Utilizing STOP-Bang to Optimize Screening for Obstructive Sleep Apnea in Clinical Research

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INTRODUCTION

Obstructive Sleep Apnea (OSA) is a prevalent sleep disorder with significant health implications. Clinical research often requires screening for OSA to exclude affected individuals or assess its impact on study outcomes.

While overnight sleep studies are gold-standard for diagnosing OSA, they are **costly and time-consuming**. The **STOP-Bang questionnaire**, a validated screening tool, offers a potential solution to **streamline the OSA screening process** in clinical research settings.

This poster presents results from a **secondary analysis** evaluating the feasibility and efficacy of using STOP-Bang to screen for moderate to severe OSA (apnea-hypopnea index [AHI] ≥15).

METHODS

Data comes from Phase I (concluded 2022) and Phase IIa (ongoing) pilot studies investigating the efficacy of Nightmare Deconstruction and Reprocessing (NDR), an exposure-based psychotherapy for trauma-related nightmares.

Participants were screened using either 1) an overnight sleep study (in-clinic or Alice NightOne), or 2) STOP-Bang, with OSA status confirmed via WatchPAT post-enrollment.

In-Clinic Sleep Study	Attended overnight level I polysomnogram (PSG) is the gold standard for OSA detection.[1] PSG is administered in a sleep clinic under the supervision of a technician.[1] Results are added to the participant's medical record.
Alice NightOne HSAT	An established home sleep apnea test (HSAT).[2] Equipment is shipped to the participant's home and must be mailed back by the participant. Results are then uploaded to a provider portal.
STOP-Bang Assessment	STOP-Bang is a 5-question open access psychometric assessment that is used to screen for OSI; it is routinely used in perioperative settings for anesthetic planning.[3] Its sensitivity for moderate-severe OSA (AHI ≥15) is **93%.**[4]
WatchPAT HSAT	A disposable HSAT with finger probes that measure pulse oxymetry and peripheral arterial tonometry (PAT);[1] results are transmitted electronically, and participants do not need to return equipment. The WatchPAT has shown high correlation with PSG for measurement of AHI.[1]

