

Having epilepsy is not linked to committing violent crime

December 27 2011

Despite current public and expert opinion to the contrary, having the neurological condition epilepsy is not directly associated with an increased risk of committing violent crime. However, there is an increased risk of individuals who have experienced previous traumatic brain injury going on to commit violent crime according to a large Swedish study led by Seena Fazel from the University of Oxford, UK, and colleagues at the Karolinska Institutet, Sweden, and Swedish Prison and Probation Service, and published in this week's *PLoS Medicine*.

The authors say: "The implications of these findings will vary for clinical services, the [criminal justice system](#), and patient [charities](#)."

In their study, the authors identified all people with [epilepsy](#) and [traumatic brain injury](#) recorded in Sweden between 1973 and 2009 and matched each case with ten people without these brain conditions from the general population. The investigators linked these records to subsequent data on all convictions for violent crime using the personal identification numbers that identify Swedish residents in national registries.

Using these methods, the authors found that 4.2% of people with epilepsy had at least one conviction for violence after their diagnosis compared to 2.5% of the general population. However, after controlling for the family situation (in which individuals with epilepsy were compared with their unaffected siblings), the association between being diagnosed with epilepsy and being convicted for violent crime

disappeared. In contrast, the authors found that after controlling for substance abuse or comparing individuals with brain injury to their unaffected [siblings](#), there remained an association between experiencing a traumatic brain injury and committing a violent crime.

The authors say: "With over 22,000 individuals each for the epilepsy and traumatic brain injury groups, the sample was, to our knowledge, more than 50 times larger than those used in previous related studies on epilepsy, and more than seven times larger than previous studies on brain injury."

They continue: "In conclusion, by using Swedish population-based registers over 35 years, we reported risks for violent crime in individuals with epilepsy and traumatic brain injury that contrasted with each other, and appeared to differ within each diagnosis by subtype, severity, and age at diagnosis."

The authors suggest that the lack of a causal association with epilepsy and violent crime may be valuable for patient charities and other stakeholders in tackling one of the causes of stigma associated with this condition. In contrast, improved screening and management of some patients and prisoners with traumatic [brain injury](#) may reduce offending rates,

The study relied on conviction data and the authors explain their rationale: "Although we relied on conviction data, other work has shown that the degree of underestimation of violence is similar in psychiatric patients and controls compared with self-report measures, and hence the risk estimates were unlikely to be affected... We have no reason to think that this would be different for these two neurological conditions. Overall rates of violent crime and their resolution are mostly similar across western Europe, suggesting some generalisability of our findings."

In an accompanying Perspective, psychiatrist Jan Volavka, professor emeritus from the New York University School of Medicine (uninvolved in the research) says: "Comparing the conviction rates before and after the diagnosis would provide another perspective on the effect of the illness on [violent crime](#)." However, he says: "Among the major strengths of the study are the very large sample size, comprising the entire population of Sweden, and the follow-up of 35 years. The findings are of major public health importance and provide inspiration for further research".

More information: Fazel S, Lichtenstein P, Grann M, Långström N (2011) Risk of Violent Crime in Individuals with Epilepsy and Traumatic Brain Injury: A 35-Year Swedish Population Study. PLoS Med 8(12): e1001150. [doi:10.1371/journal.pmed.1001150](https://doi.org/10.1371/journal.pmed.1001150)

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