



# Association of vitamin D receptor *BsmI* gene polymorphism with risk of low bone mineral density in post-menopausal women: a meta-analysis

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**ABSTRACT.** The vitamin D receptor *BsmI* gene polymorphism is reportedly associated with low bone mineral density (BMD) in postmenopausal women, but results from previous studies are conflicting. In the present study, we investigated the association between this polymorphism and the risk of low BMD through a meta-analysis of published studies. A literature search of the Pubmed, Embase, and CNKI databases from inception through July 2013 was conducted. The meta-analysis was performed using the STATA 12.0 software. Crude odds ratios with 95% confidence intervals were used to assess the strength of any association. Eleven case-control studies were included for a total of 1468 low BMD cases and 2177 healthy controls. No significant variation in low BMD risk was detected in any of the genetic models. Further stratified analyses were performed to examine the effect of ethnicity. In the subgroup analysis, no significant

association was found in Caucasians and in Asians. The meta-analysis results suggest that the *BsmI* polymorphism is not associated with low BMD risk in postmenopausal women.

**Key words:** Vitamin D receptor; *BsmI*; Gene polymorphism; Bone mineral density; Meta-analysis