

Compulsive Sexual Behavior Disorder – the evolution of a new diagnosis introduced to the ICD-11, current evidence and ongoing research challenges

Zaburzenie typu kompulsywnych zachowań seksualnych – powstawanie nowego rozpoznania wprowadzonego do ICD-11, aktualne dowody i dalsze wyzwania naukowe

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KEYWORDS:

- compulsive sexual behavior
- hypersexuality
- sexual addiction
- compulsive sexual behavior disorder
- ICD-11

ABSTRACT

In 2019 Compulsive Sexual Behavior Disorder (CSBD) has been officially included in the forthcoming 11th edition of the International Classification of Diseases published by the World Health Organization (WHO). The placement of CSBD as a new disease entity was preceded by a three-decade-long discussion on the conceptualization of these behaviors. Despite the potential benefits of WHO's decisions, the controversy around this topic has not ceased. Both clinicians and scientists are still debating on gaps in the current knowledge regarding the clinical picture of people with CSBD, and the neural and psychological mechanisms underlying this problem. This article provides an overview of the most important issues related to the formation of CSBD as a separate diagnostic unit in the classifications of mental disorders (such as DSM and ICD), as well as a summary of the major controversies related to the current classification of CSBD.

SŁOWA KLUCZOWE:

- kompulsywne zachowania seksualne
- hiperseksualność, uzależnienie od seksu
- zaburzenie o charakterze kompulsywnych zachowań seksualnych
- ICD-11

STRESZCZENIE

Zaburzenie o charakterze kompulsywnych zachowań seksualnych (ang. Compulsive Sexual Behavior Disorder; CSBD) zostało w 2019 roku oficjalnie włączone do nadchodzącej 11 edycji Międzynarodowej Klasyfikacji Chorób i Problemów Zdrowotnych publikowanej przez Światową Organizację Zdrowia (WHO). Uwzględnienie CSBD jako nowej jednostki chorobowej zostało poprzedzone trwającą trzy dekady dyskusją dotyczącą conceptualizacji tych zachowań. Pomimo potencjalnych korzyści płynących z decyzji WHO, kontrowersje wokół tego tematu nie ustały. Zarówno klinicyści, jak i naukowcy wciąż debatują na temat luk w dotychczasowej wiedzy dotyczącej obrazu klinicznego osób z CSBD oraz neuronalnych i psychologicznych mechanizmów leżących u podłoża tego problemu. Niniejszy artykuł stanowi przegląd najważniejszych zagadnień związanych z kształtowaniem się CSBD jako odrębnej jednostki diagnostycznej w klasyfikacjach chorób i zaburzeń psychicznych (takich jak DSM i ICD), a także podsumowanie najważniejszych kontrowersji związanych z aktualną klasyfikacją CSBD.

Definition

An over 25-year discussion in the scientific and clinical community on the conceptualization of problematic sexual behavior abounded in various approaches, and thus also the terms used. These behaviors are most often referred to as compulsive sexual behaviors (1-3), but also as sexual addiction or sexual dependence (4-7), (nonparaphilic) hypersexuality (8-13), sexual impulsivity (14, 15), satyriasis and nymphomania (16, 17), or out-of-control sexual

behavior (18). We use the term compulsive sexual behavior (CSB) throughout this article.

Despite the attempts of understanding this problem from the perspective of various theoretical concepts and diagnostic criteria, and the resulting lack of a conceptual consensus, scientists have assumed that the main mechanisms underlying CSB may be obsessions and compulsions, impulsivity, or addiction. The history associated with efforts to include CSB in the classifications of diseases is quite long and winding.

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Compulsive sexual behavior in diagnostic classifications

In the second edition of Diagnostic and Statistical Manual of Mental Disorders (DSM) (19), sexual deviations were included in the group of "Personality Disorders", however, there was no mention of excessive or out-of-control sexual behavior not belonging to sexual preference disorders.

