Unrecognized Psychological Factors in Parasomnias

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1. I do not have any relationships with any entities **producing, marketing, reselling, or distributing** health care goods or services consumed by, or used on, patients, OR

2. I have the following relationships with entities **producing, marketing, reselling, or distributing** health care goods or services consumed by, or used on, patients.

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3. The material presented in this lecture has no relationship with any of these potential conflicts, OR

4. This talk presents material that is related to one or more of these potential conflicts, and the following objective references are provided as support for this lecture:
Purpose of Talk

• To identify and delineate a significant gap in current Sleep Medicine work with certain parasomnias.
Argument

• In certain parasomnias involving complex behavior arising out of sleep, psychological factors often play a major role, in addition to the familiar sleep-related factors.

• The Sleep Medicine literature generally shows no awareness of the role of these factors, with just a few exceptions
Plan for Presentation

1. Brief Review of Relevant Parasomnias
2. Illustrative Case
3. Supportive Findings in Literature
4. Implications for Clinical Work: Diagnosis and Treatment
5. Pause: for Questions and Discussion
6. Discussion of Case of Ken Parks: ‘Homicidal Somnambulism’
Which Parasomnias?

- Among the NREM Parasomnias:
  - Disorders of Arousal  
    (Confusional Arousals, Sleepwalking, Sleep Terrors)
  - Sleep Related Eating Disorder
3 Categories of Complex Behavior Arising out of NREM Sleep

1. Violence Associated with Sleepwalking/Sleep Terrors
2. Sleep Related Eating Disorder
3. Sleep Related Abnormal Sexual Behavior
Disorders of Arousal (From NREM Sleep)

- 3 Disorders: Confusional Arousals, Sleepwalking, Sleep Terrors
- Most often occur during arousals from deeper NREM sleep, stage 3, early in the night
- The person remains “stuck” between sleep and wakefulness, with some features of each
- Unresponsive, confused, disoriented
Disorders of Arousal II

- Relatively amnestic afterward
- Disorders tend to cluster together in individuals and within families
- Strong genetic predisposition
- Occurrence primed by factors that deepen sleep: sleep deprivation
- Sleep disorders that cause arousals, e.g. obstructive sleep apnea (OSA), can be important triggering factors
Violence in Sleepwalking and Sleep Terrors

- Most extensively described by Schenck and Mahowald (1989)
- Overall prevalence of violence in sleep was 2.1% in one population study — SW/ST cases constituted the majority
- May lash out at person who interrupts activity or is near, repeatedly attack bed partner, wield weapons (e.g. knife, loaded shotgun)
- Both short frenzied episodes, and slow, lengthy, complex episodes

\(^1\)Ohayon et al, 1997
Sleepwalking/Sleep Terrors usually have childhood onset, but in this group 1/3 have onset at age 16 or later

Sleep disorders that cause arousals, e.g. OSA, may be significant triggering factors

Often have fragmentary mental images: a looming figure, attacking person, a fire, but may have more elaborate, dreamlike images

Male predominance: 61% vs 39%

Symptoms often begin in young adulthood
Treatment of Violence in Sleepwalking/Sleep Terrors

- Treat any associated sleep disorder that may precipitate episodes

- Clonazepam usually effective in controlling the behavior
Sleep Related Eating Disorder

- Recurrent, frequent episodes of involuntary eating during arousals from nocturnal sleep, most often with partial awareness and partial recall
- Degree of consciousness can vary from virtual unconsciousness, with little recall, to partially awake with some recall, to considerable alertness and recall, but with inability to resist eating
Sleep Related Eating Disorder II

- Frequency: typically nightly, often several times per night
- Episodes may occur throughout the night, not just in the first third
- High calorie foods, fats and carbohydrates, sweets typically eaten
  - Almost never alcohol
- Can consume bizarre or dangerous items, e.g. uncooked frozen foods, raw bacon, cat food, buttered cigarettes, salt sandwiches
Sleep Related Eating Disorder III

- Absence of feeling of hunger or thirst
- Sloppy, careless eating
  - Find mess in morning
  - Turn on oven and return to bed
- Female predominance: 66-83%
- Most often begins late teens, early adulthood
- Course usually unremitting
Sleep Related Eating Disorder IV

• Complications
  – Weight gain/obesity
  – Inadequate sleep and daytime fatigue
  – Awaken with distended abdomen, no appetite
  – Lacerations, burns from careless food preparation
  – Danger from eating toxic substances

• Prevalence: 4.6% in general sample of university students, 8.7% in outpatient eating disorders, 16.7% in inpatient eating disorders²

²Winkelman at el, 1999
Most patients with SRED do not have daytime eating disorders; a minority do.

