A Network Meta-analysis of Comparative Efficacy of Brief Behavioral Therapy for Insomnia

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Abstract

Objective: This network meta-analysis investigated the comparative efficacy of various BBTI approaches for adults suffering from insomnia.

Methods: Three electronic databases were searched from inception to February 8, 2024. The primary outcomes were insomnia severity, evaluated using the Insomnia Severity Index (ISI), and sleep quality (SQ), assessed using reliable questionnaires. The secondary outcomes were self-reported total sleep time (TST), sleep onset latency (SOL), wake after sleep onset (WASO), sleep efficiency (SE), and daytime sleepiness (DS), derived from sleep diaries. A random-effects network meta-analysis was performed using a frequentist framework.

Results: Eighteen randomized controlled trials with 1,104 individuals, with a mean age of 52.6 years, were included. For the primary outcomes, compared to usual care, BBTI showed a significant reduction in ISI score (mean difference [MD]: −4.79, 95% confidence interval: −6.05 to −3.53) and SQ (−3.45, −4.97 to −1.94). In terms of secondary outcomes, BBTI reduced SOL (−19.81 min, −30.64 to −8.98), lowered WASO (−15.51 min, −22.75 to −8.27), and increased SE (10.78%, 7.67% to 13.89%) compared to usual care. Face-to-face BBTI and CBTI yielded similar treatment effects, with no significant difference between the two. According to the surface under the cumulative ranking curve, face-to-face BBTI is most likely to be ranked highest among all treatments.

Conclusions: This network meta-analysis suggests that face-to-face BBTI yields comparable effects to face-to-face CBTI and is the best intervention for improving IS and SQ. Additionally, face-to-face BBTI significantly increases SE and reduces SOL and WASO.

Keywords: insomnia, sleep quality, brief behavioral therapy for insomnia, network meta-analysis