Review: home visiting with multidimensional assessment and multiple visits reduces nursing home admissions in low risk elderly people

Sources of funding: Swiss National Science Foundation; Swiss Federal Office for Education and Research; Swiss Foundation for Health Promotion.

For correspondence: Dr A E Stuck, Spital Bern, Bern, Switzerland. andreas.stuck@spitalbern.ch

A modified version of this abstract appears in ACP Journal Club.


QUESTION: In elderly people, what are the effects of preventive home visits on nursing home admission, functional status, and mortality?

Data sources
Studies reported in English, French, German, Italian, and Spanish were identified by searching Medline, EMBASE/Excerpta Medica, PsycINFO (1985 to November 2001), the Cochrane Controlled Trials Register, conference proceedings, and specialty journals; reviewing bibliographies of earlier reviews and book chapters; and contacting experts.

Study selection
Studies were selected if they were randomised trials of the effects of preventive home visits in elderly people (mean age >70 y) living in the community.

Data extraction
Data were extracted on the study population, characteristics of the intervention (multidimensional geriatric assessment, average number of home visits, and duration of intervention), and end points. Quality of individual trials was assessed (method of randomisation, blinding, and proportion of patients included in analyses).

Main results
18 trials (n = 13 447, mean age at baseline 73–82 y) met the selection criteria. Meta-analysis of 13 trials (n = 11 167) showed no difference between home visiting and the control intervention for nursing home admissions (table). Analysis stratified by the number of follow up visits found reduced nursing home admissions in programmes with >9 follow up visits (4 trials, n = 2291) (table).

Meta-analysis of 16 trials (n = 8719)* showed no difference between home visiting and the control intervention for functional status (table). When trials were stratified according to whether the programme involved multidimensional assessment, home visiting programmes reduced functional decline more than did the control intervention only in programmes with multidimensional assessment (6 trials, n = 4061) (table). When trials were stratified by control group mortality rates, home visiting programmes improved functioning more than did control only in people with the lowest risk of mortality (5 trials, n = 2340) (table).

Meta-analysis of 18 trials (n = 13 365) found no difference between home visiting and the control intervention for mortality (table); analysis stratified by age found that mortality was reduced only in the lowest age tertile (mean age 72.7–77.5 y) (6 trials, n = 3044) (table).

Conclusion
Preventive home visitation programmes that involve multidimensional geriatric assessment and >9 follow up visits reduce nursing home admissions, improve functional status in elderly people at lower risk of death, and reduce mortality in young-old people.

Complementary Home Visiting and Multidimensional Assessment: How Effective Are They?

Table 1. Preventive home visits vs control interventions for elderly people†

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>RR or NNT (95% CI)</th>
<th>Typical NNT (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursing home admission</td>
<td>10% (~2 to 20)</td>
<td>Not significant</td>
</tr>
<tr>
<td>SG: &gt;9 follow up visits</td>
<td>34% (8 to 52)</td>
<td>43 (18 to 204)‡</td>
</tr>
<tr>
<td>Functional status decline</td>
<td>6% (~6 to 17)</td>
<td>Not significant</td>
</tr>
<tr>
<td>SG: multidimensional assessment</td>
<td>24% (9 to 36)</td>
<td>15 (8 to 143)‡</td>
</tr>
<tr>
<td>SG: lower mortality risk</td>
<td>22% (5 to 36)</td>
<td>[12 (7 to 45)]§</td>
</tr>
<tr>
<td>Mortality</td>
<td>9% (~1 to 19)</td>
<td>Not significant</td>
</tr>
<tr>
<td>SG: mean age 72.7–77.5 y</td>
<td>24% (12 to 35)</td>
<td>24 (14 to 95)‡</td>
</tr>
</tbody>
</table>

†SG = subgroup analysis. Other abbreviations defined in glossary; RR or CI calculated from data in article.

†Data provided by author.