Sleepwalking/confusional arousals most often found:
  - Other patients have restless legs syndrome and/or periodic limb movements of sleep
  - Obstructive sleep apnea may trigger episodes

Precipitants may be noted:
  - Daytime dieting, smoking abstinence, cessation of alcohol/substance abuse
  - Major separations from important others
Sleep Related Eating Disorder VI

- Can be secondary to medication use, esp. zolpidem

- Appears to be hybrid sleep/eating disorder:
  - Occurs at night, during arousals from sleep, with altered consciousness, at times bizarre behavior, as in a sleep disorder
  - Excessive, compulsive eating, female predominance, late adolescence/young adulthood onset, association with daytime eating disorders, suggest an eating disorder
Treatment of Sleep Related Eating Disorder

• Withdraw causative medications
• Treat any underlying sleep disorder
  – Restless legs syndrome: some cases of SRED may actually have RLS improperly treated with sedative/hypnotics for insomnia
  – OSA
• Topiramate effective in majority of cases
  – Has appetite-suppressing effect, as well as sleep-enhancing property
Sexual Behavior During Sleep

• First systematically described by Guilleminault et al (2002)
• Wide spectrum of sexual behaviors has been reported
  – Sexual moaning and vocalizations
  – Masturbation, sometimes violent, with or without orgasm
  – Sexual fondling of another person
  – Sexual intercourse, at times forced and violent and experienced as rape-like assault
Sexual Behavior During Sleep II

- The behavior is often reported to be coarser, more forceful and violent than during wakefulness
  - At least one report of homosexual activity in a heterosexual individual
- Usually occurs out of NREM sleep, as a form of confusional arousal/sleepwalking
  - May be triggered by OSA
- Lack of awareness during episode; subsequent amnesia
Sexual Behavior During Sleep III

- Often begins in early adulthood
- Male predominance
  - Female cases usually confined to sexual moaning and masturbation
  - Male cases more often fondling, intercourse
- May not come to clinical attention for many years – embarrassment about reporting
- Prevalence unknown
Sexual Behavior During Sleep IV

• Injuries can occur, especially bruises, lacerations of bed partner due to forceful quality of sex

• Forensic consequences
  – Unwanted sexual activity
  – Sexual activity with minor, especially where parents take children into bed
Sexual Behavior During Sleep V

- Often have history of sleepwalking, sleep terrors, confusional arousals
- Dispute whether can occur in RBD
- A number of reported cases complicated by significant alcohol/drug use
Treatment of Sexual Behavior During Sleep

• Treat any underlying sleep disorder, e.g. OSA

• Clonazepam effective if etiology is sleepwalking/confusional arousal
Case Illustration

• Case of sleep-related eating and sexual behavior
• Symptoms frequent; had persisted over many years
• No psychototropic medications
• Sleep studies negative for OSA, PLMs
• REM atonia preserved
Case Illustration (Cont.)

• Referred for in-depth psychological evaluation
  – Parasomnia behaviors found to be closely linked to residual conflicts from complex, difficult circumstances in childhood
  – Of special interest, both the eating and sexual behaviors during sleep had specific conscious wakeful childhood antecedents
Case Illustration (Cont.)

• The psychological factors are seen as directly involved in the eating and sexual behavior during the parasomnia episodes.

• They are not simply “associated psychopathology”, or contributors to an omnibus category of “stress” that secondarily potentiate parasomnia events.
Supportive Findings in Literature


• 54 patients diagnosed sleepwalking/sleep terrors
  – 48.1% had an Axis I psychiatric disorder
  – Of those who completed a valid MMPI profile, 64% had abnormal profiles and one-third had personality disorders
Supportive Findings in Literature (cont.)

- Guilleminault et al (2002). Atypical Sexual Behavior During Sleep
- 11 patients comprehensively evaluated and treated
- The majority had psychopathology (anxiety, affective, and personality disorders)
  - 2 with NREM parasomnia had major sexual traumas
  - 2 others had disturbing sexual factors in development
- Treatment addressed all facets of the patients’ disorders, including sleep and psychiatric
Supportive Findings in Literature (cont.)

