



Wisconsin Public Psychiatry Network Teleconference (WPPNT)

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Cognitive-Behavioral Therapy for Insomnia

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Outline

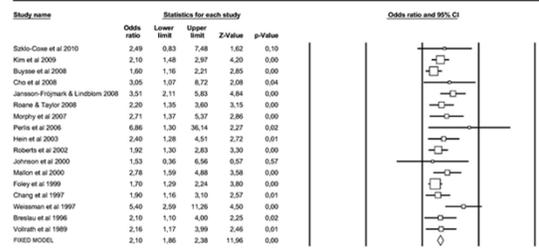
- A definition of insomnia and the co-morbid insomnia model
- Insomnia assessment and case conceptualization
- Insomnia treatment with cognitive-behavioral approaches

A definition of insomnia and the co-morbid insomnia model

DSM-5 Criteria for Insomnia Disorder

- One or more:
 - difficulty initiating sleep
 - difficulty maintaining sleep
 - waking up too early
- Sleep difficulty occurs:
 - despite adequate opportunity for sleep
 - at least 3 nights a week
 - at least 3 months
- Daytime consequences
- Not explained by another sleep-wake disorder or substance use
- Co-existing mental disorders and medical conditions do not adequately explain the predominant complaint of insomnia

Insomnia predicts future depression: Meta-analysis, OR 2.6 (CI 1.98-3.42)



N= 21 studies

Insomnia as a risk factor for relapse/exacerbation of psychiatric illness

- Insomnia usually does not resolve with general treatment
- Untreated insomnia/residual insomnia symptoms can increase illness severity, treatment response, and risk for relapse

Carney et al., *Dep and Anx* (2011) 28: 464-470.
Buysse et al., *Biol Psychiatry* (1999) 45: 205-213.
Pigeon et al., *J Clin Psychiatry* (2012) 73: 1160-1167.

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Treatment of insomnia co-morbid with psychiatric illness

- Insomnia co-morbid with psychiatric illness can improve with direct intervention
- Treating both the psychiatric illness and co-morbid insomnia show favorable results for psychiatric illness and insomnia

Edinger et al., *Sleep* (2009) 32: 499-410.
Manber et al., *Sleep* (2008) 31: 489-495.
Fava et al., *Biol Psychiatry* (2006) 59: 1052-1060.

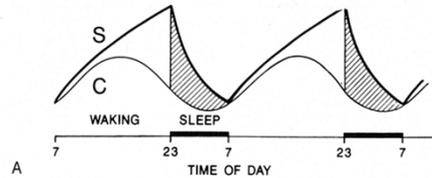
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Insomnia assessment and case conceptualization

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How can sleep catch us best?

- Homeostatic regulation (the sleep drive)
- Circadian regulation (the body's clock)



¹⁰
Borbély, *Human Neurobiol* (1982) 1: 161-162.

How can sleep catch us best?

- Strong association between sleep & bed
- Relaxed mind and body
- No direct efforts toward sleep
- Absence of regular thought process about sleep

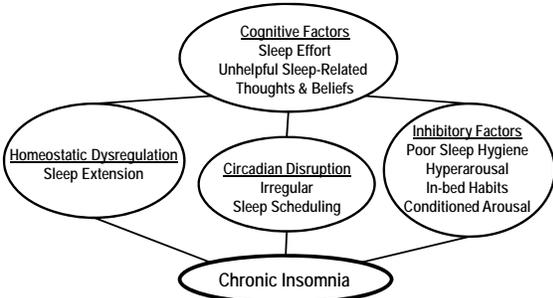
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How can sleep catch us best?

- Absence of sleep-disrupting substances
- Sleep-promoting environment
 - Dark, moderate temperature, quiet, well-ventilated
- Regular exercise that is not close to bedtime

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A Cognitive-Behavioral Model of Insomnia



Edinger & Means, Clin Psychol Rev (2005) 25: 539-558.
Webb, Sleep (1988) 11: 488-496.

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Cognitive Factors

- Consequences
 - “I cannot function without a good night's sleep.”
- Worry
 - “I am worried that I will lose control over my ability to sleep.”
- Expectations
 - “I need 8 hours of sleep to function well during the day.”
- Medication
 - “I tried to go without my medication one night to see what would happen, and my insomnia was horrible. I will never be able to come off this medication.”

