Integrated Nursing Program Improves Symptom Distress, Depression, and Heart Rate Variability in Patients with Heart Failure

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Background

- Heart failure is a growing public health problem in developed countries and causes a major burden to patients, healthcare providers, and society. In Taiwan, heart failure is the second leading cause of mortality.
- The manifestations of heart failure can impair the functional capacity and psychological well-being of patients.
- Depression is a common comorbidity in patients with heart failure.

Methods

- Total of 78 heart failure patients participated in this longitudinal experimental study. The subjects in experimental group (n= 36) received the integrated nursing program, and subjects in control group (n= 42) received routine care.
- Data were collected at four times: baseline, and one time per month for three months.
- The measurements included: Beck Depression Inventory-II (BDI-II), Cardiac Symptom Survey (CSS), and Check My Heart Handheld HRV.
- The Generalized Estimating Equation (GEE) was used to analyze the effect of the integrated nursing program on symptom distress, depression, and heart rate variability.

Purpose

- To examine the effect of an integrated nursing program on depression, symptom distress, heart rate variability in heart failure patients.

Results

- The majority of subjects were male (58.5%), with NYHA class II (75.6%), a mean age 71.04±11.01 years, and left ventricular ejection fraction 51.80±11.13%.
- After adjusting for participants’ baseline differences, the GEE model showed that the scores of CSS decreased significantly more for the experimental group than for the control group ($\chi^2 = 4.792, p = .029$).
- After adjusting for participants’ baseline differences, the GEE model showed that scores of BDI-II decreased significantly more for the experimental group than for the control group ($\chi^2 = 3.668, p = .05$).
- Even the HRV was not significantly increased in experimental group patients when compared with the control group patients, there was an improvement trend in HRV.

Conclusion

The integrated nursing program is able to decrease the symptom distress and depression, and improve the heart rate variability in patients with heart failure. The clinicians may use this program to instruct heart failure patients how to manage their symptoms and life quality.