

# Abstract

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## Correlation between plasma levels of glutamate, alanine and serine with severity of depression.

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**OBJECTIVE:** The goal of this study was to evaluate the utility of using plasma levels of amino acids as an indicator of the severity of depression.

**METHODS:** The samples were collected from 23 depressed patients receiving antidepressant medication, and were compared to 31 healthy subjects. The plasma levels of amino acids were determined using HPLC with fluorometric detection. The severity of depression was evaluated using the Hamilton Depression Rating Scale (HAM-D) scores.

**RESULTS:** Plasma levels of glutamate, glutamine, glycine and taurine were significantly increased in the depressed patients compared to the controls. Statistical analysis indicated a positive correlation between glutamate and alanine levels and HAM-D scores and a negative correlation of L-serine with HAM-D scores.

**CONCLUSION:** The results indicate that plasma level of glutamate, alanine and L-serine could reflect the severity of depression rather than glutamine, glycine and taurine.

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