

The Role of Sleep Treatment in Addiction Medicine

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Disclosure Information



**Mary Beth Miller, PhD,
DSMB**

- No Disclosures

Session Learning Objectives

At the end of the session, you will be able to:

- Define sleep health in the context of addiction.
- Report the prevalence of sleep disturbance at various stages of addiction.
- Describe the efficacy of insomnia treatment among those with alcohol use disorders.

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- Linked to myriad adverse outcomes:
 - Cognitive impairment, diabetes, cardiovascular disease, MVA
- Public health costs
 - \$224 billion to manage excessive alcohol use
 - \$100 billion on sleep disorders

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- It co-occurs with heavy alcohol use
- It's cross-diagnostic
- It's less stigmatized than other mental health problems
- We can treat it – very effectively

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- We can treat it – very effectively
 - 70-80% of CBT-I patients improve
 - CBT-I effects last 6 months to 2 years

What is “Good” Sleep?

Satisfaction with sleep

Alertness during the day

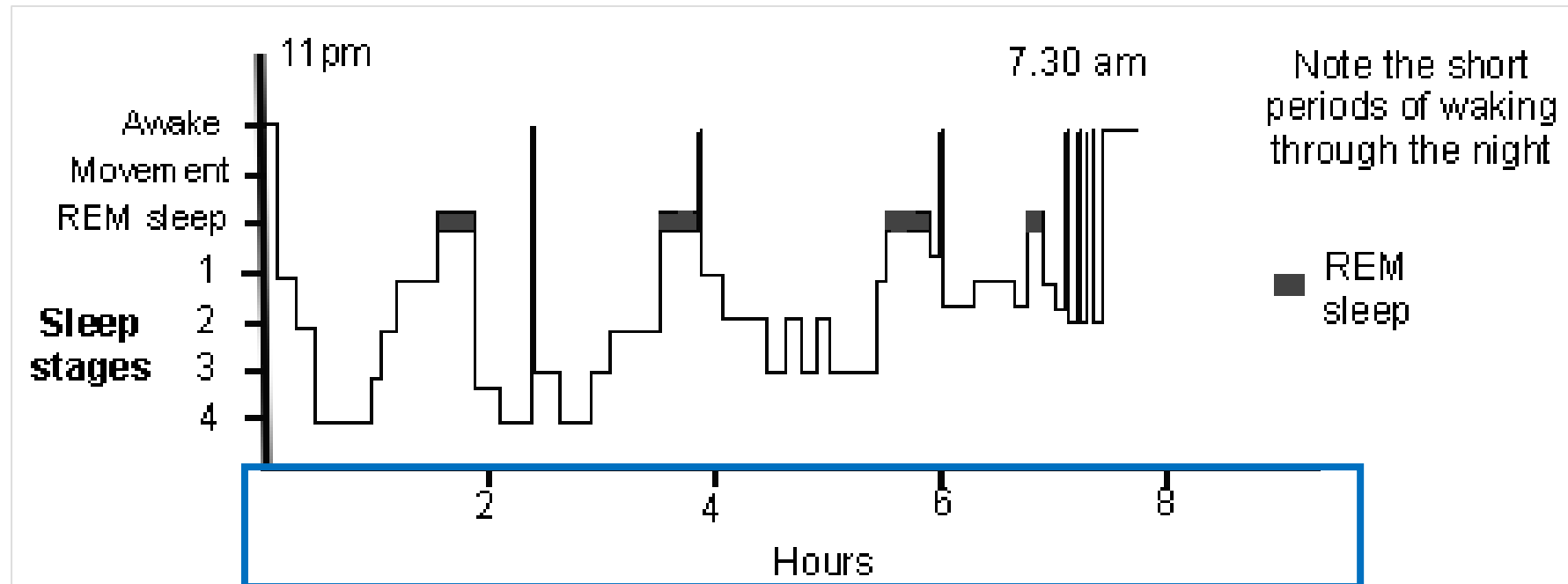
Timing aligned with circadian rhythm

Efficiency (85% or better)

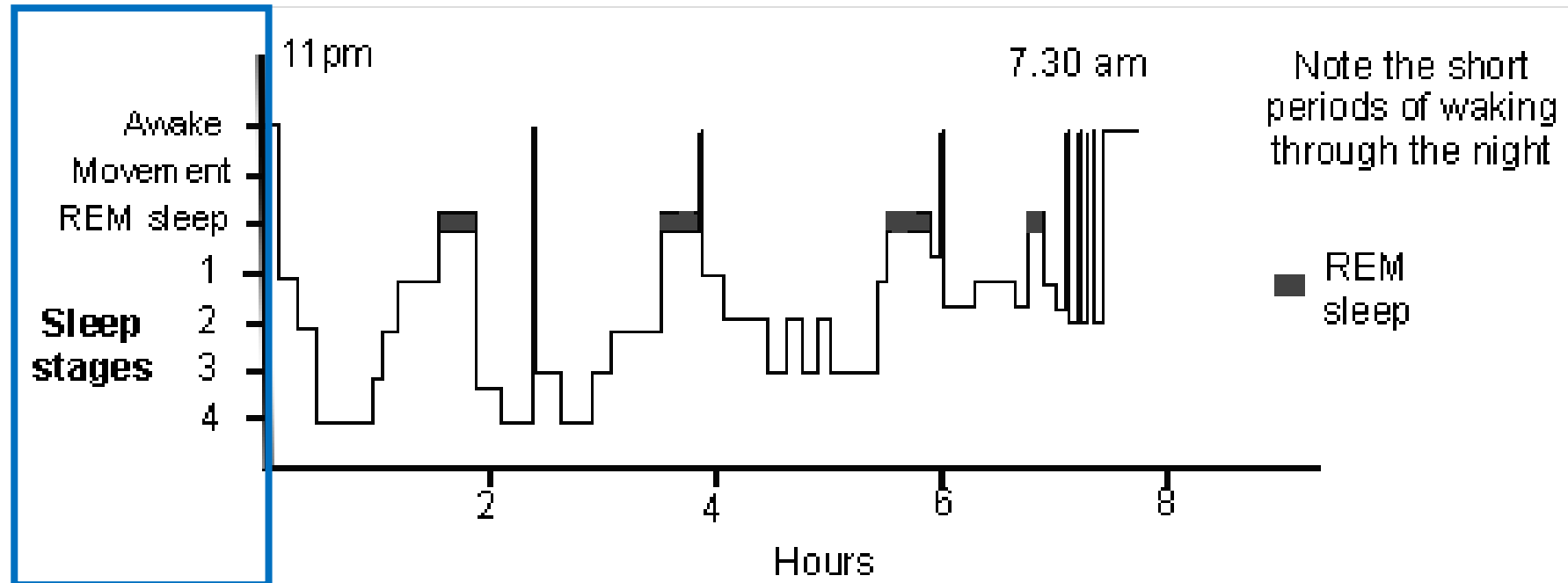
Duration (7-9h)

