ARE AFRICAN AMERICAN FOOTBALL PLAYERS AT A GREATER RISK FOR CTE?

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Abstract

Chronic Traumatic Encephalopathy (CTE) is a progressive neurodegenerative disease linked to repeated head trauma, most commonly in contact sports such as football. This study examines whether African American athletes may face increased risk due to higher exposure to head impacts and cultural factors within the sport. A literature-based approach was used to analyze existing research on CTE, concussion-related injuries, and athlete demographics.

Findings show that African American athletes are highly represented in football, which may increase exposure to repeated head trauma, while a culture of playing through injury may contribute to underreporting and long-term risk. Because CTE can only be confirmed post-mortem, its true prevalence remains unknown.

Overall, the study suggests that African American male athletes may be at increased risk for CTE due to greater exposure to repeated head impacts, highlighting the need for improved prevention and early detection.

Introduction and Summary

Chronic Traumatic Encephalopathy (CTE) is a neurodegenerative disease linked to repeated head trauma, most commonly in contact sports such as football, and is only diagnosable post-mortem due to abnormal tau protein buildup in the brain [1]. African American athletes are highly represented in football, which may increase exposure to repeated head impacts, along with cultural pressures to continue playing through injury [2]. Because CTE cannot be diagnosed in living individuals, its true prevalence remains unclear. This study examines whether these physical and cultural factors place African American athletes at increased risk for CTE, with a focus on football-related exposure. It is predicted that this combination may contribute to greater long-term neurological damage and highlights the need for improved prevention and early detection.

Methodology

This study uses a literature-based research approach to examine CTE risk among African American athletes using peer-reviewed academic journals, medical research organizations, and reputable sports medicine sources focused on football-related head trauma. Sources were reviewed for evidence related to repeated head impacts, concussion reporting behavior, and social or cultural factors associated with long-term neurological outcomes. Information from these sources were compared and synthesized to identify consistent findings and broader gaps in existing research.

Results

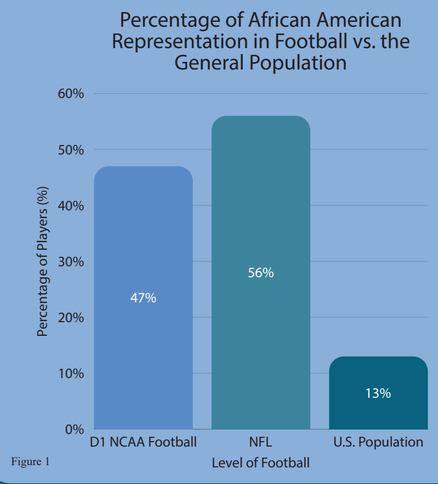

Figure 1

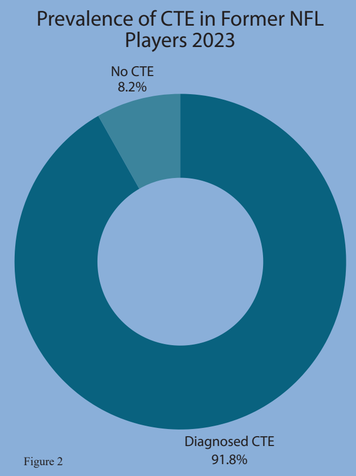

Figure 2

Findings

African American athletes are highly represented in football, making up nearly half of Division I players and over half of NFL players respectively, which may increase exposure to repeated head impacts associated with the sport (Figure 1) [3]. Football itself involves frequent collisions strongly linked to CTE, with a 2017 JAMA study showing 177 of 202 examined former football players' brains had CTE, and a 2023 BU Brain Bank study reporting 345 of 376 former NFL players diagnosed with the condition (Figure 2) [4,5]. The increase in diagnosed cases across these studies reflects expanding brain bank research and continued recognition of CTE's prevalence in football. Additional research shows over 40% of young contact sport athletes had CTE compared to less than 1% of the general population, reinforcing the role of repeated head trauma in disease development [6].

Cultural factors such as underreporting of concussions due to fear of losing playing time may further increase exposure to injury, as supported by both research and real-world athletic training observations [7]. CTE remains difficult to study in living individuals because it can only be confirmed post-mortem due to tau protein buildup in brain tissue, although advances in imaging and biomarkers are being explored for future diagnosis [1,8]. Efforts such as improved concussion protocols and protective equipment like Guardian Caps aim to reduce head impact exposure in football [9]. Overall, findings suggest African American athletes may face increased CTE risk due to higher participation in football, repeated head impact exposure, and injury-reporting culture.

Discussion

This study suggests that African American male athletes may face increased risk for CTE due to their high representation in football, leading to greater exposure to repeated head impacts. However, findings are limited by reliance on brain bank studies, potential selection bias, and the inability to diagnose CTE in living individuals, which makes true prevalence uncertain. The use of existing literature rather than original data and focus on football also limit generalizability. Despite these limitations, results highlight the importance of reducing head impacts, improving concussion protocols, and addressing injury underreporting. Future research should focus on in-vivo diagnosis methods and broader analyses across sports and populations.

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