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Impact of Pharmacist Mediated Patient Counseling in Heart failure Patients in terms of Knowledge and Quality of life

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Abstract

Background: Congestive heart failure is a major health problem. This is accompanied by restricted physical activity and severe complaints in several areas of quality of life. Our aim was to assess the effectiveness of an educational program in the improvement of quality of life in heart failure patients

Methods: A prospective interventional study was conducted in 1000 bedded multi specialty private hospital to assess the knowledge and quality of life through pharmacist counseling by using modified Atlanta heart failure knowledge questionnaire and Minnesota Living with heart failure questionnaire.

Results: The male heart failure population (88%) was predominant compared to females (12%). and after 6 months which showed statistically significant improvement* $P < 0.0001$. Ischemic heart disease was present in 32 patients which were identified as major etiological factor for heart failure. The level of knowledge had improved from the baseline to follow up after the educational session. A significant difference in quality of life score was achieved compared with that of the baseline

Conclusion: The pharmacist based intervention and counseling improved knowledge and quality of life in heart failure patients.

Introduction

Heart failure (HF) is a major public health problem (1). The quality of life of HF patients tends to be very poor. Even with appropriate treatment, disease progression leads to recurrent hospitalizations, which may contribute to economic burden. Patient education is an important component of management programs for chronic conditions and for optimizing the management of HF. Therapeutic interventions combined with an educational session have been linked to improvement in patient's self-care behavior. Lack of knowledge leads to low compliance and is a major contributor to poor quality of life and hospital readmissions. Now days, it is difficult to assess the benefits of educational sessions for HF. The establishment of a "knowledge test" could provide insight into patients needs and help practitioners prescribe educational sessions (2). We have prospectively studied the effects of an education session on HF patients. The aim of this study was to identify the potential benefit of educational sessions for improving patient's quality of life and to assess the knowledge of HF patients.

Aim

To assess the effectiveness of an educational program in the improvement of quality of life in heart failure patients.

Materials and Methods:

Patients and setting

Patients from the Department of Cardiology at the Multispecialty Hospital who had stable HF were approached to enroll in this. After getting institution ethical approval the participants were included from 18 years of age and older, diagnosed with class I-III, agreed to pre discharge education and follow-up care. Patients who were unable to speak Tamil, English and with severe psychiatric illness, or cognitive impairment were excluded. All baseline data was obtained immediately after inclusion. Informed consent was obtained from all patients. A pre-test/post-test knowledge was conducted by using modified Atlanta heart failure knowledge questionnaire. Pharmacist counseling sessions in the regional language were carried out for 20–25 min during each visit at 2-month intervals over a period of 6 months through the validated patient information leaflet developed by pharmacist. To assess the health related quality of life of patients, a suitably

validated questionnaire was administered at baseline and at the final follow-up to all the study participants.

Statistical Analysis

By using Graph pad prism version the data was analyzed. Results were expressed as mean \pm Standard deviation (SD). Non parametric values were expressed in percentage.

Results

A total of 87 patients fulfilling the inclusion and exclusion criteria were enrolled into the study out of which 83 patients participated till the study were completed, 88% (73) were male and only 12% (10) were female patients are shown in Table 1.

Table 1: Gender distribution

Sex	No of Patients	Percentage (%)
Male	73	88.0
Female	10	12.0

Age (n=83)

The study result showed that the most number of patients was in the age group of 51-70 years (51.8%) and least in the age group of 31-50 years (21.7%) which was depicted in Table 2.

The average age of the subjects was 60.79 ± 13.7 .

Table 2: Age Distribution

Age	No.of Patients	Percentage (%)
31-50	18	21.7
51-70	43	51.8
71-90	22	26.5

Education status

The majority of the respondents were of secondary level education. 17 had primary level education, 16 were found to be graduates, 18 completed their post graduation and only 7 in the category of higher secondary level as shown in Table 3.

Table 3: Education status

Category	No of Patients	Percentage (%)
PG	18	21.7
UG	16	19.3
Secondary	25	30.1
Primary	17	20.5
HS	7	8.4

New York Heart Association Classification (n=83)

Out of 83 patients, 58 were diagnosed to have NYHA –III HF followed by 25 having NYHA-II HF.

Employment status (n=83)

Majority of the respondents were unemployed, only 27 were employed as depicted in Table 4.

Table 4: Employment status

Occupation	No of patients	Percentage (%)
Employed	28	33.7
Unemployed	37	44.6
House wife	7	8.4
Retired	11	13.3

Out of 83 patients, 23 patients were found to be hypertensive, Ischemic heart disease (IHD) was present in 32 patients, valvular heart disease were present in 10 patients and 11 patients was present with Hypertensive Ischemic heart disease.