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Insomnia Assessment

- Clinical Interview
- Sleep Logs
- Medical/Neurological exam as needed
- An overnight sleep study is not routinely indicated

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Clinical Interview

- Characterization of the sleep complaint
 - Chief complaint
 - Frequency of complaint
 - Perceived severity of sleep difficulties and daytime consequences
 - Onset
 - Any precipitating factors
 - Course of sleep difficulties

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Clinical Interview

- Current/past treatments & treatment response
 - “What have you tried in the past to help with your sleep?”
- Current goals for treatment
 - “What would you like to see change most about your sleep?”

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Clinical Interview

- Description of the sleeping environment
 - Sleeping surface
 - Bedroom?
 - Mattress age
 - Bed partner?
 - Temperature
 - Darkness
 - Ventilation
 - Noise Level

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Clinical Interview

- Current sleep-wake pattern
 - Activities 1 hour prior to bedtime
 - Time sleep medication is taken
 - Time of getting in to bed & time of "lights out"
 - Activities before "lights out"
 - Time taken to fall asleep
 - Number and duration of awakenings
 - "What do you do when you are awake at night?"
 - Time of final awakening & time of getting out of bed (with or without an alarm?)
 - General daytime structure
 - Daytime napping or dozing?
 - Substance use

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Clinical Interview

- Evaluation of co-morbid conditions
 - Psychiatric disorders
 - Other sleep disorders
 - Circadian rhythm disorders, sleep-disordered breathing, restless legs syndrome
 - Medical conditions
 - Chronic pain, thyroid disorder, GERD, cancer, HIV, asthma, menopause, dialysis

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Sleep Logs

- Considered a reliable and valid index of insomnia symptoms despite tendency of
 - overestimated sleep onset latency and wake time after sleep onset; and
 - underestimated total sleep time
- Also, more likely to capture the night-to-night variability that often characterizes the sleep of chronic insomnia than 1 time measures
- However, often no validity check on time of entries

Buyssse et al., Sleep (2006) 29: 1380.

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Consensus Sleep Diary (Core Items Only)

Sample	Consensus Sleep Diary (Core Items Only)								ID#Name
Today's date	4/2/10								
1. What time did you get into bed?	10:15 p.m.								
2. What time did you get up this morning?	11:30 a.m.								
3. How long did it take you to fall asleep?	1 hour								
4. How many times did you wake up, not counting your final awakening?	3 (Times)								
5. In total, how long did these awakenings last?	1 hour								
6. What time was your final awakening?	5:25 a.m.								
7. What time did you get out of bed for the day?	7:00 a.m.								
8. How would you rate the quality of your sleep?	<input type="radio"/> Very poor <input type="radio"/> Fair <input type="radio"/> Good <input type="radio"/> Very good	<input type="radio"/> Very poor <input type="radio"/> Fair <input type="radio"/> Good <input type="radio"/> Very good	<input type="radio"/> Very poor <input type="radio"/> Fair <input type="radio"/> Good <input type="radio"/> Very good	<input type="radio"/> Very poor <input type="radio"/> Fair <input type="radio"/> Good <input type="radio"/> Very good	<input type="radio"/> Very poor <input type="radio"/> Fair <input type="radio"/> Good <input type="radio"/> Very good	<input type="radio"/> Very poor <input type="radio"/> Fair <input type="radio"/> Good <input type="radio"/> Very good	<input type="radio"/> Very poor <input type="radio"/> Fair <input type="radio"/> Good <input type="radio"/> Very good	<input type="radio"/> Very poor <input type="radio"/> Fair <input type="radio"/> Good <input type="radio"/> Very good	<input type="radio"/> Very poor <input type="radio"/> Fair <input type="radio"/> Good <input type="radio"/> Very good

Carney et al., Sleep (2012) 35: 287-302.

