Review: specialised multidisciplinary follow up reduces hospital admissions but not mortality in patients with heart failure


QUESTION: Do disease management programmes reduce hospital admissions and all cause mortality in patients with heart failure (HF)?

Data sources
Randomised trials were identified by searching Medline (1966–99), EMBASE/Excerpta Medica (1980–98), CINAHL (1982–99), SIGLE (1980–98), the Cochrane Controlled Trials Registry, and the Cochrane Effective Practice and Organization of Care Study Registry; reviewing bibliographies of retrieved studies; and contacting experts.

Study selection
Studies in any language were selected if they reported the effect of outpatient HF management programmes on mortality or hospital admissions. Studies were excluded if outcomes for patients with HF were not reported separately from patients with other diseases or the data were not available from the authors.

Data extraction
Data were extracted on study sample size, patient characteristics, key components of the intervention, duration of intervention, and outcomes. Main outcomes were all cause mortality and hospital admissions.

Main results
11 trials (n=2067) met the selection criteria: 9 trials compared a multidisciplinary team intervention and specialised follow up (team intervention) with usual care, and 2 trials compared telephone follow up and improved communication with the primary care physician (telephone intervention) with usual care. The duration of interventions ranged from 1 visit to 12 months. Only 6 trials (n=1106), all of which assessed a team intervention, reported mortality outcomes; meta-analysis showed no differences in mortality for the team intervention and usual care groups. Meta-analysis of data from all 11 trials (n=2012) showed that the intervention groups had fewer hospital admissions (table). Meta-analysis of 9 trials (n=1366) showed that the team intervention reduced hospital admissions compared with usual care (table). Meta-analysis of 2 trials (n=616) showed that the telephone intervention did not differ from usual care for hospital admissions.

Conclusion
In patients with heart failure, a multidisciplinary team and specialised follow up management programme reduces hospital admissions compared with usual care, but not all cause mortality.

HF management is a major focus for the medical and nursing professions because HF is the most common reason for hospital admission in people ≥65 years of age and is associated with high mortality and morbidity, and low quality of life. McAlister et al did a systematic and rigorous search for randomised controlled trials (RCTs) to determine the effect of HF disease management programmes on mortality and hospital admission. These programmes generally involve multidisciplinary teams that employ guidelines or care paths and specialised clinics dedicated to comprehensive management.

11 RCTs were included in the meta-analysis. Patients who received multidisciplinary HF management had fewer hospital admissions, but effects on mortality were inconclusive. Several factors limit the generalisability of the results. All studies had poorly defined control groups and relatively small sample sizes. Intervention strategies were quite diverse and not comprehensively described. Factors other than the medical diagnosis of HF that could have affected mortality, morbidity, and quality of life were not discussed. With so few existing trials of HF management, few conclusive statements can be made until additional controlled studies are done, particularly with respect to mortality outcomes.

The review by McAlister et al is relevant to nurses who practise in the fields of cardiology and geriatrics in acute care hospitals, long term care facilities, and community home support programmes. Because of space restrictions, the authors provide only brief descriptions of the key components of each study intervention. Nurses were involved in most of the interventions providing a range of care, including patient education, counselling, home visits, nurse run clinic services, and telephone follow up. Those interested in implementing a disease management programme are encouraged to review each of the 11 trials for detailed descriptions of the interventions. McAlister et al conclude that disease management programmes for HF patients should include multidisciplinary teams, an emphasis on patient education and self management, and enhanced access to specialised clinics or home visits. Given the nursing profession’s emphasis on these activities, nurses clearly have an important role in the delivery of disease management programmes for HF patients.

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Multidisciplinary team and specialised follow up (team) or telephone follow up and improved communication with primary care physician (telephone) v usual care in patients with heart failure*

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Comparison</th>
<th>Weighted event rates</th>
<th>RRR (95% CI)</th>
<th>NNT (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital admission</td>
<td>Team or telephone v usual care</td>
<td>41% v 47%</td>
<td>13% (4 to 21)</td>
<td>16 (10 to 48)</td>
</tr>
<tr>
<td></td>
<td>Team v usual care</td>
<td>38% v 50%</td>
<td>23% (14 to 32)</td>
<td>9 (6 to 15)</td>
</tr>
</tbody>
</table>

*Abbreviations defined in glossary; RRR, NNT, and CI calculated from data in article. A fixed effects model was used for all meta-analyses. Length of follow up ranged from 3–12 months.

2 Masie BM, Shah NB. Am Heart J 1997;133:703–12.
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