

# Cognitive Behavioural Therapy for Sleep Disturbance and Fatigue Following Acquired Brain Injury

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## Introduction

Sleep disturbance and fatigue affect over half of the acquired brain injury (ABI) population, and may lead to poorer functional outcomes, mental health and quality of life.

While treatments for these symptoms are limited, the efficacy of cognitive behavioural therapy for sleep and fatigue (CBT-SF) in ABI has been demonstrated in pilot studies by our research group compared to standard care.<sup>1,2</sup>

## Aims

The current study aimed to build on our previous findings by comparing CBT-SF with that of an active health education (HE) control intervention, to account for the non-specific effects of engaging in therapy, such as client-therapist interaction variables, research contact/attention, and treatment expectations.

## Methodology

Fifty-one individuals aged 16 – 71 ( $M=48.66$ ) with a traumatic brain injury or stroke and clinically significant sleep and/or fatigue problems were randomised at a 2:1 ratio to either an 8-week CBT-SF program, adapted for cognitive impairments ( $n=34$ ), or an 8-week HE program designed specifically for this study ( $n=17$ ). Both treatments were manualised and delivered by clinical neuropsychologists.

Participants could complete the study either face-to-face or via telehealth. Assessments were completed at baseline, post-treatment, 2-months post-treatment and 4-months post-treatment

The primary outcome measure for sleep was the Pittsburgh Sleep Quality Index (PSQI), and fatigue was assessed using the Fatigue Severity Scale (FSS).

Additional key measures were obtained in mood and health related quality of life.

## Results

Multilevel modelling analysis investigating group change over time revealed significantly greater improvements on the PSQI and FSS in the CBT-SF group compared to the HE condition, maintained over time (Figure 1). The HE group, unexpectedly, showed an improvement in sleep quality at 4-months post-treatment.

On secondary measures of mood, the HE condition showed significantly reduced depression at 4-months post-treatment. Improvements in mental health related quality of life were evident in the CBT-SF condition, but not in the HE.

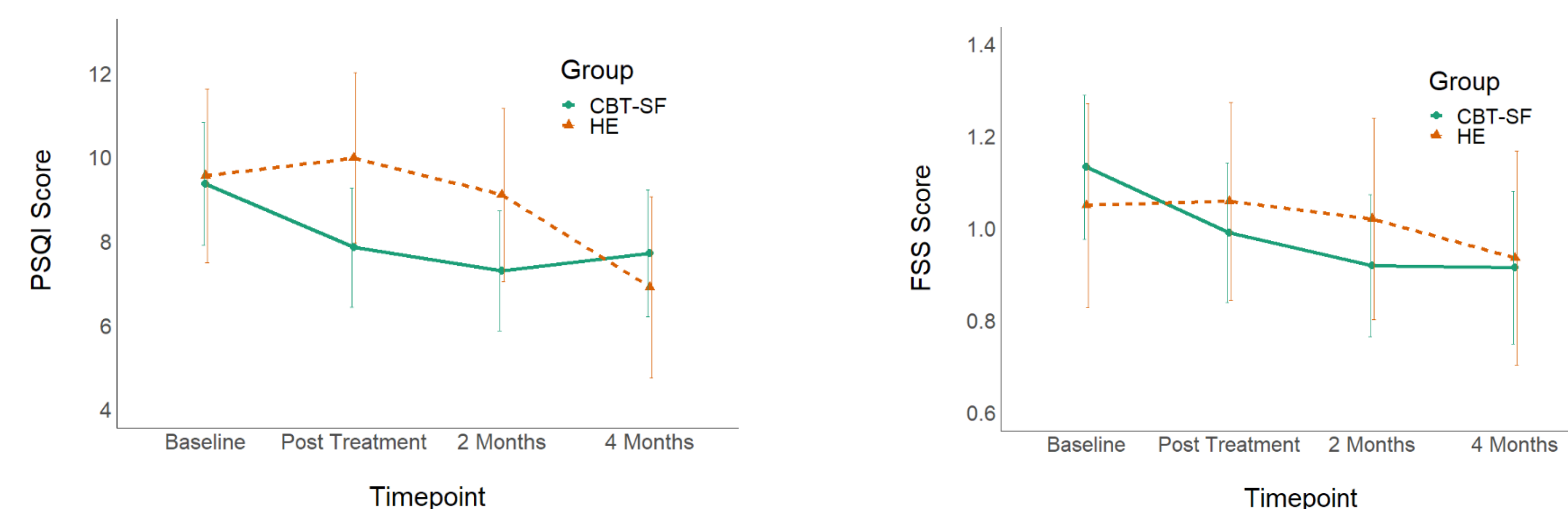


Figure 1. Estimated marginal means on the PSQI and FSS (log transformed)

## Conclusions

Individualised CBT for sleep and fatigue problems appears to confer greater treatment benefit compared to non-specific HE. HE may provide a delayed benefit for sleep, which could be mediated through improvements in mood.

Overall, these findings provide further support that adapted CBT-SF is an effective and long-term treatment option for sleep disturbance and fatigue after ABI.

1: Nguyen, S., Wong, D., McKay, A., Rajaratnam, S. M. W., Spitz, G., Williams, G., Mansfield, D., & Ponsford, J. L. (2019). Cognitive behavioural therapy for post-stroke fatigue and sleep disturbance: a pilot randomised controlled trial with blind assessment. *Neuropsychological Rehabilitation*, 29(5); 2: Nguyen, S., Wong, D., McKay, A., Rajaratnam, S. M. W., Spitz, G., Williams, G., Mansfield, D., & Ponsford, J. L. (2017, Apr 08). Cognitive Behavior Therapy to Treat Sleep Disturbance and Fatigue After Traumatic Brain Injury: A Pilot Randomized Controlled Trial. *Arch Phys Med Rehabil*.