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### Diagnosis, Assessment, and Treatment of Hypersexuality

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## Diagnosis, Assessment, and Treatment of Hypersexuality

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*This article reviews the current evidence base for the diagnosis, assessment, and treatment of hypersexual conditions. Controversy concerning this diagnosis is discussed. Terminology and diagnostic criteria, as well as psychological, psychopharmacological, and other treatment approaches, are presented.*

Hypersexual behavior has long been described (Allen, 1969; Ellis & Sagarin, 1965; Haire, 1966; Stoller, 1986; Von Krafft-Ebing, 1939), with examples of both men and women with excessive sexual appetites. Different terms have been used to refer to such behavior, including “hyperphilia” (Money, 1980), “hypersexual disorder” (Krueger & Kaplan, 2001; Stein & Black, 2000; Stein, Black, & Pienaar, 2000), “paraphilia-related disorder” (Kafka, 1991, 2007), “compulsive sexual behavior” (Black, 1998, 2000; Kuzma & Black, 2008), “sexual addiction” (Carnes, 1983, 1990, 1991b), “impulsive–compulsive sexual behavior” (Raymond, Coleman, & Miner, 2003), or simply “out-of-control” sexual behavior (Bancroft, 2008). Presently, there is no one clear accepted terminology. In this article, we use the term *hypersexuality* (unless a different term is used in a study that we describe), as it appears to be the most atheoretical and neutral term.

Sexuality is dependent on many factors, including individual and relationship variables, societal values, cultural mores, and ethnic and religious beliefs. In discussing hypersexuality, these contexts need to be considered. Society has long tried to control the sexual behavior of individuals by stigmatizing sexual practices (Klein, 2008). Levine and Troiden (1988), comparing different societies, stated that individuals who engaged in frequent sexual behavior were often labeled and pathologized because their behaviors did not follow the norms of their society. A sexual behavior that is thought to be excessive by one individual or group

may not be seen as excessive by another. For example, nymphomania was a diagnosis for excessive sexual desire in women in the 19th century and was considered a disease. Today, although a woman’s desire for sex is considered to be healthy, there is no consensus on exactly what this means. In discussing nymphomania, Groneman (2000) succinctly queried, “How much sex is too much? How much is enough? And who decides?” (p. 151). As Money (1980) wrote, “It hardly needs to be said that there is no fixed standard as to how often is too often in sex” (p. 94). In any discussion of whether a sexual behavior is problematic or not, it is critical to attempt to define what constitutes excessive sexual behavior and whether it is a problem for self or others.

### Definition and Diagnosis

There is no current specific, separate, named diagnosis for hypersexuality. In the United States, some clinicians use the category of “sexual disorder not otherwise specified” (NOS) to diagnose hypersexual behavior (American Psychiatric Association [APA], 2000). The *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text revision; APA, 2000) indicated that, “This category is included for coding a sexual disturbance that does not meet the criteria for any specific Sexual Disorder and is neither a Sexual Dysfunction nor a Paraphilia” and gave an example of “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).

Currently, the manual is being revised (i.e., *DSM-V* [5th ed.] see also Zucker, 2009). The Paraphilias Subworkgroup of the *DSM-V* Work Group on Sexual and Gender Identity Disorders has considered hypersexual behavior as a problem, and has proposed the term *hypersexual disorder* as a distinct category with the following diagnostic criteria for consideration to be

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Both authors are employed by the New York State Office of Mental Health, and they have no support from drug companies. Dr. Krueger is on the *DSM-V* Work Group on Sexual and Gender Identity Disorders and the paraphilias subgroup, and Dr. Kaplan is an advisor to the Paraphilias Subworkgroup of the *DSM-V* Work Group on Sexual and Gender Identity Disorders.

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included in, modified, or rejected for use in the *DSM-V* (Kafka, 2009):

#### Hypersexual Disorder

- A. Over a period of at least 6 months, recurrent and intense sexual fantasies, sexual urges, or sexual behaviors in association with 3 or more of the following 5 criteria:
  - A.1. Time consumed by sexual fantasies, urges or behaviors repetitively interferes with other important (non-sexual) goals, activities and obligations.
  - A.2. Repetitively engaging in sexual fantasies, urges or behaviors in response to dysphoric mood states (e.g., anxiety, depression, boredom, irritability).
  - A.3. Repetitively engaging in sexual fantasies, urges or behaviors in response to stressful life events.
  - A.4. Repetitive but unsuccessful efforts to control or significantly reduce these sexual fantasies, urges or behaviors.
  - A.5. Repetitively engaging in sexual behaviors while disregarding the risk for physical or emotional harm to self 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 or behaviors.
- 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).
 

Specify if:

  - Masturbation
  - Pornography
  - Sexual Behavior With Consenting Adults
  - Cybersex
  - Telephone Sex
  - Strip Clubs
  - Other. (Kafka, 2009, p. 3)

#### Types of Hypersexual Behavior

Since the proposed specifiers for the diagnosis of hypersexual disorder have not been further defined or described with a textual narrative, we present salient research where it exists on these subtypes. The following studies have used varying definitions for hypersexual behavior; we have limited this review to empirical studies.

#### Hypersexual Disorder: Masturbation Subtype

Wines (1997) surveyed 53 self-identified sex addicts; 75% reported a problem with compulsive masturbation,

which was not further defined in his report. Kafka and Hennen (1999) used the terms *nonparaphilic hypersexual behavior* or *paraphilia-related disorder* to refer to hypersexual behavior. Kafka and Hennen (1999) gave the following definition:

sexually arousing fantasies, urges, or activities that are culturally sanctioned aspects of normative sexual arousal and activity but which increase in frequency or intensity (for greater than 6 months duration) so as to preclude or significantly interfere with the capacity for reciprocal affectionate activity. (p. 306)

Kafka and Hennen (1999) indicated that volitional impairment and personal distress were also part of this definition. The term *compulsive masturbation* was included in the prior definition, but not further specified in this study. Participants were assessed utilizing unvalidated, semi-structured sexual inventories and psychiatric interviews. Of the total sample of 206 consecutively evaluated men in an outpatient sample seeking help for sexual impulsivity, 63 were diagnosed with paraphilia-related disorders; of those, 47 (75%) were diagnosed with compulsive masturbation according to the aforementioned criteria.

Raymond et al. (2003) reported on 23 men and 2 women who responded to newspaper advertisements offering an evaluation to individuals who perceived themselves as having “compulsive or addictive sexual behaviors or fantasies” (p. 371), using a semi-structured interview developed by the authors. Their criteria for nonparaphilic compulsive sexual behavior consisted of at least six months of recurrent, intense sexually arousing fantasies, sexual urges, or behaviors involving, among other behaviors, compulsive masturbation. These fantasies, urges, or behaviors had to cause clinically significant distress or impairment in social, occupational, or other important areas of functioning. They reported that 12 of these 25 participants had a problem with compulsive masturbation.

