A Biopsychosocial Model of Sexual Addiction

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Challenges

- “Many Conceptions…. Minimal Data”
- Stigma
- Lack of funding
- Not formally recognized disorder

Related Terms

- Sexual Compulsion
- (Problematic) Hypersexual Behavior
- Impulse Control Disorder, NOS
- Out of Control Sexual Behaviors
- Satyriasis
- Nymphomania
- Don Juanism

Warning Signs and Symptoms

- Loss of control of sexual impulses
- Engaging in sexual activity despite it no longer feeling pleasurable
- Using sex as an escape
- Continuing to have sex despite having legal, health or relationship problems
- Inability to establish emotionally close relationships
- Having multiple sex partners
- Engaging in high risk sexual behaviors (anonymous, unsafe, exchanging money or drugs)
- Escalation in behaviors: pornography → chat/phone → escorts → sex clubs

Diagnosis

- Sexual Addiction (or any related disorder) is not currently recognized by the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR).
- Classified as Sexual Disorder NOS
  - Is it Obsessive-Compulsive Disorder?
  - Is it Impulse Control Disorder?
  - Is it like Substance Dependence?
  - Is it a primary disease or a symptom of other diseases?

What is it not?

- TSO = Total Sexual Outlet (Kinsey, 1948)
- > 7 orgasms per week for at least 6 months (Kafka, 1997)
  - 7.6% men up to age 30 had > 7 orgasms/week (Kinsey, 1948)
  - Men ages 18 – 25: 34% masturbated once per week. 15% 2-6 times per week. 2% daily (Laumann, 1994) .
- Just as we do not define alcoholism by the number of drinks one has… we cannot use quantity. It is a quality of sexual relationships problem.

Is it a compulsion? (DSM-IV-TR)

- (1) repetitive behaviors or mental acts that the person feels driven to perform in response to an obsession, or according to rules that must be applied rigidly
- (2) the behaviors or mental acts are aimed at preventing or reducing distress or preventing some dreaded event or situation;
- Sexual Addiction often does not involved reduction in distress or anxiety

Is it an Impulse? (DSM-IV-TR)

- *failure to resist an impulsive act or behavior that may be harmful to self or others*.
- Is not premeditated or not considered in advance and one over which the individual has little or no control.
- Sexual addiction often involves well planned out behaviors

Is it Dependence? (DSM-IV-TR)

- Tolerance
- Withdrawal

- Markedly increased amounts to achieve intoxication or desired effect
- Markedly diminished effect with continued use of the same amount.
- Taken in larger amounts or over a longer period than was intended
- Persistent desire or unsuccessful efforts to cut down or control.
- A great deal of time is spent in activities necessary to obtain, use, or recover
- Important social, occupational, or recreational activities are given up
- Continued use despite knowledge of having a persistent or recurrent physical problem

Tolerance and Withdrawal?

Proposed Criteria (Reid, 2009)

- 1) Repetitive and intense preoccupation with sexual thoughts, urges, and behaviors,
- 2) Multiple unsuccessful attempts at controlling sexual thoughts, urges and behaviors, and
- 3) adverse consequences causing clinically significant distress or impairment in occupational, interpersonal or social areas of functioning

Proposed Criteria (Continued)

- The presenting symptoms cannot occur exclusively in the context of another axis I disorder (e.g. mania) be substance induced, or occur in relation to a general medical condition.
- Symptoms can include solo or relational activities
- Can occur co-morbidly with paraphilias

BIOLOGICAL THEORIES

Model

- Deficiencies of 5-HT, Vasopressin, and Oxytocin → increased testosterone → increased sexual drive and aggression
- Behaviors lead to increased dopamine release in the limbic forebrain
- When aroused, if behavior is not acted upon… leads to tension and excitement… addiction

Genetics

- No family, twin or adoption studies
- Increased rate (18%) of pedophilia in families with other pedophiles compared to controls (3%) – (Gaffney, 1984)
- High rate of family members with other forms of addictions – 40% substance, 36% sex, 33% eating d/o, 7% gambling* (Schneider and Schneider, 1996)

* not controlled

Brain Function

- There is no brain model of sex addiction
- Must rely on
  - Comparison
  - Brain Damage
  - Neuroimaging
  - Response to Biologic Treatment

Comparison to Other Disorders (Stein, 2006)

Impulse Control Disorders

- **Amygdala** – **A**ffective Dysregulation (e.g. trichotillomania)
- **Ventral Striatal Circuits** and **Nucleus Accumbens** – **B**ehavioral Reward (e.g. substance dependence)
- **Prefrontal Cortex** – Impaired **C**ognitive/Executive Control (e.g. impulse control disorder)

Sexual Addictions

- Co-morbidity with mood disorders, symptoms triggered by stress, treated by SSRI's
- Preoccupation, dysphoria when trying to cut back
- Continued behaviors despite negative consequences

Comparison to other Sexual Disorders of Control

- Pedophilia
  - Orbitofrontol Tumor (burns, 2003)
  - Decreased Gray Matter Volumes on MRI (Schiffer, 2007)
  - Increased release of Leutenizing Horomone compared to controls (Gaffney, 1984)

