

# CYP2C19 polymorphisms impacts citalopram metabolism

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(HealthDay)—For patients with major depressive disorder, certain *CYP2C19* polymorphisms contribute to citalopram (CIT) metabolism, according to research published in the December issue of the *Journal of Clinical Pharmacy and Therapeutics*.

Z. Uckun, Ph.D., from Mersin University in Turkey, and colleagues determined *CYP2C19* genetic polymorphisms and their impact on the metabolism of CIT. Genotypes were determined by polymerase chain reaction-restriction fragment length polymorphism method in 209 healthy individuals and 50 patients with [major depressive disorder](#).

The researchers found that the *CYP2C19\*1* and *CYP2C19\*17* allele frequencies were 71.0 and 18.0 percent, respectively, for the healthy group and 81.1 and 18.9 percent, respectively, for the patient group ( $P >$

0.05). Patients with the *CYP2C19*\*1/\*1 [genotype](#) had significantly higher mean plasma concentration and the mean dose-corrected [plasma](#) levels of demethylcitalopram (DCIT) compared to [patients](#) with *CYP2C19*\*1/\*2 or *CYP2C19*\*2/\*2 genotypes (P *CYP2C19*\*1/\*2 and *CYP2C19*\*2/\*2 genotypes, the mean metabolic ratio (MR, CIT/DCIT) was significantly higher (P *CYP2C19*\*1/\*1 and *CYP2C19*\*1/\*17 genotypes (P > 0.05).

"Our data suggest that *CYP2C19*\*17 polymorphism does not have a significant effect on CIT metabolism," the authors write. "In contrast *CYP2C19*\*2 polymorphism has a prominent role and is likely to contribute to interindividual variability in CIT metabolism in vivo at therapeutic doses."

**More information:** [Abstract](#)

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