

## Association of Vitamin D Receptor FokI Polymorphism With Dyslipidemia in Indonesian Elderly

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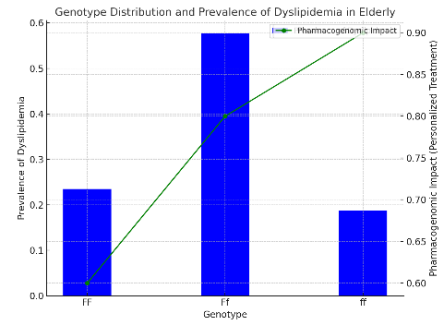
**Introduction.** Dyslipidemia is a major cardiovascular risk factor, particularly in the elderly, and genetic variation in the VDR gene may influence lipid metabolism.

**Aims.** This study aimed to investigate the association between VDR FokI polymorphism and dyslipidemia in the elderly population.

**Methods.** A cross-sectional study was conducted on 64 elderly participants. Genomic DNA was extracted, and the FokI polymorphism (rs10735810) was analyzed using PCR-RFLP electrophoresis. Lipid profiles were measured using enzymatic colorimetry. Ethical approval no: 04/09/KEP-FKIKUAI/2024.

**Results.** The distribution of VDR FokI genotypes was as follows: FF (18.8%), Ff (68.8%), and ff (12.4%). Dyslipidemia was present in 79.7% of the participants. Statistical analysis revealed a significant association between FokI polymorphism and dyslipidemia ( $p=0.029$ ). Individuals with the ff genotype exhibited higher levels of total cholesterol and LDL-C than those with the FF and Ff genotypes.

**Discussion.** This study found a significant association between VDR FokI polymorphism and dyslipidemia in the elderly. Carriers of the f allele (Ff and ff) had a higher prevalence of dyslipidemia due to reduced VDR activity. These findings suggest that pharmacogenomic approaches, particularly vitamin D supplementation adjustment, could personalize the treatment of dyslipidemia. Larger studies with better controls are needed to confirm these results.



Aggeletopoulou et al (2024) International Journal of Molecular Sciences 25:4901

Meza et al (2022) Genes 2022 13:1-20

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