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Sample	Consensus Sleep Diary (Core Items Only)								ID#Name
Today's date	4/2/10								
9. How many times did you wake up during the night?	1 (Times)								
10. In total, how long did these awakenings last?	1 hour								
11. How many awakenings did you have?	1 (Times)								
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147. How many awakenings did you have?	1 (Times)								
148. How many awakenings did you have?	1 (Times)								

Intake Case Conceptualization

- Sleep drive: going to bed later (+); stable schedule (+)
- Body's clock: stable schedule (+)
- Hyperarousal/conditioning: staying in bed with worry (-); sleep effort (-)
- Sleep-Interfering Behaviors: sleep environment (+)
- Co-morbidities: anxiety (-); past hx depression (-); fam hx of depression (-); nocturia (-); hypothyroidism (treated)
- Medication: approach to lorazepam use (-)
- Other factors: similar sleep and anxiety pattern in past with loss of partner (-); lighter sleeper (-); family hx of insomnia (-)

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Today's date	Consensus Sleep Diary (Core Items Only)								
	Sample	Fri	Sat	Sun	Mon	Tues	Wed	Th	
1. What time did you get up this morning?	10:00 am	10:45 pm	11:30 pm	11:30 pm	12:00 am	10:20 pm	11:00 pm	10:30 pm	
2. What time did you go to bed this evening?	10:00 pm	10:15 pm	11:30 pm	11:30 pm	12:00 am	10:20 pm	11:00 pm	10:30 pm	
3. How long did it take you to fall asleep?	1 hour	2-3 hours	10-15 min	5-10 min	1 hour	10-15 min	5-10 min	20	
4. How many times did you awaken after you fell asleep?	0	2	2	2	3	3	2	2-3	
5. In total, how long did these awakenings last?	1 hour	5 min	5 min	5 min	10 min	15 min	5 min	5-10 min	
6. What time was your first awakening?	10:00 am	6:00 am	6:30 am	4:30 am	6:30 am	5:30 am	6:00 am	6:00 am	
7. What time did you get out of bed for the day?	7:30 am	7:30 am	7:30 am	7:15 am	7:30 am	7:30 am	7:30 am	7:30 am	
8. How would you rate the quality of your sleep?	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input checked="" type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input checked="" type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Good <input type="checkbox"/> Very good

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Continued Case Conceptualization

- **Some difficulty falling asleep along with early morning awakenings**
- Sleep drive: going to bed later (+); **variability in sleep schedule (-)**
- Body's clock: **variability in sleep schedule (-)**
- Hyperarousal/conditioning: staying in bed with worry (-); sleep effort (-)
- Sleep-Interfering Behaviors: sleep environment (+)
- Co-morbidities: anxiety (-); past hx depression (-); fam hx of depression (-); nocturia (-); hypothyroidism (treated); **maybe more delayed sleep preference (+/-)**
- Medication: approach to lorazepam use (-)
- Other factors: similar sleep and anxiety pattern in past with loss of partner (-); lighter sleeper (-); family hx of insomnia (-)

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Insomnia treatment with cognitive-behavioral approaches

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Cognitive-Behavioral Therapy for Insomnia (CBT-I): A Multi-Component Treatment

- Typically includes:
 - Stimulus control
 - Sleep restriction therapy
 - Cognitive therapy
 - Sleep hygiene
- May or may not include:
 - Relaxation therapies

Morin C et al., JAMA (1999) 281: 991-999.

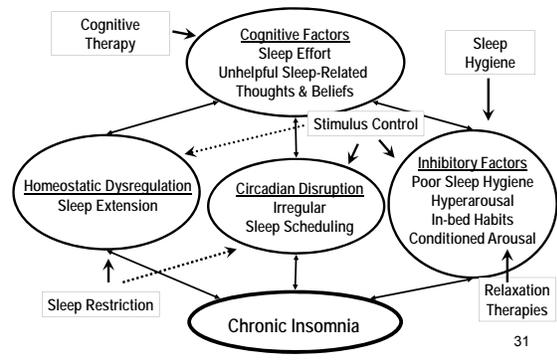
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Efficacy of Cognitive-Behavioral Approaches

- Well-established treatments
 - Relaxation
 - Stimulus Control
 - Sleep Restriction
 - CBT-I
- Not efficacious as a stand alone treatment
 - Sleep Hygiene only
 - Cognitive Therapy only

Morin C et al., Sleep (2006) 26: 1398-1414.

A Cognitive-Behavioral Model of Insomnia



Step #2: Rationale, Rationale, Rationale!

“How can sleep can us best?”

