EFFECTS OF EXERCISE REHABILITATION PROGRAMME ON OSTEOARTHRITIC KNEE WITH SPECIAL REFERENCE TO BIOCHEMICAL CHANGES

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ABSTRACT

Introduction: Osteoarthritis (OA) is a common rheumatological disorder. It is a degenerative joint disorder characterized by destruction of articular cartilage and formation of a new bone at the joint. One of the worst things about osteoarthritis is its negative effect on the quality of life. The aim of this study was to find out the effect of exercise rehabilitation programme on various physiological & biochemical parameters in patients with osteoarthritis knee.

Material & Methods: A group of 200 patients of established osteoarthritis of knee ranging in age from 40-65 years were included in the study. Patients with a history of condition known to preclude exercise were excluded from the study like coronary heart disease, myocardial infarction, unstable angina, chronic bronchitis, emphysema, peripheral vascular disease, thrombophlebitis, embolism, kidney failure, uncontrolled hypertension etc. The patients were explained the study protocol and written consent was taken before the start of study programme. Patients were randomly divided into two groups: Group A (Experimental Control Group, n=100) and Group B (Experimental Group, n=100). Patients of Group A were treated with conventional physiotherapy programme and patients of Group B were treated both with conventional physiotherapy programme and exercise rehabilitation programme which includes mild intensity long duration exercises at 60% of MHR. Both the groups were treated for two months.

A thorough evaluation of the patients physical characteristics (age, weight, height and body mass index); clinical health status (pulse, heart rate, blood pressure-systolic and blood pressure-diastolic); health related fitness (pain, range of motion, strength-isometric, strength-isotonic, cardiovascular fitness and functional status); physiological parameters (haemoglobin and erythrocyte sedimentation rate) and biochemical parameters (fasting blood glucose, serum cholesterol, serum triglycerides, serum high density lipoprotein-cholesterol and serum uric acid) were done before the start of study programme, after one month of the study programme and after completion of two months of study programme.
Results: It has been found that prevalence of osteoarthritis knee is more in elderly age group than in younger age group, more in females than in males, more in patients with diabetes mellitus and more in overweight and obese patients.

Weight, BMI, pulse, heart rate, blood pressure, pain, fasting blood glucose, serum cholesterol, and serum triglycerides reduced significantly after 2 months of exercise rehabilitation programme whereas range of motion, strength, cardiovascular fitness, functional level, haemoglobin and serum high density lipoprotein cholesterol level improved significantly after 2 months of exercise rehabilitation programme. ESR and serum uric acid levels reduced but non-significantly.

Conclusion: It is concluded that exercise rehabilitation programme which includes mild intensity long duration aerobic exercise is useful in the treatment of osteoarthritis knee patients because it has beneficial effects on various health related parameters including biochemical parameters.

Key words: Osteoarthritis knee, health related fitness, cardiovascular fitness, functional level, biochemical parameters.