Bidirectional Effects: Alcohol > Sleep

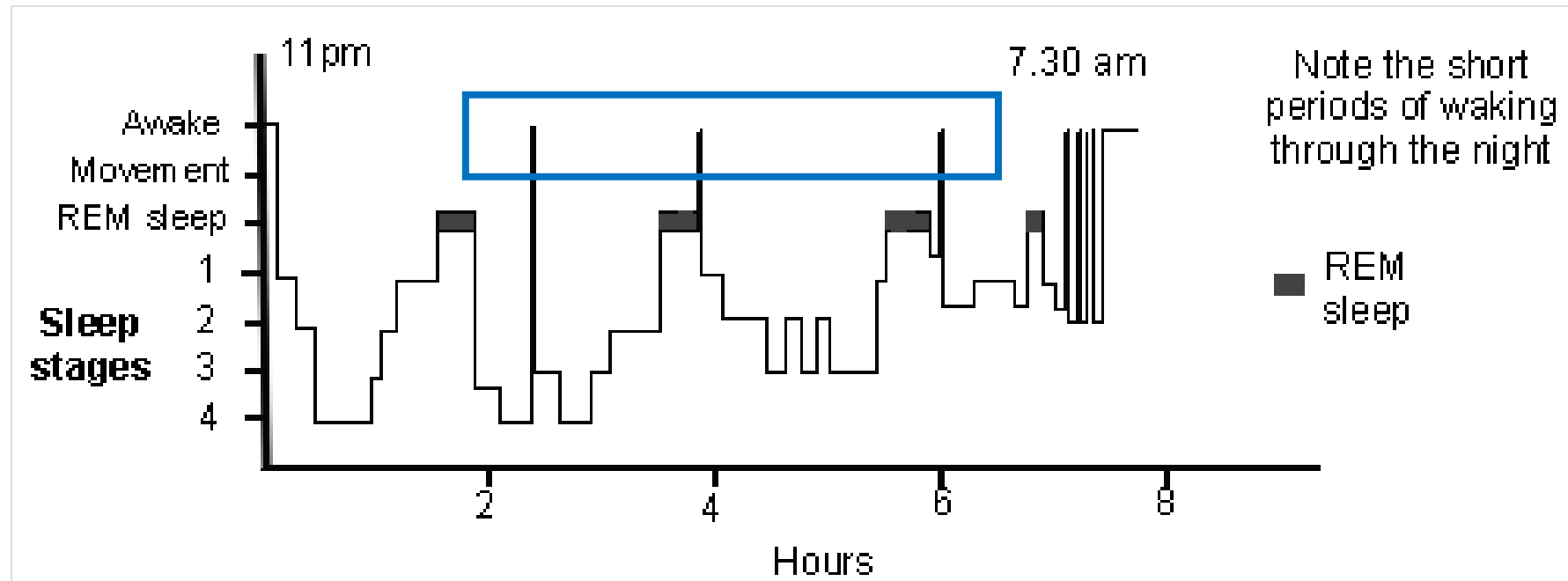
Alcohol Effects on Sleep Physiology



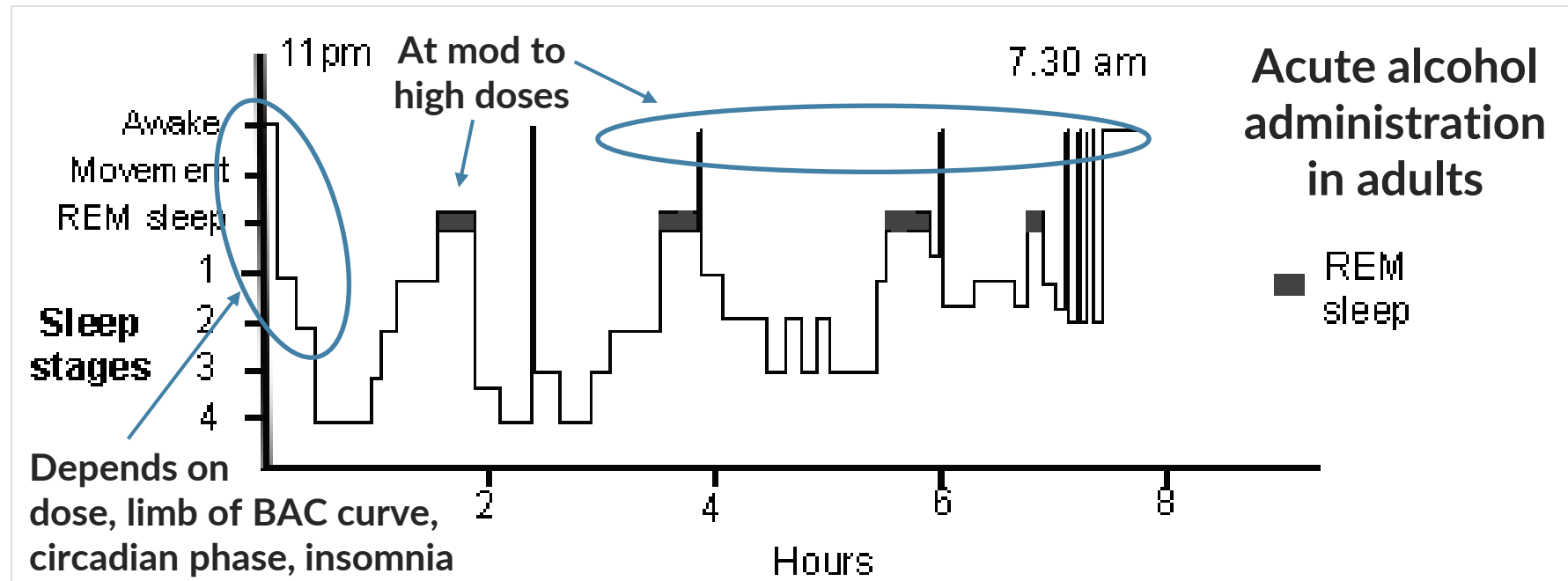
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Tolerance to sleep-inducing effects of alcohol develops quickly (within 3-6 days).

Bidirectional Effects

Sleep > Alcohol Use Outcomes

- Many with AUD indicate insomnia prior to onset of AUD



Sleep > Alcohol Use Outcomes

- Many with AUD indicate insomnia prior to onset of AUD
- Among those with AUD, insomnia symptoms linked to:
 - Relapse to drinking
 - More psychosocial problems (e.g., employment issues, interpersonal conflict, impulse control)
 - Decreased quality of life
 - Suicidal ideation