Brain Damage

- Thalamic Stroke (Spinella, 2004)
- Traumatic Brain Injury (Rao, 2007)
- Dopamine Agonists (PDR, 2007)
- Alzheimer's Dementia

Neuroimaging

- Functional MRI – amygdala and hypothalamus activated in men > women when viewing stimulating materials (Hamann, 2004)
- Positron Emission Tomography (PET) –
  - Increased activity in the mesodiencephalic transitional area during male orgasm and ejaculation (Hostege, 2003)
  - Increased internal opiate release during sexual arousal in the cingulate, temporal cortex, and parietal cortex (Frost, 1986)

Response to Biologic Treatments

- Testosterone lowering agents decrease recidivism rates in sexual offenders (Berlin, 2005; Freund, 1980; Weinberger, 2005).
- Serotonin Reuptake Inhibitors lower libido (Bradford, 1996).
- Naltrexone (opiate blockade) successful in treating other compulsive behaviors (Grant, 2002).

PSYCHOLOGICAL THEORIES

Temperament (Cloninger, 1998; Caspi, 1993)

- Inhibited children → acting-in behaviors (compulsive)
- Uncontrolled children → acting out behaviors (impulsive)
- Temperment most likely serves as a predisposing factor that paired with other biological and environmental factors can lead to sexually compulsive behaviors

Attachment Theory

- Based on Bowlby and Ainsworth
- Difficulties with pair-bonding, courtship, attraction, love, affection and intimacy.
- Avoidant → sex without affection or emotion → prostitutes/pornography
- Disorganized → Needing/Fearing – wants closeness but fears rejection → objectification → Paraphilia
- Preoccupied → emotionally needy → multiple partners
- Sexual acting out may serve to temper negative affective states (loneliness, sadness, anger).

Object Relations (Fonagy, 2002)

- Self-Constancy developed at age 3
- Neglected children may not form self-object
- Sexual compulsivity may be a form of needing to constantly feel affirmed/desired

Trauma and Dissociation

- Identification with the aggressor
- Trauma Bonding (Hindman, 1989) – Pairing of sexual arousal with the terror or violence. Continual return to to the trauma to try to master/comprehend it.
- Dissociation which is protective during trauma plays itself out later in life

SOCIAL THEORIES

Social Theories

- Religious Fundamentalism
  - Hasidic Jews more sexual compulsion than controls (Needell, 2004)
- Internet
  - Affordable, Anonymous, Accessible
- Sexualization of Children
  - Earlier Age of Puberty
  - More exposure to sex in the media
- Changes in Parenting
  - Absent parenting leads to needy children who seek out dependent relationships –> premature sexuality

Prevalence

- 3% to 6% in U.S. general population (Carnes, 1991; Coleman, 1992)
- 4.4% current; 4.9% lifetime in psychiatric inpatients (Grant, 2005)

Screening

- SCS -- Sexual Compulsivity Scale (Kalichman, 1995)
- SAST -- Sexual Addiction Screening Tool (Carnes, XXXX)
- HBI -- Hypersexual Behavior Inventory (Reid, 2009)

Differential Diagnosis (Finlayson, 2009)

- Bipolar Disorder
  - Mania/Hypomania
- Depression
- Substance Induced
  - Cocaine/Stimulants
- Organic Brain Injury
  - Traumatic Brain Injury
  - Seizure Disorder
  - Kluver-Bucy Syndrome
  - Kleine-Levin Syndrome
- Endocrine Pathology
  - Hyperadrenalism
  - Pancreatic Tumor (e.g. ACTH)
  - Ovarian Cancer (e.g. Sertoli-leydig cell)

Indications for Organic Workup (Goodman, 1998)

- onset in middle age or later,
- excessive aggression or personality changes,
- report of auras or seizure-like symptoms prior to or during the sexual behavior,
- abnormal body habitus, and
- presence of soft neurological signs.

Co-Morbidity (Black, 1997; Kafka and Prentky, 1992; Raymound, 2003)

- Mood Disorders (40 – 80%)
- Anxiety Disorders (46% - 96%)
- Personality Disorders (44% - 46%)
- Substance Use (46% - 71%)
- Other compulsive behaviors
- ADHD
- Paraphilias

Complications

- Physical Trauma (Kalichman, 2004)
- Sexually Transmitted Infections (Kalichman, 2004)
- Unwanted Pregnancy*
- Legal Problems*
- Isolation, Depression, Suicide??*
  - * theoretical, but not studied

TREATMENTS

Biological

- SSRIs
- Naltrexone
- Mood Stabilizers
- Stimulants
- Anti-Androgens

Psychopharmacology

- Currently, there are no U.S. Food and Drug Administration (FDA) approved medications for compulsive sexual behaviors.
- Not much research data – particularly randomized, double blind placebo controlled trials

SSRI's

- The use of SSRI's as a treatment for sexual addiction is based on the theorized mechanism of serotonergic dysfunction. Preclinical data shows that serotonin depletion in the presence of testosterone greatly potentiates sexual behavior in laboratory animals. (Gessa,1970)
- Theoretically, SSRI's may decrease the preoccupation, obssessional thinking, emotional reactivity, urges and cravings associated with the behavior (Wainberg, 2006).
- SSRI's have shown to be most effective when the sex addiction symptomatology is co-morbid with depression, anxiety or obsessive compulsive disorder (Kafka, 1992).