In a recent study, Reid, Carpenter, and Lloyd (2009) reported on 59 males seeking treatment for hypersexual behavior. Fifty-six percent of the sample self-reported compulsive masturbation as one of their presenting sexual behavior problems. In addition to a clinical interview, the Hypersexual Behavior Inventory (HBI) was employed to establish hypersexuality (Reid et al., 2009):

The HBI purports to capture the extent to which respondents use sex to cope with emotional discomfort (e.g., anxiety); the degree to which they feel unable to control their sexual thoughts, feelings and behavior; and the extent to which they experience negative consequences as a result of their sexual activities. (p. 52)

The HBI consists of 19 items using a five-point Likert scale.

In a study of 60 males arrested for crimes against children involving the Internet, 6% of the sample was

diagnosed with compulsive masturbation (Krueger, Kaplan, & First, 2009). Each participant was asked about “any history of excessive or compulsive masturbation” (p. 9), and a diagnosis was made by the interviewer according to the following criteria for hypersexual disorder, originally proposed by Stein, Black, & Pienaar (2000). These criteria were as follows: (a) “the existence of recurrent, intense, sexually arousing fantasies, sexual urges, or behaviors that persist over a period of at least 6 months, and do not fall under the definition of a paraphilia”; and (b) “the fantasies, sexual urges, or behaviors cause clinically significant distress or impairment in social, occupational, or other important areas of functioning” (Stein, Black, & Pienaar, 2000, p. 63).

In a study reporting results of a survey of German sex therapists asking about “sexual addiction” problems of their patients, 43 out of 149 therapists (28.9%) responded to the survey (Briken, Habermann, Berner, & Hill, 2007). Of 97 patients described, 30 (30.9%) had reported compulsive masturbation. The authors cautioned that the response rate to their questionnaire was very low; therefore, there was a serious risk of selection bias. They also pointed out that no standardized or symptom-based instruments were used to assess the sexual diagnoses. In another study (Briken, Habermann, Kafka, Berner, & Hill, 2006), the authors retrospectively reviewed records of 161 male sexual murderers and applied the criteria of Kafka and Hennen (1999). They found that 29 men (18%) from this group met criteria for a paraphilia-related disorder and that 6 (20.7%) met criteria for compulsive masturbation.

### **Hypersexual Disorder: Pornography Subtype**

This subtype has also been referred to as pornography dependence. The previously cited study (Kafka & Hennen, 1999) reported that out of a sample of 63 males with paraphilia-related disorders, 40 (63%) were diagnosed with pornography dependence. In the study of 60 males arrested for crimes against children over the Internet cited earlier (Krueger et al., 2009), 8 (13%) were adjudged to have pornography dependence, defined as an excessive or compulsive use of pornography that resulted in distress or dysfunction. In the previously cited study of sex therapists (Briken et al., 2007), 39 (40.2%) of the patients were reported to have pornography dependence. In the chart review study described earlier (Briken et al., 2006), none of 161 sexual murderers were found to have pornography dependence. In the previously cited study by Reid et al. (2009), 51% of 59 males self-reported pornography dependence as one of their presenting problems.

### **Hypersexual Disorder: Sexual Behavior with Consenting Adults**

In the study cited earlier, Kafka and Hennen (1999) referred to this behavior as “protracted heterosexual

or homosexual promiscuity.” In this sample of 63 men with paraphilia-related disorders, 53 (84%) were diagnosed as having “any promiscuity.” Of these, 31 (49%) were diagnosed with “heterosexual promiscuity,” and 26 (41%) were diagnosed with “homosexual promiscuity.” The same general definition of nonparaphilic sexual disorder was used, and no further specific published definition of “protracted promiscuity” was presented. In the survey of sex therapists reporting on outpatients who had sought help for sexual addiction (Briken et al., 2007), 23 (23.7%) were reported as having problems with protracted promiscuity. In the study of 161 sexual murderers (Briken et al., 2006), 26 of 29 men (89.7%) diagnosed with a paraphilia-related disorder (out of a total sample of 161) had protracted promiscuity. In the study by Reid et al. (2009), of 59 men presenting for treatment of hypersexuality, 7% reported habitual solicitation of commercial sex workers, 21% extramarital affairs, and 12% excessive unprotected sex with multiple anonymous partners.

### **Hypersexual Behavior: Cybersex**

Cybersex has been defined as online sexual talk for purposes of sexual pleasure (Daneback, Cooper, & Mansson, 2005; Daneback, Ross, & Mansson, 2006). Cooper (1998) suggested that three primary factors make online sexuality attractive for sexual pursuits— anonymity, accessibility, and affordability—which he referred to as “the Triple-A Engine.” The Internet can be used for healthy expression of sexuality. However, Carnes, Delmonico, Griffin, and Moriarity (2001) reported that nearly 17% of Internet users had problems with sex on the Internet, and that a profile of severe problems with sex on the Internet existed for 1% of Internet users. Briken et al. (2007) reported that of 97 patients, only 2.1% had problems with cybersex dependence. In the study by Krueger et al. (2009), of 60 men arrested for crimes against children over the Internet who were asked about compulsive use of sexually oriented chatrooms or message boards, 13 (22%) were adjudged to meet criteria for this disorder.

### **Hypersexual Behavior: Telephone Sex**

Telephone sex, which has also been referred to as telephone-sex dependence, had a reported rate of 23 (37%) out of 63 males (Kafka & Hennen, 1999) who had a paraphilia-related disorder; telephone sex dependence was associated with significant financial debt and use of phone blocks. Briken et al. (2007) reported that 9 of 97 patients (9.3%) had this disorder.

### **Hypersexual Behavior: Strip Clubs**

There is a paucity of research on individuals who frequent strip clubs and no empirical research on

hypersexuality associated with this group of individuals. The observational research that exists on patrons focuses on their motivation. Research on strip club interactions has acknowledged an economically driven exchange using three primary methods: selling of drinks, table dancing, and private performance (Forsyth, 1992). The interaction between dancers and patrons has been referred to as “counterfeit intimacy,” which is the misimpression of sexual desire or attraction toward the customer given by the stripper in order to get him to spend money (Enck & Preston, 1988). Erickson and Tewksbury (2000) conducted a study via covert participant observation in two gentleman’s clubs over a four-month period in a metropolitan area. They reported that 80% of the patrons were in pursuit of a voyeuristic or pornographic experience, and 20% were in pursuit of companionship. Ronai and Ellis (1989) reported that the observed patron’s main objective for attending a strip club was for sexual turn-ons. Brewster (2003), also using covert participant observation, collected data on patrons of a strip club in a small rural city. He described “regulars,” which referred to patrons who had a specific dancer to whom they devoted their attention or finances. Although no empirical research exists on hypersexuality in patrons of strip clubs, many clinicians in the field have encountered hypersexual patients with this problem.

### Summary

Although the aforementioned studies support the concept of hypersexual disorder and the various subtypes enumerated earlier, solid research in this area is lacking. Definitions are not uniform, and no validated instruments for diagnosis and assessment are available. Several of the studies are retrospective and do not involve direct assessment of clinical populations. There are no studies of these subtypes of sexual behaviors in large non-clinical community samples.

### Epidemiology

Compulsive sexual behavior has been estimated to have a prevalence of between 3% and 6% in the United States (Black, 2000; Carnes, 1991a; Coleman, 1992; Kuzma & Black, 2008), although it is not clear what criteria were used to make these estimates and how they were made.