Implications for Treatment

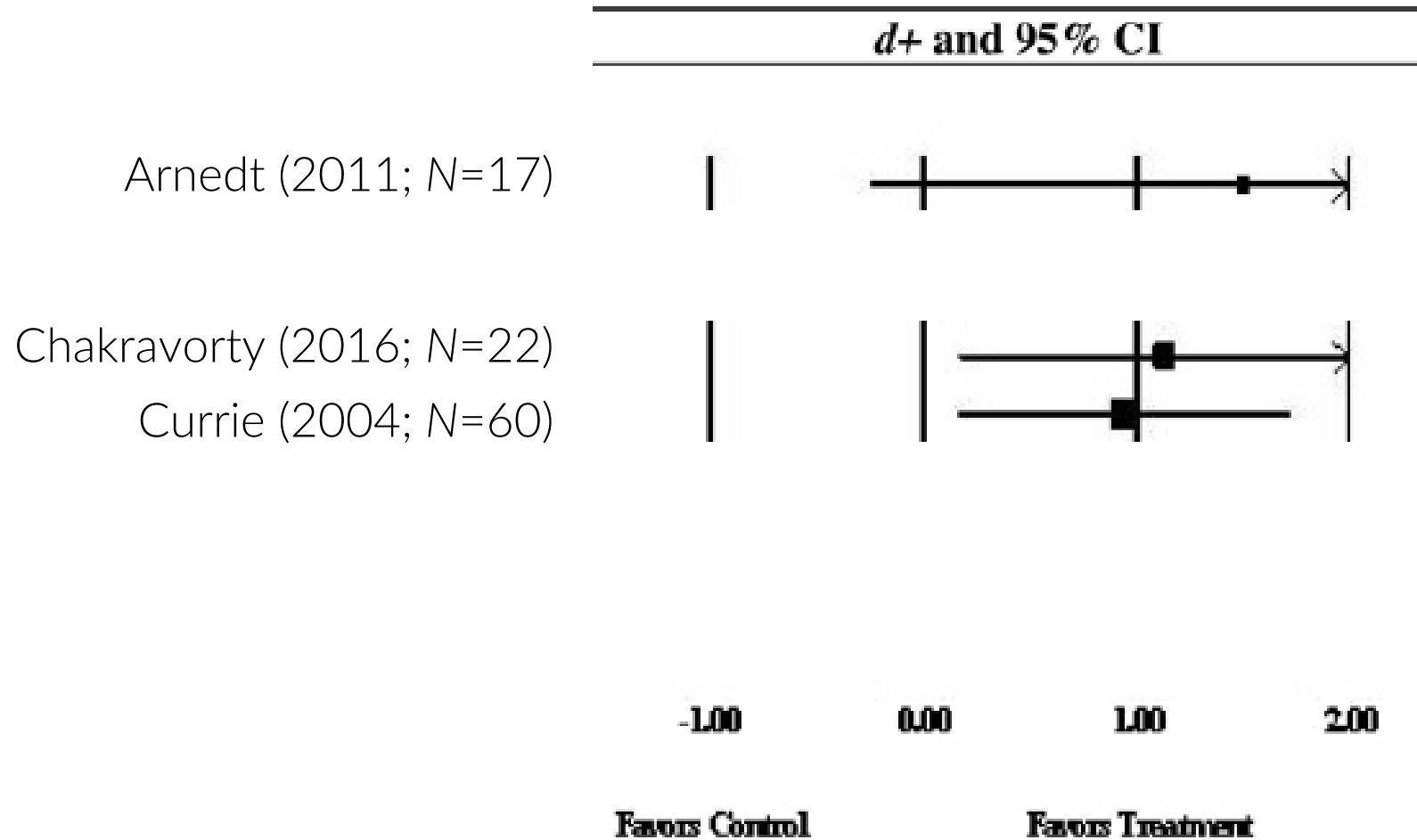
- If insomnia symptoms increase risk for alcohol-related problems, then treatment of insomnia should DECREASE risk

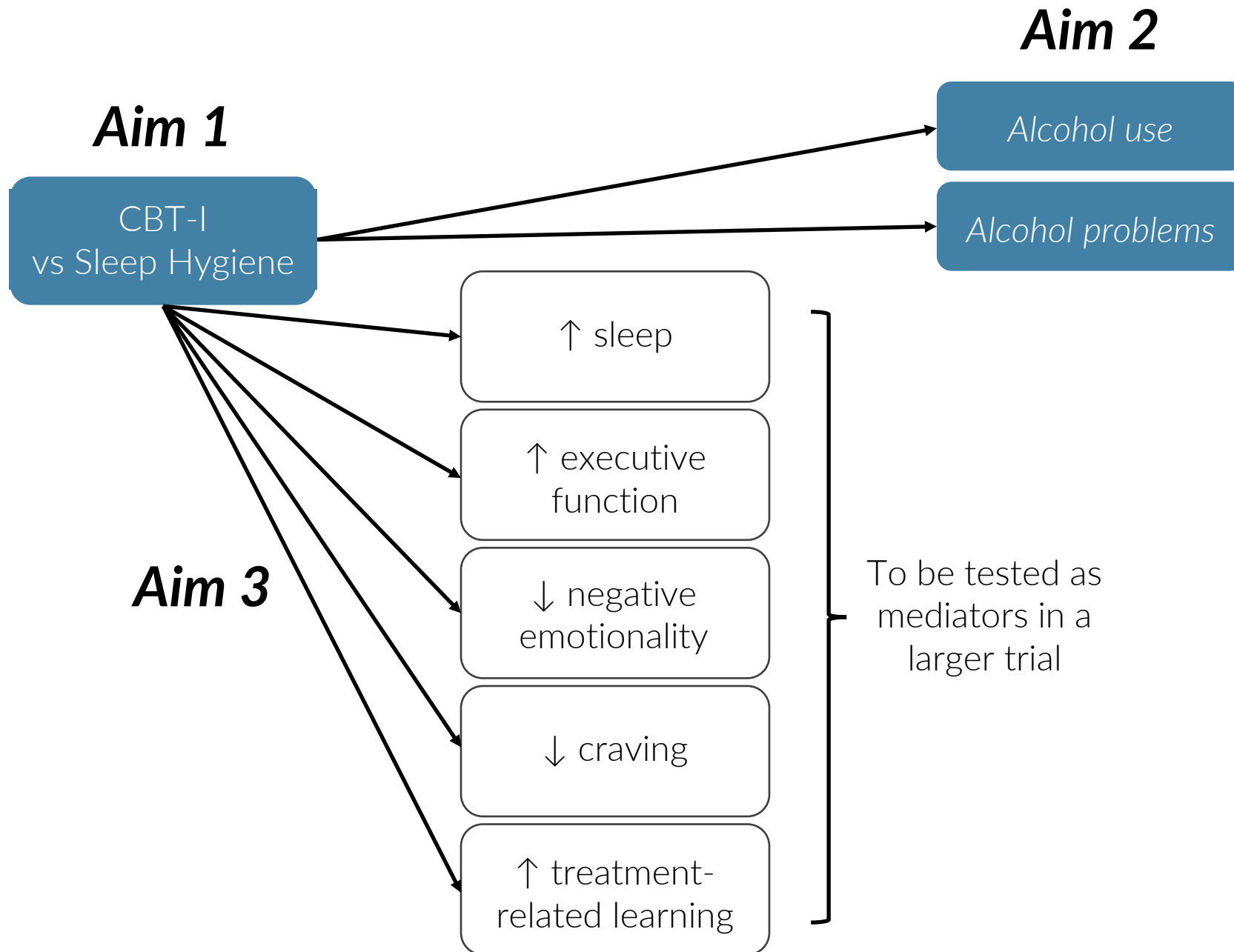
Do improvements in insomnia lead to improvements in alcohol-related outcomes?

