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LETTER TO THE EDITOR

Injury distribution and severity in suicidal versus accidental fall from heights: need for a multifactorial consideration

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Dear Editor,

We recently read an article "A comparative autopsy study of the injury distribution and severity between suicidal and accidental high falls" published in your esteemed journal with great interest [1]. We would like to complement the authors for their work which can have useful forensic applications. However, we would like to highlight certain issues which can have implications on the inferences and interpretation of this research work [1].

One of the significant factors influencing the injury patterns and severity in fall from height is the height of fall. According to the literature, head-first impacts are common in free falls from higher altitudes, side-first impacts are common up to 60 m, and feet-first impacts are common in blunt trauma falls from lower heights ranging from 36 to 54 m [2]. In the reported study [1] however, a mention of only mean height has been made for differentiating accidental and suicidal falls. Thus, the exact effect of height of fall on the severity and pattern of injuries in accidental and suicidal falls remains unknown.

The study highlights on the injury sustained due to impact on the ground, but the effect of surface of impact on nature of injuries sustained has not been detailed. It is pertinent to mention that injury patterns can also be influenced by the properties of the surface on which the person has fallen. When someone falls on a deformable surface such as sand, mud, water, or snow, the severity of injuries may be reduced due to lengthening of the impact period, while impact on least deformable surfaces such as the rock, steel, or concrete surfaces have a greater potential for injury due to minimal duration of impact [2, 3]. It is pertinent to mention that the intermediate impacts during descent can also influence the spectrum of injuries due to the transfer of energy in between [2].

The weight and BMI of the victim influences the kinetic energy generated during the fall of height. The more the mass and height, the higher the generated kinetic energy, which significantly affect the injury severity score [2, 4]. In the reported study [1], however, the effect of weight on the injury patterns and severity has not been taken into consideration while comparing the accidental and suicidal falls. Besides, the clothing of the victim can affect the outcome of the fall. The clothing makes the body more aerodynamic, and air resistance at high altitudes can hamper the descent [2], thus affecting the injury severity and score.

Our correspondence thus emphasizes on the need for a detailed multifactorial analysis of variables which are likely to influence the injury patterns, severity, and its medicolegal interpretation in discriminating accidental and suicidal fall from height.

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