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Research Paper

Efficacy of information booklet on self - care management of patient with CCF

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I. INTRODUCTION & BACKGROUND

Heart failure is not a disease in itself but it is a syndrome resulting from end result of almost all cardiac disease and many non-cardiac diseases. More than 26 million people are suffering with congestive cardiac failure (CCF) worldwide portraying it as a global pandemic.(1,2)

The health expenditure associated with the management of CCF is very high and has an increasing trend with increasing life expectancy and increase in aging population. It is not only associated with high rate of morbidity & mortality & hospital readmission Furthermore it is documented as a most common discharge diagnosis among people more than 65 years of age.(3–5)

An epidemiological transition from communicable to non-communicable diseases has been noticed in all developing nations, furthermore favouring the probability of increase in prevalence & incidence of CCF in developing nation.(1,6,7)

Chronic illness like CCF severely affect the patient's overall quality of life. Self-care confidence & perceived better health were found to be positively associated with quality of life. Thus indicating the need for developing confidence among CCF patients regarding self-care which can be enhanced by educating the patients & allowing them to practices various self-care activities under guided supervision of health care workers.(8–10)

The self-care of heart failure is not satisfactory and rate of readmission remains very high this indicated the need of structured & stepped approach to patient education & counselling.(4,8)

In our aging society it is crucial to learn to cope up with CCF adequately if they want to live an acceptable life. The need for information is very vital to everyone suffering with chronic diseases like CCF. Education & reinforcement several times is vital to bring about positive change in behaviour.(5,10,11)

With this background the aim of the study was to assess the effectiveness of information booklet on self-care management of patient with congestive cardiac failure.

II. MATERIAL AND METHODOLOGY

A pre experimental study was conducted to assess the effectiveness of information booklet on knowledge and practices of self-care management among the patient with congestive cardiac failure in selected municipal hospitals of Mumbai (MH). The study design used was one group pre- test, post-test design. The calculated sample size was 30 patients suffering with CCF which cannot be reversed surgically. A non – probability convenience sampling was used to select the samples. Ethical clearance was obtained from institute ethical committee and also permission from municipal hospital authority were obtained. Before starting the study, the purpose of the study was explained to selected samples and written informed consent was taken. Structured interview schedule was used to gather demographic data and knowledge of patients regarding self-care management of CCF and to assess practices a self-reporting checklist was used. The reliability & content validity of the tools was checked before commencing data gathering.

The data gathering process began on 18th august 2006 & was completed on 11.09.2006.The investigator interviewed the samples one by one to assess their baseline knowledge of self-care activities of CCF. Baseline

practice level was also assessed using self-reporting checklist followed by the explanation of booklet content to them. the booklet was handed over to them as a ready reference material. Post- interventional data of knowledge and practices were collected on 4th day using the same tools by visiting patients at their home. The data was analysed based on the specific objectives of the study.

STATISTICAL ANALYSIS

Data was entered and analysed using Microsoft Excel. Categorical data were presented as frequency & percentage. Continuous data were presented as mean and standard deviation. T –test was used to show mean difference between continuous variables. P- value < 0.05 was considered statistically significant.

III. RESULTS

Table 1

Distribution of sample according to demographic variables

N =30

S. No	DEMOGRAPHIC CHARECTERISTICS	Frequency	Percentage
1	AGE (in years)		
	• 21-30	01	03
	• 31-40	00	00
	• 41-50	04	14
	• 51-60	12	40
	• Above 60	13	43
2	GENDER		
	• Male	19	63
	• Female	11	37
3	RELIGION		
	• HINDU	18	60
	• MUSLIM	10	34
	• CHRISTIAN	01	03
	• SIKH	01	03
4	EDUCATION		
	• Primary	17	57
	• Secondary	07	23
	• Higher secondary	03	10
	• Graduate	03	10
	• Post graduate	00	00
5	OCCUPATION		
	• UNEMPLOYED	25	83
	• SEDENTSRY WORKER	01	03
	• SKILLED WORKER	04	14
	• LABORER	00	00
6	FAMILY INCOME		
	• <2000	12	40
	• 2001-5000	11	37
	• >5000	7	23

The table no. 1 shows that in relation to age majority of the sample i.e. 13(43%)belonged to age group of above 60 years, 12samples (40%) belonged to the age group of 51 -60 years remaining 4(14%)& 1(3%) belonged to age group of 41-50 years &21-30 years respectively.

