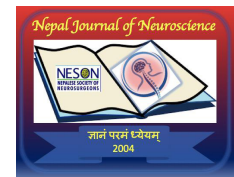


## History of traumatic brain injury in individuals committing sexual offenses

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Dear Editor,

Recent research in patients with traumatic brain injuries (TBIs) focus on several challenges addressing the spectrum of challenges in children, adolescents and in adults.<sup>1</sup> These changes include social, behavioural, cognitive, academic, and psychosocial complications severity varying across the spectrum of TBIs (from mild to severe).<sup>1-3</sup>

Sexual violence is an issue of public health concern and few studies have explored their correlation with neuropsychiatric conditions.<sup>4-11</sup> Many other areas of the central nervous system have been implicated to play the causative role in the adaption of sexual behaviour and include hippocampus, the amygdala, septal complex, hypothalamus, brainstem, and spinal cord.<sup>12</sup> Preliminary conclusions from studies suggest that traumatic brain injury can lead to pathological changes in different regions.<sup>4, 8, 10, 13-19</sup> The available understanding suggests that functional impairment and irreversibility in a person's personality and behaviour depend on the underlying injury to brain and any associated risk factors.<sup>10</sup> TBI can lead to structural and functional abnormalities in fronto-temporal brain regions,<sup>2, 4, 8, 13</sup> and thus causing disinhibition leading to sexually deviant behaviours including hypersexuality and paraphilias.<sup>4, 20-22</sup> It has been hypothesized that TBI can injure the areas responsible to control an individual's libido intensity or change sexual preference and injury to these regions may put individuals to develop altered sexual behaviour.<sup>18</sup> Injuries sustained during childhood has greater potential to impair and interrupt skill acquisition.<sup>23</sup> This may result in antisocial thinking, increase association with an antisocial peer group, poor self-control, impulsive behaviour, poor

problem solving, and habit to seek immediate gratification.<sup>2, 3</sup> Additionally premorbid characteristics including pre-morbid violence, prior alcohol and drug abuse, male gender, and lower economic status have been shown to associated with aggressive behaviour following TBI.<sup>24</sup> However, studies have not been able to determine the causal relationship between TBI risk to develop altered sexuality or abnormal sexual behaviour.<sup>2, 4, 10, 25-28</sup> It has been suggested that in efforts to develop preventive strategies there is a greater need to conduct studies to find out the correlation between TBI and sexually motivated crimes.<sup>29</sup> There is a further need for studies those can focus on neuroimaging techniques and neuropsychological assessment techniques to understand structural and functional changes and also develop remedial measures.<sup>4, 18</sup>

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