TITLE:
Cognitive behaviour therapy for insomnia and depression among older adults in a psychiatric setting: A research synthesis

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KEY HIGHLIGHTS:

- Comorbid insomnia is highly prevalent among older adults with depression
- Clinicians who work with older adults need to routinely assess sleep, as insomnia is often under-recognised and inadequately treated
- Cognitive behaviour therapy for insomnia (CBT-I) improves sleep and also has a positive impact on mood among older adults
- Future research options are suggested, such as testing whether an advanced form of CBT-I+ (insomnia plus positive mood strategies) is superior to standard CBT-I for older adults with comorbid conditions

MAIN TEXT:

Sleep and mood are important bi-directional and interrelated factors that influence the daily functioning of older adults. Insomnia is the most prevalent sleep disorder and is typically defined as persistent difficulty falling or staying asleep[1]. Insomnia rarely occurs in isolation and is commonly accompanied by comorbid conditions[1]. For instance, older adults with insomnia are at greater risk of developing depression, and more than 30% of older people with depression have comorbid insomnia[1]. Older adults who experience insomnia tend to feel more hopeless and depressed, which can be perpetuated by unhelpful thoughts and behaviours[2]. Although pharmacotherapy remains the most common form of treatment offered to older adults with comorbid insomnia and depression, medication alone is often insufficient to treat both conditions and has the potential to unintentionally exacerbate sleep and mood problems via side effects or adverse medication interactions[3]. Hence, it is important to explore other forms of treatment.

Clinical practice guidelines for management of insomnia typically recommend the use of cognitive behaviour therapy for insomnia (CBT-I) as a first line treatment[4,5]. When CBT-I has not been effective, these guidelines suggest a shared decision making discussion relating to the potential benefits and adverse effects of adding a medication for insomnia. Although several trials have shown CBT-I to have a positive impact on comorbid insomnia and depression, these studies had methodological weaknesses and primarily focussed on homogenous younger adult populations. The gaps in the research have raised two important clinical questions that have been recently tested: (1) Could the effects of CBT-I be generalised to a heterogeneous sample of older adults with comorbid insomnia and depression, and (2) could re-designing CBT-I to include positive mood-enhancing strategies produce stronger effects than standard CBT-I? Recently a series of studies have been published to advance the field of CBT for older adults with insomnia

and depression within a psychiatric setting[6-9]. This brief synthesis paper provides highlights from these studies to advocate for future research endeavours.

Sadler and colleagues published a critical review[6] that identified gaps in the literature related to treatment of older adults with insomnia and depression. Specifically, this review showed that most previous CBT-I studies excluded older adults with complex mental health and physical needs, despite this community-based cohort likely benefitting from this treatment[5]. Sadler et al. suggested delivering CBT-I via group therapy and adding mood-enhancing strategies to CBT-I could enhance the effects of treatment. This review article provided the rationale to develop a mixed-methods, randomized-controlled trial (RCT) group therapy design in an older adult psychiatric setting.

A second paper, the RCT protocol[7], proposed testing two experimental conditions and one control condition (see Table 1).

Table 1. Summary of session interventions[7]

Session	CBT-I	CBT-I+	PCG
1	Introduction to CBT	Introduction to CBT	General Introduction
2	Stimulus Control Sleep Restriction	Stimulus Control Sleep Restriction Behavioural Activation	Insomnia
3	Sleep Hygiene	Sleep Hygiene Behavioural Activation	Sleep Health
4	Relaxation	Relaxation Behavioural Activation	Sleep and Mood
5	Relaxation Cognitive Reframing (Insomnia)	Relaxation Cognitive Reframing (Insomnia)	Sleep and Mood
6	Cognitive Reframing (Insomnia)	Cognitive Reframing (Insomnia/Depression)	Beliefs About Sleep
7	Cognitive Reframing (Insomnia)	Cognitive Reframing (Depression) Hope Affirmations	Beliefs About Sleep
8	Relapse Prevention	Hope Affirmations Relapse Prevention	Summary

Note: CBT-I Cognitive Behaviour Therapy for Insomnia: CBT-I+ Cognitive Behaviour Therapy for Insomnia plus mood-enhancing strategies: PCG Psychoeducation Control Group

The third paper describes the findings from the RCT, which appears to be the first of its kind for this cohort[8]. The clinical trial was conducted in Victoria Australia, across two major community mental health public hospital settings. Seventy-two older adults with diagnosed comorbid insomnia and depression were randomly assigned to one of three conditions: cognitive behaviour therapy for insomnia (CBT-I, standard), cognitive behaviour therapy for insomnia plus positive mood strategies (CBT-I+, advanced), and psychoeducation control group (PCG, control). The primary outcomes were insomnia severity and depression severity, with secondary measures including anxiety severity, hopelessness, beliefs about sleep, and subjective physical health. Outcome measures were collected at pre (week 0), post (week 8), and follow-up (week 20). The primary results demonstrated that specifically treating comorbid insomnia with CBT had positive effects for improving insomnia and depression for older adults with complex comorbidities. The advanced CBT-I+ condition revealed similar reductions in insomnia and depression severity compared to the standard CBT-I condition; however, this trial had inadequate sample sizes to detect if there were significant differences between the two CBT conditions. Similar trends were also found for the secondary measures, with both experiential conditions producing improvements in anxiety, hopelessness, beliefs about sleep and subjective health. CBT-I and CBT-I+ each demonstrated large effect sizes, high retention rates, and strong remission rates among older adults with insomnia and depression.

The fourth paper describes the experiences of older adults who participated in the treatment conditions to help inform modifications for future use[9]. Thirty-one participants reflected on their experiences participating in CBT-I and CBT-I+ through semi-structured focus groups following the final session of treatment. A qualitative thematic analysis was conducted to explore the participants' experiences of treatment. Participants reported benefits to skilled

program co-facilitators: social connections formed within the groups; learning of strategies to reduce insomnia and depression; and a sense of acceptance of their mental health. Difficulties attending group outpatient sessions, and condensing the content to eight weeks were chellenges reported by participants. Participants suggested lengthening the program, using a variety of learning methods, and using a range of therapeutic modalities which would enhance the therapeutic experience.

This was the first mixed-methods RCT to demonstrate that specifically treating comorbid insomnia with CBT improves insomnia and depression among older adults within a psychiatric setting. Both CBT programs were effective at reducing insomnia and depression severity for older adults with comorbidities. Replication of this study is necessary with a larger sample size to conclusively establish whether the two interventions have different or equivalent effects. Mental health services that deliver treatment for comorbid insomnia with CBT will likely improve recovery outcomes for older adults with depression. Future CBT-I clinical trials with older adults may be enhanced by:

- Increasing the length of therapy to further reinforce the multi-component strategies (e.g., 12 sessions of CBT-I or CBT-I+)
- Adding multi-dimensional learning opportunities (e.g., visual/audio presentations, between-session homework tasks)
- Providing several options as treatment modalities (e.g., group, individual, tele-health) to best meet individual learner preferences.

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AUTHOR INTRODUCTIONS:

Dr Paul Sadler PhD is a clinical psychologist who currently manages the Healthy Ageing Service, which is part of Eastern Health's Older Adult Mental Health department. He also has an honorary research fellow position with Deakin University's School of Psychology. His area of interest is advancing psychological treatments to improve and maintain mental health as we age.

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