Kinsey, Pomeroy, and Martin (1948), using the concept of total sexual outlet (TSO), defined as the number of orgasms by any means in one week, found that 7.6% of men up to age 30 had an average TSO of  $\geq 7$  for at least five years; no data were presented on whether this average was associated with adverse functioning. Grant, Levine, Kim, & Potenza (2005), in a study of 204 consecutively admitted psychiatric inpatients, found a current prevalence rate of sexual compulsion of 4.4% and

lifetime prevalence rate of 4.9%. A study from Sweden (Långström & Hanson, 2006a) found that simple frequency of sexual activity alone was insufficient to establish pathology. High frequency of sexual behavior with a stable partner was associated with better psychological functioning, whereas solitary or impersonal sexual behavior was associated with psychiatric disorders and psychosocial dysfunction. Overall, there is a paucity of empirical and epidemiological data on hypersexual behavior, and those studies that have been done use different terminology and criteria.

### Gender Differences

The majority of patients presenting for treatment of hypersexuality are male. In an anonymous research study of persons with self-identified compulsive sexual behavior recruited through newspaper advertisements, of 36 participants, 28 (78%) were male and 8 (22%) female (Black, Kehrberg, Flumerfelt, & Schlosser, 1997). Comparing the men and women in this sample on social, demographic, and illness characteristics, the only significant difference was in the mean number of sexual partners in the past five years; men had a mean of 59.3 sexual partners, and women had a mean of 8.0. Raymond et al. (2003), in a study of 25 individuals with compulsive sexual behavior recruited through the newspaper, reported that 8% were female. Carnes and Delmonico (1996) reported, in a survey of 290 self-identified sexual addicts, that 80% were male and 20% female. In another study, 84% of 76 married persons attending a 12-step program for sex addicts were male (Schneider & Schneider, 1996). In a survey sent to all members of the German Society of Sex Research (Briken et al., 2007), with a 30% response rate, information on 97 patients with sexual addiction symptoms was obtained; 19 (20%) were females. According to Carnes et al. (2001), 1% of Internet users had a profile of severe problems with sex on the Internet, and 40% of these extreme cases were women (p. 6). Turner (2008) characterized women’s compulsive sexual behaviors as “seeking relationships and security (fantasy, seduction and exhibitionism in wardrobe)” (p. 715).

Thus, most individuals with hypersexuality are male, but studies that have examined both sexes report a proportion of 8% to 40% female. Studies also suggest that the behavioral patterns of females are different from males, with females having fewer sexual partners and different sexual scripts. There is a dearth of studies in this area.

### Hypersexuality and the Risk of HIV and Sexually Transmitted Infections

Hypersexuality can be a contributing factor in high-risk behavior leading to HIV and other sexually

transmitted infections, through unprotected vaginal or anal intercourse with multiple partners (Benotsch, Kalichman, & Cage, 2002; Benotsch, Kalichman, & Kelly, 1999; Benotsch, Kalichman, & Pinkerton, 2001; Carballo-Diéguez, Miner, Dolezal, Rosser, & Jacoby, 2006; Kalichman, Greenberg, & Abel, 1997; Kalichman, Kelly, & Rompa, 1997). Benotsch et al. (2002) found that men who have sex with men (MSM) using the Internet to meet sexual partners reported substantially higher rates of high-risk sexual behavior. They suggested that online interventions should be developed for this group so as to limit the spread of HIV. In a study of psychiatric comorbidity in pathological gamblers, Grant and Potenza (2006) found that 59% of gay or bisexual participants had a lifetime prevalence of compulsive sexual behavior, compared with 14.5% of heterosexual males. Female drug users are at especially high risk for the sexual transmission of HIV as they are vulnerable to hypersexuality while under the influence of drugs (Tross et al., 2008). Thus, certain populations (MSM, pathological gamblers, and female drug users) are at higher risk for HIV and other sexually transmitted infections if they engage in hypersexual behavior.

### Etiology

The etiology of hypersexuality is unknown. According to Bancroft (2009), “The literature on sexual compulsivity and sexual addiction has been preoccupied with issues of definition, particularly pertaining to *DSM-IV* [Diagnostic and Statistical Manual of Mental Disorders 4th ed.]; APA, 1994] and very little with possible causal explanations for why, in such cases, sexual behavior becomes problematic” (p. 330). He went on to say that many proposed models are not based on reported data, but on clinical impression, “leading [Gold & Heffner, 1998] to title their review article ‘Sexual Addiction: Many Conceptions, Minimal Data’” (p. 330). We now present some of the salient theories.

### Neurobiological Etiology

Several reviews of the neurobiology of hypersexuality have been published (Berlin, 2008; Kafka, 2008b; Krueger & Kaplan, 2000; Stein, Hugo, Oosthuizen, Hawkrige, & Heerden, 2000). Medical conditions associated with hypersexuality include dementia (Cooper, 1987; Fedoroff, Peyser, Franz, & Folstein, 1994; where frontal or cortical damage is associated with disinhibition) and temporal lobe epilepsy (Rémillard et al., 1983; with temporal lobe damage being associated with hypersexuality). Tourette’s Syndrome (Eldridge, Sweet, Lake, Ziegler, & Shapiro, 1977; Kerbeshian & Burd, 1991; Nee, Caine, Polinsky, Eldridge, & Ebert, 1980) has also been associated with hypersexuality, with the suggestion that this condition was due to disinhibition of the limbic system (Comings, 1987). Brain injury

(Miller, Cummings, McIntyre, Ebers, & Grode, 1986), stroke (Monga, Monga, Raina, & Hardjasudarma, 1986), and frontal lobotomy (Freeman, 1973) have been associated with hypersexuality, with frontal lesions being associated with disinhibition.

Reports of hypersexuality have also been reported with substance abuse, including methamphetamine (Mansergh et al., 2006; Rawstorne, Digiusto, Worth, & Zablotska, 2007; Semple, Zians, Grant, & Patterson, 2006; Semple, Zians, Strathdee, & Patterson, 2009; Worth & Rawstorne, 2005) and cocaine (Washton & Zweben, 2009). Case reports of hypersexuality have been reported with dopaminergic treatment for Parkinson’s Disease (Cannas et al., 2006; Giovannoni, O’Sullivan, Turner, Manson, & Lees, 2000; Nielsens, Cook, Joffe, Meagher, & Silberstein, 2009; Pezzella et al., 2005; Solla, Floris, Tacconi, & Cannas, 2006). The effects of methamphetamine, cocaine, and dopaminergic treatment for Parkinson’s Disease in causing hypersexual behavior is consistent with the monoamine hypothesis for the pathophysiology of paraphilic behaviors (Kafka, 1997, 2003), in which dopamine is associated with an augmentation of sexual appetite and drive. Hypersexual behavior associated with bipolar disorder is also well-known (APA, 2000; Yero, McKinney, Petrides, Goldstein, & Kellner, 2006). The mechanism for this is unknown, but mood disorders are often associated with dysregulation of biologically mediated drive states or appetitive behaviors (Kafka, 2008b).

Unfortunately, there is a paucity of literature on brain imaging during conventional sexual functioning (Stoléru, 2007; Stoléru et al., 1999; Stoléru & Mouras, 2007). One such study (Miner, Raymond, Mueller, Lloyd, & Lim, 2009) used diffusion tensor imaging procedures to compare eight compulsive sexual behavior patients and eight non-patient controls. The results indicated that compulsive sexual behavior patients had significantly higher superior frontal region mean diffusivity than controls. We are aware of no studies of levels of sex hormones in groups of hypersexuals compared with controls.

