

Self-management intervention for elderly heart failure patients: preliminary data

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Abstract

Heart failure is a syndrome in which the heart fails to pump adequately to meet the body's metabolic needs. Age-appropriate, theory-based behavioral strategies are needed to assist elderly people to recognize and manage manifestations of heart failure in their everyday lives. There have been few rigorous evaluations of such interventions in older heart failure patients who are receiving home care services. The purpose of this pilot study is to evaluate a self-management intervention (Weight and Symptom Diary) by comparing two groups of elderly heart failure clients receiving home health care, based on the following variables: self-management, selfconfidence, functional status, and symptom distress. The subjects are recruited from local, Medicare-certified home health care agencies and are interviewed in their homes at two different times using a series of questionnaires. At present, complete data have been collected for 17 participants. The preliminary data show no significant differences between the Control and Intervention groups, which may be due to our small sample. We will continue to recruit subjects and collect data.

Purpose

The purpose of this pilot study is to evaluate a self-management intervention (Weight and Symptom Diary) by comparing two groups of elderly heart failure clients receiving home care (Control and Intervention groups), based on the following variables: self-management, self-confidence, functional status, and symptom distress.

Background

Heart failure (HF) is a syndrome in which the heart fails to pump blood adequately to meet the body's metabolic needs. There are a variety of factors that can contribute to the development of HF, including: long-standing hypertension, coronary artery disease, diabetes, smoking, obesity, high cholesterol levels, valvular defects, and congenital heart disease. HF is a major cause of morbidity, reduced quality of life, and increased health care costs that affects over 2 million Americans, especially older

adults (U.S. Dept. of Health and Human Services, 1994). It accounts for 20% or more of patients referred to home health care and is the third most frequent medical diagnosis among Medicare home care patients (Rand Corporation, 1982).

The number of persons who suffer from HF is expected to increase as the population ages and more people survive cardiac disease. HF symptoms are associated with declines in physical function and emotional well-being, as well as increased health care utilization (Friedman, 1997). Age-appropriate, theory-based behavioral strategies are needed to assist elderly people to recognize and manage manifestations of HF in their everyday lives. There have been few rigorous evaluations of such interventions in older HF patients who are receiving home care services.

Self-management interventions, including teaching about disease management, personal goal setting, feedback, and modeling have been shown to be effective in improving outcomes in older heart patients (Clark et al., 1992). Anecdotal information and self-management theory suggest the usefulness of diaries as tools for active self-management of symptoms, in addition to their usefulness as assessment tools for health care providers. Daily monitoring of weight and symptoms in a diary, combined with structured training in self-management skills, has the potential to reduce symptom distress, improve physical function and emotional well-being, and reduce health care utilization.

Materials and methods

Variables/Instruments

The outcome variables of interest in this study are: 1) self-management (communication with doctor, communication with home care nurse, ability to manage symptoms, ability to manage disease in general); 2) self-confidence (ability to manage disease in general, self-confidence in disease in general, confidence in ability to communicate with doctor, confidence in ability to communicate with the nurse); 3) functional status (bodily pain, general health, mental health, physical function, effect of emotional well-being on role function, effect of physical function on role function, social function, and vitality); and 4) symptom distress.

Self-management and self-confidence are measured by the Self-Management Questionnaire (Lorig et al., 1996). Functional status is measured by the Medical Outcomes Survey Short Form 36 (SF-36) (Ware and Sherbourne, 1992; Ware, 1993). Symptom distress is measured by the Symptom Distress Scale (SDS) (McCorkle, 1987).

Procedure

Control group participants receive usual care from a home health nurse which includes ongoing monitoring of health status, as well as education about medications, diet, activity, the HF disease process, and symptoms to report to doctor or nurse. The frequency and total number of visits by the nurse is based on the client's needs and the professional judgment of the nurse, consistent with current Medicare guidelines.

Intervention group participants receive usual care from a home health nurse (as above) and, in addition, complete a daily entry in a Weight and Symptom Diary. The daily entry is a one-page form on which the participants record the date, weight, and the number of pillows used for sleep during the previous night. Also, the participants rate the following on a scale of zero to five (referring to the past 24 hours): activity level, sleep, fatigue, shortness of breath, edema, and cough. Finally, participants are instructed to write down any unusual feelings or symptoms which they are experiencing.