In relation to gender 19(63%) were male & 37(11) were female. In relation to education 100% were literate & most of them belonged to poor socioeconomic status having monthly income less than 20,000 rupees.

Table 2

Distribution of sample in relation to their clinical data

N =30

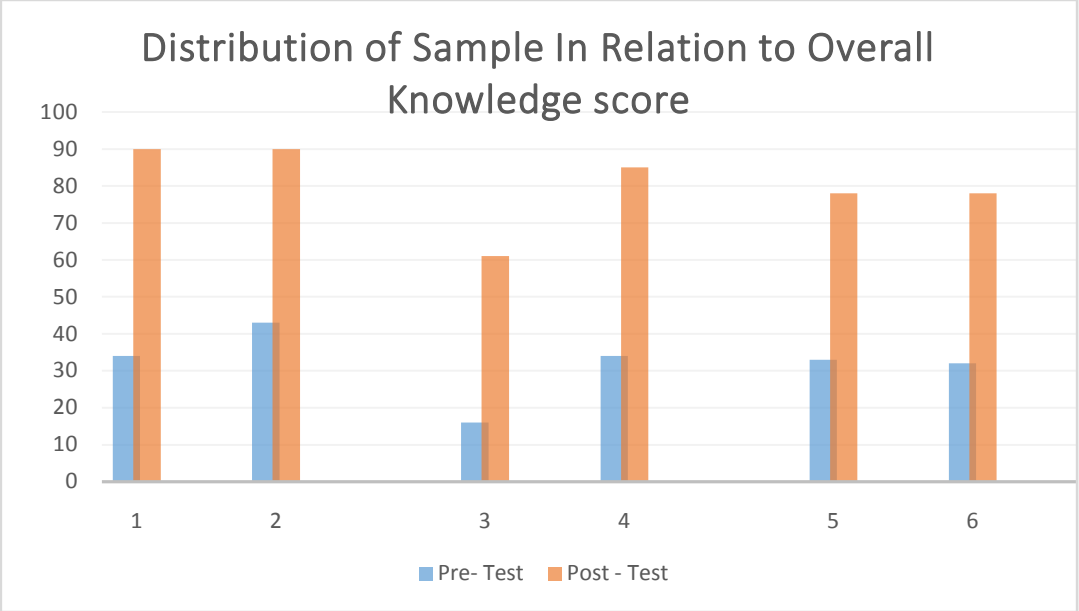
s.no.	Charecteristics	Frequency	Percentage
1	Duration of illness		
	• Less than 6 months	04	14
	• 6 months -1 year	01	03
	• 1 year -3 years	10	33
	• >3 years	15	50
2	Associated disease condition		
	• HTN	11	37

	• CAD • DM • Heart valve disease • COPD/Asthama • Cardiomyopathy • CKD • Complete heart block	25 05 04 01 03 01 01	83 17 14 03 10 03 03
3	NYHA classification • Class I • Class -2 • Class -3 • Class -4	 00 02 13 15	 00 07 43 50
4	Habits • Smoking • Tobacco chewing • Alcoholism	 10 06 12	 33 20 40
5	Ejection Fraction • less than20% • 21 -40% • 41 -60%	 15 14 01	 50 47 03
6	Medication • Diuretics • Digoxin • ACE inhibitors • B –Blockers • Anti – platelet • Anti – coagulants • Nitrates • Insulin • Cordarone	 30 30 30 30 24 01 21 05 02	 100 100 100 100 80 03 70 17 07

The Table no 2. Shows the clinical data of the sample.In relation to duration of illness 15(50%) were suffering from CCF for more than 3 years and rest having illness less than 3 years.25(83%)were also suffering from coronary artery disease & 11(37%) were hypertensive,5(14%) were diabetic and 4(14%)were having vulvular heart disease.In relation to NYHA classification majority 15(50%) belong to class IV& 13(43%)were from NYHA class III.in relation to ejection fraction15(50%) were having EF<20%,14(47%)were having EF between 21-40%.30(100%) samples were on drugs like digoxin,diuretics,ACE inhibitors & beta blockers & 24(80%)were on antiplatelet drugs &21(70%) were on nitrates. Regarding habits 12(40%) were tobacco chewer, nearly 10(33%) were smoker & 6(20%) were alcoholics.

