

# Abstract

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## Vitamin B6 level is associated with symptoms of depression.

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**BACKGROUND:** A low level of vitamin B6 might theoretically cause depression as vitamin B6 is a cofactor in the tryptophan-serotonin pathway. In the present study, we examined the association between depression and the phosphate derivative of vitamin B6 in plasma, pyridoxal phosphate (PLP).

**METHODS:** In 140 individuals, symptoms of depression were evaluated by the Major Depression Inventory, and biochemical markers of vitamin B deficiency were measured.

**RESULTS:** We found that 18 (13%) individuals were depressed. A low plasma level of PLP was significantly associated with the depression score ( $p=0.002$ ). No significant association was found between depression and plasma vitamin B12 ( $p=0.13$ ), plasma methylmalonic acid ( $p=0.67$ ), erythrocyte folate ( $p=0.77$ ), and plasma total homocysteine ( $p=0.16$ ).

**CONCLUSION:** Our study suggests that a low level of plasma PLP is associated with symptoms of depression. Randomized trials are now justified and needed in order to examine whether treatment with vitamin B6 may improve symptoms of depression.

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