The previous literature suggests that organic causes for hypersexual behavior should be considered in any assessment procedure. Dopaminergic and stimulant drugs in particular may cause hypersexual behavior.

### Addiction Model

According to Goodman (2001), “The addictive process can be defined as an enduring, inordinately strong tendency to engage in some form of pleasure-producing behavior as a means of relieving painful affects, regulating one’s sense or self, or both” (p. 207). Carnes (see Carnes, 1992; Carnes & Delmonico, 1996) viewed addiction as beginning with early trauma in childhood, which leads to shame and anxiety; addictive sexual behavior then develops as a means of coping.

Sexaholics Anonymous (1989) provided the following summary of the addictive process as it applies to sexual behavior:

It begins with an overpowering desire for a high, relief, pleasure, or escape. It provides satisfaction. It is sought repeatedly and compulsively. It then takes on a life of its own. It becomes excessive. Satisfaction diminishes. Distress is produced. Emotional control decreases. Ability to relate deteriorates. Ability for daily living is disrupted. Denial becomes necessary. It takes priority over everything else. It becomes the main coping mechanism. The coping mechanism stops working. The party is over. (p. 37)

Recently, some researchers (Grant, Brewer, & Potenza, 2006; Mick & Hollander, 2006; Pallanti, 2006) have used the term *behavioral addiction* to refer to numerous behaviors such as gambling, kleptomania, fire-setting, trichotillomania, compulsive exercise, Internet and telephone use, shopping, binge eating, and compulsive sexual behavior, which have many features in common with substance addiction, but do not involve a substance. Holden (2001), in speaking of the brain's reward system, suggested that, "...as far as the brain is concerned, a reward's a reward, regardless of whether it comes from a chemical or an experience" (p. 980). It has been hypothesized that repetitive, high-emotion, high-frequency sexual behavior can result in changes in neural circuitry that help to perpetuate the behavior (Mick & Hollander, 2006).

### Psychodynamic Theory

Goodman (1998) reviewed the biological, sociocultural, and psychoanalytic theories of sexual addiction. Bergner (2002) theorized that at the core of sexual compulsion was an attempt to recover from early negative childhood experiences. Montaldi (2002) formulated a model for a subset of hypersexual patterns based on personality characteristics or disorders. Montaldi compared differences between Axis I and Axis II patterns of hypersexuality in three domains and proposed a working definition of hypersexuality:

1. Excess of sexual behavior to the point of severe distress and/or impairment (for the sufferer *or* other people).
2. *Either* of the following conditions:
  - a. Impaired *micro*-control: The pattern of sexual behavior is unmanageable (uncontrollable) in the sense that the person is frequently unable to stop or alter any given instance of a sexual behavior without abnormally severe distress and/or impairment of functioning (even if temporarily); *or*
  - b. Impaired *macro*-control: the person is *capable* of behaving differently on any given occasion

without undue distress or impairment, and the behavior may be desired, but he or she does not learn from the predictable negative consequences of his or her typical sexual or romantic choices. The result is a pattern of sexual or romantic behavior that is both maladaptive and inflexible. (p. 10)

Montaldi (2002) cited several patterns including histrionic, narcissistic, and sadism–masochism; and gave examples of core differences between Axis I and Axis II patterns of hypersexuality. The criteria proposed by Montaldi correspond with A5 of the proposed criteria for the *DSM-V* (Kafka, 2009).

### Dual Control Model

Bancroft and his colleagues at the Kinsey Institute have proposed a theoretical model: the dual control model (Bancroft, 1999; Bancroft, Graham, Janssen, & Sanders, 2009):

This postulates that whether sexual response and associated arousal occurs in a particular individual, in a particular situation, is ultimately determined by the balance between two systems in that individual's brain, the sexual activation or excitation system and the sexual inhibition system, each of which has a neurobiological substrate. ... Individuals vary in their propensity for both sexual excitation and sexual inhibition. Although for the majority these propensities would be adaptive or non-problematic, individuals with an unusually high propensity for excitation and/or low propensity for inhibition would be more likely to engage in high risk or otherwise problematic sexual behavior, and individuals with a low propensity for sexual excitation and/or high propensity for sexual inhibition would be more likely to experience problems with sexual response (i.e., sexual dysfunctions). (Bancroft, 2009, p. 15)

A "paradoxical" mood–sexuality pattern, with an increase in sexual interest during states of depression or anxiety, has been shown to be related to some high-risk sexual behavior (e.g., number of casual partners or "one-night stands") in both heterosexual and gay men (Bancroft, 2009; Bancroft et al., 2003a; Bancroft, Janssen, Strong, & Vukadinovic, 2003). This pattern was also shown in a small sample of self-defined sex addicts (Bancroft & Vukadinovic, 2004).

### Sexual Impulsivity Model

Barth and Kinder (1987) first suggested that compulsive sexual behavior, sexual addiction, or hypersexuality should be viewed as a manifestation of an atypical impulse control disorder. Grant et al. (2005) reported on 240 consecutively admitted psychiatric inpatients given the Minnesota Impulsivity Disorders Interview;

10 participants (4.9%) met the lifetime criteria for sexually compulsive behavior; for 9 of these 10, this behavior was current. Raymond et al. (2003), using a semi-structured interview, reported on 25 participants (23 males and 2 females) with compulsive sexual behaviors. This sample showed more traits of impulsivity than compulsivity.

### Obsessive–Compulsive Spectrum Disorder

A number of authors (Bradford, 1999; Hollander, 1993; Krueger & Kaplan, 2001; Stein, 1996; Stein & Hollander, 1993), noting the obsessive and compulsive features of paraphilias and hypersexual disorders, have suggested that these behaviors might fall within the broader spectrum of obsessive–compulsive disorder (OCD). Coleman (1990) suggested that hypersexual behavior was driven by lack of impulse control and anxiety reduction mechanisms. Anthony and Hollander (1993) postulated that hypersexual behavior was part of an OCD spectrum of disorders because of its driven quality. Indeed, the Yale–Brown Obsessive–Compulsive Scale, an instrument used to assess OCD (Goodman, Price, Rasmussen, Mazure, Delgado et al., 1989; Goodman, Price, Rasmussen, Mazure, Fleischmann et al., 1989), has been modified for use with other compulsive behaviors such as gambling (Hollander & DeCaria, 2008), body dysmorphic disorder (Phillips et al., 2008), and compulsive sexual behavior (Wainberg et al., 2006). A recent case report described the co-occurrence of compulsive buying and sexual addiction (Yeh, Shiah, Hu, Chang, & Huang, 2008).

