

## **Quantitative Evaluation of the Pain-Related Impairment Rating of Individuals with Mild Traumatic Brain Injury and with Chronic Pain, according to the AMA Guides Fifth Edition**

Armando S Miciano

*Nevada Rehabilitation Institute, Las Vegas, NV, United States*

### **Purpose**

Direct comparative research between chronic pain (CP) and Mild Traumatic Brain Injury (MTBI) have been limited, and post-MTBI outcomes are poorly reported in past literature. Some authors recommend that residual physical issues be assessed along with the more researched cognitive and psychosocial issues in MTBI. This study's objective is to examine the pain-related impairment (PRI) of MTBI patients with CP using *Ratings Determining Impairment Associated with Pain* (RDIP), a formal assessment of pain disability by the AMA Guides to Evaluation of Permanent Impairment, Fifth Edition.

### **Method**

A cross-sectional case series study was undertaken in a referral-based outpatient rehabilitation clinic. 60 outpatient subjects with MTBI completed the Self-Administered Comorbidity Questionnaire (SCQ). SCQ results were used to identify subjects who felt that CP was a significant problem, and 30 subjects (20 men and 10 women) were asked to complete the RDIP. Physical Performance Tests (PPT) scores, consisting of the 6-Minute Walk Test (6MWT), Berg Balance Scale, & Dynamic Gait Index (DGI), were also recorded.

### **Results**

One-half of MTBI outpatients identified significant chronic pain on the SCQ (43.7% combination pain, followed by 23.4 % unidentified chronic pain) and were then asked to take the RDIP. A large proportion of the overall impairment was caused by crash-related traffic injuries with several trauma mechanisms. A psychological comorbidity was seen in a majority of the subjects, most commonly due to Affective Disorder. The RDIP consisted of five major items: Pain Severity; Emotional Distress (ED); Activity Interference (AI); Global Pain Behavior; and, Credibility score for a maximum of 80 (high pain and severe impairment). The RDIP was then broken down into sub-categorization of PRI severity (from no significant impairment to severe). RDIP responses resulted in the following PRI: 0% no significant impairment; 0% mild; 33% moderate; 50% moderately severe; and, 17% severe impairment. The observed trend was a significantly greater effect on AI over ED and a close trend relationship between the total RDIP and low PPT scores.

### **Conclusions**

The majority of the MTBI patients who identified pain as a significant problem, scored in the moderately severe PRI category. The AI/ED ratio in relationship to total RDIP score remained consistent even when the patients were separated based on PRI. There was little variation in their physical performance status. These findings suggest that CP should be considered when interpreting physical and psychosocial difficulties after MTBI and that the pain disability status of MTBI patients, regardless of severity, results in significant loss in functional status. Further research on the RDIP and its correlation to decreased PPT scores would be beneficial.