

Traumatic Brain Injury in Incarcerated Populations

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Abstract

Much research has demonstrated that traumatic brain injury (TBI) can lead to altered and aggressive behaviors in those injured. A growing field of research shows that TBI is significantly more prevalent in prison populations than the general population. Many of these injuries occur either before imprisonment or during an individual's time serving their sentence. The treatment and lack thereof has many implications after release, including recidivism. Initial screenings of TBI as people are sentenced could be used as a mitigating factor during sentencing, potentially resulting in shorter sentences for brain-injured defendants. Screening should also lead to earlier interventions while in prison, with ongoing monitoring and treatment during imprisonment and immediately following release. Various treatments, including pharmacological intervention, have been shown to improve symptoms associated with TBI, demonstrating that treatment is viable and possible.¹ Given the high rates of incarceration and recidivism of individuals with TBI, it would be worthwhile to enact policy that addresses the neurological health of incarcerated people, delivers treatments to ensure their medical well-being, and increases their chance of reintegrating as productive members of society.

What is Traumatic Brain Injury (TBI)

Traumatic Brain Injury is a form of brain injury that occurs when a sudden trauma occurs to the brain. Symptoms of TBI include personality changes, aggression, acting out, and social inappropriateness.² Two main consequences of TBI that can make an individual more prone to commit a crime are increases in impulsivity and aggression. Impulsivity can be defined under three dimensions: motor impulsivity (acting without thinking), cognitive impulsivity (quick decision making), and non-planning impulsivity (lack of future orientation or consideration of consequences).^{3,4} Aggression refers to symptoms of disinhibition, anger, and irritability.⁵ Using standardized measures of impulsivity and aggression, various research has demonstrated marked increase in both in people who suffer a TBI. One study of impulsivity in TBI found increases in all three defined components of impulsivity compared to pre-injury levels.⁶ Another study found a significant increase of aggression in one-third of subjects up to six months after TBI.⁷ This extended finding demonstrates how TBI can become an issue for an individual for quite some time after their injury, and emphasizes how treating TBI is imperative for improving their long-term health.

TBI in Prison Populations

Various analyses have examined the rates of TBI in both the general and in many different prison populations. One analysis found that in developed countries, 12% of adults in the general population had a

history of TBI.⁸ A meta-analysis of TBI in juvenile offenders, however, found that 30% of the offenders had suffered a TBI in the past, a marked increase compared to the general population.⁹ Furthermore, another study of juvenile offenders in a prison in New York found about half of the offenders entered with a history of TBI.¹⁰ It is not difficult to imagine how TBI leading to increases in impulsivity and aggression can increase a person's chance of committing a crime, as an individual could have less control in stressful situations (aggression) or commit inappropriate actions before thinking about the consequences (impulsivity). Overall, incarcerated individuals have a higher rate of TBI than the general population, and given the correlation of TBI with increases in impulsivity and aggression, symptoms of TBI may put these people at higher risk of becoming imprisoned.

In addition to this increase of TBI in imprisoned populations, there is a significant relationship between TBI and recidivism as well. In one study, a sample of prisoners was screened for TBI, and trends of returning to prison were examined among the group. Overall, one year after release, 62.89% of individuals without TBI remained free while 51.85% of the TBI afflicted people were imprisoned again. Furthermore, in the same study, the individuals with TBI would recidivate much closer to their initial release date than the control individuals. For example, one year after release, about 48% of the TBI population was back in prison as opposed to just 37% of those without TBI.¹¹ These findings demonstrate that it is much harder for individuals with TBI to reintegrate into society after their release. Brain injury has lasting, significant effects that hinder a released person's ability to turn their lives around and contribute to society in meaningful ways. In summary, TBI leads an individual to be more likely to commit a crime due to increased aggression and impulsivity, and a person with TBI is more likely to fall back into the prison system than those without. These individuals require medical attention in order to treat this injury that puts them at significant risk to become imprisoned.

