

**MTHFR and IL-4 Gene Polymorphisms Are Not Associated with
Primary Dysmenorrhea in Young Adults**

Asker Zeki Ozsoy¹, Bulent Cakmak¹, Mehmet Can Nacar¹, Ali Cetin², Fazli Demirturk¹,
Hatice Yilmaz Dogru¹, Nevin Karakus³ and Serbulent Yigit³

¹*Departments of Obstetrics and Gynecology and ³Medical Biology,
Gaziosmanpasa University Faculty of Medicine, Tokat, Turkey*
²*Department of Obstetrics and Gynecology, Cumhuriyet University
Faculty of Medicine, Sivas, Turkey*

KEYWORDS Population Genetics. Dysmenorrhea. MTHFR Gene. IL4 Gene. Genetic Variant

ABSTRACT Primary dysmenorrhea is one of the most common conditions among young adult females. The purpose of the present study was to investigate possible associations between the functional MTHFR gene C677T and IL-4 gene intron 3 VNTR polymorphisms with primary dysmenorrhea susceptibility in a Turkish population. One hundred and fifty-nine unrelated young women with primary dysmenorrhea and 135 unrelated healthy age-matched controls. Genomic DNA were isolated and MTHFR gene C677T polymorphism genotyped using polymerase chain reaction (PCR)-based restriction fragment length polymorphism (RFLP) assay and IL-4 gene intron 3 VNTR polymorphism genotyped by using PCR with specific primers. The distribution of genotype and allele frequencies was not statistically different between the primary dysmenorrhea patients and healthy controls ($p>0.05$). According to the findings of first study of intron 3 VNTR polymorphism in the IL-4 gene and C677T polymorphism in MTHFR gene, these polymorphisms do not lead to increased susceptibility to primary dysmenorrhea.