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Title **Pharmaceutical and Non-Pharmaceutical Interventions for Alzheimer's Disease, a Rapid Assessment**

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Aim

To study the effectiveness and cost effectiveness of current pharmaceutical and nonpharmaceutical interventions targeting Alzheimer's disease (AD) patients and analyze AD drug prescriptions for 2002 to 2006.

Conclusions and results

No single diagnostic instrument is adequate for population screening, but neuropsychological tests and new disease-specific markers make diagnosis more accurate. Studies of nonpharmacological interventions often have methodological issues, but several promising patient-targeted interventions were identified: cognitive stimulation with or without acetylcholinesterase inhibitors (ChEIs), activities of daily living (ADL) rehabilitative care, music therapy, massage/touch, and physical activity. Most promising are support programs for informal caregivers, which lower depression in caregivers and delay the time to institutionalization of patients.

Regarding pharmacotherapy, the efficacy data for Ginkgo biloba are not robust. For memantine monotherapy, the effects on cognitive function and Clinician's Interview-based Impression of Change (CIBIC+) are weak (to absent), improvements of ADL and psychopathology are minor. RCT data on degree of care and effect on institutionalization were not made public. For ChEIs, the number needed to treat is 10 for cognitive function and CIBIC+; benefits on ADL and psychopathology are minor. For institutionalization, RCT results are negative, or not available. Gastrointestinal side effects are frequent.

More data are needed on ChEI + memantine. Most economic models extrapolate an improvement in cognitive function to a delay in institutionalization, but RCTs did not confirm this. Over 40 000 patients in Belgium (pop.10 million) used ChEIs in 2008, 34% of the 34 000 AD patients in elderly homes and 69% of the 41 000 AD patients at home (treatment duration over 3 years if ChEI started at home). Frequent concomitant use of antipsychotics: 21% (at home) and 45% (elderly home), and antidepressants: 26% to 52%. About 5000 patients used memantine in 2008.

Recommendations

Limit antipsychotics use in AD. Care needed when ChEIs started in medically instable AD. Public financing questioned for Ginkgo biloba and memantine monotherapy. Impact on behavior of AD treatments is important, mainly in geriatric patients. Fund RCT of caregiver support program.

Methods

We limited our search to HTA reports and systematic reviews and did not formally score the quality of the reviews. Full economic evaluations were included if published after 2004. Belgian drug prescription data were analyzed for 2002 to 2006.

Further research/reviews required

Cost-effectiveness analyses of magnetic resonance imaging, neuropsychological tests, and the proposed AD markers. Standardization of nonpharmaceutical interventions. Reasons why ChEIs are first started after institutionalization. Accurate prevalence data for dementia, future needs for elderly homes and home care.

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