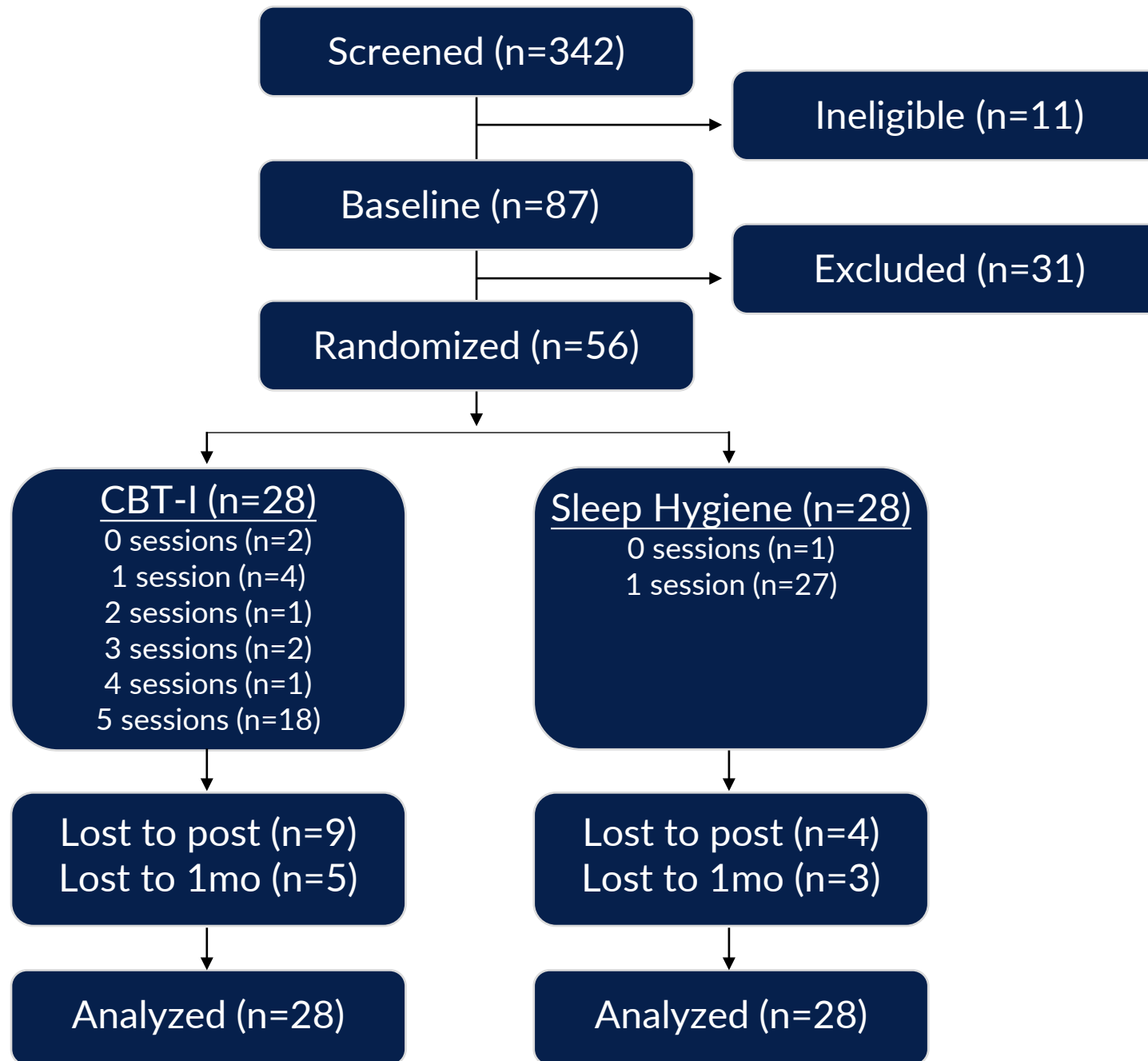
Bidirectional Effects

- Cognitive Behavioral Therapy for Insomnia (CBT-I)
 - Session 1: Treatment Rationale
 - Session 2: Sleep Restriction & Stimulus Control
 - Session 3: Relaxation
 - Session 4: Cognitive Therapy
 - Session 5: Insomnia Relapse Prevention

Efficacy of CBT-I in AUD







Participants (N=56)

Demographics

- 22 years old (range 18-30y)
- 75% female
- 82% non-Hispanic White
- 9% Multiracial
- 5% Black
- 4% Hispanic or Latino/a/x
- 73% in college classes

Clinical Characteristics

- 13 drinks per week (SD=7)
- 7 alcohol problems (SD=5)
- 32% used sleep meds
 - 21% melatonin
 - 13% Benadryl
 - 4% Unisom
 - 2% Trazodone
 - 2% Aleve

Insomnia Severity Index

Please rate the **CURRENT** (i.e. **LAST 2 WEEKS**) **SEVERITY** of your insomnia problem(s).

Insomnia problem	None	Mild	Moderate	Severe	Very severe
1. Difficulty falling asleep	0	1	2	3	4
2. Difficulty staying asleep	0	1	2	3	4
3. Problem waking up too early	0	1	2	3	4

4. How **SATISFIED/DISSATISFIED** are you with your **CURRENT** sleep pattern?

Very Satisfied	Satisfied	Moderately Satisfied	Dissatisfied	Very Dissatisfied
0	1	2	3	4

5. How **NOTICEABLE** to others do you think your sleep problem is in terms of impairing the quality of your life?

Not at all Noticeable	A Little	Somewhat	Much	Very Much Noticeable
0	1	2	3	4

6. How **WORRIED/DISTRESSED** are you about your current sleep problem?

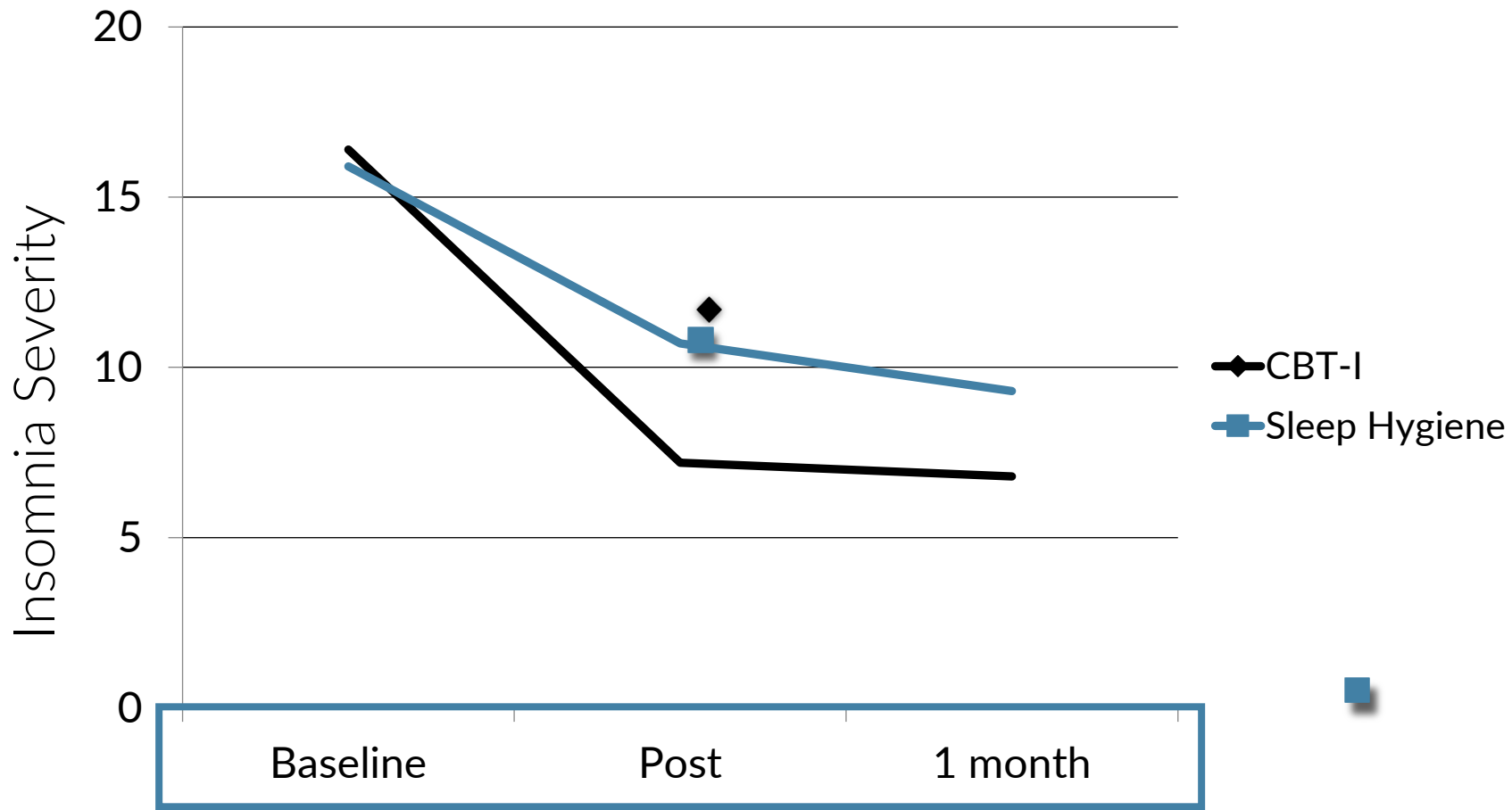
Not at all Worried	A Little	Somewhat	Much	Very Much Worried
0	1	2	3	4

