

Smartphone app-delivered cognitive behavioral therapy with telephone support for insomnia disorder compared to a sleep diary waitlist control – a randomized clinical trial

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INTRODUCTION

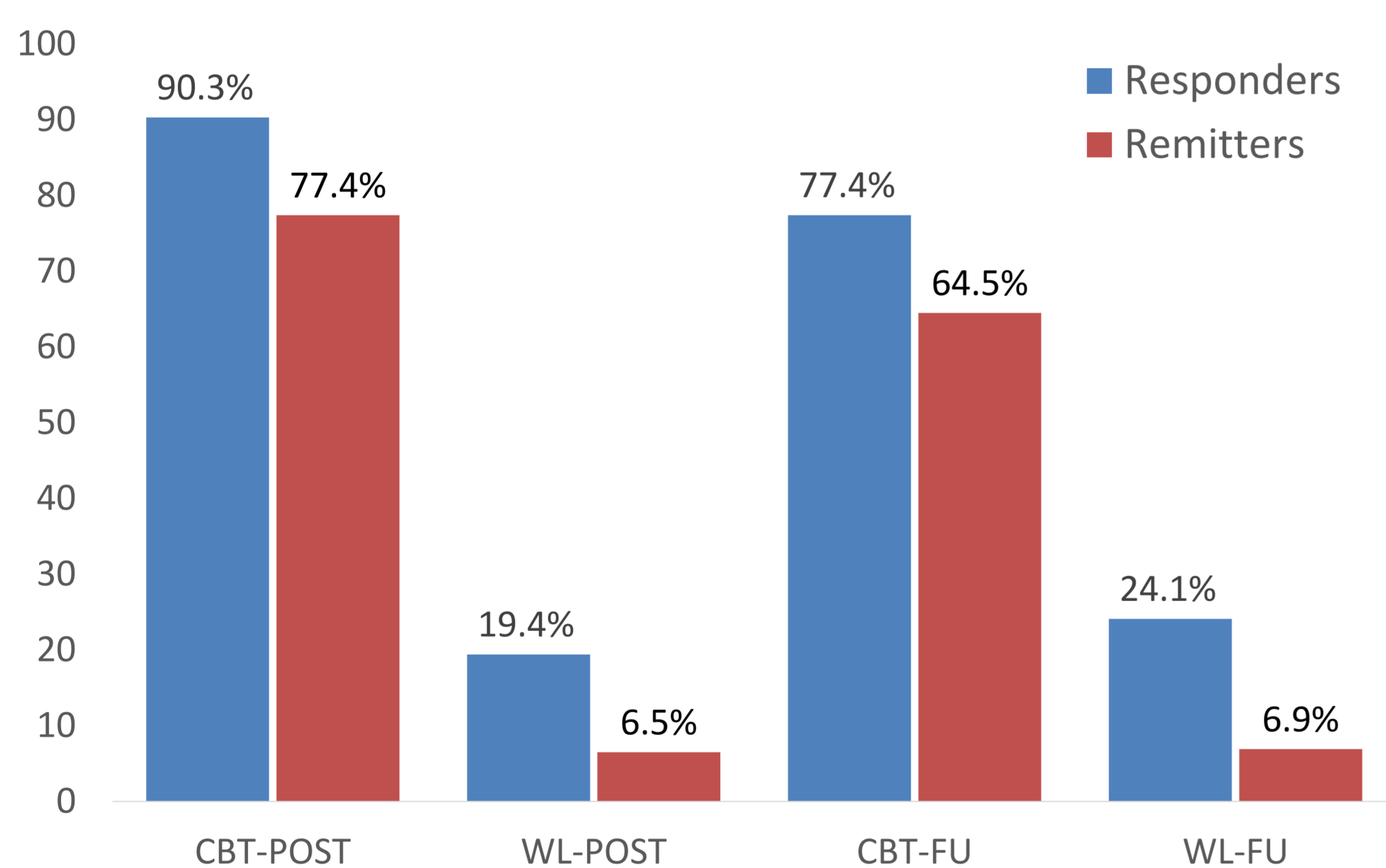
Cognitive behavioral therapy for insomnia (CBT-I) is considered a first-line intervention for insomnia disorder, but implementation in clinical settings is difficult due to a lack of trained therapists and inadequate resources.

Therefore, we aimed to compare the effects of smartphone app-delivered CBT-I with telephone support against a waitlist (WL) to better understand the contribution of delivering CBT through a smartphone in treating insomnia.

Sixty-two participants with insomnia disorder were randomized to smartphone app-delivered CBT-I (n=31) or WL (n=31). CBT consisted of six weekly app modules with 15 minutes of telephone support per week. At pre, post, and 3-month follow-up, participants reported insomnia severity, nighttime symptoms, functional impairment, anxiety, depression, stress, quality of life, expectancy/credibility, adverse events, satisfaction, activity, dropout, and module completion.

