Nightmares and Suicide

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Disclosure

- No conflicts of interest to disclose.
Nightmare Definition

- Nightmares are frightening or disturbing dreams that **awaken the individual** (Levin & Nielsen, 2007)
- Occur during REM sleep, more common during 2nd half of sleep period
- Differs from bad dreams in the startled awakening
- Differs from night terrors in several ways

DSM 5 Nightmare Disorder

- “A. Repeated occurrences of extended, extremely dysphoric and well-remembered dreams... generally occurring during the second half of the major sleep episode.
- B. On awakening... the individual rapidly becomes oriented and alert.
- C. ...Clinically significant distress or impairment
- D. ...Not attributable to the physiological effects of a substance...
- E. Coexisting mental and medical disorders do not adequately explain the predominant complaint of dysphoric dreams.”
DSM 5 Nightmare Disorder

- Specifiers (new to DSM 5)
- Duration
  - Acute: Duration is 1 month or less
  - Subacute: Duration is greater than 1 month, less than 6
  - Persistent: Duration of 6 months or greater
- Severity
  - Mild: Less than one episode per week, on average
  - Moderate: One or more episodes per week, but not nightly
  - Severe: Episodes nightly

ICD-10 Definition

- Dream experiences loaded with anxiety or fear. There is very detailed recall of the dream content. The dream experience is very vivid and usually includes themes involving threats to survival, security, or self-esteem. Quite often there is a recurrence of the same or similar frightening nightmare themes. During a typical episode there is a degree of autonomic discharge but no appreciable vocalization or body motility. Upon awakening the individual rapidly becomes alert and oriented. (World Health Organization, 2007).
ICSD-3 Definition

- A. Repeated occurrences of extended, extremely dysphoric, and well-remembered dreams...
- B. On awakening...person rapidly becomes oriented and alert...
- C. The dream experience...causes clinically significant distress,...indicated by report of at least one of the following:
  - Mood disturbance, sleep resistance, cognitive impairments, negative impact on caregiver or family, behavioral problems, daytime sleepiness, fatigue or low energy, impaired occupational or educational functioning, impaired interpersonal/social function
- (ICSD, 2014)

Nightmare Definition

- No diagnostic definition specifies the frequency of nightmares required for diagnosis
  - Research has traditionally required at least weekly nightmares
- Post-traumatic stress disorder (PTSD) is an exclusion only for DSM-5
Prevalence of Nightmares

Varies by age

- 19% of children have weekly nightmares (Schredl, Biemelt, Roos, Dunkel, & Harris, 2008)
- 14% of college students have weekly nightmares (Nadorff, Nazem, & Fiske, 2011)
  - Only 1/3 had clinically-significant PTSD symptoms
- 4.3% of older adults report having problems with nightmares (Salvio, Wood, Schwartz, & Eichling, 1992)

Need for Screening

- Many patients do not realize their nightmares are abnormal, or that anything can be done
  - Only 37.8% of nightmare sufferers reported them to a healthcare provider
  - Less than 1/3 believed their nightmares were treatable
    - (Nadorff, Nadorff, & Germain, 2015)
PTSD and nightmares

- Nightmares are common in PTSD (Harvey, Jones, & Schmidt, 2003)
  - May persist 50+ years after the trauma (Guerrero & Crocq, 1994; Koup, Ruskin, & Nyman, 1994)
- The presence of nightmares before the trauma increases the likelihood of developing PTSD (Mellman, David, & Kulick-Bell, 1995)
- Presence of nightmares after trauma is associated with more severe PTSD (Mellman, David, Bustamente, Torres & Fins, 2001)

Depression and Anxiety

- Nightmares associated with anxiety in children, adolescents, adults, and psychiatric inpatients (Levin & Nielsen, 2007)
- Nightmares are more common in depression with melancholic features than depression without melancholic features (Besiroglu, Aragun, & Inci, 2005)
- Depression and anxiety symptoms associated with nightmare distress (Levin & Fireman, 2002)
  - Nightmare frequency not significantly related when controlling for nightmare distress
Frequency vs. Distress

- Severity
  - Mild: Less than one episode per week, on average
  - Moderate: One or more episodes per week, but not nightly
  - Severe: Episodes nightly

