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Osteoarthritis-health risk associated with obesity and its management

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Abstract

Obesity has reached epidemic proportions globally, with more than 1 billion adults overweight - at least 300 million of them clinically obese - and is a major contributor to the global burden of chronic disease and disability. Osteoarthritis is morphologic, biochemical, molecular and biochemical changes of both cells and matrix which lead to softening, fibrillation, ulceration and loss of articular cartilage, sclerosis, and eburnation of subchondral bone, osteophytes and subchondral cysts. Studies of joint loading have provided evidence that abnormal loads (obesity) can lead to changes in the composition, structure, and mechanical properties of articular cartilage. Disability (like osteoarthritis) may be significantly relieved if a body weight is decreased for more than 5.1%.Obesity loads may be detected by mechanoreceptors on chondrocyte surfaces triggering intracellular signalling cascades of cytokines, growth factors, and metalloproteinase. Cytokines associated with adipose tissue may influence osteoarthritis through direct joint degradation or control of local inflammatory processes. According to NHANES-1 obese women had nearly 4-times the risk of osteoarthritis of knee compared to non-obese; for obese men it's nearly 5-times greater. Osteoarthritis-management depends on the joint involved, the stage of the disorder, the severity of the symptoms, the age of the patient and his or her functional needs. Weight-loss can diminish pain; restore function and quality of life. Weight-management can be done by two different exercise regimes- Aquatic-based and floor-based exercises. Aquatic exercises include swimming, aquatic exercise interventions- stretching, strengthening and aerobic conditioning and water-aerobics. Floor-based exercises include aerobics, spinning, Pilates, thera-bands, flexi-bars, Swiss ball etc.

Biography

Rutvik Pandya is studying in Physical therapy at the age of 23 years from Shree Devi College of Physiotherapy, Mangalore, Karnataka affiliated to Rajiv Gandhi University of Health Sciences, Karnataka, India. He has obtained certification for various fitness instructor training like Aerobics, Spinning, Diet and Nutrition, primary and advance Pilates, pre and postnatal fitness and Advance fitness from IAFT-Indian Academy of Fitness Training. He has worked as a Personal Physical Trainer for six months at Talwalkars Better Value Fitness Limited, India. He also has attended several workshops related to Physical Rehabilitation, Physical fitness and Awareness.