Journal of Prevention, Diagnosis and Management of Human Diseases
ISSN: 2799-1202
Vol: 02, No. 01, Dec 2021-Jan 2022
http://journal.hmjournals.com/index.php/JPDMHD
DOI: https://doi.org/10.55529/jpdmhd21.6.12

Effect of Exercise Program on Health-Related Quality of Life (QOL) in Congestive Cardiac Failure Patients

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Received: 22 September 2021 **Accepted:** 12 December 2021 **Published:** 18 January 2022

Abstract: Background:Heart Failure is a common cardiovascular condition with increasing incidence and prevalence. Congestive cardiac failure continues to be a major cause of death throughout the world despite dramatic advances made in the treatment over the last 25 years. As it is growing and people are affected by it, the nurse has an important role in helping thepeople to live with the disease and control it through various preventive and therapeutic measures. Exercise and education programs are designed to improve the patient's quality oflife after a heart failure or another heart problem. It includes a program of structured exercise that is now generally believed not only to improve morbidity but also to reduce mortality in patients who have suffered a CCF. Material and Method: A Quasi-experimentalpost-study only design without a control group approach was undertaken in Pravara Rural Hospital. A total of 30 congestive cardiac failure patients were randomly assigned to receive the intervention of the Exercise program. The nurse investigator provided 05 minutes exercise program. Assessment of effectiveness is performed by evaluating Quality of Life. The data were analyzed with descriptive and inferential statistics, wherever required. Results: It was found that the exercise program significantly improved QOL. A statistically significant difference was found between the group QOL (t=15.47) there was a significant association found between socio-demographic characteristics (0.830 dna840.***) at p<0.05 level. Conclusion: The study outcome revealed that the exercise program was found to be effective in improving the QOL among congestive cardiac failure patients. Hence it should be emphasized that exercise programs should be practiced for the vulnerable CCF patient with routine care.***

Keyword: Effectiveness, Exercise Program, Quality of Life, Congestive Cardiac Failure

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1. INTRODUCTION

The concept of nursing is changing fast. Nursing is not only caring for the sick but takes care of prevention of illness, and promotion and maintenance of health. The scope of health promotion goes beyond the prevention and treatment of disease. Health promotion as outlined in the American journal of health promotion is the science and art of helping people change their lifestyle to move towards a state of optimal health. Health promotion activities such as routine exercise and good nutrition help the clients to enhance or maintain their present level of health.[1] Health can be influenced by individual practices such as poor eating habits, and little or no exercise. It can also be affected by physical stressors. Such as poor living environment, exposure to air pollutants, and an unsafe environment. Total health programs are directed at individuals changing their lifestyle by developing habits that can improve their level of health. Lifestyle choices are important as they can affect a person's quality of life. [2]

Congestive cardiac failure continues to be a major cause of death throughout the world despite dramatic advances made in the treatment over the last 25 years. As it is growing and people are affected by it, the nurse has an important role in helping the people to live with the disease and control it through various preventive and therapeutic measures.[3]

Cardiovascular disease is a group of disorders of the heart and blood vessels which includes congestive cardiac failure is the inability of the myocardium to pump enough blood to meet the body's metabolic demands. The most common causes of congestive cardiac failure are hypertension and coronary artery disease. Congestive cardiac failure harms the Quality of life of an individual.[4]

Exercise and education programs are designed to improve the patient's quality of life after a heart failure or another heart problem. It includes a program of structured exercise is now generally believed not only to improve morbidity but also to reduce mortality in patients who have suffered a CCF. Activity and exercise have been shown to play a role in secondary prevention or reoccurrence of CCF. It has been thought for many years that all patients, regardless of gender, or age, who have ischemic heart disease and or cardiac failure might benefit from exercises program.[5]

Congestive heart failure is a major cause of mortality and morbidity. Among patients with heart failure, Poor quality of life is a common problem. Quality of life (QOL) can be considered as a quality indicator of health care systems. The result of the present study shows that home-based cardiac rehabilitation programs improve patients' HRQOL after CABG surgery.[6]

During the clinical supervision researcher also experiences these scenarios which influence the prognosis, survival, and the outcome of congestive cardiac failure disease treatment and nursing assessment and there was a lack of awareness on how the disease affects patient quality of life. Thus, the researcher is interested in providing exercise program for improving the quality of life of congestive cardiac failure patients.[7]

2. MATERIALS AND METHODS

As the research aimed at assessing the effectiveness of exercise programs on health-related quality of life in a patient with congestive cardiac failure admitted to Pravara Rural Hospital Loni. The research design used for the study was quasi-experimental study was pre-test post-test design without control group approach.

