A nurse-run program for congestive heart failure reduced time to hospital readmission


Question
Can a nurse-run management program reduce hospitalization and health care costs 1 year after admission for congestive heart failure (CHF)?

Design
Randomized, unblinded, controlled trial with 1-year follow-up.

Setting
A university hospital in Malmö, Sweden.

Patients
206 patients aged 65 to 84 years (mean age 76 y; 53% men; 62% with moderately severe CHF; New York Heart Association functional class III) who were hospitalized for CHF. Exclusion criteria included other serious disease. Follow-up was 92%.

Intervention
96 patients were allocated to the intervention group. These patients and their families received nursing education on CHF, encouragement to adhere to medical treatment, and self-management guidelines during hospitalization and 2 weeks after discharge; had follow-up visits at an accessible, nurse-run outpatient clinic; and had outpatient visits with physicians at 1 and 4 months after discharge. 110 patients were allocated to receive routine clinical care (control group).

Main outcome measures
Number of hospitalizations and readmissions, time to readmission, length of hospital stay, health care costs, mortality, and self-reported quality of life 1 year after hospitalization for CHF.

Main results
16 patients in the intervention group withheld consent after randomization; analysis was thus based on 80 patients in the intervention group and 110 patients in the control group. At 1 year, patients in the intervention group had a longer mean time to readmission (141 vs 106 d, P < 0.05) and trends toward fewer hospitalizations per patient (0.7 vs 1.1, P = 0.08) and readmissions (39% vs 54%, P = 0.08), a shorter length of hospital stay (4.2 vs 8.2 d, P = 0.07), and lower mean annual health care costs (U.S. $2294 vs $3594/patient, P = 0.07) than those in the control group. Patients in the intervention and control groups did not differ in the 1-year mortality rate (30% vs 28%, P=0.8*) or for quality of life assessed by a CHF questionnaire, the Nottingham Health Profile, and the global self-assessment questionnaire.

Conclusion
For patients discharged after hospitalization for congestive heart failure, a nurse-run management program reduced the time to readmission but had no effect on the 1-year mortality rate or quality of life.

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*P value calculated from data in article.

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References

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thus, additional "booster" interventions may be useful in future evaluations.

Because of the lower number of hospitalizations in the intervention group, economic evaluation showed a trend toward a mean annual reduction of overall costs of U.S. $1300 per patient. However, because the mean cost for Swedish hospitalization was U.S. $381/day, the study likely underestimated the cost benefits in such venues as the United States.

This program may have achieved these benefits by delaying the progression of CHF. When compared with the year preceding the intervention, the number of hospital stays in the study group remained stable, whereas that in the control group increased. Although greater use of angiotensin-converting enzyme (ACE) inhibitors in the intervention group than in the control group may have contributed to this effect (4), it is unlikely because treatment was started at various times during the follow-up year and treatment differences were small.

Despite the value of improved drug treatments, such as ACE inhibitors and statins, clinical practice must include much more than prescribing drugs. Providers must do more to increase patient knowledge and understanding to improve outcomes in these chronic cardiac conditions (5). Close and continuing follow-up is needed, and this is perhaps best done by skilled nursing staff, as in these studies.

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References