Title **Newer Hypnotic Drugs for the Short-term Management of Insomnia: A Systematic Review and Economic Evaluation**

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Aim

To assess the clinical and cost effectiveness of zaleplon, zolpidem, and zopiclone (Z-drugs) compared with benzodiazepines.

Conclusions and results

Twenty-four studies involving 3,909 patients met the inclusion criteria (17 studies comparing a Z-drug with a benzodiazepine and 7 comparing a Z-drug with another Z-drug). Outcomes were rarely standardized and differed in interpretation. Variations in assessment and the level of information make comparisons difficult. Hence, meta-analysis included only a small number of outcomes. Some evidence suggests that zaleplon gives shorter sleep latency, but shorter sleep duration, than zolpidem. No economic model describes the costs and benefits of the newer hypnotic drugs for insomnia. In the short-term, no systematic evidence is available on significant outcome variations between the different classes of drugs or between individual drugs within each class. The acquisition cost of the individual drugs varies significantly.

Recommendations

The short-acting drugs seem equally effective and safe, but there is no evidence that one is more cost-effective than any other. Analysis of the additional costs to the NHS, depending on the rate of change from benzodiazepine to Z-drug prescriptions, at current levels of hypnotic prescribing, range from £2 million to £17 million per year. Research is needed in this area since none of the existing trials adequately compare these medications. Further consideration should be given to a formal trial to allow head-to-head comparison of key drugs in a double-blind randomized controlled trial (RCT) lasting at least 2 weeks and sufficient in size to draw reasonable conclusions. Such trial should include a placebo arm. It should also collect good-quality data on sleep outcomes, particularly quality of life and daytime drowsiness. We do not believe that a formal study of the risk of dependency is feasible at present.

Methods

The review included RCTs that compared benzodiazepines to the Z-drugs, or any two of the nonbenzodiazepine drugs, in insomnia patients. Data on the following outcome measures were considered: sleep onset latency, total sleep duration, number of awakenings, quality of sleep, adverse effects, and rebound insomnia. A search was also undertaken for study designs that evaluated issues related to adverse events (eg, dependency and withdrawal symptoms). Full economic evaluations that compared two or more options and considered both costs and consequences (eg, cost effectiveness, cost-utility analysis, or cost-benefit analysis undertaken in the context of high-quality RCTs) were considered for inclusion in the review.

Further research/reviews required

The management of long-term insomnia is suggested for further investigation. Considering the frequency of this symptom and its recurring course, the short-term trial of medication and lack of long-term followup undermine attempts to develop evidence based guidelines for the use of hypnotics in this condition, or indeed for its whole management.

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