Impulsivity

Impulsivity is the tendency to act without thinking, for example if you blurt something out, buy something you had not planned to, or run across the street without looking. To a degree, this kind of behavior is common, especially in children or teenagers, and isn't necessarily a sign of trouble.

Impulsivity, may be an early predictor of suicidality following TBI. The purpose of a study was to evaluate the risk of suicidality in patients with a prior history of impulsivity following a traumatic brain injury (TBI). Using de-identified electronic health records from the TriNetX United States Collaborative Network with Natural Language Processing, three cohorts were generated: the impulsivity TBI cohort (I+TBI+) included subjects with a diagnosis of impulsivity before a diagnosis of TBI; the no impulsivity TBI cohort (I-TBI+) included patients with TBI but no impulsivity; the impulsivity no TBI cohort (I+TBI-) included patients with impulsivity but TBI. Two analyses were conducted, including analysis 1 (impulsivity TBI vs. no impulsivity TBI) and analysis 2 (impulsivity TBI vs. impulsivity no TBI). Patients were 1:1 propensity score matched by age, sex, race, ethnicity, psychiatric diagnoses, and antidepressant use. Outcomes included a diagnosis of self-harm, suicidal ideation, or a suicide attempt within one year after the index event. The all-time incidence of each outcome was assessed across different age categories. The chi-square test (categorical variables) and t-test (numerical variables) were used to assess for differences between groups. A total of 1,292,776 TBI patients were identified in the study. After 1:1 propensity score-matching, there were 20,694 patients (mean [SD] age, 48.1 [21.8]; 8,424 females [40.7%]) with impulsivity and TBI (I+TBI+), 1,272,082 patients (mean [SD] age, 46.0 [23.1]; 562,705 females [44.2%]) with TBI alone (I-TBI+), and 90,669 patients (mean [SD] age, 43.7 [22.6]; 45,188 females [49.8%]) with impulsivity alone (I+TBI-). Within the first year after a TBI, patients with impulsivity were more likely to exhibit self-harm ($P < 0.001$), suicidal ideation ($P < 0.001$) or a suicide attempt ($P < 0.001$). Compared to TBI patients without impulsivity, those with impulsivity had a four-fold increase in the incidence of self-harm (2.81% vs. 0.63%), an eight-fold increase in suicidal ideation (52.42% vs. 6.41%), and a twenty-one-fold increase in suicide attempts (32.02% vs. 1.50%). This study suggests that impulsivity diagnosed before a TBI may increase the risk of post-traumatic suicidality, with a four-fold increased risk of self-harm, an eight-fold increased risk of suicidal ideation and a twenty-one-fold increased risk of suicide attempts. This characterizes a group of at-risk individuals who may benefit from early psychiatric support and targeted interventions following a TBI [1)]

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Ladner L, Shick T, Adhikari S, Marvin E, Weppner J, Kablinger A. Association between impulsivity, self-harm, suicidal ideation, and suicide attempts in traumatic brain injury patients. J Neurotrauma. 2024 Aug 16. doi: 10.1089/neu.2024.0167. Epub ahead of print. PMID: 39150012.