

Self-Care Behaviour and its Relationship with Selected Socio-Demographic and Clinical Variables of Patients with Heart Failure

Balasaraswathi Seetharaman¹, J Sumathy², Jasmin Anand³

Abstract

Heart Failure is one of the major public health problems and the leading cause of hospitalisation in people older than 65 years of age. The purpose of this descriptive study was to assess the self-care behaviour of patients with Heart Failure (HF) and its relationship with their selected socio-demographic and clinical variables in CMC, Vellore. The sample size was 140. The subjects were chosen by simple random sampling technique. Modified revised self-care behaviour scale was used to assess the self-care behaviour. The results showed that self-care behaviour was found to be satisfactory in 45.7 percent and moderately satisfactory in 44.3 percent of patients with heart failure.

Heart failure (HF) is a serious health care problem not only for the patients and their family but also for the society and the country at large, as it contributes significantly to the enormous costs associated with the treatment of these patients.

In developed countries the mean age of patients with HF is 75 years. While in developing countries 2-3 percent of the population suffers from HF, but in those 20-30 percent is of the age group 70-80 years. HF affects nearly 5 million people in USA and each year close to 5 lakh new cases are diagnosed. In India, the burden of congestive heart failure is likely to be higher in comparison to the western population due to the high propensity for cardiovascular diseases and ageing population.

HF is associated with significantly reduced physical and mental health resulting in markedly decreased quality of life. Non-compliance with even some aspects of the recommended treatment can lead to repeated hospitalisations or even death. An important factor in maintaining health after diagnosis is the adequate self-care behaviour. The patient-related factors that contribute to non-compliance are: knowledge on heart failure, complexity of the heart failure regimen, clinical and demographic factors including age, gender, marital status, educational level, severity of the disease, and depression.

The authors are: 1. Professor, 2. Lecturer, and 3. Professor, at College of Nursing, CMC, Vellore (Tamil Nadu).

Assessment of self-care behaviours among patients with HF will enable the nurses to plan the comprehensive care for them including appropriate structured teaching. The investigator came to know that patients with HF require re-admission owing to non-compliance with medication adherence and life style changes. Therefore, this study was planned to assess the self-care behaviours of patients with HF and its relationship with selected socio-demographic and clinical variables.

Objectives

The objectives of the study were to: (a) Assess the self-care behaviours among patients with heart failure, and (b) Determine the relationship between the self-care behaviours and the selected demographic and clinical variables of the patients with heart failure.

Hypothesis: There will be a significant relationship between self-care behaviours and selected demographic and clinical variables of patients with HF.

Material and Methods

Design and sampling: A descriptive research design was chosen for this study. The study subjects were patients with HF who attended the out patient department (OPD) and were admitted as in-patients in cardiology unit of CMC, Vellore. Sample size comprised of 140 subjects with HF. Simple random sampling by lottery method was used to select the subjects for the study.

Table 1: Distribution of subjects according to their clinical profile (N=140)

S. No.	Item	No.	Percentage
1.	Duration of illness		
	a) < 1year	50	35.70
	b) 1-3 years	44	31.40
	c) > 3years	46	32.90
2.	Treatment regimen		
	a) Only on Digoxin	4	2.90
	b) Only on Diuretics	5	3.60
	c) Combination of digoxin and diuretics	7	5.00
	d) Digoxin, lasix and other cardiac drugs	124	88.6
3.	NYHA classification		
	NYHA Class II	90	64.30
	NYHA Class III	27	19.30
	NYHA Class IV	23	16.40
4.	Ejection fraction		
	Less than 25%	11	7.90
	25 – 30	19	13.60
	30 – 39	110	78.60
5.	Haemoglobin		
	Less than 10 gm%	8	5.70
	10 – 12 gm%	65	46.40
	12 – 14	44	31.40
	Above 14	23	16.40
6.	Serum creatinine		
	Less than 1	19	13.60
	1 – 1.4	86	61.40
	1.5 and above	35	25.00

Sampling Criteria: Subjects included in this study were: patients with HF above 18 years belonging to New York Heart Association (NYHA) classification II, III & IV, who were on medical management both

Table 2: Relationship between self-care behaviours and the selected demographic and clinical variables of patients with heart failure (N=140)

Items	Unsatisfactory		Moderately satisfactory		Satisfactory		Chi square	p Value <0.05
	No.	%	No.	%	No.	%		
Sex								
Male	10	9.3	45	41.7	53	49.1	2.158	0.300
Female	4	12.5	17	53.1	11	34.4		
Income (Rs)								
3000 – 5000	8	8.2	52	53.6	37	38.1	13.477	0.004*
5001 – 10,000	4	13.8	9	31	16	55.2		
Above 10,000	2	14.3	1	7.1	11	78.6		
Education								
Illiterate	4	17.4	11	47.8	8	34.8	19.922	0.010*
Primary	5	9.1	29	52.7	21	38.2		
High school	0	0	16	53.3	14	46.7		
Higher secondary	2	15.4	4	30.8	7	53.8		
Graduate	2	11.8	2	11.8	13	76.5		
Post graduate	1	50	0	0	1	50		
Duration of illness								
Less than one year	7	14	27	54	16	32	6.926	0.135
1-3 years	4	9.1	15	34.1	25	56.8		
More than 3 years	3	6.5	20	43.5	23	50		
Ejection fraction								
Less than 25%	1	9.1	7	63.6	3	27.3	14.256	0.004*
25% – 30%	1	5.3	2	10.5	16	84.2		
30% – 39%	12	10.9	53	48.2	45	40.9		

symptomatic and asymptomatic with ejection fraction of less than 40 percent, who had been hospitalised and treated for HF at least once and who could read Tamil, English, or Hindi. Patients with dementia or mental illness, chronic obstructive pulmonary disease, cor-pulmonale, and who were above 75 years of age were excluded.

