Objective: Brain-derived neurotrophic factor (BDNF) has an important role in learning, motivation and regulation of mood. A body of research indicates that dysregulation of BDNF is found in post-traumatic stress disorder (PTSD). The aim of this study was to investigate the association of baseline plasma BDNF and follow-up PTSD symptoms in Chinese motor vehicle accident survivors.

Method: Motor vehicle accident (MVA) survivors were recruited from one Emergency Room of Shanghai. BDNF plasma levels were measured in 24 hours after motor vehicle accident. The Clinician-Administered PTSD Scale (CAPS) was used to evaluated PTSD symptoms one month after accident. Totally, 60 MVA survivors participated in this study and 49 of them completed follow-up evaluation.

Results: In the one month follow-up interview, 14 of the MVA survivors met the PTSD diagnosis. The PTSD MVA survivors shown lower baseline BDNF plasma level when compare with non-PTSD participants (p< 0.05).

Conclusions: People who show lower plasma BDNF after traumatic event may be more susceptible to PTSD, and plasma BDNF could be a predictor of PTSD.