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A PROSPECTIVE INVESTIGATION OF POSTCONCUSSIONAL SYMPTOMS AFTER MILD TRAUMATIC BRAIN INJURY

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Objective: The aim of this study was to investigate the contributions of cognitive, emotional and behavioural factors to the development of Post Concussional Syndrome (PCS) after mild traumatic brain injury (MTBI), particularly the role of attentional bias (AB).

Methods: 80 MTBI patients completed baseline questionnaire assessments and 39 completed computer tasks. 42 patients completed the follow-up assessments. A series of self-report measures were used to assess cognitive, behavioural and emotional responses, and the visual probe task was adopted to measure reaction time (RT) and assess attentional bias (AB). The main outcomes were measured by the Rivermead Postconcussion Symptoms Questionnaire (RPQ).

Results: PCS symptoms at 3 months were positively correlated with measures of stress response ($r=0.397$, $p=0.011$), particularly stress avoidance ($r=0.497$, $p=0.001$), anxiety ($r=0.33$, $p=0.035$), illness perception ($r=0.528$, $p=0.000$), and all or nothing behaviour ($r=0.422$, $p=0.006$). There were also significant correlations between PCS symptoms and Mean RT ($r=0.507$, $p=0.012$) and total AB ($r=-0.425$, $p=0.039$). The positive correlations between PCS and RT indicates that PCS symptoms may be associated with slow information processing, whereas the negative correlation between AB and PCS symptoms may reflect that PCS symptoms are associated with threat avoidance.

Conclusions: There were significant correlations between PCS symptoms and a number of cognitive, emotional and behavioral factors, which is consistent with the proposed cognitive behavioral model. The significant findings from RT/AB reflect that PCS symptoms may be associated with slow information processing and trauma-related threat avoidance. This study provides a cognitive behavioural approach to a better understanding of PCS.