Instrument: Proforma was used to assess the socio-demographic and clinical profile of subjects with HF. The socio-demographic variables included age, gender, marital status, education, occupation, total family income, locality and type of family. The clinical variables included duration of illness, treatment regimen, NYHA classification, ejection fraction, haemoglobin and serum creatinine.

Modified revised heart failure self-care behaviour scale with 29 items was used to measure the self-care behaviours. This scale describes the behaviours that patient with HF must perform to some degree to regulate their own functioning. The subjects were asked to indicate how often each behaviour was used on a scale ranging from “none of the time” (score-0) to “all of the time” (score-5). A total score was determined by summing the item scores. The content validity of the Modified Revised HF self-care behaviour scale was done by nursing and medical experts in cardiology. The reliability of the instrument was established by test-retest method. Scores of the scale were interpreted as:

Satisfactory self-care behaviour: mean percentage above 75%

Moderately satisfactory self-care behaviour: 50-75%

Unsatisfactory: below 50%.

Data collection procedure: The data collection began after getting the approval from the concerned authorities from January to August, 2013. Patients with HF who attended the cardiology OPD and admitted in the cardiology unit were randomly selected based on the inclusion criteria. Data were collected using the Modified revised heart failure self-care behaviour scale after obtaining the written consent from the patient. Interview technique was used to collect the data. The time taken for collecting the data for each patient ranged from 30 to 45 minutes.

Results and Discussion

Descriptive statistics such as frequency, percentages and means were used to analyse the background data. The majority of the

subjects studied were male (77.1%), in the age group of 41-60 years (61.4%). The subjects belonging to the income group of Rs 3000-5000 were 69.3 percent and 90.7 percent were married.

Table 1 reveals that majority of the subjects (88.6%) had other cardiac drugs along with anti-failure drugs, 64.3 percent belonged to NYHA class II and only 7.9 percent of the subjects had ejection fraction less than 25 percent.

Figure 1 reveals that 44.3 percent of subjects with HF had moderately satisfactory self-care behaviour scores and 45.7 had satisfactory scores.

The first objective of the study was to assess the self-care behaviours of patients with HF. As shown in Figure 1, only 10 percent of subjects had unsatisfactory self-care behaviour scores in this study. These findings are inconsistent with the findings of the study done in Iran, in which 80 patients with heart failure were studied and the results showed that overall self-care behaviour scores were low. Self-care behaviour has statistically significant relationship with income, education, and ejection fraction.

The second objective was to determine any relationship between self-care behaviours and socio-demographic and clinical variables for which chi-square test was used. Riegel et al found that there were insignificant differences in HF self-care behaviours between men and women which support the findings of the current study. Co-morbidities make symptom monitoring aspect of self-care difficult for many HF patients. Whereas the current study revealed that co-morbid diseases had no significant relationship with self-care behaviour of patients with heart failure.

The current study findings (Table 2) also showed that there was statistically significant relationship

between income of the subject ($p=0.004$), and the educational status ($p=0.010$) to their self-care behaviour. These findings support the hypothesis that there will be significant relation between self-care behaviour and selected demographic and clinical variables at $p<0.05$. However, the other socio-demographic and clinical variables such as marital status, number of children, occupation, locality, family type, medications, NYHA classification, serum creatinine, and serum haemoglobin had statistically insignificant relation with self-care behaviour of patients with heart failure.

Limitations: The study findings are limited to subjectivity in terms of self-report of subject.

Conclusion

Self-care in patients with heart failure is referred to decisions that make positive health behaviour choices in their own care and taking decisions about managing the symptoms. These behaviours include commitment to therapeutic diet such as low-salt diet, limiting alcohol intakes and etc., being physically active, avoid smoking, weight controlling and controlling the signs and symptoms of illness. Non-compliance with medication and other lifestyle recommendations is a major problem in patients with HF. This study helped to highlight the need of this population to plan for interventions that can increase compliance and prevent HF-related re-admissions to improve the quality of life of these patients.

References

1. Akila P. Effectiveness of structured teaching programme on cardiac rehabilitation. *Asian Journal of Cardiovascular Nursing* 2007; 15-16
2. Jaarsma T, Van Der wal MH, Van Velshuisen DJ. Non-compliance in patients with heart failure: how can we manage it? *Eur J Heart Fail* 2005; 7: 5-17
3. Artinian NT, Magnan M, Sloan M, Lange MP. Self care behaviours among patients with heart failure. *Heart & Lung. The Journal of Acute and Critical Care* 2002; 31(3): 161-72
4. Riegel B, Dickson V, Kuhn L, Page K, Worrall-Carter L. Gender-specific barriers and facilitators to heart failure self-care: A mixed methods study. *International Journal of Nursing Studies* 2010; 47(7): 888-95
5. Riegel B, Moser KD, Anker DS, Appel JL, Dunbar BS, Grady LK, et al. From the American Heart Association: State of the Science: Promoting Self-Care in Persons with Heart Failure. A Scientific statement. *Circulation* 2009; 120: 1141-63
6. <http://www.nhlbi.nih.gov/health/health-topics/topics/hf/atrisk.html>. (2010)
7. Websites: <http://www.hhs.gov/news/press/2010pres/07/20100707h.html> ; www.ncbi.nlm.nih.gov/pmc/articles/PMC3028953/ ; <http://euthartj.oxfordjournals.org/content/20/9/673.short> ; <http://journals.tbzmed.ac.ir/JCS>

Figure 1: Distribution of subjects based on their self-care behaviour

