



Title	Clinical and Cost Effectiveness of Donepezil, Rivastigmine, and Galantamine for Alzheimer's Disease: A Rapid and Systematic Review
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Aim

To provide a rapid and systematic review of the clinical effectiveness and cost effectiveness of donepezil, rivastigmine, and galantamine in the symptomatic treatment of people suffering from Alzheimer's disease.

Conclusions and results

It is difficult to quantify benefits from the evidence available in the literature. Statistically significant improvements in tests such as ADAS-cog (Alzheimer's Disease Assessment Scale cognitive subscale) may not be reflected in changes in daily life.

Donepezil – three systematic reviews and five RCTs (plus four studies from industry*) were found. Results suggest that donepezil is beneficial when assessed using global and cognitive outcome measures.

Rivastigmine – three systematic reviews and five RCTs (plus two studies from industry*) were found. Results suggest that rivastigmine is beneficial in terms of global outcome measures.

Galantamine – one systematic review and three RCTs (plus three studies from industry*) were found. Results suggest that galantamine is beneficial in terms of global, cognitive, and functional scales.

Economic implications of prescribing these drugs are uncertain. The main issue is not drug costs per se, but the impact across different sectors. Any cost savings would depend mainly on release of funds from residential care.

Recommendations

On the basis of the current evidence, the implications of using donepezil, rivastigmine, or galantamine to treat patients with Alzheimer's disease remain unclear. The main issue is whether the modest benefits seen in the outcome measures used in the trials would translate into benefits significant to patients. Ongoing research should provide valuable evidence.

Methods

A systematic review of the literature was undertaken. The main electronic databases were searched up to March/July 2000. Bibliographies of related papers were assessed for relevant studies, and experts were contacted for advice, peer review, and to identify additional published and unpublished references. Manufacturer submissions to the National Institute for Clinical Excellence were reviewed.

Studies included were systematic reviews of randomized controlled trials (RCTs) and RCTs comparing donepezil, rivastigmine, or galantamine with placebo, each other, or non-drug comparators. Economic studies that included a comparator (or placebo) and both the costs and consequences of treatment were included in the review of cost effectiveness. Non-English language studies, abstracts, and conference poster presentations were excluded. Two reviewers identified studies by independently screening study titles and abstracts, and then by examining the full text of selected studies to decide inclusion. Data extraction and quality assessment were undertaken by one reviewer and checked by a second reviewer.



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Further research/reviews required

Future research should include: development of quality-of-life instruments for patients and their caregivers; comparisons of benefits from drugs with those from other interventions; identification of those patients likely to benefit from drug treatment; development of protocols of treatment withdrawal if not beneficial; good quality economic evaluations.

* Unpublished data, submitted as commercial in confidence