

EFFECT OF PHASE I CARDIAC REHABILITATION ON QUALITY OF LIFE IN POST CABG PATIENTS

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Abstract:-

Coronary artery bypass grafting (CABG) is one of the most frequently performed surgical procedures. Supervised exercise program has been recommended to facilitate recovery immediately after surgery. Cardiac rehabilitation services are administered in 3 phases of which Phase I mean the immediate post-operative period in an acute care hospital. The aim of the present study was to demonstrate the effect of the phase I CR on post CABG patients. 30 post CABG patients were taken, which were divided into control and experimental groups of 15 patients each. The patients were free from post-operative complications and medically stable. The SF36 is a widely used valid generic health related QOL questionnaire. It was used to assess the patients after phase I CR. The major domain of the physical component of the health in SF36 comprised of PF, BP, RP and GH. The experimental group scored higher in all these components except BP. The mental health component included vitality, social function, role emotional and mental health. When physical component score and mental component scores in both groups were compared, the difference was found to be significant in favour of the experimental group in both the scores. In the present study, the incorporation of CR has not resulted in any post-operative complications over and above the control group. None of the patients of the exercise group developed any adverse effect during hospital stay. This indicates the protocol used in the study is feasible and safe to be applied. Limitations of the study included a relative small sample size and lack of follow up.

Keywords: - CABG, post CABG cardiac rehabilitation, phase I cardiac rehabilitation, quality of life

INTRODUCTION

Cardiovascular diseases take the lives of 17.9 million people every year, 31% of all global deaths.[1] Among worldwide non-communicable causes of death, CVD accounts for more than one-half; this finding has been consistently projected to remain unchanged across multiple models for at least the next 20 years in countries of both the developed and developing world.[2] There has been an alarming increase over the past two decades in the prevalence of CHD and cardiovascular mortality in India and other south Asian countries. India is going through an epidemiologic transition whereby the burden of communicable diseases have declined slowly, but that of non-communicable diseases (NCD) has risen rapidly, thus leading to a dual burden. There has been a 4-fold rise of CHD prevalence in India during the past 40 years.[3] Typical patients with CAD are first seen after they present with a cardiac event. The main focus of their treatment is the index event. The past 4 decades have witnessed tremendous progress in areas of acute cardiac care, coronary care unit expansion thrombolytic usage, and PCI. Nevertheless, prevention of cardiac events is likely to have the largest impact on decreasing the burden of atherosclerosis. [4] Revascularization with PCI or CABG is very effective treatment for CAD, but only when performed on targeted culprit stenoses that are hemodynamically relevant or causing ischemia.[5] Aerobic endurance training is the foundation for the exercise component of cardiac rehabilitation programmes. It improves cardiorespiratory fitness and functional capacity, reduces disease related symptoms and favourably influences coronary risk factors, contributing to a reduction in mortality among MI survivors.[6] Cardiac rehabilitation (CR) is an important element of a comprehensive plan for secondary prevention of acute cardiac events in patients with IHD. CR was initially defined by the U.S. Public Health Service as a comprehensive long-term programme involving medical evaluation, prescribed exercise, cardiac risk factor modification, education, and counseling [7]. Research has indicated that non-pharmacological interventions, such as exercise training and psycho-education, have a positive physiological and psychological effect in early outpatient rehabilitation in patients who have undergone CABG surgery. [8]

MATERIAL AND METHODS

The aim of the present study was to demonstrate the effect of the phase I CR on post CABG patients. 30 post CABG patients were taken, which were divided into control and experimental groups of 15 patients each. The patients were free from post-operative complications and medically stable. The SF36 is a widely used valid generic health related QOL questionnaire. It was used to assess the patients after phase I CR. The major domain of the physical component of the health in SF36 comprised of PF, BP, RP and GH. The experimental group scored higher in all these components except BP. The mental health component included vitality, social function, role emotional and mental health. When physical component score and mental component scores in both groups were compared, the difference was found to be significant in favour of the experimental group in both the scores. Patients were duly informed of the study and consent was taken. The 8 summary scales of SF36 are as follows:

- Physical functioning
- Role physical
- Bodily pain
- General health
- Vitality
- Social function
- Role emotional
- Mental health

RESULTS:

Table 1: COMPARISON OF VALUES OF SF36 QUESTIONNAIRE:

		SD Experimental group	SD Control group	t value at p <0.005
PHYSICAL HEALTH	Physical functioning	0.991	1.245	2.73*
	Role physical	0.744	0.881	2.947*
	Bodily pain	1.725	1.78	0.784
	General health	1.157	2.166	3.872
MENTAL HEALTH	Vitality	1.188	1.189	5.969*
	Social function	1.416	1.467	0.874
	Role emotional	1.827	0.733	1.067
	Mental health	1.455	1.289	2.062*
PCS		0.893	1.35	2.73*
MCS		0.920	0.922	3.391*

Values marked with asterisk found to be significant.

CONCLUSION

The definition of successful outcome after CABG has moved beyond prolongation of life and relief from angina and now includes QOL improvement.[9] The Health Related Quality of Life (HRQOL) has become a key goal for patients with CHD. HRQOL can be assessed in most of the individualized rehabilitation programs. The primary health indicator requires the patient's assessment of functional status which is defined as those everyday behaviours encompassing the areas of physical functioning, psychological wellbeing and social functioning. The measurement of QOL as a measure of disability rather than of impairment has been proposed in both research and clinical practice. The SF36 is a widely used valid generic health related questionnaire. This instrument has been of use to successfully document the effect of CR program after CABG for evaluating the effect of phase II [10] and phase III.[11] In this study, attempt was made to use this tool in phase I CR. It is observed that while some aspect of QOL were significantly higher [physical functioning (PF), role physical (RP), general health (GH), vitality (VT), mental health (MH)] in the experimental group, the other aspects [bodily pain (BP), social functioning (SF), role emotional (RE)] did not show any significant difference between the groups. The major domain of the physical component of health in SF36 comprised of PF, BP, RP and GH. The experimental group scored significantly higher in all those components except BP. None of the patients of the exercise group developed any adverse effect during hospital stay. This indicates the protocol used in the study is feasible and safe to be applied. Limitations of the study included a relative small sample size and lack of follow up.

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