In fact, sexual obsessions are common in patients with OCD. Grant, Pinto et al. (2006) reported on a group of 293 consecutive participants with primary lifetime OCD diagnosed by *DSM-IV* (APA, 1994) criteria; 24.9% reported a history of sexual obsessions, and 13.3% reported current sexual obsessions. Participants with sexual obsessions reported an earlier age of onset of symptoms but, otherwise, there were no significant differences. Swedo, Rapoport, Leonard, Lenane, and Cheslow (1989) reported that approximately 4% of children had sexual obsessions, and Freeman and Leonard (2000) reported the onset of OCD in two children after sexual abuse or sex play. However, there is only one case report of compulsive sexual behavior associated with OCD, this occurring in a 23-year-old female (Mulligan, Webb, & Gill, 2002). Schwartz and Abramowitz (2003) and Gordon (2002) made the point that compulsive rituals in OCD function as an escape from unwanted obsessions and distress, but that the sexual compulsions of hypersexual behavior do not serve this function and, thus, are not manifestations of OCD.

### Comorbidity

Comorbidity is the current or lifetime occurrence of two or more psychiatric disorders in the same individual.

Individuals identified as having compulsive sexual behavior have been found to have substantial psychiatric comorbidity. Black et al. (1997) recruited 36 participants with compulsive sexual behavior from newspaper advertisements; they were interviewed using structured and semi-structured interviews. These authors reported that 39% had a history of major depression or dysthymia, 64% a history of substance use disorder, and 42% a history of phobic disorder. Personality disorders were also frequent, particularly paranoid, histrionic, obsessive–compulsive, and passive aggressive subtypes. Of this sample of 36, 7 had a primary diagnosis of a paraphilic disorder.

Raymond et al. (2003), using structured instruments in a study of 23 men and 2 women who responded to newspaper advertisements for sexual compulsives, found that 88% of the sample met diagnostic criteria for an Axis I disorder at the time of the interview, and 100% met criteria for an Axis I disorder in their lifetime. Lifetime prevalence of mood disorders was 71%, anxiety disorder was 96%, and substance use disorder 71%. Forty-six percent of this sample met criteria for an Axis II disorder, with 39% meeting criteria for at least one Cluster C (avoidant, obsessive–compulsive, and passive–aggressive) personality disorder. Participants who had a primary diagnosis of a paraphilia were excluded from this study. However, 8% of the study sample had a secondary diagnosis of a paraphilia in addition to compulsive sexual behavior; these consisted of a lifetime diagnosis of exhibitionism (4%) and masochism (4%). Current comorbid paraphilic diagnosis included 4% with sexual masochism. Kafka and Prentky (1994) reported on a sample of 26 individuals with paraphilia-related disorders and found that 80.8% had a lifetime mood disorder, 46.2% an anxiety disorder, 46.2% a substance use disorder, and 7.7% an impulse disorder NOS. A subsequent study (Kafka & Prentky, 1998) reported that of 18 participants with paraphilia-related disorders, 12 (66.7%) had a lifetime diagnosis of a mood disorder, 8 (44.4%) an anxiety disorder, seven (38.9%) a psychoactive substance use disorder, and 3 (16.7%) an impulse disorder NOS. Attention deficit hyperactive disorder (ADHD) was diagnosed in three participants (16.7%). Another study (Kafka & Hennen, 2002), reporting on a sample of 120 men with paraphilias and paraphilia-related disorder, found that of the 32 men with a paraphilia-related disorder, 71.8% had a lifetime history of mood disorder, 37.5% an anxiety disorder, 37.5% a psychoactive substance abuse disorder, and 18% ADHD. However, these studies were limited by not having controls and in not using validated diagnostic instruments.

Individuals with pathological gambling may also have an increased incidence of compulsive sexual behavior. A study by Grant and Kim (2003) reported that 9.4% of pathological gamblers had a lifetime history of this disorder.



*Nonparaphilic hypersexual disorder* and *paraphilia-related disorder* are synonymous terms for hypersexuality. There is a substantial occurrence of paraphilias in individuals who present with hypersexuality. Kafka and Hennen (1999) reported on an outpatient sample of 206 consecutively evaluated males seeking help for either paraphilia-related disorders (hypersexuality) or paraphilias. Eighty-six percent of the paraphilia sample reported at least one lifetime paraphilia-related disorder. Krueger et al. (2009) reported on the overlap of paraphilic and hypersexual diagnoses in a sample of 60 men arrested for Internet crimes against children. They found that 8 of 24 participants (33%) with a paraphilia had a hypersexual disorder, and 12 of 36 participants (33%) who had no paraphilia had a hypersexual disorder; having one diagnosis provided no greater risk of having the other.

The previous studies suggest that there is substantial psychiatric comorbidity in patients with hypersexual behavior, which includes affective disorders, substance use disorders, anxiety disorders, personality disorders, and paraphilic disorders.

### Critiques of Hypersexuality

Numerous criticisms have cautioned against the misuse of the concept of hypersexuality, which might label normative behavior as pathological. Foucault (1976) discussed the cultural and historical relativity of sexual conduct, and Gagnon and Simon (1973) used the term *sexual scripts* to refer to sexual behaviors that provide standards recognized by social groups. Tiefer (2004), in discussing the meaning of sexual normalcy, cautioned:

The problem is that the very existence of standards of normality breeds negative psychological consequences for those who deviate—that is known as the “social control” function of norms. And once norms become clinical standards, it’s very difficult to identify those psychological problems that might not exist if social conformity weren’t so important. (p. 11)

Levine and Troiden (1988) critiqued the concept of sexual compulsivity from the sociological perspective of social constructionism, writing, “In any given society, sexual scripts provide the standards determining erotic control and normalcy. What one society regards as being sexually ‘out of control’ or deviant may or may not be viewed as such in another” (p. 351).

In a critique of hypersexuality, Moser (2001) wrote:

The entire concept of hypersexuality is reflective of a sex-negative environment in which it is too easy to stigmatize those who evoke our ambivalence about high rates of sexual activity. . . . Furthermore, any new

taxonomy would be well advised to avoid accusations of built-in therapist and cultural bias. The proponents of such changes to the diagnostic categories often have treatment programs to promote as well. While any change deserves to be considered seriously, these programs (e.g., for treatment of sexual addiction) have shown neither clear diagnostic criteria nor long-term outcome data. (p. 99)

Coleman (1995), writing about compulsive sexual behavior, cautioned, “Overpathologizing this disorder is an ever-present danger. Professionals with conservative or restrictive attitudes about sexuality are likely to impose a pathological label on normative sexual behavior” (p. 333).

Rinehart and McCabe (1997) proposed that labels such as *sexual addiction* and *sexual compulsivity* were diagnostically hazardous. They stated, “The real danger in labeling hypersexuality is that we do not know what constitutes excessive sexual behavior, and yet we are applying a label which may have pathological symptoms inappropriately associated with it” (p. 59). They cited constructs associated with hypersexuality such as anxiety, compulsivity, and impulsivity that have not been empirically tested.

Fedoroff (2009), in a response to a presentation on hypersexuality at the 2009 Society for Sex Therapy and Research annual meeting wrote, “People who present with sexual pre-occupation have been labeled everything from ‘ex-spouses’, ‘perverts’, ‘addicts’, ‘compulsives’, ‘nymphomaniacs’, and ‘satyriasis’. Will diagnosing people ‘hypersexual’ help anyone except therapists who need a diagnosis to put on the insurance invoice?” (p. 6). The controversy extends not only to the definition of hypersexuality and its use, but also to the topics researchers decide to investigate and to the conclusions they reach. An example of this is the aforementioned study by Långström and Hanson (2006a) that asked the question, “Is it possible to determine how much sex is too much?” They reviewed survey data from the general population of Sweden and concluded that elevated rates of impersonal sex were associated with negative health indicators and could therefore be problematic. Giles (2006) criticized this study as stigmatizing a type of sexual behavior of which the researchers did not morally approve. Långström and Hanson (2006b) responded:

Rather than being motivated by a conservative distaste for non-partnered forms of sexual behavior, our concern was with the suffering of individuals seeking help for a cluster of problems that have been called “sexual addiction,” “compulsive sexual behavior,” or, more neutrally, “hypersexuality.” (p. 643)

Thus, the concept of hypersexuality has been, and continues to remain, controversial.

