

## Abstract

Arthritis is a most prevalent, chronic, disabling disease that may adversely affect the quality of life and growing public economic burden. Previously, it was assessed in the studies that First degree relatives of a family with positive history can be considered at high risk of arthritis. This research was designed to study the pattern of inheritance of arthritis among families, by using *IL17F* (rs763780 and rs2397084) as genetic marker. For this purpose, four families with doctor-diagnosed arthritis were selected from Pakistani population. PCR-RFLP technique was used to evaluate the genotyping of each individual. Family Pedigrees was drawn to analyze the pattern of disease transfer from parents to the siblings. The results of the current showed that two SNPs (rs763780 and rs2397084) of *IL17F* were associated with arthritis (OA & RA). It was found that about half of individuals show homozygous mutation for wildtype allele A, less than that shown heterozygous mutation A/G for both SNPs. But homozygous polymorphic allele for allele G was only found for rs2397084. Pedigree analysis of Descriptive data and genotyping evaluated that the relatives of the affected families are more susceptible to carry the disease. Maternal history was found stronger to transfer arthritis. It has revealed that among Pakistani population, an association of arthritis with candidate alleles encoding a shared epitope. Hence, Family clustering analysis can be used for personal and pre-diagnosis prior to onset of disease.