

## ABSTRACT

### Homocysteine Levels in Chinese Patients with Schizophrenia

**Background:** Elevated plasma levels of homocysteine have been shown to be associated with schizophrenia in some studies, but the evidence is still limited and mixed.

**Aim:** This study was aimed at evaluating the plasma homocysteine levels in Chinese patients with schizophrenia and assessing its association with clinical phenotype of the disease.

**Method:** 250 inpatients and 250 healthy controls were identified in Kowloon Hospital and at the Red Cross Blood Donation Centre respectively. Each subject was evaluated with a structured diagnostic interview, demographics and blood analysis for their plasma homocysteine levels. The Positive and Negative Syndrome Scale (PANSS) was used to assess clinical symptoms of schizophrenia.

**Results:** Patients with schizophrenia exhibited a higher plasma homocysteine level than controls (mean=10.97  $\mu\text{mol/L}$  in cases versus mean=9.93  $\mu\text{mol/L}$  in controls,

$p < 0.001$ ). Both male and female patients with schizophrenia exhibited a higher plasma homocysteine level than the matched control — these differences persisted after controlling for age. The odds ratio was 2.2 for schizophrenia in the fourth quartile versus the lowest quartile of homocysteine concentrations. There was no significant association between plasma homocysteine level and duration of illness, clinical symptoms, age at onset and family history of mental illness.

**Conclusion:** Plasma homocysteine level was found to be elevated in Chinese patients with schizophrenia. The level was increased in both male and female patients. Clinical phenotype such as duration of illness, clinical symptoms, age at onset of disease and family history of mental illness did not appear to be related to plasma homocysteine level. More research is warranted to determine the cause(s) of elevated homocysteine level in schizophrenia.

**Key words:** homocysteine, schizophrenia, Chinese