

ABSTRACT

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Impact of a Heart Failure Disease Management Program on Hospitalization

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Introduction: Heart failure (HF) is a significant healthcare issue and is expected to become more problematic as the American population ages. The purpose of the present investigation is to examine the impact of a disease management program on hospital admissions in patients with HF.

Methods: Two hundred and eighty-two subjects diagnosed with HF were included in this analysis. One hundred and fifty-eight subjects (86 male/71 female) were enrolled in a HF disease management program. This program included HF education as well as an outpatient clinic and a tele-management system [HealthCall]. The tele-management system monitored weight and other self reported signs and symptoms. When weight and/or symptoms were outside of pre-set limits, the HF treatment plan was readjusted. The remaining 124 subject (71 male/53 female) received usual care consisting of management by their personal physician. Subjects were tracked for hospital admissions for seven months.

Results: The following unpaired t-test and chi-square results at baseline are reported disease management vs. standard care. Age (75.0 ± 12.8 years vs. 74.1 ± 13.2 years), baseline ejection fraction ($41.2 \pm 15.7\%$ vs. $37.8 \pm 17.0\%$) and baseline brain natriuretic peptide (943.8 ± 1086.8 pg/ml vs. 1139.4 ± 955.8 pg/ml) were not significantly different ($p > 0.10$). The number of subjects prescribed an ACE inhibitor (52.5% vs. 64.5%) at baseline was significantly higher ($p = 0.008$) in the usual care group. The number of subjects prescribed a beta blocker (64.2% vs. 73.4%) and diuretic (79.1% vs. 82.3%) was not significantly different ($p > 0.05$) between groups. During the tracking period, 20 subjects in the disease management group and 53 subjects in the usual care group were hospitalized. Five subjects in the disease management group (3.2%) and 17 subjects in the usual care group (13.7%) required multiple hospital admissions. Univariate Cox regression analysis revealed the usual care group had a significantly higher risk for hospitalization during the tracking period (Hazard ratio: 4.0, 95% confidence interval: 2.4-6.7, $p < 0.001$).

Conclusions: The results of the present study indicate a HF disease management program significantly reduces the number of hospitalizations in the short-term. These results may be particularly novel considering the mean age of both groups was over 70. Additional research examining disease management programs in the HF population is warranted.