



Wisconsin Public Psychiatry Network Teleconference (WPPNT)

- This teleconference is brought to you by the Wisconsin Department of Health Services (DHS) Bureau of Prevention, Treatment and Recovery and the University of Wisconsin-Madison, Department of Psychiatry.
- The Department of Health Services makes no representations or warranty as to the accuracy, reliability, timeliness, quality, suitability or completeness of or results of the materials in this presentation. Use of information contained in this presentation may require express authority from a third party.

Cognitive-Behavioral Therapy for Insomnia

Meredith E. Rumble, Ph.D.

Wisconsin Public Psychiatry Network Teleconference

April 9, 2015



Outline

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

3

A definition of insomnia and
the co-morbid insomnia model

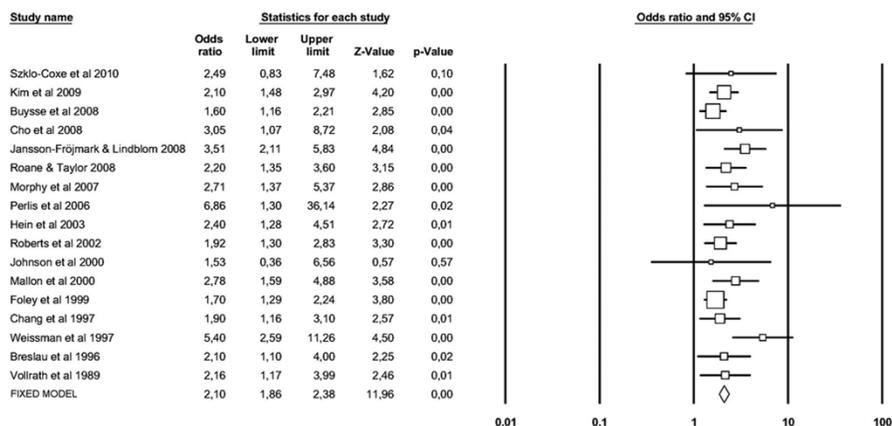
4

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

5

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



N= 21 studies

Baglioni C et al., J Affective Disorders (2011) 135:10-19.

6

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.

7

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.

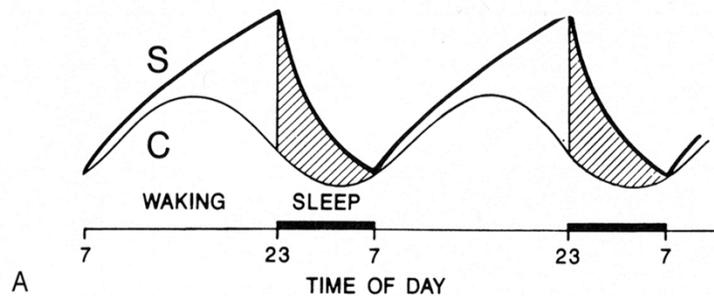
8

Insomnia assessment and case conceptualization

9

How can sleep catch us best?

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



Borbély, Human Neurobiol (1982) 1: 161-162.¹⁰

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

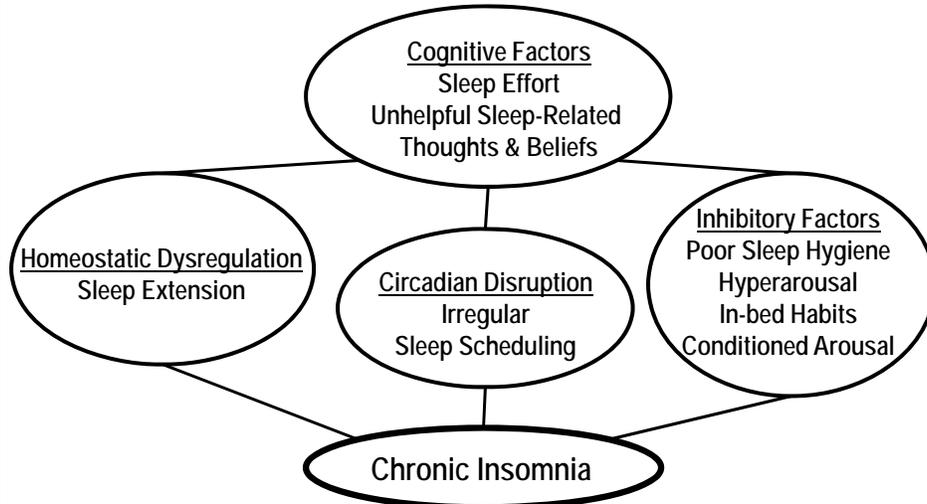
11

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

12

A Cognitive-Behavioral Model of Insomnia



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

13

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.”

14

Insomnia Assessment

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

15

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

16

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?”