## Assessment

### Clinical Guidelines

Individuals who present for treatment of hypersexual behavior are a heterogeneous group; therefore, it is necessary to conduct a thorough assessment in order to ascertain the behaviors and conditions that need to be addressed and treated (Carnes & Wilson, 2002; Coleman, Raymond, & McBean, 2003; Cooper & Lebo, 2001). The most important part of this is a comprehensive clinical interview (Irons & Schneider, 1996), which should include the following: history of the presenting problems, psychosocial history, sexual history, psychiatric and mental health history, substance use history, and medical history (Kafka, 2007). In particular, it is important to ascertain if comorbid conditions such as anxiety or depression are associated with the hypersexual behavior and are being treated (Cooper & Marcus, 2003; Krueger & Kaplan, 2002). Hypersexuality could also be a symptom of an underlying condition, such as bipolar disorder or dementia, and organic- and substance-related causes should be ruled out or treated (Goodman, 1998; Kafka, 2008; Krueger & Kaplan, 2000). The possibility that the patient may have contracted a sexually transmitted infection should be considered. Patients may need to be referred to a family physician, neurologist, or psychiatrist for further assessment.

It is not unusual for individuals with hypersexuality to present with limited motivation for treatment. Often, a family member or recent negative experience may be pushing the patient into therapy. Because sexual experiences are pleasurable, most patients are very ambivalent about relinquishing these behaviors, despite negative consequences (Canning Fulton, 2002). Thus, it is important to ascertain the degree and nature of a patient's motivation and develop a plan of treatment that will address this (Reid, 2007).

In addition to acquiring a history from the patient, supplemental information may also be obtained from a partner or family member (Heaton Matheny, 2002). If the family member is supportive, this can aid in treatment.

### Questionnaires and Instruments

Questionnaires may be a helpful way of acquiring supplemental information. A detailed and exhaustive review of these is beyond the scope of this article. Davis, Yarber, Bauserman, Schreer, and Davis (1998) listed a large variety of questionnaires targeting sexual behaviors. Prentky and Edmunds (1997) compiled a number of inventories for assessing paraphilias and sexual abuse that also described instruments that could be used to assess hypersexual behavior. Derogatis (2008) provided a critical review of instruments utilizing patient reported outcomes to assess sexual functioning. Some questionnaires that are commonly used to assess this population are discussed.

The Sexual Inhibition/Sexual Excitation Scales are instruments contributed by Bancroft's group (Janssen, Vorst, Finn, & Bancroft, 2002a, 2002b). Following their proposal of a dual control model (Bancroft & Janssen, 2000), discussed earlier, they developed and validated a questionnaire that measures the propensity for sexual inhibition and sexual excitation in men, and used this to assess the relationship between mood and sexual behavior in men in a number of studies (Bancroft, Carnes, & Janssen, 2005; Bancroft et al., 2003a, 2003b; Bancroft et al., 2003). These questionnaires have mainly been used in research and not for clinical assessment.

A number of specific instruments have been developed to assess sexual drive. Bancroft and colleagues (see Bancroft, 1975; Tennent, Bancroft, & Cass, 1974) developed a sexual interest and activity scale for their early studies of the control of deviant sexual behavior by drugs. In this scale, individuals are asked to rate the frequency of their sexual thoughts over the past week on a Likert scale, and are also asked how many times masturbation or any overt sexual act had resulted in orgasm over the past seven days. This scale was modified by Rösler and Witztum (1998) into the Intensity of Sexual Desire and Symptoms Scale, where the frequency and intensity of sexual fantasies over the past week and frequency of deviant behaviors over the past month are also rated on a Likert scale. This scale was used in a large, open trial of patients with paraphilias who also reported out-of-control sexual behavior. It has been useful in research studies and for clinical purposes to assess the effects of medication.

Coleman and his colleagues (see Coleman et al., 2009; Coleman, Miner, Ohlerking, & Raymond, 2001; Miner, Coleman, Center, Ross, & Rosser, 2007) developed and validated the Compulsive Sexual Behavior Inventory for use with clinical populations. The first section, containing 13 items related to control of sexual behavior, has been used successfully as an outcome measure (Wainberg et al., 2006) in drug studies. The full scale has been used to assess compulsive sexual behavior and risk for unsafe sex among Internet-using MSM (Coleman et al., 2009). It has been used as an outcome measure in a medication study (Wainberg et al., 2006), and has been useful to assess treatment effects.

Kalichman and colleagues (see Kalichman et al., 1994; Kalichman & Rompa, 1995, 2001) developed and validated a 10-item scale for assessing sexual compulsivity—the Sexual Compulsivity Scale (SCS)—using community samples. Items are summed (total scores 10–40), with a score of <18 not sexually compulsive, 18 to 23 mild compulsivity, 24 to 29 moderate sexual compulsivity, and >30 sexually compulsive. It takes less than five minutes to complete, and reliability and validity have been established (Benotsch et al., 2002; Benotsch et al., 1999; Benotsch et al., 2001; Dodge, Reece, Cole, & Sandfort, 2004; Dodge et al., 2007). The SCS has mainly been used in research studies to identify sexual risk-takers,

especially MSM, men who participate in risky sexual behaviors, or those who have sexually transmitted diseases (Dodge et al., 2007; Kalichman & Cain, 2004), including HIV infection (Kalichman, Cherry, Cain, & Pope, 2005).

Carnes (1989, 1991b) developed the Sexual Addiction Screening Test (SAST), which is a 25 item, self-administered, dichotomously answered questionnaire. A cutoff score of 13 (out of 25) indicates the presence of sexual addiction in heterosexual males (Carnes, 1989). The SAST was administered to two groups of veterans from an addiction program, and results demonstrated excellent reliability and acceptable validity (Nelson & Oehlert, 2008). This instrument has mainly been used clinically to help identify patients at risk for sexual addiction.

Two instruments used to assess psychopathology for substance abuse and other psychiatric conditions have also been used to assess sexual behaviors. The Clinical Global Impression Scale (Guy, 1976, 2008) has been used to assess a wide variety of behaviors in drug studies of affective or substance use disorders. This scale asks that the rater make an initial judgment regarding the severity of the illness, taking into account the rater's total clinical experience with the population in question, from a scale ranging from 1 (*normal, not at all ill*) to 7 (*among the most extremely ill patients*). It subsequently asks the rater to rate total improvement. This scale has been used as an outcome measure in one placebo-controlled study involving compulsive sexual behavior (Wainberg et al., 2006), and has been useful clinically.