Recommendations

The findings outlined above indicate a need for changes in the criminal justice system to account for the personality-changing injuries that many prisoners enter with or develop while incarcerated. Consider the case of a man who seemingly spontaneously developed paedophilic tendencies and sexually deviant urges.¹² The day before his sentence was to begin, a trip to the emergency room revealed he had a tumor in his brain that may or may not have been related to a head injury he sustained in his youth. After removal of the tumor, his urges vanished and he was allowed to return home instead of serving a prison sentence. The reasoning that an individual should not be held responsible for behavior resulting from a neurological condition may be applied to individuals with TBI as well.

While not as extreme an affliction as a tumor, the personality changes associated with TBI warrant an examination of perpetrators' medical history to be included in sentencing decisions. During a hearing, judges are able to consider any factors that could justify reducing a defendant's sentence. These "mitigating circumstances" allow for a judge to reduce a sentence if they see fit given the offense or reason the offender committed the crime.¹³ A screener for TBI should be conducted before hearings and sentencings. The results of this screener should inform the length of sentence and severity of punishment. An individual who committed assault, for example, who had been found to have a severe, untreated TBI in the past could be given a shorter sentence because their injury could have contributed to the criminal activity due to increased impulsivity and aggression.

The screener results should also be used to enact treatment plans for individuals while incarcerated and after they are released. These people should be examined on a regular basis by a physician, either in the prison or a general physician, to monitor their cognitive ability and other symptoms. They should have a specific treatment plan in place, whether it involves adequate rest and gradual return to normal activities, or prescription medications that have been shown to lower some risks associated with TBI.¹⁻¹⁴ Consistent follow-up after release could also reduce the higher recidivism rates among those with TBI. By monitoring symptoms and even catching a new TBI if it occurs, these people would better be able to reintegrate into society. Treatment could reduce the cost both to these individuals and to society, through both the reduction of harms of recidivism and by prevention of the reimprisonment of a would-be contributor to society.

Conclusion

Traumatic Brain Injury is prevalent in incarcerated populations at much higher rates than in the general population. Symptoms of increased aggression and impulsivity, in addition to other personality changes, may result in a higher chance of being charged for a crime resulting from inhibited ability to control one's actions. Screening for TBI before sentencing, as well as treating for TBI and monitoring symptoms, could have a great benefit for both the individual who suffered from TBI as well as society in

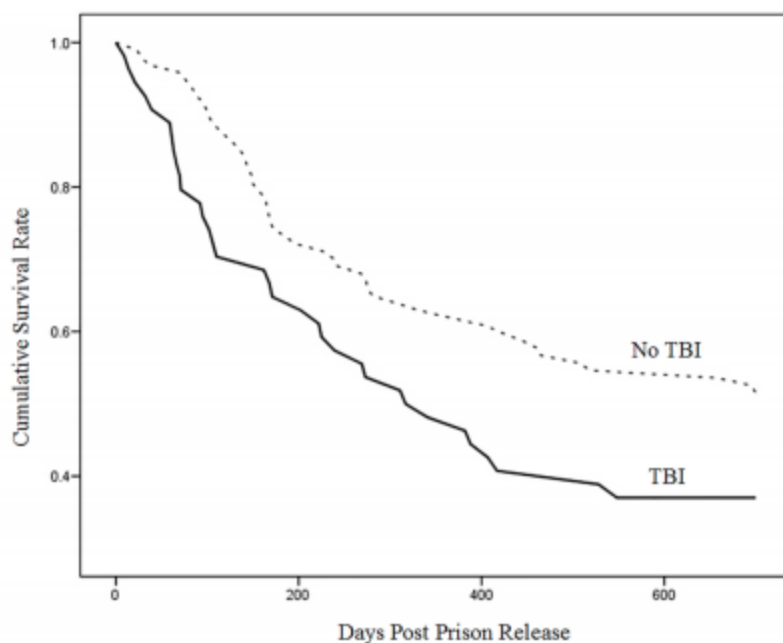


Figure from: Ray, B. & Richardson, N. J. Traumatic Brain Injury and Recidivism Among Returning Inmates. *Crim. Justice Behav.* 44, 472-486

general. Injured individuals would receive necessary medical intervention, and potentially face a reduced punishment, since their altered state was related to their injury. Society would benefit by a possible reduction in recidivism rates as more people remain out of jails, have a smaller chance of committing crimes, and contribute to society in meaningful ways as a result of their well-treated injuries.

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