Schizophrenia

- The prevalence of schizophrenia (11%) and schizotypal personality disorder (16%, Hartmann, 1981) are higher in nightmare sufferers than the rates found in the general population (0.3 – 0.7% and 3.9% respectively; American Psychiatric Association, 2013)
- Nightmares often precede a relapse of schizophrenia (Hertz & Melville, 1980)
- Nightmares are positively correlated with MMPI psychosis subscales (Hartmann, 1981)
Suicide

Epidemiology

- There were 41,149 suicides in the United States in 2013
  - Around 32 deaths due to lightning (2005-2014 average)
    - 3,220 deaths due to fire (2013)
    - 4,056 drowning deaths (2013)
    - 16,637 deaths due to murder (2013)
    - 35,369 automobile deaths (2013)
- Suicide is the 10th leading cause of death in the US. (WISQARS, 2015)
Age and Sex Differences

- Attempt to Death Ratio
  - Overall Average 25:1
  - Young Adult (15-24) 100-200:1
  - Older Adult (65+) between 2:1 and 4:1
- Sex differences
  - Overall women are three times more likely to attempt than men
  - Men are four times more likely to die by suicide

(Drapeau & McIntosh, 2015)

Older Adults (65+) More Likely to Use Firearm than Youth (15-24)

Slide Courtesy of Dr. Amy Fiske
Suicide Rates are Increasing

The suicide rate has increased the last nine consecutive years! (Wisqars, 2015)
In the last decade, the rate has increased nearly 17%
Our long-standing suicide prevention methods are inadequate. We need something new to help bend the curve!
Nightmares and Suicide

- Nightmares have been shown to be related to:
  - Suicidal ideation (Cukrowicz, et al., 2009)
  - Non-fatal suicide attempts (Sjöström, Waern, & Hetta, 2007; Sjöström, Hetta, & Waern, 2009)
  - Deaths by suicide (Tanskanen, et al., 2001)

Empirical Question

- Are nightmares related to suicidality independent of other risk factors such as depression, anxiety, and PTSD?
Examined whether insomnia symptoms and nightmares were related with suicidal ideation independent of the symptoms of depression, anxiety, and PTSD.

Sample:
- 583 undergraduate students

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Results Blown-Up

- Depressive symptoms $t = 3.94, p < .01$
- Anxiety symptoms $t = -0.53, p = .60$
- PTSD symptoms $t = 5.00, p < .01$
- Insomnia symptoms $t = -1.63, p = .10$
- Nightmares $t = 2.53, p = .01$

Sjöström, Waern, & Hetta (2007)

- Examined insomnia symptoms, nightmares and a measure of suicide risk
- Sample:
  - 165 suicide attempters in Sweden
- Results:
  - Nightmares related with suicide risk (OR: 4.9)
  - Nightmares remain significantly associated with suicide risk (OR: 3.0) after controlling for depression, anxiety, PTSD, and substance abuse
Sjöström, Hetta, & Waern (2009)

- 2-year follow-up to see whether nightmares predict future suicide attempts
- Hospital records used to detect suicide attempts
- Results:
  - Nightmares predicted suicide attempts (OR = 5.2)
  - Nightmares were still predictive after controlling for depression, anxiety, PTSD, and substance abuse disorders (OR = 4.18)

Nadorff, Nazem, & Fiske (2013)

- Investigated whether nightmare and insomnia symptom duration were associated with suicidal risk
- Method:
  - 673 undergraduate students
  - Participants were asked to report how long (in months) they had experienced insomnia and nightmares, respectively.
Results

Step 2, after controlling for current symptoms of insomnia, nightmares, depression, anxiety, and PTSD

- Insomnia duration $\beta = .23, t = 4.26, p < .01$
- Nightmare duration $\beta = .13, t = 2.41, p = .02$

In predicting suicide risk, the current strength of symptoms was not important, rather it was the chronicity of the problem.
Nadorff, Anestis, Nazem, Harris, & Winer (2014)

- Investigated whether nightmares were associated with suicide risk and attempts independent of the Interpersonal-Psychological Theory of Suicide (IPTS) and symptoms of depression

Method:
- Two large samples of undergraduate students (Ns = 747 and 604) from two large public Southern universities.

