

Teens who suffer concussion more likely to attempt suicide, be bullied: study

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Teenagers who have suffered a traumatic brain injury such as a concussion have a significantly higher risk of attempting suicide, being bullied and seeking help for mental-health issues from crisis help lines, a study has found.

The study by researchers at St. Michael's Hospital also found adolescents who had a traumatic brain injury (TBI) are more likely to become bullies themselves, to be prescribed medication for anxiety and/or depression, to use alcohol or cannabis, and to engage in antisocial behaviours.

Lead researcher Dr. Gabriela Ilie, a neuropsychologist at the Toronto hospital, said those behaviours include damaging property, breaking and entering, taking a car without permission, running away from home, setting a fire, getting into a fight at school, or carrying or being threatened by a weapon.

"I think what we're seeing here is a cry for help," said Ilie. "What we're seeing here is a wake-up call. [It's a] cry for help on their behalf and a wake-up call for us – for parents, for educators, for medical professionals.

"What this says to us is when your child gets a concussion or if you see signs of mental-health issues – suicide attempts, substance use – and you take your child to a medical professional, you want to be vigilant as a parent, you want to be vigilant as a medical professional to screen for potential mental health and behaviour harms in adolescent patients who have had a TBI."

Ilie said doctors need to ask young patients seeking help for mental-health problems whether they have had a blow to the head or were previously diagnosed with a concussion. The corollary is also necessary: asking teens who have had a concussion if they are experiencing depression, anxiety or other mental-health issues, she said.

"And take that into account in your diagnosis, take that into account in long-term vigilance and screening and monitoring of those kids."

Ilie believes the research, published Tuesday in the journal PLOS ONE, represents the first population-based evidence demonstrating the extent of the link between TBI and poor mental-health outcomes among adolescents.

The study was conducted using data from the 2011 Ontario Student Drug Use and Health Survey developed by the Centre for Addiction and Mental Health (CAMH) in Toronto.

The survey contains responses from almost 9,000 students from Grades 7 to 12 in publicly funded schools across Ontario. When the survey was initiated, it asked students to anonymously report their alcohol and drug use, but it has since been expanded to look at adolescent health and well-being overall. Questions about traumatic brain injury were added for the first time in 2011.

"We know from a previous study based on [survey] data that as many as 20 per cent of adolescents in Ontario said they have experienced a traumatic brain injury in their lifetime," said Dr. Robert Mann, a senior scientist at CAMH who directs the survey.

"The relationship between TBI and mental-health issues is concerning and calls for greater focus on prevention and further research on this issue."

Ilie said students were asked if they had ever suffered a TBI such as a concussion that left them unconscious for at least five minutes or required them to be hospitalized for at least one night.

Almost one in five said they had experienced at least one traumatic brain injury in their lifetime; the risk of such an injury was almost 50 per cent higher among males than females.

The study found students who reported a previous TBI were more than three times more likely than those who had not had a head injury to attempt suicide and roughly twice as likely to be bullied at school or on the Internet, to bully others, to seek help from a crisis help line or to be prescribed a medication for depression, anxiety or both.

The odds of being threatened with a weapon at school were three times as high for students with a previous head trauma, compared to peers who had not had a TBI, the researchers found.

Adolescence can be a turbulent time as teens try to figure out who they are and what they want to be, said Ilie.

Adding the effects of a concussion – which are known to slow cognition, interfere with the ability to concentrate and create emotional turmoil – can make it more challenging to learn and to navigate social relationships.

"You don't feel all right. You go to class and you don't answer as fast," she said, adding that students may have to study longer than they did before to get the same results on tests, for instance.

"It's a very harsh environment out there for teens. When kids see that you're not as sharp, you don't catch a joke fast, you don't respond quickly when a pun has been thrown at you, they can bully you."

The study results suggest that parents, teachers, sports coaches and health providers need to keep on top of how teens who have had a concussion are faring mentally and emotionally over time.

"Otherwise, we're going to let them fall through the cracks," said Ilie. "My concern with looking at this data is what net is there to catch those kids?"