Abstract

Concussions are prevalent in sports like volleyball, often resulting from ball-to-head contact. This study aimed to investigate the relationship between defensive players' hand positioning and the incidence of hits or near misses to the face. Six top NCAA Women's Volleyball Teams from the 2022 season were selected for this study. These games were observed, and instances of ball contact with defensive players' faces or near misses were recorded along with hand positioning. Data of hand positioning were coded numerically for analysis. In total, 176 games comprising 42,533 attack plays were analyzed, revealing 294 near misses (6.9 per 1000 exposures) and 61 hits to the face (1.43 per 1000 exposures). Hand position 3 (high hand position) correlated with the most near misses, while hand position 1 (low hand position) was associated with the highest number of hits to the face. Proper hand positioning is vital for player safety, emphasizing the importance of technique to reduce direct hits to the face and potentially prevent concussions. These findings provide valuable insights for coaches and players in developing strategies to enhance safety measures during volleyball games.

Keywords: Concussions, volleyball, hand positioning, hits, safety measures