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

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

**Preventive home visits v control interventions for elderly people†**

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>RR (95% CI)</th>
<th>Typical NNT (CI)</th>
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</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; RRR and CI calculated from data in article. Analysis of typical NNTs based on a random effects model; analyses of RRRs based on a fixed effects model, except for the main analyses of functional status decline and mortality, where a random effects model was used. Data provided by author.

**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.

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**COMMENTARY**

Although evidence regarding the effectiveness of preventive home visitation programmes has been contradictory;1 programmes that offer these services are being reduced or cut in Canada because of increased pressure for postacute care services.1 The systematic review by Stuck et al adds important scientific evidence to the debate. The authors used rigorous methods in the assessment of the methodological quality of individual studies and statistical analyses. However, one limitation of the review is the lack of description and examination of the interventions incorporated in the home visitation programmes. The providers of the interventions ranged from lay community workers to nurse practitioners and geriatricians, and the types of interventions implemented during visits (ie, counselling, behavioural modifications, and referral) may also have been diverse. An assessment of how these factors contributed to the heterogeneity of the studies included in the review would have been helpful. Although a formal cost effectiveness analysis was not done, the authors provide an estimate of the costs of preventive home visits.

Subgroup analyses yielded significant results: difference predicted the 3 main end points. Nurses, programme planners, and policy makers must have a clear understanding of the determinants of the outcomes they are attempting to achieve. Further research is needed to show which types of providers and interventions are most effective in preventing functional decline and nursing home admission in the elderly.

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