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CARDIAC REHABILITATION-DOES IT WORK?

Respected Sir,

Cardiac rehabilitation (CR) aims to assist patients with cardiac disease, achieve and maintain optimal physical, psychosocial and emotional health in collaboration with a multidisciplinary team of health professionals[1].The World Health Organization recently defined cardiac rehabilitation as "the sum of activities required to influence favorably the underlying cause of the disease, as well the best possible physical, mental and social conditions, so that the cardiac patients may, by their own efforts, preserve or resume when lost, as normal a place as possible in the community[2]".

CR is primarily considered for patients following acute myocardial infarction or coronary artery bypass grafting. Nevertheless, it is also vital for patients with stable angina, heart failure and after valve replacement and cardiac transplant. CR also involves delivering a broad range of secondary preventive interventions that have a strong base of evidence[3].

Structured exercise program is the core of CR and has its rationale in the recognition of deconditioning effects in patients after cardiac event or cardiac surgery. Fick's Equation [VO_2= CO (Ca - Cv)] developed by Adolf Eugen Fick (1829 - 1901)[4] forms the basis of beneficial effects of CR. The VO_2 here is the oxygen consumption in mililitres of pure gaseous oxygen per minute. CO stands for cardiac output, Ca for oxygen concentration of arterial blood and Cv for oxygen concentration of mixed venous blood. CR program increases VO_2 (a surrogate of cardiac fitness) by increasing CO and (Ca - Cv).

Traditionally, CR has been divided into four phases that slightly overlap each other. Phase one starts during the in-patient stage following an admission for a cardiac event or cardiac surgery and involves medical evaluation, reassurance, correction of misconceptions, risk factor assessment, mobilization and discharge planning[5].

Phase two is the early post discharge period. Its key component is psychosocial support. Phase three is a form of structured individualized exercise program tailored for each patient and carried out on an outdoor basis. After a thorough physical checkup, risk stratification and evaluation through exercise tolerance tests, an exercise program constructed on duration, intensity and type of exercise is chalked out. In addition, specific education to reduce cardiac misconceptions, modification of life-style, vocational counselling and psychosocial discussions are carried out. Engaging a multidisciplinary team comprising of cardiologists, dieticians, exercise physiologists, pharmacists, physiotherapists, psychologists, general practitioners, nurses, social workers and vocational councilors is part and parcel of this program. Rehabilitation also demands an active involvemen tof the patient and the community in healthcare decision making.

Phase four involves the long term maintenance of physical activity and life style changes and should be continued if the cardiac benefits achieved in phase threeare to be maintained. The membership of local support groups that facilitates exercise in the community centers such as a gym or leisure centers may help maintain physical activity and behavioral changes. There is increasing acceptance that mortality and reinfarction are not the only parameters of determining the efficacy of CR. Psychological function, social recovery, return to work and reduction in modifiable risk factors also are important determinants[6]. CR has shown a positive impact on all these parameters.

CONCLUSION

The evidence is growing for the benefits and cost-effectiveness of CR. Save few studies which are pointing to the contrary, more extensive, varied and validated studies engaging different populations are warranting. This letter will contribute to better understanding of CR, its components and beneficial effects.

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