample of 36 subjects reporting a CSB (15).

Finally, sexual addiction appears to include the core elements of addiction proposed by Potenza et al. (24): a craving state prior to behavioral engagement, or a compulsive engagement; impaired control over behavioral engagement; and continued

behavioral engagement despite adverse consequences. Among these subjects, 98% reported withdrawal symptoms in cases of a reduction in sexual behavior, 94% made unsuccessful attempts to control or reduce addictive sexual behavior, 92% devoted increased amounts of time spent on sexual activities, and 94% spent significant time preparing for, or recovering from, addictive sexual behaviors, 85% continued to engage in addictive behavior despite physical and/or psychological consequences.

Patients with excessive sexual behavior describe an intense feeling of dysphoria and depressive thoughts when they attempt to discontinue inappropriate sexual behaviors. This phenomenon is comparable to withdrawal symptoms after abrupt discontinuation of a drug (26). These symptoms usually prompt them to engage in self-stimulating behaviors such as excessive masturbation to escape emotional overload. Moreover, in patients with sexual addictions, adverse consequences such as genital injuries and sexually transmitted diseases are frequently observed.

2. DEFINITION, PREVALENCE, COURSE, AND COMORBIDITIES

Goodman et al. (27), employing a contemporary definition of substance addiction (DSM IV criteria), proposed to replace the word "substance" with "sexual behavior" and formulated the following criteria to describe "sexual addiction" disorder:

- A. Recurrent failure to resist impulses to engage in a specified sexual behavior;
- B. Increasing sense of tension immediately prior to initiating the sexual behavior;
- C. Pleasure or relief at the time of engaging in the sexual behaviour;
- D. At least five of the following criteria:
 - (1) Frequent preoccupations with sexual behavior or with activity that is preparatory to the sexual behavior;
 - (2) Frequent involvement in sexual behavior to a greater extent or over a longer period than intended;
 - (3) Repeated efforts to reduce, control, or stop sexual behavior;
 - (4) A great amount of time spent in activities necessary for engaging in sexual behavior, or for recovering from its effects;
 - (5) Frequent involvement in sexual behavior when the subject is expected to fulfill occupational, academic, domestic, or social obligations;
 - (6) Important social, occupational, or recreational activities given up or reduced because of the behavior;
 - (7) Continuation of the behavior despite knowledge of having a persistent or recurrent social, financial, psychological, or physical problem that is caused or exacerbated by the sexual behavior;

- (8) Tolerance: need to increase the intensity or frequency of the sexual behavior in order to achieve the desired effect, or diminished effects obtained with sexual behavior of the same intensity;
 - (9) Restlessness or irritability if unable to engage in sexual behavior.
- E. Some symptoms have persisted for at least one month, or have occurred repeatedly over a longer period of time.

Similarly, Kafka (1) has recently used the term “Hypersexual Disorder” to name excessive nonparaphilic sexual behavior, and has proposed the following criteria for the Fifth Edition of DSM (DSM-V):

- A. Over a period of at least six months, recurrent and intense sexual fantasies, sexual urges, and sexual behavior in association with four or more of the following five criteria:
 - (1) A great deal of time is consumed by sexual fantasies and urges, and by planning for and engaging in sexual behavior;
 - (2) Repetitively engaging in these sexual fantasies, urges, and behaviour in response to dysphoric mood states (e.g., anxiety, depression, boredom, irritability);
 - (3) Repetitively engaging in sexual fantasies, urges, and behavior in response to stressful life events;
 - (4) Repetitive but unsuccessful efforts to control or significantly reduce these sexual fantasies, urges, and behavior;
 - (5) Repetitively engaging in sexual behavior while disregarding the risk for physical or emotional harm to oneself or others.
- B. There is clinically significant personal distress or impairment in social, occupational, or other important areas of functioning associated with the frequency and intensity of these sexual fantasies, urges, and behavior.
- C. These sexual fantasies, urges, and behaviors are not due to the direct physiological effect of an exogenous substance (e.g., a drug of abuse or a medication).

Specify if: Masturbation; Pornography; Sexual Behavior with Consenting Adults; Cybersex; Telephone Sex; Strip Clubs; or other.

Even if Kafka avoided referring to “Hypersexual Disorder” as an addiction, his criteria were quite similar to the criteria proposed by Goodman (27) to define sexual addictions. Both sets of criteria considered the time engaged in preparation or in the practice of sexual activities, the efforts made to control the behavior, its continuation despite negative consequences, and the resulting personal distress. The two sets of criteria described a minimal duration of symptoms. However, the lack of studies evaluating the validity of these criteria and the use of imprecise words (e.g., frequent, repetitive, great) to quantify the main symptoms needs to be improved. A major difference between the two sets of criteria is the absence of symptoms crucial to

the addictive disorders concept, tolerance symptoms and relief resulting from sexual behavior, from Kafka’s criteria set.

Both sets of criteria were not validated by scientific data and, to our knowledge, the study of Wines (25) was the only one that evaluated the presence of addictive symptoms in patients with excessive nonparaphilic sexual behavior in a sample of 183 male subjects who reported themselves as “sex addicts.”