"Psychosexual Disorders" appeared as a separate group of pathologies in the third edition of DSM (20). The subgroup of "Psychosexual Disorder Not Otherwise Specified" (302.89) included "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)" (p. 283).

In the revised version of DSM-III (21), "Sexual Disorder Not Otherwise Specified" category (302.90) was enriched with the "Non-paraphilic Sexual Addiction". It has been described as "distress about a pattern of repeated sexual conquests or other forms of non-paraphilic sexual addiction, involving a succession of people who exist only as things to be used" (p. 296). However, due to the lack of empirical research and consensus regarding the nature of these behaviors, the term "sexual addiction" has been removed in subsequent editions (22).

Based on the fourth edition of DSM and its revised version (DSM-IV-TR) (23, 24), CSB could be understood in two ways – as "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" (p. 582) in the category of "Sexual Disorder Not Otherwise Specified" (302.9), or from the perspective of impulsivity-compulsivity in the category of "Impulse-Control Disorder Not Otherwise Specified".

Regarding the International Classification of Diseases published by the World Health Organization, diagnoses that could refer to CSB have been included since 1948, when mental disorders have been added to classification (25). The term "pathological sexuality" was included in ICD-6 (26) and ICD-7 (27). In ICD-8 (28), the term "unspecified sexual deviation" appeared, and included "pathological sexuality NOS". In ICD-9, CSB could be considered as "sexual deviation and disorders, unspecified" (29), while in its clinical modification (ICD-9-CM) (30); in the category of "unspecified psychosexual disorder". The currently valid 10th edition International Classification of Diseases (17), include a category of "Excessive Sexual Drive" (F52.7) with a division into nymphomania for females and satyriasis for males. Mentioned category is in accordance with DSM-IV, however, it has been left without specific diagnostic criteria. Furthermore, in the case of ICD-10, the classification of CSB may be theoretically considered in the category of "Unspecified sexual dysfunction not due to a substance or known physiological condition" (F52.9), "Other impulse disorders" (F63.8), or – if CSB is related to paraphilic behavior – in "Paraphilias" (F65).

The turning point was the preparation of the draft of the fifth DSM version. Three proposals for CSB were taken into consideration. First one assumed the placement of CSB in the category of "Sexual Behavior Disorder", subcategory of "Sexually Excessive Behaviors", and group of "Culturally Normative" (31). Paraphilic behaviors were not included in this group. Masturbation, romance, and some voyeuristic behavior (e.g., attending peep-shows and strip bars) were treated as excessive, culturally accepted sexual behavior. Second possibility to include CSB in DSM-V was a new category of "Behavioral And Substance Addictions" (32),

which would contain both, substance use disorders and several putative at those years impulse-control disorders, such as pathological gambling, CSB, compulsive buying, and Internet addiction. Authors used the term impulsive-compulsive sexual behavior, because of its impulsive component (such as pleasure, arousal, or gratification) being involved in initiating the cycle, and a compulsive component being involved in duration of this behavior. Third proposal for inclusion CSB in the classification was Hypersexual Disorder (HD) by Kafka (9). HD was understood as sexual desire disorder, and was characterized by an increase the amount of time spent engaging in fantasies and sexual behavior as well as the severity of volitional disorder or "loss of control" including disinhibition, impulsivity, compulsivity, or behavioral addiction. According to Kafka (9), HD would apply to the following behaviors: masturbation, pornography consumption, sexual behavior with consenting adults, cybersex, telephone sex, attending strip clubs, and/or others.