PROTOCOLS FOR OVERNIGHT SLEEP STUDY VS. PSYCHOMETRIC ASSESSMENT

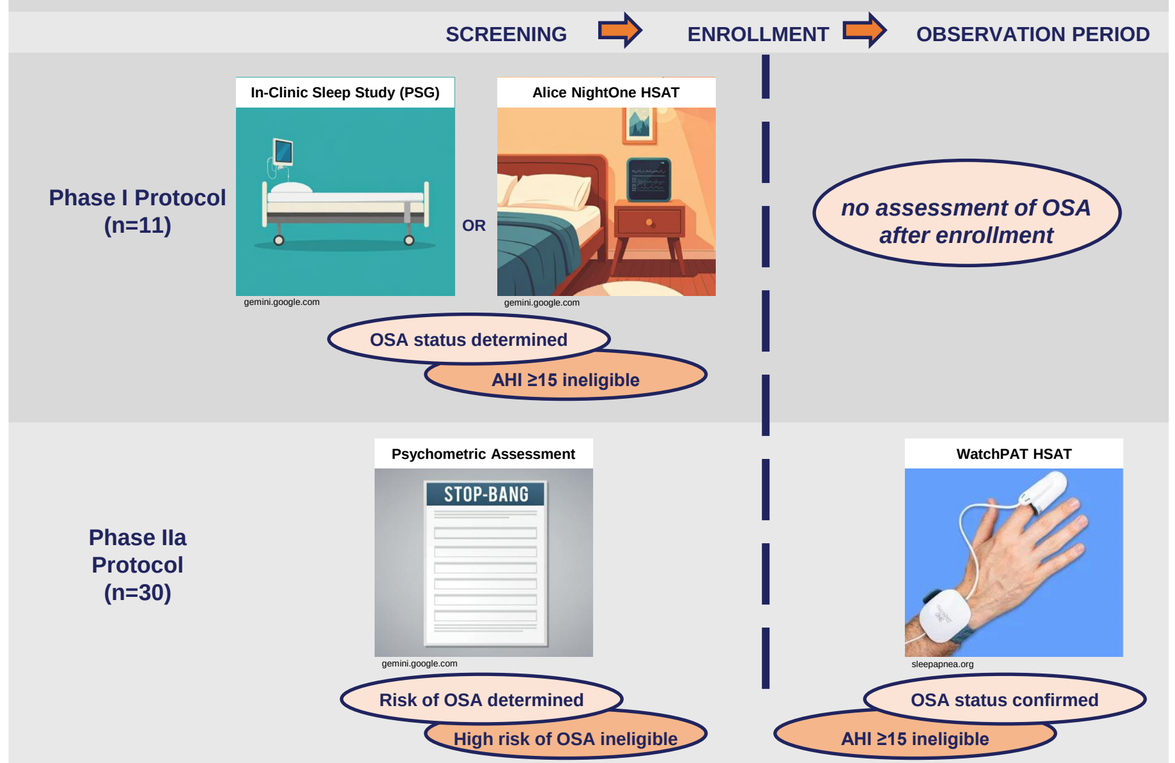


Figure 1. Differences in OSA screening by study protocol.

PRELIMINARY RESULTS

	Overnight Sleep Study	STOP-Bang + WatchPAT
Completed OSA screening	n=18	n=3
Time from screening to enrollment	33 days	5 days
Attrition, screening to enrollment	50%	0%
Administration Cost	$254	$0 + $294
Device Replacement Cost	$1500 device + $500 late fee	n/a

CONCLUSION

Short-term, use of the STOP-Bang with the WatchPAT has:

- **Time to enrollment**
- **Participant retention**
- **Participant burden**
- **Overall costs** of OSA screening, when accounting for potential loss of equipment

Long-term, complete STOP-Bang and WatchPAT data from the Phase IIa Trial may support the use of the **STOP-Bang alone for OSA screening** in future clinical trials.

FUTURE DIRECTIONS

Phase IIa Trial enrollment anticipated to conclude Summer 2025.

STOP-Bang exclusion of participants with moderate to severe OSA will be assessed, and will inform the **protocol of a future RCT**.

The research team is investigating the potential for wearable device (Empatica EmbracePlus) data to further verify OSA status.

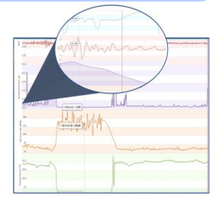
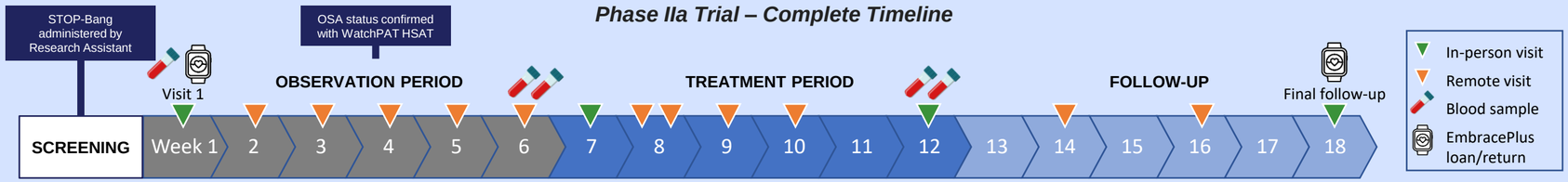


Figure 2. The EmbracePlus collects physiological data (heart rate, skin temperature, movement), which may be used to identify sleep disruptions.

Findings may support clinical research screening for OSA that is **more efficient and less burdensome** to participants and study personnel.

Currently recruiting active-duty service members with trauma-related nightmares in the National Capital Area – scan for information.

Phase IIa Trial – Complete Timeline



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Scan for references.