

Increase in the Risk of Knee Osteoarthritis due to Lifestyle Modification: An Editorial Review

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Lifestyle refers to the characteristics of residents living in a region. It comprises day to day behavior and functioning of an individual's physical activity, diet and occupation. It is a way practiced by groups, nations and people living in specific culture, geographical, political and religion. Quality of life and individual health are both associated with lifestyle. Alcohol consumption, drug abuse, malnutrition, stress and unhealthy diet depicts unhealthy lifestyle, which causes cardio-vascular diseases, hypertension, skeletal problems, metabolic diseases and overweight in the people. According to WHO, musculoskeletal condition is the major cause of disability and morbidity in 2017. Global Burden of Disease (GBD) has declared musculoskeletal conditions are having the highest contribution in global disability. Under musculoskeletal conditions Osteoarthritis (OA), back pain, neck pain, fracture and rheumatoid arthritis are the commonly prevailing disabling conditions. Out of which OA is the 10th most disabling condition in the developing world. Osteoarthritis refers to degenerative joint disease. In OA there is progressive destruction of articular cartilage, osteophyte formation and inflammation of synovium. It affects mainly the weight bearing joints of the body i.e., hip and knee. As per WHO, 9.6% and 18.0% of men and women respectively aged above 60 years are suffering from symptomatic arthritis. Out of which 80% of the population is suffering with OA along with restricted Range of Motion (ROM) and 25% of them cannot do majority of activities. Among all the population who complain of knee pain 80% of them shows knee OA. Globally, it is considered to be the 4th and 8th significant cause of infirmity in men and women respectively.

Change in the lifestyle leads to several types of diseases in which knee OA is leading amongst all. According to global burden of disease published in the year 2000 shows that some specific jobs and occupations which involve physical labor have increased risk to develop OA of knee. Especially the jobs such as farmers, dock workers, mine workers etc. which require heavy weight lifting, squatting and kneeling have high chances to develop knee OA. In 2005, a study named 'A meta-analysis of sex differences prevalence, incidence and severity of osteoarthritis' shows that females are more prone to knee OA than men. Whereas a study in England, UK shows that reduced BMD and use of oral contraceptive pills may be associated with knee OA. A study conducted in the university of Boston, USA in the year 2010 showed that increase in the age leads to biological changes which reduces joint capabilities to cope with adversity such as oxidative damage, poor proprioception, muscle weakness and thinning of cartilage. Weakness of quadriceps muscle also leads to structural damage to the joint

along with painful knee OA shown in the study 'Is Quadriceps Muscle Weakness a Risk Factor for Incident or Progressive Knee Osteoarthritis?' in the year 2011.

A study named 'Lifestyle changes in the management of osteoarthritis' in the year 2001 reveals that exercise regimes for OA knee consists of both aerobic exercises and strengthening exercises with resistance of quadriceps muscles which helps to improve physical functioning along with pain reduction in the patients. The main aim is to increase balance, ROM, aerobic capacity and strength. A study conducted in 2010 showed that continuous sitting for two hours increases the risk of knee OA.

Lifestyle modification helps to delay or prevent the onset of OA and also prevents many musculoskeletal disabilities. Exercises and weight reduction management are the two lifestyle changes for the management of OA. Several clinical trials support that knee strengthening and aerobic exercises delays disability and reduce pain. Along with this treatment, comorbidities like hypertension and depression also increase the risk of OA knee. So, therefore identifying the risk factors and uplifting the lifestyle could delay the onset of knee OA.