Table: 3
Distribution of sample in relation to overall knowledge

S No.	Area of knowledge	Max. Scores that can be obtained	Pre-test		Post-test	
			Frequency	percentage	Frequency	Percentage
1	Meaning and concept of heart failure	1*30 = 30 3*30 = 90	41	34	108	90
2	Sign and symptoms of CHF	4*30 =120 3*30 =90 2*30 = 60	115	43	243	90
3	Drug Management	3*30 =90 9*30 =270	57	16	220	61
4	Modification of Diet	4*30 =120 3*30 =90 6*30 =180	129	34	332	85
5	Activity, rest and exercise	6*30 =180 1*60 =60	79	33	187	78
6	Monitoring and managing symptoms	3*90 =270 1*60 =60	104	32	257	78
	Total	30*49=1470	525	36	1346	92



1. Meaning and concept of heart failure
2. Sing and symptoms of CHF
3. Drug Management
4. Modification of Diet
5. Activity rest and exercise
6. Monitoring and managing symptoms

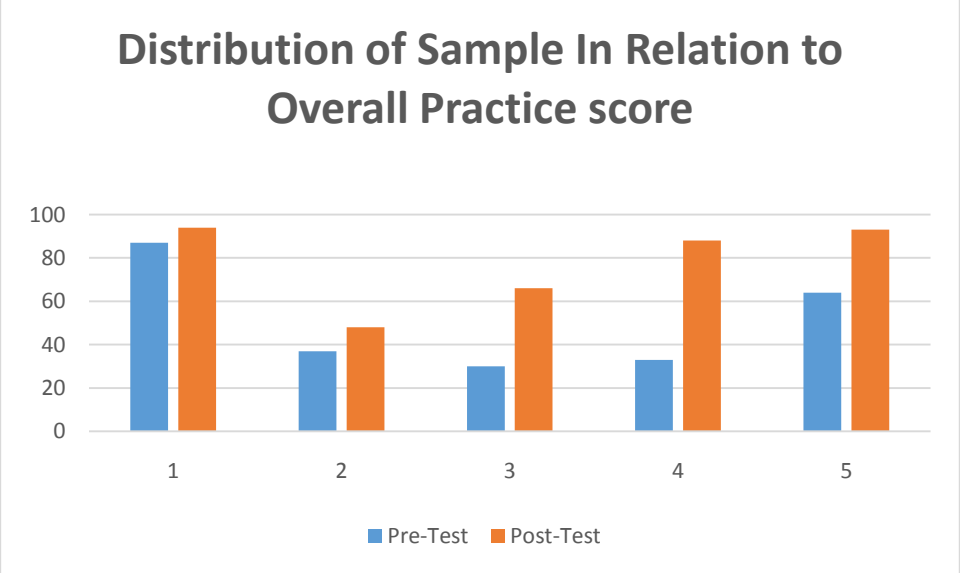
Table no 3. Shows distribution of sample in relation to comparison of knowledge overall knowledge (pre-test & post- test)

The above table depict that the overall knowledgescores related to heart failure and its self- care management was 36% which indicated a wide gap in knowledge existing and expected. In the post test the overall knowledge score was increased to 92% which shows the definite improvement in knowledge of all samples in various aspect of self -care after reading the information booklet.

Table – 4
Distribution of sample in relation performance of self-care activity

S No.	Area of practice	Max. scores that can be obtained	Pre -test		Post -test	
			frequency	percentage	frequency	Percentage
1	Personal hygiene • Bathing • Grooming • Shaving	4*30 =120 2*30 =60 2*30 =60	243	87	264	94
2	Activity and rest • Indoor activities • Outdoor activities • Rest	7*30= 210 2*30 =60 2*30 =60	120	37	158	48
3	Sleep & elimination • Sleep • elimination	4*30 =120 4*30 = 120	71	30	159	66
4	Intake of drug • digoxin • Lasix • Captropril • Atenolol • Monotrate	4*30=120 2*30=60 4*30=120 2*30=60 1*21=21	142	33	378	88

	• Aspirin	2 *24=48				
5	Sexual life	5*5 = 25	16	64	23	93
	Total	1340	592	44	983	73



1. Personal Hygiene
2. Activity rest and Rest
3. sleep and elimination
4. Intake of drug
5. Sexual life

Table 4. shows the comparison of self- care practices (pre & post- test) in terms of frequency and percentage.