Each participant in this study is interviewed in his/her home by a member of the research team at two times. Time 1 is shortly after admission to home care, and Time 2 occurs shortly after discharge from home care.

Group/Population

Delimitations.

- Primary diagnosis of HF (New York Heart Association class II or III)
- 65 years-old or older, Medicare client
- English-speaking, sighted
- Cognitively intact (by clinical impression)
- No end-stage renal disease, current treatment for cancer, stroke, chronic neuromuscular disease, dementia, or severe depression

Demographics.

The following data are based on the present total of 23 subjects, which includes 6 subjects for whom we have "Time 1" data only. We have complete data for 11 Control subjects and 6 Intervention subjects.

Age: mean = 75.11 years +/- 11.97 years
Race: White = 20 (87.0%), Black = 2 (8.7%), Hispanic = 1 (4.3%)
Gender: Female = 18 (78.3%), Male = 5 (21.7%)
Marital Status: Married = 5 (21.7%), Widowed = 14 (60.9%),
Divorced = 3 (13.0%), Never Married = 1 (4.3%)
Lives With: Alone = 9 (39.1%), Spouse = 3 (13.0%),

Child = 7 (30.4%), Spouse and Child = 3 (13.0%),
Other Relative = 1 (4.3%)
Number of Prescription Medications: mean = 9, s.d. = 2.98,
median = 9, range = 5 - 15

Results and Discussion

We present here a comparison of the "Time 2" data of both groups for the three instruments (Tables 1 -3).

Self-Management and Self-Confidence

The preliminary results for both groups are similar. Both groups report high levels of confidence in managing their HF in general. Although both groups feel relatively confident about communicating with their doctors and nurses, they rarely use specific strategies (ex. preparing a list of questions).

Functional Status

The preliminary results for both groups are similar. Both groups report that HF has the greatest negative effect on their vitality and physical functioning. They report that their ability to function in their roles is more affected by impaired physical functioning than by decreased emotional well-being.

Symptom Distress

The preliminary results for both groups are similar. Both groups report that insomnia and fatigue are their most severe symptoms.

Conclusion

At this time, there are no significant differences between the Control and Intervention groups. This may be due to the small size of our present sample. We will continue to recruit subjects and collect data for this pilot study. We hope that the final data obtained from this pilot study will support a larger, randomized, clinical trial of self-management interventions for elderly heart failure clients.

Acknowledgments

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Tables

Table 1: Self-Management Questionnaire - Time 2

Question Topic	Control Group		Intervention Group	
	mean	s.d.	mean	s.d.
Communication with doctor	6.73	4.29	6.33	4.89
Communication with nurse	5.91	4.48	5.33	5.24
Confidence with doctor	27.45	3.21	23.83	6.52
Confidence with nurse	24.82	7.53	25.83	3.49
Management of symptoms	31.73	14.27	26.33	11.62
Management of disease in gen.	50.70	13.94	58.33	3.50

Table 2: Medical Outcomes Survey Short Form - Time 2

Question Topic	Control Group		Intervention Group	
	mean	s.d.	mean	s.d.
Bodily Pain	68.50	19.40	71.33	22.33
General Health	57.00	16.70	47.67	21.58
Mental Health	74.55	16.71	76.00	8.40
Physical Function	32.50	17.67	25.00	10.49
Role Func. (emot. effect on)	90.00	31.63	72.22	32.77
Role Func. (physical effect on)	30.00	40.50	50.00	47.00
Social Function	54.55	29.72	68.75	36.89
Vitality	40.45	20.91	42.50	25.84

Table 3: Symptom Distress Scale - Time 2

Question Topic	Control Group		Intervention Group	
	mean	s.d.	mean	s.d.
Nausea (frequency)	1.27	0.47	1.17	0.41
Nausea (intensity)	1.45	0.82	1.17	0.41
Appetite	1.36	0.67	1.83	1.17
Insomnia	2.18	0.98	3.00	1.55
Pain (frequency)	2.27	1.19	1.83	1.60
Pain (intensity)	1.91	0.94	1.67	1.03
Fatigue	2.36	1.21	2.67	1.21
Bowel Function	1.09	0.30	1.33	0.52
Concentration	1.27	0.47	1.67	0.82
Physical Appearance	1.64	1.03	1.33	0.82
Shortness of Breath	1.55	1.52	1.50	0.55
Cough	1.64	0.92	1.82	0.75
Outlook about the Future	2.00	0.89	2.00	0.89