7. To what extent do you consider your sleep problem to **INTERFERE** with your daily functioning (e.g. daytime fatigue, mood, ability to function at work/daily chores, concentration, memory, mood, etc.) **CURRENTLY**?

Not at all Interfering	A Little	Somewhat	Much	Very Much Interfering
0	1	2	3	4

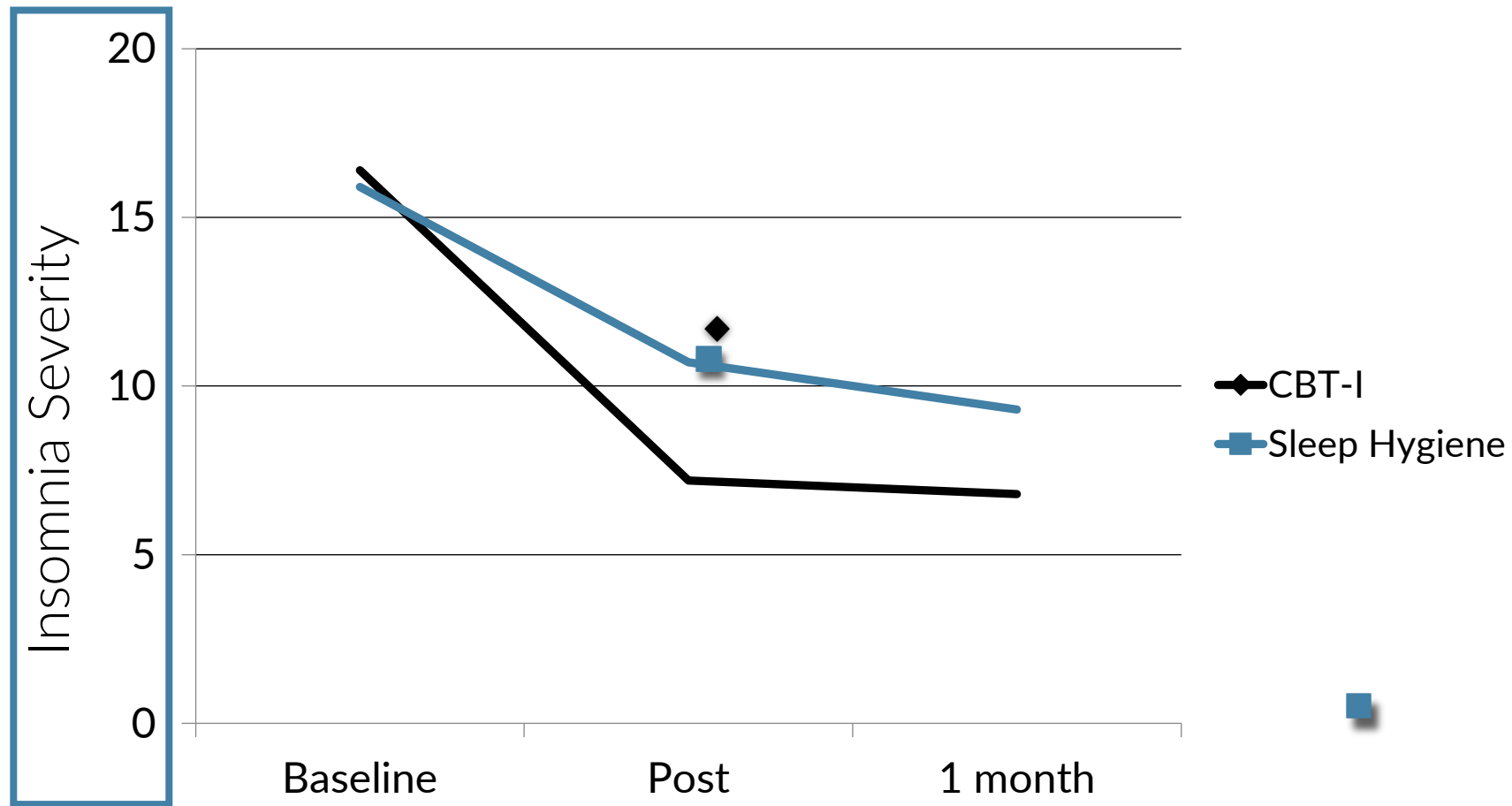
- 7 items
- Cut-off ≥ 10 indicates positive screen for insomnia