Joiner’s Interpersonal Model

- Vulnerability to suicide determined by three factors:
  - acquired capacity to enact lethal self-harm
  - perceived burdensomeness
  - lack of belongingness
How the model works

Van Orden et al., 2008

Results: Study 1 – Suicide Risk

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Results Blown-Up

- **Step 4**
  - Nightmares $\beta = .09, t = 2.81, p < .01$

- **Step 4 Alternate**
  - Nightmares $\beta = .07, t = 1.93, p = .054$
  - Depressive Symptoms $\beta = .18, t = 3.57, p < .01$

Results: Study 1 – Suicide Attempts

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Results Blown-Up

- Step 4
  - Nightmares OR = 1.09, p < .01
- Step 4 Alternate
  - Nightmares OR = 1.08, p = .02
  - Depressive Symptoms OR = 1.01, p = .54

Results: Study 2 – Suicide Attempts

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Results Blown-Up

- Step 4
  - Nightmares $\beta = .31, t = 7.01, p < .01$
- Step 4 Alternate
  - Nightmares $\beta = .32, t = 6.91, p < .01$
  - Depressive Symptoms $\beta = -.01, t = -0.20, p = .84$

My latest study

- The strongest predictor of death by suicide is past attempts
- The vast majority of first attempts thankfully usually do not lead to death
- What factors predict attempting suicide more than once?
- Sample recruited from Amazon’s Mechanical Turk
  - 96 one-time attempters, 105 with more than one attempt
Results

- Depression symptoms, Wald = 0.085, p = .77
- PTSD symptoms, Wald = 0.099, p = .75
- Anxiety symptoms, Wald = 0.079, p = .78
- Insomnia symptoms, Wald = 0.517, p = .47
- Nightmares, Wald = 3.915, p = .048

...but what about duration?

Results

- Depression symptoms, Wald = 0.067, p = .80
- PTSD symptoms, Wald = 0.177, p = .67
- Anxiety symptoms, Wald = 0.161, p = .69
- Insomnia symptoms, Wald = 0.127, p = .72
- Nightmares, Wald = 6.62, p = .01
- Insomnia duration, Wald = 1.96, p = .16
- Nightmare duration, Wald = 6.51, p = .01
Recap

- Nightmares are associated with suicidality
- Nightmares predict future suicide attempts after controlling for several risk factors
- Those who have suffered with nightmares longer show significantly higher levels of suicidal ideation and are at higher risk of having had multiple attempts
- We still do not understand the mechanism by which nightmares increase suicide risk.

Nightmare Treatment
Imagery Rehearsal Therapy

- The most widely researched CBT-based nightmare treatment.
- Recommended treatment for Nightmare Disorder (Aurora et al., 2010)
- Individual or group format
- Many studies have utilized between one and three treatment sessions

Research on IRT

- 168 female sexual assault survivors with PTSD
- Compared IRT (N = 88) to waitlist control (N = 80)
- Treatment group received IRT over 3 sessions
- Showed significant reductions in:
  - Nights with nightmares (d = 1.24)
  - Total nightmares (d = 0.85)
  - Sleep quality (d = 0.67)
  - PTSD symptoms (d = 1.53)
- All effects significantly greater than control and persisted at six month follow-up

Research on IRT

- 62 victims of a violent crime who reported insomnia and nightmares
- Treatment: IRT and CBT-I
- Results
  - Nightmares significantly reduced ($d = 0.74$)
  - Insomnia symptoms significantly reduced ($d = 1.23$)
  - PTSD symptoms significantly reduced ($d = 0.71$)
  - Depressive symptoms significantly reduced ($d = 0.43$)
  - Anxiety symptoms significantly reduced ($d = 0.59$)

IRT Limitations

- Although growing, the data are a bit weaker for PTSD nightmares, with a few studies finding no or little benefit (Cook et al., 2010; Lu et al., 2009)
- May not be appropriate for all populations
  - Nightmares may get worse before they get better
Prazosin

- Recommended for PTSD associated nightmares (Aurora, et al., 2010)
- FDA approved to treat high blood pressure
- Several studies have found that prazosin outperforms placebo in reducing nightmares (e.g. Raskin et al., 2003 & 2007)
- Prazosin performed equally as well as a brief CBT sleep intervention and both outperformed placebo (Germain, et al., 2012)

Prazosin limitations

- Most of the RCTs involve the same research team
- Only one study (Germain, et al., 2012) has examined prazosin for idiopathic nightmares
- Nightmares may recur upon cessation of prazosin, though this is not seen in all samples (Germain et al., 2012; Kung, et al. 2012)
The Next Step

- Investigating nightmare treatment as an adjunct intervention for suicidality
  - Current investigations examining this at Georgia Regents University (McCall examining Prazosin) and The Menninger Clinic (Ellis examining Imagery Rehearsal Therapy)