Further research is required to establish validated criteria in order to improve the characterization of excessive nonparaphilic sexual behavior which is very close to sexual addiction, but its conceptualization as an addictive disorder is still a matter of debate. Even though, the inclusion of “hypersexual disorders” criteria in DSM-V may help systemizing research in this field and may provide clinicians a reference and help them to recognize this disorder.

A broader concept of excessive sexual behavior might also include compulsive love stories (see Reynaud et al. in the same issue) or compulsive masturbation (5–15 times a day), technology-based “sexual” interactions, concomitant use of illicit drugs, engaging in sexual activity with prostitutes, or anonymous sex with multiple partners. Compulsive cybersex (6 to 9% of men using internet, use > 11 h/week) has recently been described as a form of sexual addiction (see also Weinstein and Lejoyeux, in this issue). In this disorder, internet users engage in a predictable cycle leading to powerlessness and unmanageability, which follows the same stages as those described in the addiction cycle (28).

To our knowledge, no epidemiological studies regarding sexual addiction have been conducted using standardized diagnostic criteria. Its prevalence is estimated at approximately 3 to 6% of the general population (29–31), with a sex ratio of 5:1. Higher rates have been suggested in specific populations such as sexual offenders and HIV patients (32).

Limited data concerning the natural history of sexual addiction have been reported. Some evidence points to an onset during adolescence with a progressive course in four stages (31): (i) “preoccupation” (a person develops sexual thoughts and urges), (ii) “ritualization” (the development of an idiosyncratic routine that prompts the sexual behavior), (iii) “gratification” (sexual behavior itself), and (iv) “despair” (characterized by feelings of guilt, powerlessness, and isolation), all of which fuel the tension underlying compulsive sexual behavior and prompt the person to repeat the cycle.”

In addition, comorbidities with psychiatric disorders are common in patients with sexual addictions (33). Mood disorders (72%), anxiety disorders (38%), and substance abuse (40%) are the most frequently observed.

3. RELATIONSHIPS WITH PARAPHILIAS

Excessive sexual behavior has also been described as paraphilic behavior (34). Paraphilias are characterized by intense and repetitive deviant sexually arousing fantasies, sexual urges, and behaviors lasting for at least 6 months

and marked by personal distress or indications of significant psychosocial impairment related to sexual behavior. In contrast, excessive sexual behavior is characterized by excessive repetitive expression of culturally adapted normophilic sexual behaviors. Paraphilia was associated with sexual hyperactivity in 72–80% of 120 evaluated men seeking treatment for paraphilias or paraphilias-related disorders (35). The comorbidity of both types of behavior remains unknown. In both syndromes, SSRIs have been used for treatment (36).

4. NEUROIMAGING AND ETIOLOGICAL HYPOTHESIS

Little is known about the brain pathways that regulate sexual behavior and cognition. Dopamine and serotonin, as well as androgenic hormones, appear to play a critical role (for review see Kafka (37)).

Noninvasive functional imaging with positron emission tomography and magnetic resonance imaging (MRI) has corroborated that amygdala, mesencephalic tegmentum, and the septal nuclei are activated during sexual response (38). One functional MRI study using diffusion tensor imaging, comparing 16 patients with diagnosed CSB and 8 controls, has found that patients presented a higher superior frontal region mean diffusivity than controls. Significant associations between impulsivity measures and inferior frontal region fraction anisotropy were also reported (39). According to these authors, their findings were also reported in other impulse control disorders. Functional brain imaging of patients with brain trauma showed that prefrontal lesions and bilateral lesions of the temporal lobe regions were associated to hypersexuality and disinhibition (40). Positron emission tomography scans of healthy volunteers during orgasm and ejaculation showed strong activation of the dopaminergic mesodiencephalic junction and ventral tegmental area. This latter region of the brain is also activated with the so-called “rush” experienced by heroin addicts; the sensation of heroin use is often reported as orgasm-like (41).

To our knowledge, no genetic studies have yet been published in the field of excessive sexual behavior.

5. TREATMENT

Due to the embarrassment that sexual addiction patients may suffer, they rarely spontaneously seek medical advice. Usually the patient is referred to the psychiatrist for a suicide attempt or for depressive or anxiety symptoms.

Another major difficulty arises from the lack of standardized and reliable measurements of sexual behavior (42). Pharmacological treatment uses two main categories of medications: SSRIs and antiandrogen treatment (43). Many anecdotal studies and case reports have shown that SSRIs could be promising in the treatment of excessive sexual behavior. However, to our knowledge, there have been no published large double-blind clinical trials conducted in well-characterized populations of patients with excessive sexual behavior.

One double blind study (44) compared 20–60 mg citalopram versus placebo for 12 weeks in 28 homosexual men with CSB. Significant beneficial effects of citalopram were observed on sexual desire/drive, frequency of masturbation, and pornography use. Fluoxetine (20–40 mg) has also been shown to be effective in open-label studies, improving mood and reducing inappropriate sexual behavior in subjects with excessive sexual behavior (34). The dosage must be increased in case of insufficiency or lack of efficacy.