Aim 1: Effects on Insomnia Severity



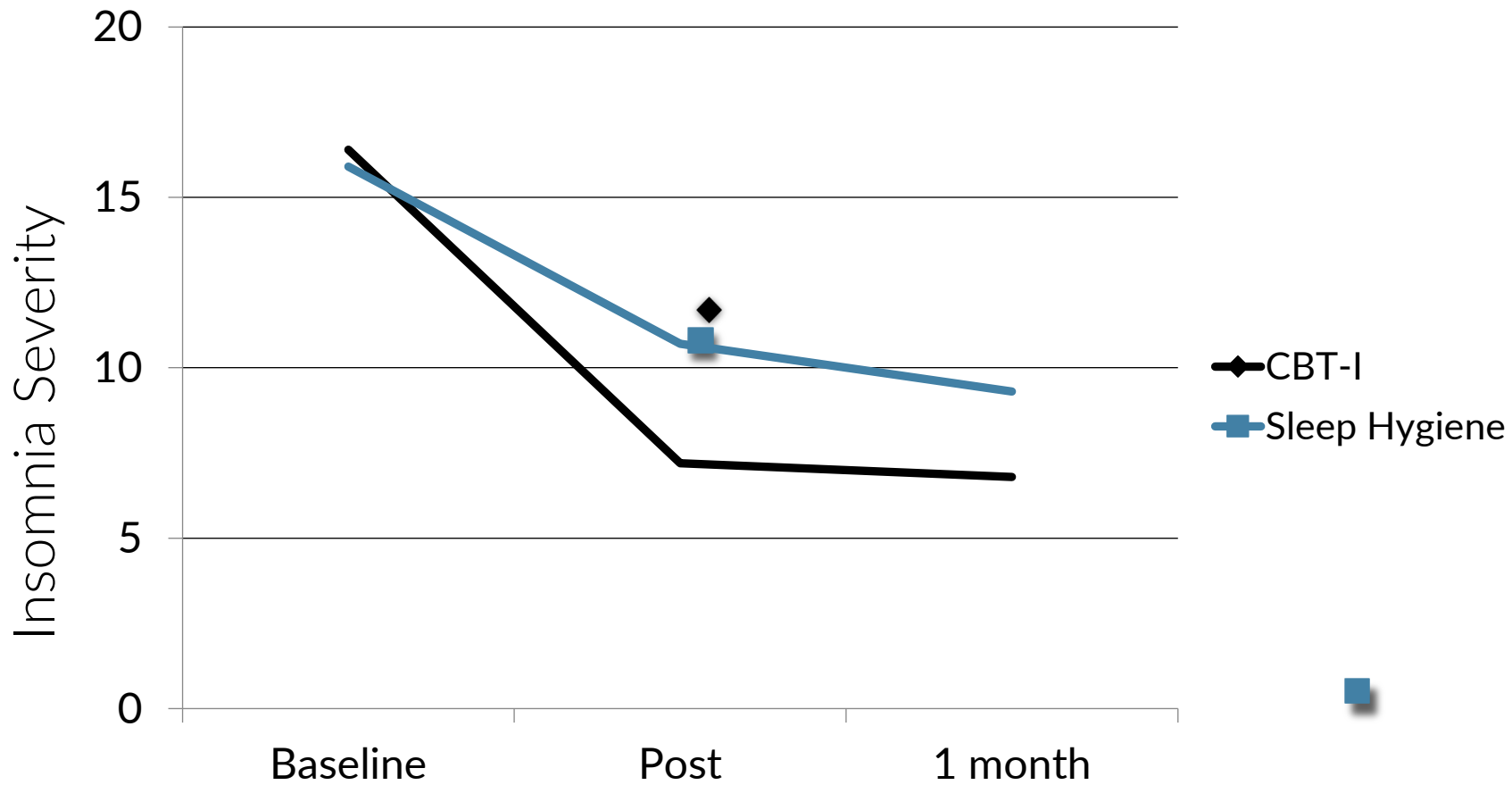
$F(2, 60) = 9.73, p < .001$

Aim 1: Effects on Insomnia Severity



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Aim 1: Effects on Insomnia Severity



$F(2, 60) = 9.73, p < .001$

Daily Drinking Questionnaire

For all questions, one drink equals:

- 4 oz. wine
- 10 oz. wine cooler
- 12 oz. beer (8 oz. Canadian, Malt Liquor, or Ice Beers, or 10 oz. Microbrew)
- 1 cocktail with 1 oz. 100 proof liquor or 1¼ oz. 80 proof liquor

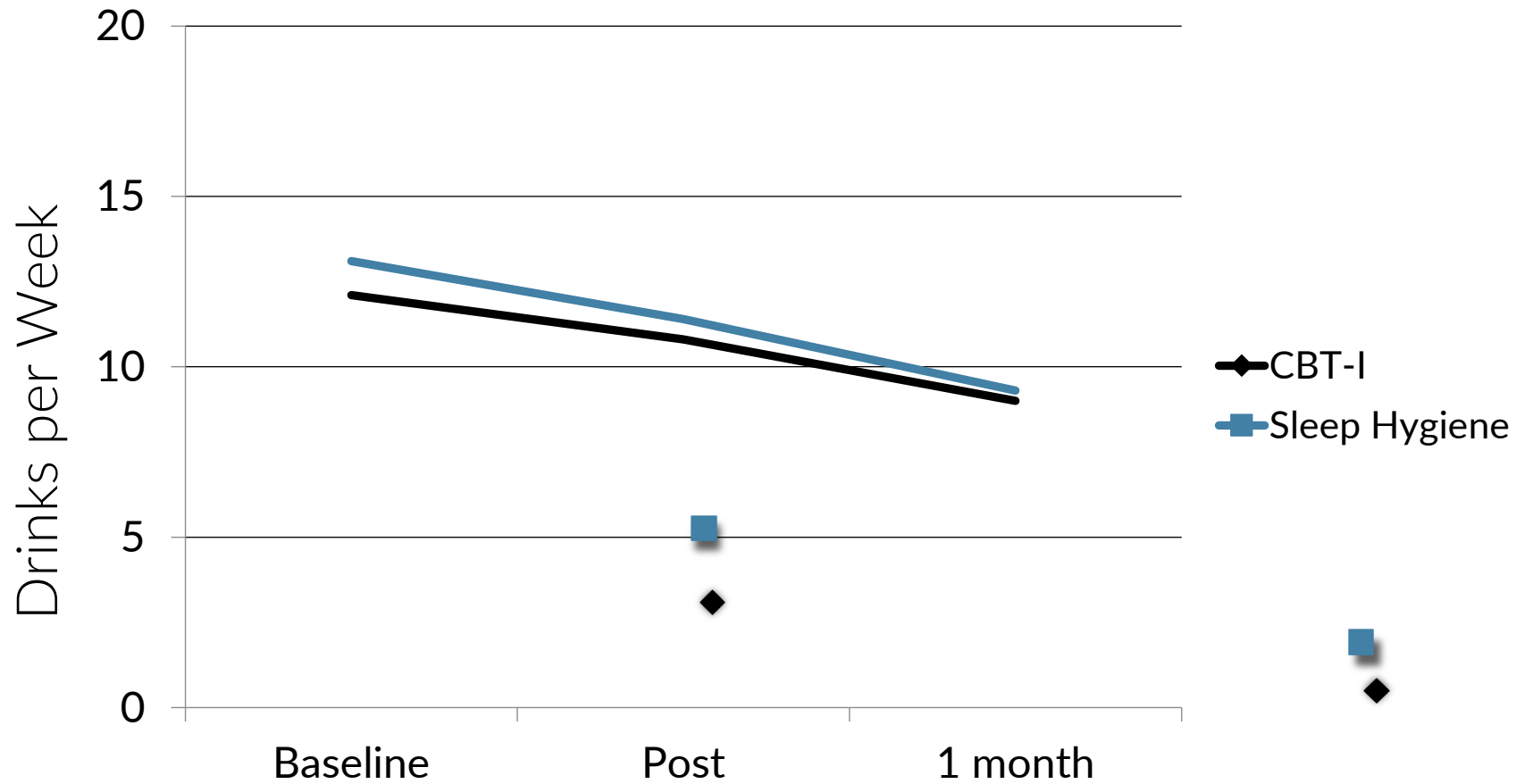
1. Consider a typical week during the **last month**. How much alcohol, on average (measured in number of drinks), do **you** drink on each day of a typical week?