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Step #3: Core Strategies

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Stimulus Control:

Reassociating the Bedroom with Sleeping & Setting the Body's Clock

- Select a standard wake-up time
- Avoid sleep-incompatible activities in bed
- Get out of bed when unable to sleep
- Avoid napping
- Go to bed only when sleepy

Bootzin (1972)

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Sleep Restriction Therapy:

Increasing Sleep Drive & Setting the Body's Clock

- Patient completes sleep logs
- Compute average total sleep time (TST)
- Limit time in bed (TIB) to TST + 30 min
 - Best to never go below 5.5 hours
- Increase TIB 30 min when sleep efficiency $\geq 85\%$ and patient remains sleepy
- Decrease TIB 30 min. when sleep efficiency is $< 80\%$

Spielman et al. (1987)

Cognitive Therapy:

Addressing Sleep-Related Thoughts and Beliefs

- Cognitive restructuring or educational approaches
 - Targets unhelpful beliefs/attitudes about sleep
- Scheduled and structured worry time
 - Targets worry and cognitive arousal in bed
- Scheduled pre-bedtime wind down
 - Targets pre-bedtime cognitive arousal

Morin et al. JAMA (1999) 281: 991-999.

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Sleep Hygiene:
Addressing Sleep Inhibitory Factors

- Exercise daily
- Eliminate use of caffeine, alcohol, tobacco, and illicit drugs
- Eat a light snack at bedtime
- Ensure a quiet, dark, and comfortable sleep environment

Hauri (1977)

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Relaxation Therapies:
Reducing Arousal

- Progressive muscle relaxation
 - Jacobsen (1934)
- Autogenic training, diaphragmatic breathing, passive muscle relaxation, etc.

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Step #4: Follow-up

Motivation/ambivalence
Implementation
Increasing time in bed as sleep improves
Problem solving
Supporting

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Case Treatment Course

- S1: total sleep time = 5.9 hours; total wake time = 2.5 hours; sleep efficiency = 70%; rationale and implementation of core sleep strategies (11:30-7); pt more aware of anxiety
- S2: sleep improved some; reviewed strategies; nocturia addressed; keeping anxiety in mind

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Case Treatment Course

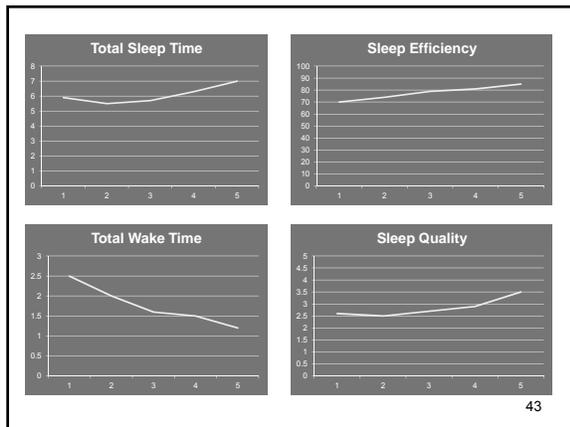
- S3: sleep continues to improve, but more difficult night prior to session related to tension/stress; explored and discussed broader treatment options
- S4: sleep still improving; changed schedule to 11:30-7:30 due to sleep efficiency increasing; contact with mindfulness group

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Case Treatment Course

- S5: sleep is much improved; feeling less and less tense at night; sleep maintenance strategies; unsure if she wants to eventually taper lorazepam

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Case Treatment Course

- S6 & S7: follow-up toward end of mindfulness experience and after group was over; finding awakenings less and less and less and less anxiety as well; feeling content and discontinued treatment

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Summary

- CBT for insomnia is an efficacious treatment for adults of all ages with primary insomnia and co-morbid insomnia
- Steps:
 - #1: Assessment and Conceptualization
 - #2: Rationale, rationale, rationale!
 - #3: Core Strategies
 - #4: Follow-up

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Self-Help Resources

- Edinger, J. & Carney, C. (2008). *Overcoming insomnia: A Cognitive-Behavioral Therapy Approach Workbook*. Oxford: New York.
- Carney, C. & Manber, R. (2009). *Quiet your mind and get to sleep: Solutions to insomnia for those with depression, anxiety, or chronic pain*. New Harbinger: Oakland.

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