Antiandrogen medications currently used for the treatment of excessive nonparaphilic sexual behavior are cyproterone acetate (CPA) and medroxyprogesterone acetate (MPA). CPA is a synthetic steroid, similar to progesterone, which acts both as a progestogen and an antiandrogen. Direct CPA binding to all androgen receptors (including brain receptors) blocks intracellular testosterone uptake and metabolism. CPA is a competitive inhibitor of testosterone and dihydrotestosterone at androgen receptor sites. It has a strong progestational action, which causes the inhibition of Gonadotropin-Releasing Hormone (GnRH) secretion and a decrease in both GnRH and Luteinizing Hormone (LH) release. CPA treatment is registered in more than 20 countries for the moderation of sexual drive in adult men with sexual deviations.

CPA may be given either by injection (depot form: 200–400 mg once weekly or every two weeks) or as tablets (50–200 mg/day). In the United States, it is only available at a low dosage form in a combination product with ethinyl-estradiol.

MPA is a progesterone derivative that acts as a progestogen and, like testosterone itself, exerts negative feedback on the hypothalamo-pituitary axis, resulting in decreases in both GnRH and LH release. MPA also induces the testosterone- α -reductase, which accelerates testosterone metabolism, and reduces plasma testosterone by enhancing its clearance. In addition, MPA increases testosterone binding to the Testosterone Hormone-Binding Globulin (TeBG), which reduces the availability of free testosterone, and finally it may also bind to androgen receptors (45).

MPA is currently used as a contraceptive, as a treatment for endometriosis or breast cancer, and was the first drug studied in the treatment of paraphilias. Available in some countries, MPA may be prescribed as an intramuscular (i.m.) depot preparation (150 or 400 mg/mL) or per os (2.5, 5, or 10 mg); oral administration may be used even if its absorption is more erratic (46). The first report of its efficacy in reducing sexual drive was published in 1958 in healthy males (47). The drug was first noted for its efficacy in the treatment of one case of paraphilia by Money (48) in 1968 and has since been used in the USA.

Cyproterone acetate should be used after other alternatives have been ruled out or when there is a high risk of sexual violence (e.g., rape or pedophilia); for review, see (49). Antiandrogens must be used only after puberty, particularly once bone maturation is achieved. A low dose of cyproterone acetate may be used to control deviant sexual fantasies, compulsions, and behaviors when there has been no response to several months

of high-dose SSRIs. Medroxyprogesterone acetate may also be used (50–300 mg/day orally or 300–500 mg/week i.m.) if cyproterone is not available. SSRIs may be used along with cyproterone acetate to treat comorbid anxiety, and depressive or obsessive-compulsive symptoms. Naltrexone, lithium, and clozapine have appeared effective in some recent case reports (43).

Pharmacological interventions should be part of a more comprehensive treatment plan including psychotherapy and, in most cases, behavior therapy. The psychiatric comorbidities that frequently occur in hypersexual individuals should be treated as well.

Cognitive behavioral therapy is the most recommended psychological treatment for excessive sexual behavior (50). Behavioral therapy helps to decrease excessive sexual activity, to improve self-esteem, and may also help to decrease the high levels of anxiety or depression frequently observed (51). Behavioral programs usually encourage abstinence from any sexual behaviour during the first phase of treatment (in many cases, 60 to 90 days). The 12-Step program of Alcoholics Anonymous has been adapted to programs for excessive sexual behavior. Programs modeled according to Al-Anon (the mutual-help program for families and friends of alcoholics) have also been implemented in some specialized centers (52). SSRIs may increase the impact of cognitive-behavior therapy or schema-based interventions that address enduring personality characteristics and deficits arising from childhood problems such as sexual abuse (43).

Goodman (53) presented a psychotherapeutic stage model integrating pharmacotherapeutic, behavioral, and psychodynamic approaches. In this model, during the first stage (initial behavior modulation) individuals who engage in addictive sexual behavior learn how to modulate their behavior through a combination of inner motivation, psychological support, and affect-regulating medication. The second stage (stabilization of behavior and affect) addresses the question of relapse prevention, with a distinction between high and low risk forms of sexual behavior. Patients are taught to engage in “healthier” or conventional sexual behavior rather than pathological.

CONCLUSION

Although significant gaps exist in the nomenclature, characterization, physiopathology, and clinical course, increasing empirical and clinical data favors the conceptualization of excessive nonparaphilic sexual behavior as an addictive disorder. The update of criteria in the DSM-V will provide a new pathway to research systematization and clinicians evaluation of patients suffering from this disorder.

As observed in other psychiatric disorders, the treatment of excessive sexual behavior has not been subject of randomized clinical trials. Despite this limitation, SSRIs, antiandrogens, and psychotherapy have already demonstrated clinical efficacy in small trials, controlled studies are warranted in order to establish

clear and definite guidelines for the treatment of excessive sexual behavior.

Declaration of Interest

The authors report no conflict of interest. The authors alone are responsible for the content and writing of this paper.

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