Comparative effectiveness of cognitive behavioral therapy for insomnia: a systematic review

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CRD summary
The review concluded that cognitive behavioural therapy was an effective treatment for insomnia that can produce durable results in a relatively small number of visits. Given the small evidence base, unclear reporting of some results and limited quality, the authors' conclusions cannot be considered reliable.

Authors' objectives
To evaluate the effectiveness of cognitive behavioural therapy (CBT) compared to medication in patients with primary and comorbid insomnia.

Searching
MEDLINE, EMBASE, Cochrane Central Register of Controlled Trials (CENTRAL) and PsycINFO were searched to September 2011 without language or publication restrictions. Search terms were reported in supplementary material. Relevant published systematic reviews were searched.

Study selection
Randomised controlled trials (RCTs) that compared CBT for insomnia to any prescription or non-prescription medication in adult patients (aged 18 years or older) with primary or comorbid insomnia were eligible for inclusion. Studies had to include 10 or more patients in each group. Patients had to be diagnosed using DSM-IV (Diagnostic and Statistical Manual of Mental Disorders) criteria. Interventions had to be delivered by professionals; telephone and internet sessions could be included. Trials had to report quantitative measure of sleep such as sleep latency, wake after sleep onset and efficiency, total sleep time and total wake time.

All the included trials involved patients with primary insomnia. The age of participants ranged from 25 to 64 where reported. CBT for insomnia was compared to non-benzodiazepines (zopiclone and zolpidem) and benzodiazepines (temazepam and triazolam). Numbers of individual and group sessions varied. Intervention durations ranged from three to eight weeks. Outcomes were measured using subjective methods (patient recorded sleep diaries) in all trials and most trials also used objective methods (polysomnography and actigraphy). Studies were in USA, Canada, Norway and China.

Two reviewers independently selected studies for inclusion. Disagreements were resolved by a third reviewer.

Assessment of study quality
Study quality was assessed using a nine-point scale based on scale by Jadad and Chalmers. Criteria included randomisation, blinding and patient attrition.

The authors did not state how many reviewers assessed study quality.

Data extraction
For objective measures, automated means were extracted at baseline, end of treatment and end of follow-up. For primary sleep outcomes, data were extracted and tabulated at the time period immediately following treatment and for the longest follow-up period. Results from standardised patient questionnaires and data were extracted on patients' general quality of life and measures of psychological outcomes such as depression, anxiety and fatigue. Data on adverse events were extracted.

The authors did not state how many reviewers extracted data.

Methods of synthesis
The results of the studies were presented in a narrative synthesis. Findings for objective and subjective measures were reported separately. The level of evidence was rated as very low, low, moderate or high based on GRADE criteria.
Results of the review

Five RCTs (294 participants) were included in the analysis. Only one RCT was appropriately randomised. Two RCTs were described as double-blinded and blinded outcome assessors. No RCTs reported blinding of participants or investigators. Attrition was described in all five RCTs and was less than 10% to 15% in four of these. Attrition was properly analysed in four RCTs. Follow-up ranged from nine weeks to 24 months.

Sleep outcomes (objective measures): There was very low evidence reporting mixed effects in the short term (post treatment). One RCT found improvements in sleep latency and sleep efficiency for temazepam compared to CBT but two RCTs found no differences for temazepam or triazolam and CBT. There was moderate evidence suggesting that CBT for insomnia was more effective than zopiclone and zolpidem in the short term (two RCTs).

At long term follow-up (six to 24 months) there was moderate evidence suggesting that CBT for insomnia was more effective than temazepam and triazolam (three RCTs) and low grade evidence that CBT was more effective than zopiclone (one RCT). There was no long term follow-up for zolpidem.

Quality of life: No significant between-group differences were reported for quality of life outcomes. Improvements on the State-Trait Anxiety Index was reported for CBT groups compared to zopiclone (one RCT). Adverse events were rarely reported.

Other findings were reported in the review but they were difficult to follow.

Authors' conclusions

Cognitive behavioural therapy is an effective treatment for insomnia that can produce durable results in a relatively brief number of visits. Low to moderate quality evidence suggests CBT has greater effectiveness than medications for treatment of insomnia six months or more after therapy is completed.

CRD commentary

The review question was clear and appropriate inclusion criteria were defined. Several relevant sources were searched without limitations on language and publication status. Study quality was assessed and results reported in full. Appropriate methods to reduce reviewer error and bias were used for study selection; it was unclear whether similar methods were used for quality assessment and data extraction.

A narrative synthesis was appropriate given the between-study differences in sleep-related outcome measures and demographics. Reporting of some results was unclear and sometimes difficult to follow, with differences between text and tables. The authors reported a significant limitation of the included studies in that they focused on patients with primary insomnia and the results may not be representative of patients with comorbid medical or psychiatric disorders. Most of the outcomes included only one trial assessing each medication and small sample sizes that may be insufficiently powered to determine an effect. All the studies were at some risk of bias due to lack of blinding.

Given the small evidence base and limited quality of the included studies the authors' conclusions cannot be considered reliable.

Implications of the review for practice and research

Practice: The authors stated that primary care providers should consider CBT for insomnia as a treatment option for insomnia.

Research: The authors stated that future research was needed to better understand the relative efficacy of CBT and hypnotics for insomnia to enable decisions about best practices. Future research needed to validate the effectiveness of CBT for insomnia beyond one or two years and in patients with comorbid insomnia and to establish benefit for psychological outcomes including quality of life. Research should be conducted in both older and younger adult samples and examine additional strategies for combination treatment.

Funding

None.

Bibliographic details

PubMedID
22631616

DOI
10.1186/1471-2296-13-40

Original Paper URL
http://www.biomedcentral.com/1471-2296/13/40/abstract

Indexing Status
Subject indexing assigned by NLM

MeSH
Cognitive Therapy /methods; Comparative Effectiveness Research; Evidence-Based Medicine; Humans; Outcome Assessment (Health Care); Quality of Life; Sleep Initiation and Maintenance Disorders /therapy

AccessionNumber
12013021066

Date bibliographic record published
25/04/2013

Date abstract record published
10/10/2013

Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.