The above table depict that the overall performance scores in pre-test were 44%which was improved to 73%. Although there was an improvement in self- care practices but it was not very satisfactory and shows the need of frequent reinforcement.

Table – 5

Co-efficient of correlation between knowledge and performance of self- care activities of patient with heart failure

S. no.	Variables	r	Interpretation
1	Pre- test knowledge and performance	0.45	average correlation
2	Post- test knowledge and performance	0.35	Low correlation

Table 5. shows the analysis and interpretation of data to find out a correlation between knowledge of samples and their performance of self -care before & after administration of information booklet.

From the above table it was revealed that the calculated value of r was 0.45 for pre-test knowledge and performance of self- care activities of patients in pre- test. The post –test calculated value of r was 0.35 i.e. there was low but positive correlation between the knowledge and practices of patients. With the above analysis it can be concluded that the individual scores of knowledge & practices were definitely improved but the correlation was not very significant statistically.

Table - 6

Effect of information booklet on the knowledge and practices of sample related to self- care activities of CCF

s.no.	**Knowledge scores**	MD	SEMD	t-value		Level of significance
				calculated	Table	
1	Pre-test	30	0.87	34.48	2.46	Significant at 0.01 level
2	Post -test					

	Practice score					
1	Pre-test	16.14	0.74	21.81	2.46	Significant at 0.01 level
2	Post -test					

Table 6. dealt with the t- test values to assess the effectiveness of information booklet on the knowledge and practices of the patients.

The calculated 't' value was 34.48 which was greater than table 't' value at 0.01 level (2.46) so null hypothesis was rejected and it supports the significance of information booklet in improving the knowledge of patient related to self- care in CCF.

Similarly, the calculated 't' value for practices was 21.81 which was greater than the table value at 0.01 level (2.46) which rejected the null hypothesis and supports the effectiveness of information booklet in improving the self- care practices of CCF.

IV. DISCUSSION

The overall knowledge scores related to heart failure and its self- care management was 36% which indicated a wide gap in knowledge existing and expected. In the post test the overall knowledge score was increased to 92% which shows the definite improvement in knowledge of all samples in various aspect of self - care after reading the information booklet. The above findings of the study were in line with study done by Beverly Carlson et. al. on self- care abilities of patient with heart failure revealed that most of the participants has poor knowledge of warning signs and most had low self confidence in their abilities to perform self -care. They have given specific recommendations for teaching and delivery of self- care should be provided to all patient with CCF.(9)

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A study done by Jody A.Britz et.al. supported the above findings of the study that the self- care confidence and perceived better health ere significantly related to improved QOL. Findings from this study suggest that educational interventions by nurse practitioner is highly recommended to boost patient confidence in self -care of CCF.(8)

Similarly,A systematic review to highlight the effect of nurse led patient educationon QOL, readmission rates and health care cost for adult with CCF was done by Rice et.al. The result revealed that nurse led patient education sessions contribute to reduction of readmissions & hospitalization. It also showed cost benefit and higher functioning & improved QOL.(11)

Another systematic review of RCT done by Finlay A. and colleagues had a similar findingthat multidisciplinarystrategies for the management of patients with HF reduce HF hospitalizations. Those programs that involve specialized follow-up by a multidisciplinary team also reduce mortality and all-cause hospitalizations.(12)

V. CONCLUSION

The study lead to the conclusion that all the patients with CCF needed information & showed keen interest in learning self- care management of disease. Provision of information booklet significantly improved the knowledge & practices of patients. Disease specific information booklet should be made available in clinical setups so the clinical nurses can use them as handy reference material for educating patients in IPD & OPD set-ups.

Recommendations:

1. A comparative study of improvement of knowledge and practices can be done for patients from low and high socioeconomic class.
2. A similar study can be conducted with bigger sample size in different setting for making broad generalization.

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