Although the proposal to introduce the diagnosis of HD was leading and intensively debated, it was not finally included in the DSM-5 published in 2013 (33). There were three main reasons for rejection of HD by the panel of experts during the process of the development of DSM-5 (34). First one referred to insufficient number of empirical research documenting the mechanisms underlying this disorder, and that proposed criteria represented a distinct clinical syndrome. The criterion of recurrent, intense fantasies, motives or sexual behavior was considered the most controversial. According to Winters and colleagues (35), at that time there was not enough empirical evidence to distinguish hypersexuality from high sexual desire, which constructs overlapped. The second reason of rejection was the concern about the potential misuse of the diagnosis of HD in forensics. The third reason was related to general criticisms on potential adding too many new diagnostic entities that may pathologize normal behaviors, such as sexual behavior (36, 37). For example, individuals with above-average sexual needs may, as a result of misdiagnosis, exhibit excessive feelings of shame and self-blame (37).

The failure of the placement of HD in DSM-5 resulted in difficulties in adequately diagnose individuals who exhibit CSB symptoms. According to prior versions of DSM, these individuals could have been categorized in "Sexual Disorder Not Otherwise Specified" category. It should be noted that CSB is neither a paraphilia nor a sexual dysfunction. In order to create an appropriate diagnostic category, HD would have to be clearly distinguished from sexual preference disorders and define pathological realization of sexual needs.

The publication of the DSM-5 classification (33), which did not include HD, resulted in accelerated research on CSB. Given additional empirical and clinical investigations (38-40), in 2019, the Compulsive Sexual Behavior Disorder (CSBD) has been officially introduced by the World Health Organization (WHO) to the upcoming 11th edition of International Classification of Diseases (ICD-11) as an impulse control disorder (6C72) (41). CSBD is characterized by a "persistent pattern of failure to control intense, repetitive sexual impulses or urges, resulting in repetitive sexual behavior over an extended period (e.g., six months or more) that causes marked distress or impairment in personal, family, social, educational, occupational or other important areas of functioning" (42). CSBD may be diagnosed when an individual (1) engages in repetitive sexual activities to the point of neglecting health and personal care, interests, activities and responsibilities, (2) has repeatedly and unsuccessfully

attempted to control or significantly reduce sexual behavior, (3) continues engaging in sexual behavior despite adverse consequences, or (4) continues engaging in sexual activity even when little or no satisfaction is derived. Furthermore, this pattern of failure to control sexual behavior is manifested over a period of 6 months or more, and results in marked distress or impairment in important areas of functioning. The diagnostic guidelines also cautions that distress entirely associated with moral judgments and disapproval about sexual behavior is insufficient for CSBD diagnosis (41).

The inclusion of CSBD as a new disease entity is undoubtedly a turning point for clinicians, scientists, and most of all for patients. However, due to two issues, the World

Health Organization's decision arouses controversial. Firstly, CSBD was placed in the category of "impulse-control disorders", and numerous neuroscientific studies conducted in the last 5 years have provided evidence that CSB is caused by the same mechanism that occurs in behavioral or substance addictions (43-45). Secondly, the CSBD diagnostic criteria do not include aspects proposed by Kafka (9) concerning "repetitively engaging in sexual fantasies, urges or behaviors in response to dysphoric mood states (A2.), and/or stressful life events (A3.), despite the results of research showing that individuals with CSBD often use sex as emotion and/or stress regulation strategy (46-48). Comparison of HD and CSBD diagnostic criteria is presented in Table 1 (49).

Table 1. Comparison of compulsive sexual behavior disorder conceptualization introduced to ICD-11 and hypersexual disorder proposed for DSM-5. Table created by Professor Gola and colleagues (49).