RESULTS

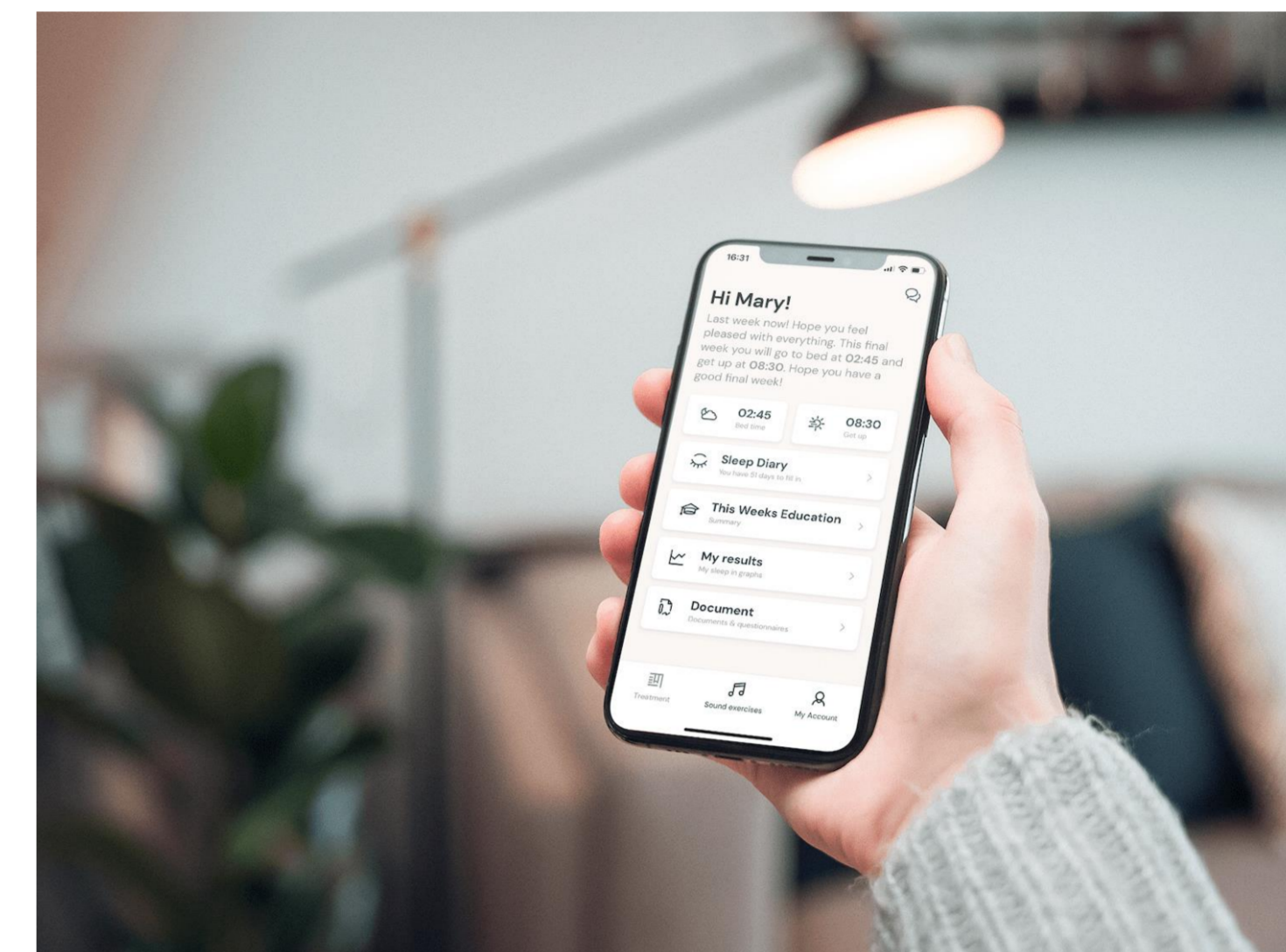
CBT-I was perceived as credible and with high expectations and satisfaction. Also, CBT-I resulted in low attrition and satisfactory adherence. CBT-I outperformed WL on the primary outcome, insomnia severity, from pre- to post-treatment ($d = 1.6$), and was maintained at follow-up ($d = 1.6$). Significantly more participants in CBT-I were classified as responders (77-90%) and remitters (65-77%) relative to WL (responders: 19-24%, remitters: 7%).



CBT-I was also significantly more effective at post-treatment on sleep onset latency, wake after sleep onset, and early morning awakening ($d = 0.6 - 0.7$) as well as on functional impairment and stress ($d = 0.7 - 0.8$), but with more modest effect sizes than on insomnia severity.

CONCLUSION

The findings suggest that smartphone app-delivered CBT-I with telephone support is effective compared to a waitlist condition and could be implemented in clinical settings. Future research is, however, needed to provide more information about the efficacy of CBT-I delivered with smartphones.



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