Timeline Followback, originally developed to assess the frequency and quantity of substance use on a daily basis (Sobell & Sobell, 2008), has been used to assess sexual behavior in research studies (Carey, Carey, Maisto, Gordon, & Weinhardt, 2001; Weinhardt, 2002; Weinhardt, Carey, et al., 1998; Weinhardt, Forsyth, Carey, Jaworski, & Durant, 1998). This method relies on an interactive iterative process whereby an interviewer presents a calendar for the period in question with beginning and end dates; participants are helped to identify significant events in this period that are memorable to them, and description of sexual behaviors are recorded using these events as mnemonics. This process is done at baseline and then repeated according to the intervals to be studied. This method has mainly been used for research purposes.

Both the Minnesota Multiphasic Personality Inventory-II (Butcher et al., 2001) and the Millon Inventory (Millon, Davis, & Millon, 2008) may be useful in understanding symptoms and personality characteristics of individuals with hypersexuality. A study by Reid and Carpenter (2009) reported on 152 individuals seeking help for hypersexual behavior; although a number of scales were elevated for a substantial portion of participants, a significant percentage of this group presented with normal profiles. There was no evidence to support addictive tendencies in this sample.

## Treatment

Hypersexuality is a complex disorder. Many clinicians in this field recommend a multifaceted approach to treatment that includes various modalities (Cooper & Marcus, 2003; Delmonico, Griffin, & Carnes, 2002; Kafka, 2007), including cognitive-behavioral therapy, relapse-prevention therapy, psychodynamic psychotherapy, and psychopharmacological treatment. Various modes of therapy are employed including individual, group, and couples therapy. Treatment should be based on a thorough assessment and tailored to the specific needs of the patient. The following sections present interventions commonly used for the hypersexual patient, based on a multimodal approach.

### Cognitive-behavioral Treatment

*Relapse prevention.* This cognitive-behavioral approach was originally developed for treatment for drug and alcohol addiction (Marlatt & Gordon, 1985): "The goal of relapse prevention is to teach individuals who are trying to change their behavior how to anticipate and cope with relapse" (p. 3). Relapse-prevention therapy is a self-control program that uses skills training, cognitive interventions, and lifestyle change to help an individual identify high-risk situations, change cognitive distortions or faulty thinking, and cope with stressful or high-risk situations that may trigger relapse.

Relapse-prevention techniques have been adapted to treatment of the paraphilias (Laws, 1989; Marshall & Anderson, 1996) and, more recently, sexual addictions (Penix Sbraga & O'Donohue, 2003). Studies of treatment modalities for sex offenders (Grossman, Martis, & Fichtner, 1999; Nagayama Hall, 1995) suggest that, for problems of self-control of sexual behavior, cognitive-behavioral therapy is effective.

*Behavior therapy.* Behavior therapy techniques have been used to treat paraphilias but may also be used to treat hypersexual behavior. McConaghy, Armstrong, and Blaszczyński (1985) treated 20 men who requested behavior therapy to help them with control of sexual behaviors experienced by them as compulsive. They reported imaginal desensitization was as effective as covert sensitization in reducing compulsive sexual behaviors at both one-month and one-year follow up.

### Psychodynamic Psychotherapy

Many clinicians stress the importance of psychotherapy with this population (Cooper, Putnam, Planchon, & Boies, 1999; Cooper & Lebo, 2001; Goodman, 1998; M. F. Schwartz, 2008) to explore family of origin, trauma, and underlying contributing factors. Montaldi

(2002) proposed treating hypersexual patterns that resemble personality disorders with attention given to basic self-esteem, identity, and interpersonal issues. Montaldi stated that it was important to “examine the meaning of the client’s sexual/romantic behavior and how he or she forms and maintains intimate relationships” (p. 21) and that treating the patient’s personality disorder might be viewed in terms of changing the “therapy interfering” behaviors that undermine specific treatment of sexual problems (p. 22).

### **Twelve-step or Addiction Treatment**

The treatment of sexual addiction uses the twelve-step model originally used with Alcoholics Anonymous (Carnes, 1983, 1989, 1992) and adapted for sexual addictions as a means to recovery. These self-help groups can play an important role in recovery by helping individuals be honest with themselves and peers by being held accountable in an atmosphere of support. Treatment goals are focused on helping the individual stop or control his or her problematic behavior, as well as to learn new coping strategies. These programs are usually an adjunct to therapy (Carnes, 2000). Examples of self-help programs with a focus on sexual behavior include Sex and Love Addicts Anonymous, Sex Addicts Anonymous, Sexaholics Anonymous, and Sexual Compulsives Anonymous. Parker and Guest (2002) described the variations in these programs and stated, “The core beliefs include the need to define abstinence or sexual sobriety, the value of psychotherapy and anonymity” (p. 121). A degree of celibacy is required or encouraged in most 12-step addiction programs, but the value of this is controversial. Some therapists believe that a celibacy contract is essential (Schneider, 1988).

### **Couples Therapy**

Effects of hypersexuality on partners can be severe and may include distrust, betrayal, shame, and negative self-esteem. Research has suggested that problems with hypersexuality are related to deficits in sexual intimacy (Carnes, 1991a; Coleman, 1995; Schwartz & Masters, 1994; Ward, Hudson, & Marshall, 1996). Cooper and Marcus (2003) stated, “One essential way of viewing sexual compulsivity is as a relationship disorder” (p. 312). According to Brown (1999), in addressing infidelity, learning the skills of intimacy is essential to recovery and to building a sense of trust. This process begins with dealing with issues of honesty, access to emotions, owning responsibility, setting and respecting boundaries, becoming emotionally vulnerable, and developing reasonable expectations for the relationship. Spring (1996) identified three stages of healing in order for couples to recover from an affair: normalizing feelings, deciding whether to recommit or quit, and rebuilding the relationship. She offered guidelines to restore

trust and intimacy. Laaser (2002) adapted the 12-step process for couples, where the goal is “to exchange instant, perhaps addictive, gratification for the joy of ongoing intimacy” (p. 136).

There is disagreement about how much of a partner’s past sexual behavior should be revealed, but there is also no definitive research on the impact of disclosure on treatment and the functioning of the couple. The risks and benefits of disclosure were discussed by Spring (1996) and Schneider and Corley (2002): Some therapists emphasize the need for honesty and disclosure and some hesitate to recommend full or even partial disclosure. Schneider and Schneider (1996) surveyed 142 couples attending twelve-step programs with sex addiction in one or both partners. When asked to rate the three most important problems in their relationship, their responses were as follows: rebuilding trust, lack of intimacy, and setting limits or boundaries. They also found that it took at least one year of recovery before the partner was willing to forgive and begin to trust again. Manley (1999), and other clinicians indicated that sexual dysfunction is a frequent occurrence in couples dealing with hypersexuality. Schneider (1990) identified sexual problems of couples in recovery, but the findings of her survey suggested that sex therapy was best offered later in the recovery process.

### **Treatment of Comorbidity**

Given the high degree of comorbidity in this population, associated conditions—including affective disorders, substance use disorders, and other psychiatric disorders—need to be treated concomitantly with treatment of the hypersexual behavior. Anxiety and depression can be associated with sexual risk-taking and out-of-control sexual behavior (Bancroft et al., 2003). Presence of comorbid psychiatric conditions may be risk factors that contribute to the onset and severity of hypersexual behaviors (Kafka & Prentky, 1998).