• Patients with sleep related eating disorder: 47% had Axis I disorder in original Schenck et al (1991) study

• 53% of patients in their followup study of sleep related eating disorder (Schenck et al, 1993) had past history of repeated abuse, and Dissociative Experience Scale scores approaching those seen in PTSD
Supportive Findings in Literature (cont.)

- In Winkelman et al (1999) sample of sleep related eating disorder, increased levels of depression and dissociation were found.
- In Hartman et al (2001), 6 of 22 patients with sleepwalking/night terrors had increased levels of dissociation and histories of trauma.
Summary of Findings in Literature

• A great deal of associated psychopathology
• History of childhood trauma potentially related to parasomnia behaviors is frequently present
• Evidence of dissociative mechanisms in some cases
Common Positions in Sleep Medicine

• “Never seen a case” [of psychological factors coming into play in parasomnias]

• 53% prevalence rate of repeated abuse in sleep-related eating “probably just what is seen in the general population”

• Referring to 4 cases of homicides purportedly committed during sleepwalking: “These examples add to our growing view that there is no pathology in such cases”
Dissociative Mechanisms in These Parasomnias

• Dissociation in Psychiatric sense: “A disconnection from mainstream consciousness of significant areas of such mental functions as memory and identity.” In extreme cases, there is a fragmentation of central consciousness.
  – Dissociative amnesia
  – Dissociative fugue
  – Dissociative identity disorder
Dissociative Mechanisms in These Parasomnias (Cont.)

- Sleep-related dissociative disorder (ICSD-2)
  - Dissociative episode emerges in association with the main sleep period
  - On PSG, episode emerges from sustained EEG wakefulness either during transition to sleep or upon awakening from NREM or REM sleep
Dissociative Mechanisms in These Parasomnias (Cont.)

• ICSD-2 propounds a clear distinction between NREM parasomnias and sleep-related dissociative episodes, the former arising from partial arousal from NREM sleep, the latter arising from sustained wakefulness at night.

• Evidence suggests dissociative mechanisms may come into play in some cases of NREM parasomnias involving complex behavior arising out of sleep.
Dissociative Mechanisms in These Parasomnias (Cont.)

• Impaired awareness, sense of identity and agency during parasomnia episodes may provide a channel for dissociative tendencies to come into play in some patients with NREM parasomnias
Importance of Appreciating Psychological Factors in Parasomnias

• To develop a comprehensive understanding of the clinical problems the patient is presenting

• To formulate a treatment plan that addresses all facets of the patient’s presenting problems
Clinical Approach

• Be alert to indications the patient’s sleep-related symptoms may have correlates in their waking psychological functioning and/or antecedents in their childhood development

• If so, refer for in-depth psychological assessment for potentially relevant psychodynamic factors

• Psychodynamically informed psychotherapy if indicated
Pause

for

Questions and Discussion
Ken Parks – ‘Homicidal Somnambulism’

• 23-year-old, married man, worked in electronics in Toronto area
• Had close, loving relationships with his mother- and father-in-law
• Left his home in middle of night, purportedly while sleepwalking, drove 23 km to in-laws’ house, bludgeoned and stabbed mother-in-law to death and strangled father-in-law unconscious
Ken Parks – Homicidal Somnambulism II

• Afterward, in and out of consciousness, drove to police station and turned self in
• Became aware at police station that his hands were severely cut, with multiple severed tendons
• Reportedly expressed horror and remorse throughout
Discussion of Ken Parks’ Psychology

1. Psychiatric diagnosis/degree of psychopathology
2. Motivation for homicide and near-homicide
3. Theory of the case
Psychiatric Diagnosis/Degree of Psychopathology

• Article concludes he has relatively mild psychopathology
• Behavioral record suggests much more significant psychopathology
• No effort in article to reconcile difference between testing/evaluation findings and behavioral record
Motivation for the Attacks

- Article: Emphasizes warm and close relationships with in-laws; finds no motivation for attacks
- Examination of the circumstances at the time of the attacks and the childhood history provides evidence for a motivation, albeit an unconscious and irrational one
Theory of the Case

- The theory developed by the article is seen to be a cumbersome, improbable, 3-part patchwork that fails to account for key elements of the case