In the present study, the independent variable was the exercise program and the dependent variable was the quality of life in a patient with congestive cardiac failure**.** Extraneous variables

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for the present study were congestive cardiac failure patient socio-demographic characteristics

such as age, gender education, religion, and clinical characteristics such as type of congestive cardiac failure, treatment for congestive cardiac failure, duration of illness, hospital stay, and co-morbid illness

The present study was conducted in the medical ward of Pravara Rural Hospital, Loni, which is a 1275 bedded private multi-specialty hospital geographically situated in LoniBk village, Tal- Rahata, District- Ahmednagar,

The population for the present study was patients with congestive cardiac failure, sample size comprised of 30 patients of congestive cardiac admitted in the medical ward of Pravara rural hospital, sampling techniques used was non-probability method, purposive sampling technique, the tool used to collect was Structured questionnaires and BREEF scale for quality of life to assessing the quality of life in congestive cardiac failure patient

The research concept-related book, journals (electronics and printed version) articles reports, newspaper, published and unpublished research works projects, dissertation, and thesis were reviewed and used as a background and supplements for the construction of the tools and Technique. The steps of construction of the tools and Technique were as follows;

It consists of the following section like

- **Section A** – Socio-Demographic profile of Congestive Cardiac Failure patients like age, gender, education, occupation, income, marital status, religion.
- **Section B-** Clinical profile of Congestive Cardiac Failure patients like Types of Congestive Cardiac Failure, Duration of illness, Treatment of Congestive Cardiac Failure, Comorbid Illness, Duration of hospital stay
- **Section C –**WHO QOL BREEF scale

It consists of 26 items on the quality of life of congestive cardiac failure patients. Each item has five-point scale which carries a minimum score of one and a maximum of five. The scoring key for scale was 1: Very Poor, 2: Poor, 3: Neither Poor Nor Good, 4: Good, 5: Very Good. The maximum obtainable score was 130

Description of quality of life of patient with congestive cardiac failure

Sr no	**Areas**	**No. of items**	**Percentage**
1	General question	02	7.69%
2	Physical well-being	07	26.92%
3	Psychological	06	23.07%
4	Social relationship	03	11.5 %
5	Environment	08	30.7 %
	TOTAL	26	100%

Score key for WHO QOL-BREEF

		Poor	**Average**	**Good**
Domain 1	Physical Health	7-16	16-26	26-35
Domain 2	Psychological	6-14	14-22	22-30
Domain 3	Social relationships	3-7	7-11	11-15

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Domain 4	Environment	8-19	19-30	30-40
WHO QOL-BREF	Quality of Life	24-56	56-88	88-120

A final draft of the structured questionnaire was prepared after testing the reliability, validity in consultation with the guide

The approval was obtained from the institute of the ethics committee (IEC/IRC-PIMS/CON/00/2017) at Pravara Institute of Medical Sciences (DU). The legal, permission was obtained from the concerned from the school principal, language and statistician, Ethical authorities. All data were treated confidentially

After the self-introduction pretest was conducted on congestive cardiac failure patients by using structured questionnaires for assessing the Quality of life of the patient. The investigator provides questionnaires to the congestive cardiac failure individually and provides adequate time to fill the questionnaires, after the pre-test the patient is instructed and tries to follow the exercise activity provided in the exercise program for improving the Quality of life in congestive cardiac failure patients. The post-test was carried out 5days after the implementation of the exercise program same structured questionnaires were used to collect the post-test data. The collected data was analyzed using descriptive and inferential statistics like frequency, percentage mean, and SD. The inferential statistics i.e.' test and chi-square test. 't-test was used to the effectiveness, Fisher exact test was used to test the association knowledge with their selected socio-demographic variables among the congestive cardiac failure patient The analyzed data was presented in the form of a table, and figures

3. RESULTS

The first objective was the description of socio-demographic data and clinical profile of congestive cardiac failure patients followed by that pre-test Quality of life in congestive cardiac failure patient and assessment of the effectiveness of exercise program on Quality of life in congestive cardiac failure patient and last was the correlation of exercise program on Quality of life among congestive cardiac failure patient with selected demographic variables.