Compulsive Sexual Behaviour Disorder (ICD-11)	Hypersexual Disorder (rejected from DSM-5)	Domain
1. Repetitive sexual activities become a central focus of the person's life to the point of neglecting health and personal care or other interests, activities and responsibilities	A1. Time consumed by sexual fantasies, urges or behaviors repetitively interferes with other important (non-sexual) goals, activities and obligations	Domain: Excessive focus and amount of time dedicated to sexual behavior to the point of neglecting other important life domains
2. A person makes numerous unsuccessful efforts to significantly reduce repetitive sexual behavior	A4. Repetitive but unsuccessful efforts to control or significantly reduce these sexual fantasies, urges or behaviors	Domain: Impaired control
3. The pattern of failure to control intense, sexual impulses or urges and resulting repetitive sexual behaviour causes marked distress or significant impairment in personal, family, social, educational, occupational, or other important areas of functioning	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 or behaviors	Domain: Sexual thoughts or behavior generating marked or significant distress and/or impairment in functioning
4. A person continues the engagement in repetitive sexual behaviour despite adverse consequences	A5. Repetitively engaging in sexual behaviors while disregarding the risk for physical or emotional harm to self or others	Domain: Continued engagement in sexual behaviors despite risk and/or adverse consequences
5. A person continues the engagement in repetitive sexual behaviour despite deriving little or no satisfaction from it	---Not present---	Domain: Compulsive engagement involving less sexual satisfaction over time
---Not present---	A2. Repetitively engaging in sexual fantasies, urges or behaviors in response to dysphoric mood states (e.g., anxiety, depression, boredom, irritability)	Domain: Using sexual behavior as a maladaptive coping strategy in response to unpleasant emotional states or stress
	A3. Repetitively engaging in sexual fantasies, urges or behaviors in response to stressful life events	
Distress that is entirely related to moral judgments and disapproval about sexual impulses, urges, or behaviors is not sufficient for a CSBD diagnosis	---Not present---	Exclusion criterion: distress entirely related to moral incongruence
---Not present---	C. These sexual fantasies, urges or behaviors are not due to the direct physiological effect of an exogenous substance (e.g., a drug of abuse or a medication)	Exclusion criterion: CSBD episodes directly due to exogenous substances

Possible mechanisms underlying CSBD

Prior studies examining CSBD from a neuronal perspective indicated some similarities of the mechanisms underlying CSBD to those in substance and behavioral addictions. Some data showed increased reactivity of brain regions related to reward processing in response to cues associated with erotic stimuli (1, 3, 50-52). Voon and colleagues' investigation aimed to examine cue-induced activity in dorsal anterior cingulate cortex (dACC) – Ventral Striatum (VStr) – amygdala functional network, showed that CSB males (as compared to control group) had greater sex-cue activation of these brain regions (3). Greater activation of the amygdala among CSB participants (as compared to controls) was also observed in a study of Klucken and colleagues during the presentation of conditioned cues (colored squares) predicting rewards (erotic pictures) (50). Cue-related sexual desire associated with the functional connectivity of the dACC – VStr – amygdala network is in line with findings in substance addictions suggesting that brain regions and networks involved in sex and drug-cue reactivity are overlapping in a large extent (53).

A study of Seok and Sohn revealed greater sex-cue activity of the dorsolateral prefrontal cortex (dlPFC), caudate, inferior supramarginal gyrus of the parietal lobe, dACC, and thalamus among CSB males (as compared to controls) (51). Moreover, the severity of CSB symptoms has been found to be correlated with cue-induced activation of the dlPFC and thalamus. In turn, study of Brand and colleagues showed greater VStr activation for preferred (as compared to non-preferred) pornographic material in a group of men with symptoms of Internet pornography addiction (52), and this VStr activity was positively associated with self-reported symptoms of addictive use of Internet pornography.

Difference in VStr responsivity to cues predicting erotic pictures (but not in mere responses to these pictures) between individuals with and without CSB was observed in a study of Gola and colleagues using functional magnetic resonance imaging (fMRI) (1). Higher VStr activation was not visible for cues predicting monetary rewards, which constituted the second condition in task. Furthermore, this relative sensitivity to cues was associated with increased behavioral motivation for viewing erotic images ("wanting"), CSB symptoms severity, the amount of pornography viewed per week, and frequency of masturbation per week.