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday

2. Consider a typical week during the **last month**. Over how many hours do **you** drink the above number of drinks?

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday

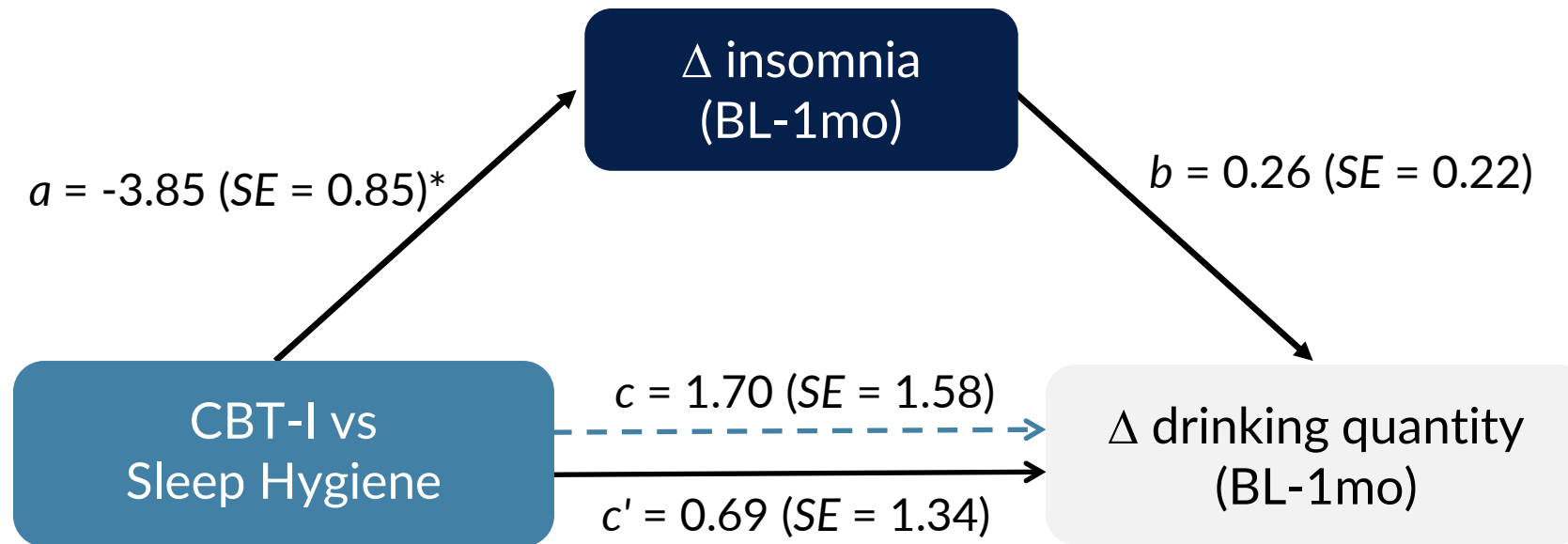
Aim 2: Effects on Drinking Quantity



$F(2, 59) = 0.14, p=.87$



Aim 2: Indirect Effects on Drinking



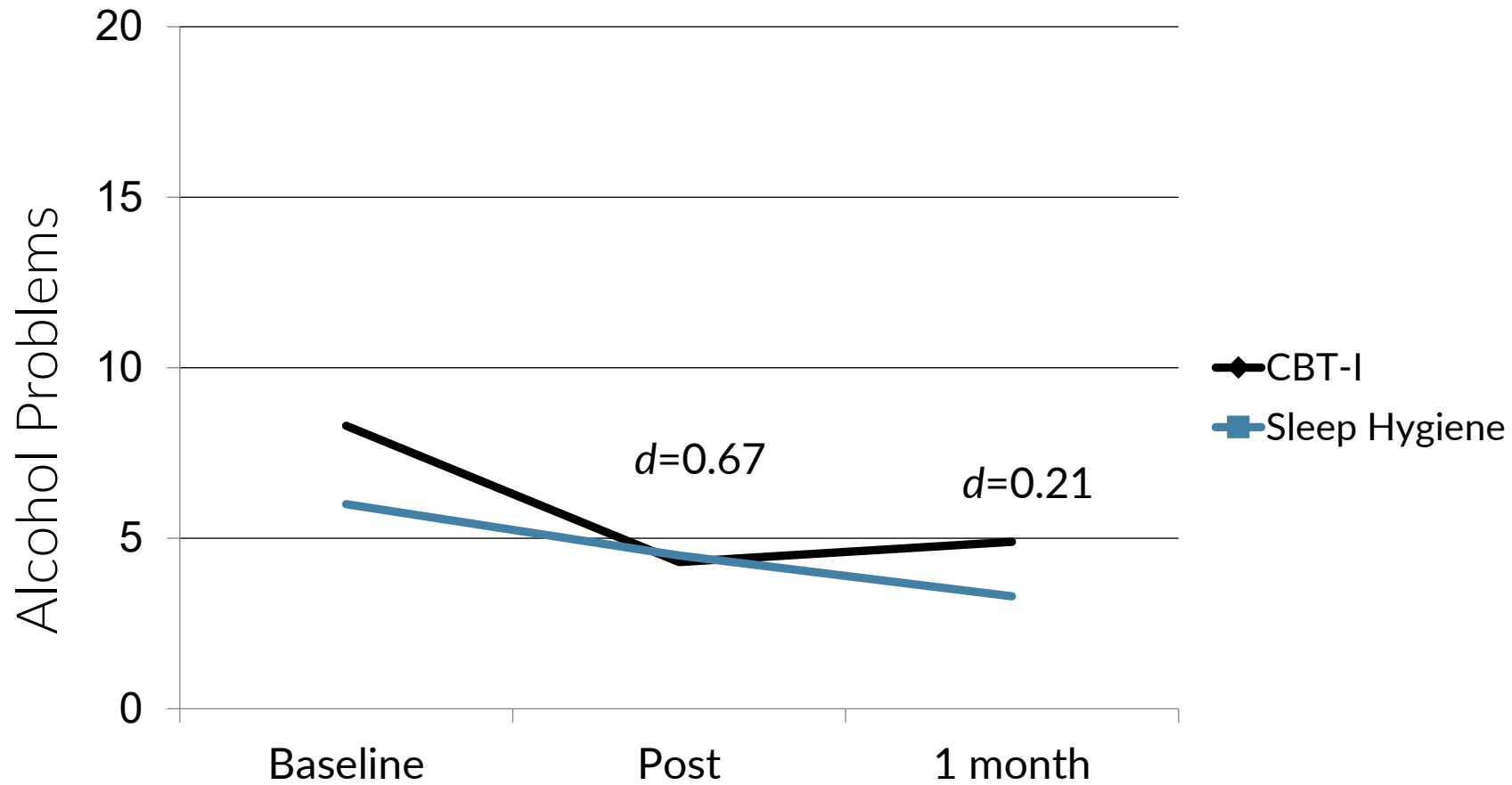
$$ab = -1.01$$
 ($SE = 0.58$), CI_{95} (-3.72, 0.75)

Brief Young Adult Alcohol Consequences Questionnaire

Below is a list of things that sometimes happen to people either during or after they have been drinking alcohol. Please indicate if each item describes something that has happened to you in the past month.

