ABSTRACT

Osteoarthritis is also known as degenerative joint disease, traditionally was considered as a disease of articular cartilage or degradation of cartilage. It is one of the most frequently occurring health problems for middle-aged and older people. Knee Osteoarthritis is the most common joint disorder affecting the elderly; it is a leading cause of disability and is mainly affecting knee joint and further articular cartilage degradation. The various risk factors and biological changes were occurring with ageing such as cartilage thinning and degradation, weak muscle strength, poor proprioception and oxidative damage.

The prevalence of Knee Osteoarthritis increases with age, so that the more prevalence of women rather than men. The various studies reveal that, the prevalence of Knee Osteoarthritis and patterns vary among different racial and ethnic groups. The present research attempts to know the association between erythrocyte sedimentation rate and detection of serum enzymatic profile especially Matrix Metalloproteinases -3 and Matrix Metalloproteinases-13 in Knee Osteoarthritis patients and controls. The research study found that, prevalence of Knee Osteoarthritis was highest in the age group of 60-65 irrespective of the sex. Regarding clinical pattern evidences that, different population, life style and day to day activities also matters for most causes of joint. WOMAC scores results reveals that, majority of the Knee Osteoarthritis patients were having moderate in Pain, Stiffness and Physical functions, it directly associated with their pain of knee while doing different activities.

Finally, detection of serum enzymes of Matrix Metalloproteinases of MMP-3 and MMP-13 in Knee Osteoarthritis patients and control groups result shows that, Matrix Metalloproteinases directly associated with degradation of Knee. Only few studies and
literatures have highlighted that, MMP-13 more significant and associated enzymes for degradation of Knee. At present, in India there is a limited study on detection of MMP-13 in Knee Osteoarthritis patients.

The research study recommends that, early detection of elevated serum levels of MMP-3 and MMP-13 markers may herald progressive course and may modulate the lines of treatment. This study concludes that, there is considerable evidence that MMP-3 and MMP-13 is capable of mediating degradation leads to knee joint destruction. The research finding suggests that serum MMP-3 and MMP-13 is a marker of systematic inflammation of Knee Osteoarthritis patients. This study outcome may help to measure the Knee Osteoarthritis patients for degree of cartilage degradation and further research. The study results provide information that will assist in the early diagnosis of Knee Osteoarthritis.