Higher "wanting" (subjective sexual desire) of pornographic stimuli, as well as lower "liking" in a group of CSB males (versus controls) has been also observed in a study by Voon (3), which support the "Incentive Salience Theory" (54). This model of addiction assumes that cues related to the subject of addiction may acquire great incentive values and evoke craving, and such reactions may be associated with the activation of the VStr (and others regions involved in reward processing). Authors distinguished between two features of motivated behavior – "liking", which refers to actual hedonic experience of reward, and "wanting" understood as a motivation to obtain reward. The repeated exposure to addiction-related stimuli may change brain cells and circuits, which may become sensitized (hypersensitive). It may, in turn, lead to the development of pathological levels of incentive salience for addictive substances and cues that are associated with this substances. This incentive motivation ("wanting") developed on a pathological level may last even for years, also when the substance use is no longer continued. This state can involve implicit (unconscious wanting) or explicit processes (conscious craving) (54).

In case of psychological mechanisms, prior studies using neuroimaging and psychological assessment suggest that CSBD symptoms are related to elevated anxiety (55-57), and may be reduced together with pharmacological treatment targeting anxiety symptoms (55), which support the hypothesis that the extended amygdala circuit associated with high reactivity for threats and anxiety may be clinically relevant (55, 57). Interestingly, there is no clear scientific evidence of difference between individuals with CSBD and general population in terms of impulsivity, which is important due to the inclusion of CSBD in a category of impulse-control disorders. Self-report and behavioral data suggest that impulsivity may be related most strongly to CSBD symptoms but not to specific aspects like problematic pornography use (43).

Across different conceptualizations of CSBD, dysregulation of emotion, understood as deficits in awareness and acceptance of emotions, ability to control impulsive behavior and behave in accordance with desired goals when facing negative emotions, as well as in emotional clarity and ability to use situationally appropriate emotion regulation strategies, is a core element of a failure to cope with sexual impulses, thoughts, urges, or resulting uncontrolled sexual behaviours. This also explains high rates of psychiatric comorbidities, insecure attachment styles as well as history of sexual abuse in CSBD patients (46).

Taken together, with respect to altered brain networks and processes neuroimaging research to date seem to support the classification of CSBD as an addictive disorder. However, from the perspective of the six components model of behavioral addictions (salience, mood modification, tolerance, withdrawal, conflict) proposed by Griffiths (58), there is still lack of methodological evidence for the existence of such elements as tolerance or withdrawal (59). More studies are indicated to examine this possibility further. Direct comparison of CSBD with other addictions as well as examining comorbidities of CSBD with psychiatric disorders are needed using various (neuroimaging and psychological) approaches.

Clinical challenges

The selection of the inclusion and exclusion criteria for the diagnosis of CSBD according to ICD-11 is currently intensively debated. Due to the fact that CSBD was included in the ICD-11 relatively recently, the vast majority of prior studies used the diagnostic criteria for hypersexual disorder (HD) (9). Table 1 (49), which compares the diagnostic criteria of HD and CSBD with their subordinate domains, clearly reflects the fact that HD is a broader term.

Despite data indicating an association of CSB symptoms with engaging in sexual behavior to cope with difficult emotions (such as sadness, anger, shame, boredom, loneliness), stress and painful experiences (46-48), the criteria for the diagnosis of CSBD do not include criterion A2. and A3. as proposed by Kafka (9). Over the past three decades, concepts and theoretical models that highlight the links between CSB symptoms and emotional dysregulation and/or vulnerability to stress have emerged (60-62). The Goodman's model assumes the existence of 3 elements: impaired ability to regulate affect, impaired behavioral inhibition and abnormalities in functioning of motivational reward systems (7). Reid and Wooley (63) during the process of developing the concept of hypersexuality, as well as constructing the Hypersexual Behavior Inventory questionnaire (64), also drew attention to problems related to emotional dysregulation (Reid and Wooley, 2006). Moreover, Bancroft and Vukadinovic (14),

comparing the etiological concepts of CSB existing at that time, issued a statement saying that the role of affect is important in most, if not all, cases of out-of-control sexual behavior (p. 231). Currently functioning multidimensional integrative models also emphasize the importance of emotional dysregulation in the context of the nature and etiology of CSB symptoms (65, 66). An important role of emotional regulation was also assigned in the case of pathological gambling, which was originally placed in the category of impulse control disorders and then classified as behavioral addiction. It is likely that negative affect may play a role of a factor in both accelerating and perpetuating symptoms of CSB.