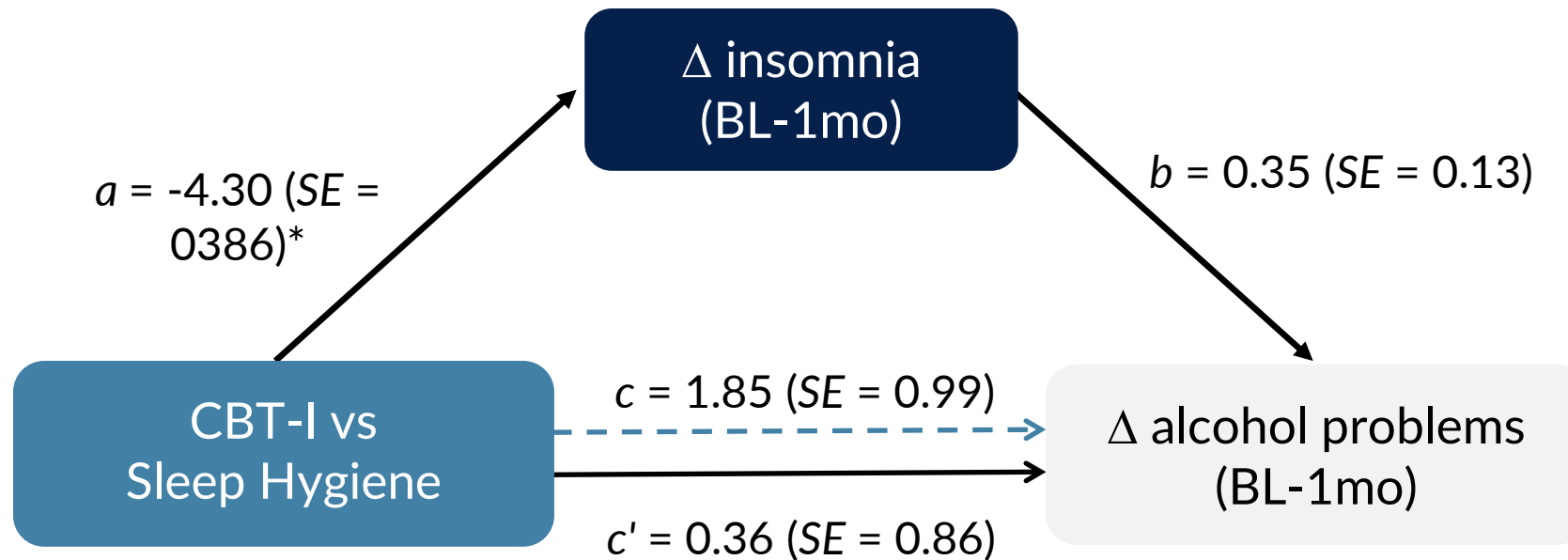
1. While drinking, I have said or done embarrassing things. Yes / No
2. I have had a hangover (headache, sick stomach) the morning after I had been drinking.
Yes / No
3. I have felt very sick to my stomach or thrown up after drinking. Yes / No
4. I often have ended up drinking on nights when I had planned not to drink. Yes / No
5. I have taken foolish risks when I have been drinking. Yes / No
6. I have passed out from drinking. Yes / No
7. I have found that I needed larger amounts of alcohol to feel any effect, or that I could no longer get high or drunk on the amount that used to get me high or drunk. Yes / No
8. When drinking, I have done impulsive things I later regretted. Yes / No
9. I've not been able to remember large stretches of time while drinking heavily. Yes / No
10. I have driven a car when I knew I had too much to drink to drive safely. Yes / No

Aim 2: Effects on Alcohol Problems



$F(2, 64) = 2.71, p=.07$

Aim 2: Indirect Effects on Problems



$$ab = -1.49 \text{ (SE = 0.58), CI}_{95} \text{ (-2.79, -0.53)*}$$

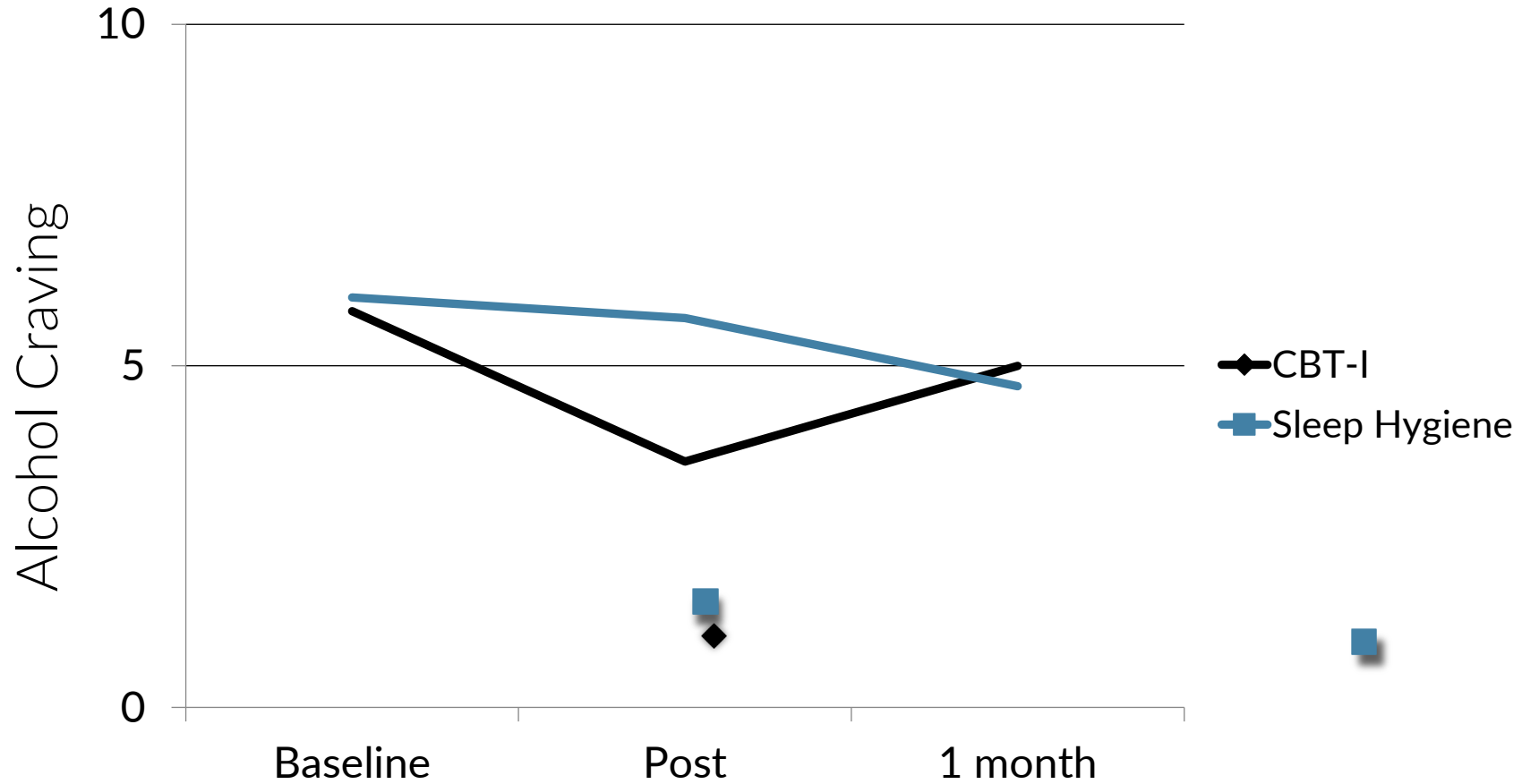
Penn Alcohol Craving Scale

1. During the past week *how often* have you thought about drinking or about how good a drink would make you feel?
 - 0 Never (0 times during the past week)
 - 1 Rarely (1 to 2 times during the past week)
 - 2 Occasionally (3 to 4 times during the past week)
 - 3 Sometimes (5 to 10 times during the past week or 1 to 2 times per day)
 - 4 Often (11 to 20 times during the past week or 2 to 3 times per day)
 - 5 Most of the time (20 to 40 times during the past week or 3 to 6 times per day)
 - 6 Nearly all of the time (more than 40 times during the past week or more than 6 times per day)

2. At its most severe point, *how strong* was your craving during the past week?
 - 0 None at all
 - 1 Slight, that is a very mild urge
 - 2 Mild urge
 - 3 Moderate urge
 - 4 Strong urge, but easily controlled
 - 5 Strong urge and difficult to control
 - 6 Strong urge and would have drunk alcohol if it were available

3. During the past week *how much time* have you spent thinking about drinking or about how good a drink would make you feel?
 - 0 None at all

Aim 3: Effects on Craving



$F(2, 55) = 3.58, p=.03$



Final Takeaways

- Sleep health is multi-dimensional
- Sleep is essential for patient health and well-being
- CBT-I is effective among those with AUD
 - If your patient wants/needs CBT-I, there's no reason not to give it!



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