Naltrexone

- Opiate Antagonist (blocks pain and pleasure)
- Effective in alcoholism and pathological gambling
- Block's opiates mediating effects on dopamine which is involved in the reward pathway
- Studies have shown decreases in sexual fantasies and masturbation (Ryback, 2003).

Mood Stabilizers

- Used for bipolar disorder
- Unclear if they directly effect sexual functioning or modulate through stabilization of mood
- Some preliminary evidence for Topirimate

Stimulants

- Treating ADHD may help reduce sexual behaviors (Kafka, 1998)
- Indirect effect
- Straterra can be used if addiction concerns

Anti-Androgen

- Medroxyprogesterone Acetate – reduces testosterone alpha reductase → decreased testosterone
- Luteinizing Horomone – Releasing Horomone – suppression of the pituitary gonadal axis (decreased testosterone) through stimulation of FSH/GnRH.
- Androgen Receptor Blockers (Cyproterone Acetate) → decreased erections, lidido and orgasms

Psychological

- Psychodynamic (Understanding, Integration, and Internalization)
- Cognitive (skills training, lifestyle regeneration, relapse prevention)
- Behavioral (aversion therapy)

Social

- 12-Step Programs

  Sex Addicts Anonymous - SAA http://www.sexaa.org/
  Sexual Compulsives Anonymous - SCA http://www.sca-recovery.org/
  Sex and Love Addicts Anonymous - SLAA http://www.slaafws.org/
  Sexaholics Anonymous - SA http://www.sa.org/
  Sexual Recovery Anonymous – SRA http://sexualrecovery.org/

  Recovering Couples Anonymous http://www.recovering-couples.org/
  Codependents of Sex Addicts (related to SAA) http://www.cosa-recovery.org/
  S-Anon (related to SA) http://www.sanon.org/

A Case Example

- 50 y.o. single male with a history of alcohol dependence, cocaine dependence, and crystal meth abuse. He has a history of anxiety, depression, appetite loss and weight fluctuation, fatigue, low energy, poor concentration, guilt, and suicidal thoughts, including cutting and several overdose attempts. He also reports having episodes in which he required much less sleep, expansive, flighty racing thoughts, irritability, and increased anxiety which would last from one to several weeks. He described hyper-vigilence, both on and off drugs, intrusive memories and vivid nightmares.

Case

- David has a persistent obsession about compulsive sexual acting out with males. He has never married, never dated and has had no intimate involvement with women. He began using pornography and masturbation in his early teens and was introduced to the gay scene and male prostitution by his AA sponsor. He has frequented bars, prostitutes and bath houses for many years, and estimated having had 7000 partners most of which involved prostitution.

Case

- As a child David was repeatedly sodomized by his father and an uncle between the ages of 5 and 13. He was physically abused by his mother who still denies any form of abuse. Neither his sister nor brother suffered abuse at home. David was bright and made good grades at school. He was repeatedly sexually abused by a scoutmaster, who gave the boys alcohol, made them dance naked and molested him sexually.

Case

- His legal history included eight DUI's and five counts forgery. He had embezzled $150K in the past and managed to escape detection and repaid it. He recently felt acute guilt for having stealing $250.00 from the large cash-basis corporation he is employed by.
- He had several psychiatric hospitalizations for depression and suicide behavior. He had entered addiction treatment 8 times and completed a program one moth prior.

Case

- Medical history of pneumonia as a new born and maturity onset diabetes managed with Metformin. At age seven he was hospitalized after diving into an empty swimming pool. He was unconscious for a day or so but suffered no apparent problems.
- Family history included alcoholism++, valium dependence, cirrhosis, and an uncle suffered shell shock in the Korean war.

Biopsychosocial Model

- Biological: + Family history; substance use; history of head trauma
- Psychological: Sexual and Physical Abuse; Shame; Guilt; Attachment
- Social:

Work-Up

- Physical Exam
- CMP, CBC
- TSH
- HIV, RPR
- UDS, BAL
- ? Neuroimaging

Diagnosis

- Axis I Bipolar Disorder, Type II; Cocaine Dependence; Remote Alcohol Dependence; Post Traumatic Stress Disorder; Sexual Disorder NOS
- Axis III Pneumonia at birth; history of TBI; Diabetes type II

Treatment

- Biological: Bupropion SR 300mg; Oxcarbazepine 600mh BID; Naltrexone 100mg daily; Quietapine 400mg hs (insomnia)
- Psychological: Individual Therapy (CBT)
- Social: 12-Step Program