Importantly, the current classification states that a diagnosis of CSBD should not be made when suffering is entirely related to moral judgments and disapproval about sexual activity, and in recent years research on the possible influence of religious and moral beliefs on seeking treatment for CSB has emerged (65, 67). Thus, experiencing a sense of moral incongruence should not arbitrarily disqualify an individual from a CSBD diagnosis. For example, consumption of pornographic material that is inconsistent with the individual's moral beliefs may be reported as morally inconsistent, but objectively excessive viewing of such material may also result in disability in many areas (e.g., legal, occupational, personal). In the context of religiosity, potential intercultural differences that may influence the perceived moral incongruence should also be considered (67). Thus, moral incongruence may have clinical significance in the context of an individual's motivation to seek treatment due to CSB (68), however, its role in the etiology and definition of CSBD requires further verification.

The proposed guidelines are explicitly addressing concerns about over pathologizing sexual behaviors. Individuals who exhibit higher levels of sexual interest (e.g., due to a high sex drive) and do not manifest loss of control over their sexual behavior, do not demonstrate significant distress or impairment in functioning should not be diagnosed with CSBD (42). Diagnosis should also not be made in case of adolescents reporting high levels of sexual interest and behavior (e.g., masturbation), even if these sexual activity is associated with distress. Finally, individuals who self-identify as "sex addicts" or "porn addicts" should be evaluating with caution.

Despite the many benefits of including CSBD in ICD-11, diagnosing people suffering from this problem remains unclear. For clinicians, it is very important to distinguish CSBD as a separate disorder from out-of-control sexual behavior representing one of symptoms of another mental disorder (e.g., mania, borderline personality disorder, dementia), another medical condition (e.g., Klüver-Bucy syndrome, Tourette's syndrome, dementia) or result of medication (e.g., Parkinson's disease) or substance abuse (69). Another point worth mentioning is the fact that significant number of studies contributing to the inclusion of CSBD to the ICD-11 have been carried out on a basis of hypersexual disorder, thus, there is a paucity of CSBD measures clinically validated on a group of women and men, which hinders the process of an effective diagnosis of the individuals with CSBD.

Another significant issue is treatment of CSBD. While the use of psychotherapy is widely accepted, the evidence supporting use of pharmacotherapy in CSBD patients remains sparse and based mainly on case reports and few prospective studies. No medications have been registered yet for this indication and SSRIs and opioid antagonists are the most commonly investigated compounds and used

off-label to improve control over sexual behavior (69). Well powered, double-blind, randomized controlled trials are needed before medical treatments for CSBD can be widely recommended or discouraged.

Future directions

There are many important issues that should be taken into account in future research. The current conceptualization of CSBD is based on studies involving mostly heterosexual men, thus, we do not know the prevalence estimates, clinical patterns of sexual functioning, as well as neurobiological mechanisms of the groups such as women or sexual minorities (70). Due to the lack of scientific exploration, we cannot apply available criteria to individuals from these omitted groups. Also, there are no generally accepted therapeutic recommendations to help individuals suffering with this problem.

Given the controversy related to the category under which the CSBD has been placed, there is a need to conduct empirical validation of existing models of CSB. Mere inclusion of CSBD in the ICD-11 provides a basis for further scientific examination in multiple domains. Longitudinal neurobiological studies focusing on measurement of brain activity would be useful for deepening knowledge about durability and primacy of the observed changes in CSBD versus non-CSBD individuals. Finally, data on pharmacological therapeutic methods are scarce (55, 71), thus, research including pharmacology could be very informative.

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