Description of socio-demographic data of CCF Patients: Distribution of sample according to the age deficits that nearly half (47%) of them were in the age group of 46-50 years and significant percent (37%) were in the age group of 51-55 years, gender shows that more than half (70%) were males and the remaining (47%) were female, the marital status shows that majority (83%) of the patient were married and remaining (17%) percent were widow or widower and divorced or separated, religion shows that majority 63% of respondents were Hindu, followed by 20% belongs to Muslim and 13% were Christian, education shows that higher percentage (33%) of them had primary school education and a significant percent of (23%) of secondary school education and (23%) no formal education. Occupational status shows that higher participants were liable for agriculture (40%) while (20%) had private jobs and were in study daily wages (17%), monthly family income shows that a higher percentage (43%) of them had a monthly income of Rs6001-9000 followed by (40%) of them had family income of Rs-3001-6000. Type of congestive cardiac failure shows that (53%) had Left Side Heart Failure followed by (47%) Right Side Heart Failure. Treatment of Congestive Cardiac Failure shows that 37% had inotropes, 32% cardiac glycoside, and 20% diuretics. Co-Morbid Illness of CCF depicts that a higher percentage (47%) accounted for diabetes mellitus followed by (27%) had hypertension and (20%) had anemia, duration of hospital stay shows that (87%)

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had been in hospital since 5 to 10days whereas (13%) had in the hospital since more than 10 days.

Assessment of Quality of life after the intervention of exercise among congestive cardiac failure patients

SN	**Domain**	**Pretest**		**Post-test**	
		Mean	**SD**	**Mean**	**SD**
1	Physical health	14.83	2.01	19.73	2.11
2	Psychological health	12.77	1.85	17.00	1.83
3	Social relationship	7.17	1.28	9.83	1.17
4	Environmental	15.23	2.63	23.40	2.54
5	Overall Quality of life	50.06	7.77	69.96	7.65

Comparison of the pretest and posttest mean score shows that the effectiveness of Quality of life in congestive cardiac failure patient by (**69.96±7.65**) as post-test whereas in pretest the score was (**50.06±7.77**) It indicates that the congestive cardiac failure patient had a good Quality of life which is higher than pretest shows that exercise program is effective in improving the Quality of life of congestive cardiac failure patient.

Effectiveness of Quality of life in congestive cardiac failure patients before and after the intervention.

SN	**Area**	**'t' value**	**Level of significant**
1	Physical health	**9.73**	**Significant**
2	Psychological health	**9.34**	**Significant**
3	Social relationship	**8.11**	**Significant**
4	Environmental	**12.72**	**Significant**
5	Overall Quality of life	**15.47**	**Significant**

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Df=29, table value=3.84, P<0.05

Paired' value was calculated to analyze the difference in pretest and posttest domain score of

quality of life in congestive cardiac failure patients. a highly significant difference was found between pretest quality of life and posttest of quality of life among the congestive cardiac failure patient. (t value is 3.84)

Association between QOL of patients with CCF and demographic variables

Fisher's exact probability values were calculated to find out the association between the quality of life of CCF Patients and the socio-demographic variable. The finding of this study revealed that there is no significant association was found between the quality of life and demographic variables like marital status, educational qualification, monthly income, type of Congestive cardiac failure, duration of illness, co-morbid illness, and duration of hospital stay. However significant association was found between the quality of life and their demographic variables like age and gender.

4. CONCLUSION

The mean score of exercise program in posttest was 69.96 and in pretest was 50.06; it indicates the congestive cardiac failure patient had an average Quality of life, which is higher than the pretest shows that exercise program is effective in improving the Quality of life from poor to good. A significant association was found between the quality of life of CCF and their demographic variable like age and gender only

Funding: self-funded.
Conflict of interest: Nil

5. REFERENCES:

1. Kumar S, Preetha G. Health promotion: an effective tool for global health. Indian J Community Med. 2012;37(1):5-12. doi:10.4103/0970-0218.94009.
2. National Research Council (US); Institute of Medicine (US); Woolf SH, Aron L, editors. The U.S. Health in International Perspective: Shorter Lives, Poorer Health. Washington (DC): National Academies Press (US); 2013. 7.
3. Savarese, Gianluigi, and Lars H Lund. "Global Public Health Burden of Heart Failure." Cardiac failure review vol. 3,1 (2017): 7-11. doi:10.15420/cfr.2016:25:2
4. Savarese G, Lund LH. Global Public Health Burden of Heart Failure. Card Fail Rev. 2017Apr;3(1):7-11.
5. Buttar HS, Li T, Ravi N. Prevention of cardiovascular diseases: Role of exercise, dietary interventions, obesity, and smoking cessation. Exp Clin Cardiol. 2005;10(4):229-249.

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6. Son YJ, Choi J, Lee HJ. Effectiveness of Nurse-Led Heart Failure Self-Care Education onHealth Outcomes of Heart Failure Patients: A Systematic Review and Meta-Analysis. Int J Environ Res Public Health. 2020;17(18):6559. Published 2020 Sep 9. doi:10.3390/ijerph17186559.
7. Heo S, Lennie TA, Okoli C, Moser DK. Quality of life in patients with heart failure: ask the patients. Heart Lung. 2009;38(2):100-108. doi:10.1016/j.hrtlng.2008.04.002.