17

Clinical Interview

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

18

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

19

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

20

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

Buysse et al., Sleep (2006) 29: 1380.
21

Consensus Sleep Diary (Core Items Only) ID/Name: _____

Sample								
Today's date	4/5/10							
1. What time did you get into bed?	10:15 p.m.							
2. What time did you try to go to sleep?	11:30 p.m.							
3. How long did it take you to fall asleep?	1 hour 15 min.							
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 10 min.							
6. What time was your final awakening?	6:35 a.m.							
7. What time did you get out of bed for the day?	7:20 a.m.							
8. How would you rate the quality of your sleep?	<input type="checkbox"/> Very poor <input checked="" type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good

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

22

Sample								
Today's Date	4/5/10							
9a. How many times did you nap or doze?	2 (times)							
9b. In total, how long did you nap or doze?	1 hour 10 min.							
10a. How many drinks containing alcohol did you have?	3 (drinks)							
10b. What time was your last drink?	9:20 p.m.							
11a. How many caffeinated drinks (coffee, tea, soda, energy drinks) did you have?	2 (drinks)							
11b. What time was your last drink?	3:00 p.m.							
12. Did you take any over-the-counter or prescription medication(s) to help you sleep? If so, list medication(s), dose, and time taken	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Medication(s): Zolazo-Herb Dose: 50 mg Time(s) taken: 11 pm	<input type="checkbox"/> Yes <input type="checkbox"/> No Medication(s): Dose: Time(s) taken:						
13. Comments (if applicable)	I have a cold							

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

Step #1: Assessment and Conceptualization

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 (-)

25

Consensus Sleep Diary (Core Items Only) IDName: Case A - Baseline

Sample	Today's date	Fri	Sat	Sun	Mon	Tues	Wed	Th
1. What time did you get into bed?	10:15 p.m.	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 try to go to sleep?	11:30 p.m.	10:45 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 15 min.	2.5 hours	10-15 min	5-10 min	1 hour	10-15 min	5-10 min	20
4. How many times did you wake up, not counting your final awakening?	3 (times)	2	2	2	3	3	2	2-3
5. In total, how long did these awakenings last?	1 hour 10 min.	5 min	5 min	5 min	10 min	15 min	5 min	5-10 min
6. What time was your final awakening?	6:35 a.m.	6:00 am	6:00 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?	7:20 a.m.	7:30 am	7:30 am	7:30 am	7:45 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 checked="" type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input checked="" type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input type="checkbox"/> Fair <input checked="" type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input checked="" type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input checked="" type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input checked="" type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input type="checkbox"/> Poor <input checked="" type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good	<input type="checkbox"/> Very poor <input checked="" type="checkbox"/> Poor <input type="checkbox"/> Fair <input type="checkbox"/> Good <input type="checkbox"/> Very good

26

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 (-) ²⁷

Insomnia treatment with cognitive-behavioral approaches

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.

29

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.

Step #3: Core Strategies

33

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)

34

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.

36

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)

37

Relaxation Therapies:

Reducing Arousal

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

38

Step #4: Follow-up

Motivation/ambivalence

Implementation

Increasing time in bed as sleep improves

Problem solving

Supporting

39

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

40

Case Treatment Course

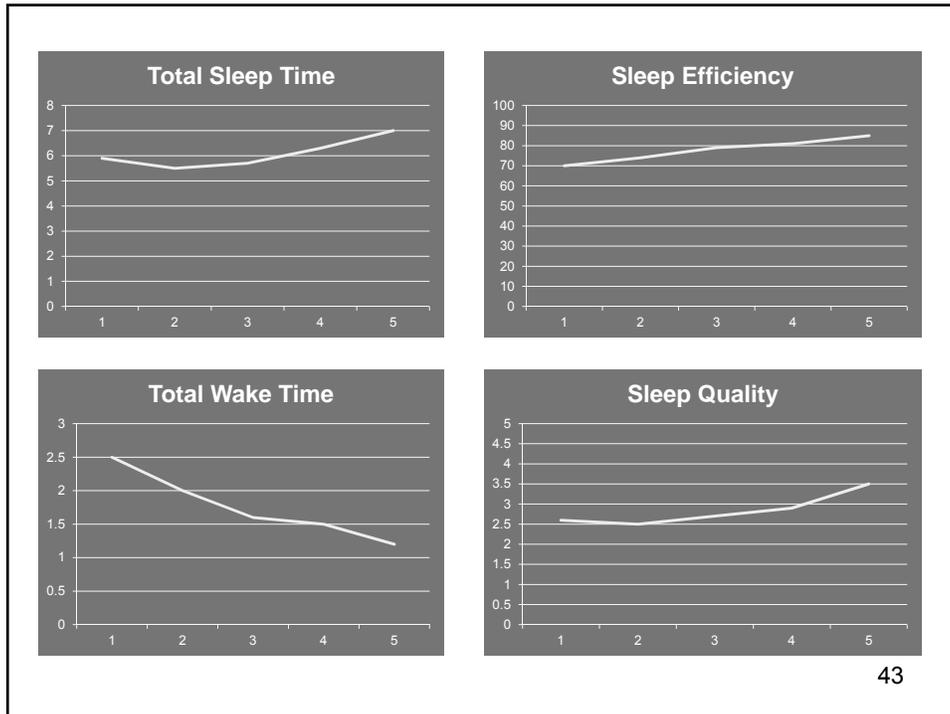
- S3: sleep continues to improve, but more difficult night prior to session related to tension/stress; explored and discussed broader treatment options
- S4: sleep still improving; changed schedule to 11:30-7:30 due to sleep efficiency increasing; contact with mindfulness group

41

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

42



Case Treatment Course

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

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

45

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.

46