### **Specific Treatment Goals and Strategies**

Regardless of the treatment modality used, the first step in treating hypersexual behavior should be to help the individual stop or control his hypersexual behavior. Watzlawick, Weakland, and Fish (1988) introduced the concept of first- and second-order change. Delmonico et al. (2002) modified this to treat compulsive cybersexual behaviors. First-order changes are concrete actions taken to quickly stop a problem. An example of this strategy applied to cybersexual behavior is limiting access to sexual material or the computer (by removing computers, moving them to a high traffic area in the home, or using software to block access to sexual sites on the Web). Other strategies are

instructing patients to self-monitor sexual urges using a daily diary and helping patients change routine activities in order to occupy time, avoid high-risk situations, and reduce risk.

### Psychopharmacological Treatment

There is a developing literature on the use of psychopharmacological agents to treat hypersexual behavior. Given the similarities of paraphilias with hypersexual behavior (Krueger & Kaplan, 2001), psychopharmacological agents used for the treatment of the paraphilias could also provide a basis for treatment of the hypersexual disorders (Krueger & Kaplan, 2002), as both types of disorders often involve sexual behavior that is out of control. Several detailed reviews of such agents for use in treatment of the paraphilias (Briken, Hill, & Berner, 2003; Gijis & Gooren, 1996; Rösler & Witztum, 2000) and hypersexual disorders (Coleman et al., 2003; Kafka, 2000; Krueger & Kaplan, 2002) have been published. In the United States, all such usage is off-label (i.e., drug companies have not conducted controlled studies in the United States sufficient to demonstrate that such agents are effective for such conditions); therefore, these conditions cannot be included as an indication in the official package insert for the use of such medication. However, such off-label use is legal and common, although the evidence base supporting such use is limited, and drug companies may not advertise for usage for off-label conditions (Nightingale, 2003; Stafford, 2008).

Typically, in the development of medication treatment for medical or psychiatric conditions, research progresses from early off-label usage demonstrating efficacy in the form of case reports, to larger case series, and then to large single or multi-center placebo-controlled trials. A number of single-case reports have been published regarding the use of a variety of agents to treat hypersexual behavior involving naltrexone (Bostwick & Bucci, 2008; Grant & Kim, 2001), naltrexone and serotonin reuptake inhibitors (Raymond, Grant, Kim, & Coleman, 2002), citalopram (Malladi & Singh, 2005), leuprolide acetate (Saleh, 2005), nefazodone (Coleman, Gratzner, Nesvacil, & Raymond, 2000), clomipramine, and valproic acid (Gulsun, Gulcat, & Aydin, 2007).

Larger case studies have been reported for psychostimulants or bupropion (Kafka, 2000) and psychostimulant augmentation of serotonin reuptake inhibitors (Kafka & Hennen, 2000). Although the use of stimulants may seem counterintuitive with this population because of the association of stimulant use with hypersexuality, one open-label study of hypersexual men with ADHD (Kafka & Prentky, 1998) reported improvement with these agents.

The two largest and best-controlled, open-label case series merit mentioning. The first (Rösler & Witztum, 1998) reported on 30 men treated with 3.75 mg of

triptorelin for paraphilias for 8 to 42 months. Although many of these men had paraphilias, all of them were reported to have “uncontrollable sexual drive” (p. 416). All had a significant decrease in the number of deviant sexual fantasies and desires and abnormal sexual behavior while undergoing treatment, with these effects evident after 3 to 10 months of therapy. This group has now been extended to include (Rösler & Witztum, 2009) 100 men treated over 15 years, with similar results.

The largest treatment study of men with nonparaphilic hypersexuality (NPH) was conducted in Iran by Safarinejad (2009), who reported on a prospective study of 76 men treated with 3.75 mg of triptorelin for an indefinite period of time. NPH was defined as “The need for sexual behavior consumes so much money, time, concentration, and energy that the patient describes himself as out of control; and orgasm does not produce satiety in the way it typically does for age mates” (p. 1152). The main outcome measure was the frequency of intercourse and a significant decrease was reported after 6, 12, and 24 months of treatment.

Both studies followed patients for a decrease in bone density, which can occur with a decrease in testosterone levels, and supplemented treatment with bisphosphonates to prevent undue bone loss. The main side-effects included persistent hot flashes, decreased growth of facial and body hair, asthenia, and transient pain at the sites of injection of the triptorelin. Men also reported a diminution of sexual interest, with inability to achieve or maintain sexual intercourse, which was proportional to age, occurring more severely in older men. Most reported satisfaction with the treatment in both of these studies.

Two further studies, which used antidepressant medication and involved a double-blind, placebo-controlled design, have been conducted. The first, by Kruesi, Fine, Valladares, Phillips, and Rapoport (1992), studied 15 paraphilics whose symptoms were of a “compulsive” nature and who entered a double-blind crossover comparison of clomipramine versus desipramine, with a two-week, single-blind placebo lead-in. Only eight participants completed the protocol, which limited the conclusions. However, both drugs decreased paraphilic symptoms compared with baseline, with no difference between the group treated with desipramine compared to the group treated with clomipramine.

The second study (Wainberg et al., 2006) compared citalopram with placebo for the treatment of compulsive sexual behaviors in gay and bisexual men in a double-blind fashion. Twenty-eight men completed this study, with significant treatment effects obtained for sexual desire and drive, frequency of masturbation, and pornography use. Although both groups decreased their sexual risk behavior, there was no significant difference between them.

Thus, a number of case reports and smaller open-label case series support the use of a variety of agents

to treat hypersexual conditions, including naltrexone by itself or in combination with serotonin reuptake inhibitors, citalopram, nefazodone, clomipramine, and valproic acid. Two large, open-case series support the use of triptorelin for the treatment of hypersexual behavior. Finally, one placebo-controlled trial involving citalopram supports this drug for the treatment of compulsive sexual behavior.

The manufacturer's product information should be used to guide treatment; but for triptorelin or leuprolide, the dosage is that used to achieve androgen reduction for medical indications, such as prostate cancer. For citalopram or other serotonin-selective reuptake inhibitors, the dosage has been comparable to that used for the treatment of the labeled indications of OCD or depression.

### Summary and Conclusion

It is clear that a condition of hypersexuality exists in which some individuals are unable to control their sexual behavior as compared with those who choose to act in a self-centered manner with disregard for others. Such behavior has been described for centuries, and more recently has been the focus of research interest and clinical attention, as this review suggests.

The central problem is trying to define such a condition in a way that captures the behavior and associated dysfunction, and at the same time avoids the possibility of misuse of this definition to stigmatize and pathologize individuals. The question is whether it will be possible to create such a definition that can be of use and not subject to abuse, given conflicting models, moral judgments, and society's taboos against sexual expression.

This review suggests the development of an evolving dialogue that is involved with discussion and integration of these various conceptualizations and explanations of such behavior, with the hope that consensus concerning a definition of and criteria for hypersexuality will emerge. Further empirical research focusing on the causes and effective treatment of this condition is critically needed. We expect that current advances in therapeutics and biological psychiatry will be extended to the study of hypersexual behavior so that we can have a better understanding of these problems and their treatment.

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