Care management interventions for older patients with congestive heart failure

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CRD summary
This review aimed to assess the effectiveness of care management programmes for older people with heart failure. The authors concluded that such programmes can be effective and elements of effective programmes include mixed teams, frequent monitoring and patient education. The review had a number of methodological and reporting weaknesses and hence the conclusions may not be reliable.

Authors' objectives
The authors aimed to identify interventions for inclusion in care management programmes for older people with congestive heart failure (CHF), and to assess the overall effects of these programmes.

Searching
MEDLINE (from 1966 to March 2002) was searched for English language papers. The reference lists of identified papers were also checked.

Study selection
Study designs of evaluations included in the review
No inclusion criteria relating to the study design were defined. The included studies were randomised controlled trials (RCTs), retrospective analyses and descriptive studies.

Specific interventions included in the review
The inclusion criteria were care management programmes to improve patient outcome or to reduce health care utilisation. No further definition was given. In the included studies, the interventions varied and consisted of differing methods of patient education (e.g. written and video), monitoring (including telephone and electronic), out-patient or home visits. The interventions were delivered by a varied combination of physicians, cardiologists, nurses, pharmacists, social workers, dieticians, physical therapists and care managers.

Participants included in the review
Studies of 'older people' (not defined) with CHF were sought. A study of adults with a mean age of 54 years was excluded. Studies that included some participants with other diagnoses were excluded. There was no further information about the ages, gender or severity of illness of the participants in the included studies.

Outcomes assessed in the review
The authors looked for the broad outcome of any measurable result. In the included studies, the outcomes included those related to hospital admissions, length of stay, out-patient visits, as well as mortality, patient satisfaction, quality of life, appropriateness of medication and subjective function tests (e.g. New York Heart Association Classification, Duke Activity Index, ability to perform tasks).

How were decisions on the relevance of primary studies made?
The authors did not state how the papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality
The authors did not state that they assessed validity.

Data extraction
The authors did not state how many reviewers performed the data extraction. The data were extracted into tables.
categories of data extracted included study size and design, intervention and outcomes.

Methods of synthesis

How were the studies combined?
The studies were combined in a narrative discussion. For some outcomes the authors used statistically-significant results from the individual studies and combined these in a simple vote-counting method to describing the overall trends. Those outcomes that showed a statistically-significant change in at least 3 studies were grouped in a table and used to categorise those studies that were effective (or not).

How were differences between studies investigated?
The authors did not how any differences between the studies were assessed.

Results of the review

Thirty-two studies (6,909 participants) were included: 15 RCTs (2,823 participants), 16 retrospective-prospective comparison studies (4,005 participants) and one descriptive study (81 participants).

Hospital utilisation: 16 studies showed a significant reduction in total admissions, while 9 studies reported a non significant reduction in admissions. Two studies reported a significant increase in admissions.

Quality of life: 5 studies showed a significant improvement in quality of life scores, whereas 6 studies showed no change. No studies showed a decrease in quality of life scores.

Medication usage: 8 studies showed a significant change in medication usage, while 2 studies showed no change.

Mortality: only one retrospective study showed a significant reduction in mortality.

Using those outcomes that reported a significant change in at least 3 studies, the authors classified 15 studies as effective (i.e. the results reached significance). In 15 further studies the changes in outcome measures did not reach significance, and in 2 studies most of the important outcome measures showed deterioration in the treatment group. The authors suggested that this deterioration was attributable to poor study design. The authors highlighted close monitoring, education and regular contact with professionals as elements of effective programmes.

Cost information

The authors stated that the costs were assessed in 17 studies. Six showed a significant decreases in the costs, 6 found no difference, and 5 did not report statistical significance in the comparisons. No studies showed increased costs with the intervention. No further information was given.

Authors' conclusions

Care management interventions can be clinically effective; however, the cost-effectiveness has not been established. The elements of effective programmes include mixed teams (nurses and physician), frequent monitoring and patient education.

CRD commentary

This review attempted to summarise the literature on a complex intervention of interest to those caring for people with CHF. The aims were defined in very broad terms, but the inclusion criteria were not clearly outlined: e.g. no inclusion criteria were given for the participants' ages, definitions or severity of CHF, components of the intervention, or length of follow-up. Only one database was searched, and the search terms seem limited in view of the varied and broad nature of the interventions. The search was also restricted to English language papers. It is likely that studies were missed.

The authors chose to include studies of any design and gave no information about how quality was assessed, or how the studies were selected. In addition, while a detailed narrative of the identified studies was provided, there was no
distinction between studies of differing study design and quality. It would have been interesting to have seen the results from higher quality RCTs assessed separately from other non-randomised studies. Although the authors did not specify how quality was assessed, they concluded that those studies that showed no improvement were of poor quality. There was little information about the quality of those studies that were effective. There was also little information on the included participants, making the generalisability of these results difficult. In view of these comments, the results should be treated with some caution.

Implications of the review for practice and research
Practice: The authors stated that care management programmes for CHF should always include a trained physician and nurse team. Individual patient needs should be carefully assessed and appropriate referrals made to other practitioners.

Research: The authors stated that in studies on this topic, the outcome measures should include hospital utilisation, measurement of costs, mortality, and both patient and physician satisfaction.

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