Medication

The patients were treated with diuretic 18 % (15), Beta-blockers with diuretic 27.7% (23), Digoxin with diuretic 54% (45).

Comparison of pre & post knowledge scoring of the study population:

The knowledge about the heart failure was low before the educational session. The level of knowledge about disease as well as drug had improved from the baseline to follow up after the educational session Table 5. The P value was less than 0.0001, this difference was statistically significant with standard deviation of (SD) of 8.74 ± 4.67 showed in Table 6.

Etiology of heart failure

Table 5: Pre & Post Knowledge Assessment

Questions	Pre Knowledge (At Baseline)	Post knowledge (After 6 months)
1. Heart failure is a problem in which:	60	72
2. What are the main causes of heart failure?	37	63
4. Which of the following statements about heart failure is TRUE	53	63

Questions	Pre Knowledge (At Baseline)	Post knowledge (After 6 months)
5. People who have heart failure take diuretics ("water pills") so that	43	60
6. People with heart failure who are taking a diuretic ("water pill") need to:	42	67
7. How often should patients with severe heart failure weigh themselves	46	63
8. The best time of day for persons with heart failure to weigh themselves is	32	65
9. How often should a person with heart failure exercise?	42	72
10. A person with heart failure should stop and rest when doing physical activity if:	33	60
11. Why should someone with heart failure follow a low salt diet?	49	71

Table 6: Pre & Post Knowledge Mean

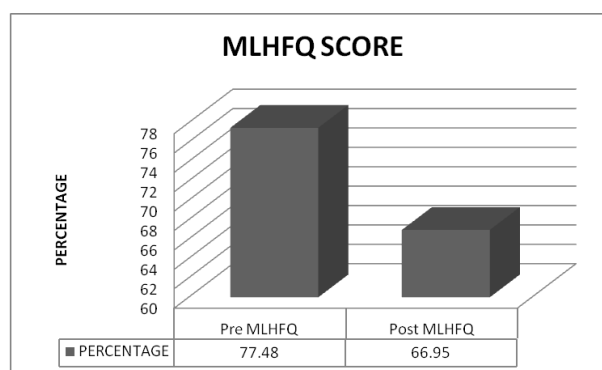
Category	Average	SD
Pre Knowledge	43.7	8.74±4.67
Post Knowledge	65.6	

SD-Standard Deviation

The impact of counseling on health related quality of life

The pre and post quality of life measures were done by using Minnesota living with heart failure Patient questionnaire. A significant difference in QOL score was achieved compared with that of the baseline depicted in

Fig 1. The P value was less than 0.0001 which was statistically significant with the SD of 9.56 ± 8.89 .

Fig 1: Pre & Post Quality of life score

Discussion

This study found that male population was mostly affected by heart failure when compared to females. Patients in the age group of 51-70 years were mainly affected. The study result showed that majority of the population was unemployed and suggests that the majority of the respondents were under formal education, yet, lacked health literacy. Ischemic heart disease was identified as major etiological factor for heart failure followed by hypertension in these study patients, followed by valvular heart disease and Hypertensive Ischemic heart disease. Out of 83 patients majority of the patients were treated with digoxin and diuretic. The knowledge of the patient at base line was low but this knowledge level was improved through counseling session and the post knowledge showed improvement. Our study found out that pharmacist counseling was effective in improving patient's knowledge towards disease management. Pharmacist involvement or need is very important in chronic diseases like heart failure. Our educational sessions for HF will encourage patients to understand their chronic conditions and to improve their self-care behavior, thereby decreasing the rate of hospitalization. The provided pharmaceutical care had better QOL outcome. This difference is considered to be

extremely statistically significant with the standard deviation of 9.56 ± 11.60 .

One of the major factors for poor quality of life is low health literacy. So health literacy may be an important consideration in quality of life. The pharmacist intervention can improve adherence to cardiovascular medications and decrease health care use and cost for outpatients with heart failure. Intention of the educational programs is not only to improve knowledge, but also to improve the quality of life. We developed a validated patient information leaflet so that patients will also benefit by understanding the relationship between HF and clinical signs such as edema, which could encourage them to be more attentive to their legs and weight. Our educational sessions improve adherence to medical recommendations, thereby making treatment more effective.

Conclusion

In many developed countries the role of pharmacist as a counselor was very much appreciated like other health care professionals. The health status and quality of life of patients improved because of the involvement of pharmacists in patient care which showed reduced number of hospital admission and emergency department visits. This study shows that involvement of pharmacist in patient care

through patient counseling not only improves the knowledge, attitude and practices of the patients towards their disease management but also increases their quality of life.

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Conflict of interest

None

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