The effect of multiple interventions by a specialist nurse on the heart failure patients knowledge in self-care management

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Background

In order to improve knowledge and self-care management of heart failure (HF) patients, different disease management programs have been developed at the discharged and follow-up phase.

Purpose

To determine the effectiveness of a three-month telephone follow-up, a telephone follow-up with education before discharge, or education only before discharge, on the development of knowledge and the improvement of self-care in patients with HF by a nurse specialist.

Method

This is a multicenter randomized clinical trial with three different intervention groups (IGs) and one control group (CG). The first intervention group included patients’ education (E) before discharged from the hospital and a telephone follow-up (T) for three months. The second intervention group included only the telephone follow-up after discharge for three months (T) and the third intervention included only a patient’s education before discharge (E). The Greek versions of the Dutch Heart Failure Scale (Gr- DHFS) and the European Heart Failure Self-Care Behavior Scale (Gr9-EHFScBS) were used. The statistical analysis of the impact of the intervention was done using the analysis of covariance (ANCOVA). The magnitude of the effect of the intervention was studied by the Cohen's d(rm) coefficient for repeated measurements.

Results

The study included 334 patients. The complete case analysis (N=239) demonstrated that the study group differentiates the level of Knowledge and Self-Care behavior in the post-intervention measurement (F = 3.06, p = 0.029; F = 5.38, p<0.001) while adjusting for the pre-intervention measurements. The adjusted mean level of Knowledge in the control group was found: 8.6 (SE=0.3) while the IGs were found to be improved (Higher Average Score) [E: 9.6 (0.3), E and T: 9.8 (0.3), T: 9.5 (0.3)]. The adjusted mean level of Total Gr9-EHFScBS in the CG was found: 27.3 (SE=0.7) while the IGs were found to be improved (Lower Average Score) [E: 246(0.8), E and T: 23.3(0.8), T: 24.6(0.8)]. Total Gr9-EHFScBS score was found to have a low negative correlation with Knowledge (r = -0.30). Knowledge had a moderate correlation with Fluid and sodium Management (r = -0.341) and a low correlation with Adhering to Recommendations (r = -0.235), and with...
Physical activity and recognition of deteriorating symptoms ($r=-0.198$). A separate ANCOVA showed that the three intervention groups do not significantly differentiate the patients’ total Gr9-EHFScBS or Knowledge scores. However, with respect to the Fluid and sodium Management dimension, E&T ($\text{drm} = 0.73$) and T ($\text{drm} = 0.75$) IGs exhibit significantly higher adherence compared to the CG ($\text{drm} = 0.53$) and the E ($\text{drm} = 0.55$) intervention group.

Conclusion

Telephone has been found to be very important on the controlled intake of fluid and sodium. Continuing follow-up even via telephone seems to be very important for the management one of the most common reasons of HF decompensation which is not adherence to fluid/salt intake.