The relationship between professional sports and suicidal behaviour

Pichler Eva-Maria[1], Claussen Malte Christian[2,3,4]

[1] Department of Psychiatry and Psychotherapy, Psychiatric Services Aargau AG, Brugg-Windisch, Switzerland
[2] Department of Psychiatry, Psychotherapy and Psychosomatics, University Hospital of Psychiatry Zurich, Zurich, Switzerland
[3] Private Clinic Wyss AG, Münchenbuchsee, Switzerland
[4] Psychiatric Services Grisons, Chur, Switzerland

Suicidal ideation and behaviours are still a highly stigmatized and neglected health problems in athletes. The suicides of well-known athletes have repeatedly brought the subject of mental health problems of top athletes into the public discourse. However, there is still a lack in psychiatric and psychotherapeutic care in high-performance sports. Significant prevalence studies and guidelines to assess and counteract suicidal potential in this special population are missing. To address these problems, the International Olympic Committee (IOC) published the Expert Consensus Statement on mental health in elite athletes in 2019. The statement is a comprehensive analysis of the treatment of mental health disorders in the professional sporting context, and provides a guideline how to manage the individual athlete affected by mental illness [1].

Certain mechanisms that might promote suicidal tendencies were identified in professional athletes, which are, among others, performance pressure, behavioural patterns and personality traits, withdrawal from sports, substance abuse, and physical impacts. Suicide has been strongly associated with affective disorders, mainly major depression and bipolar disorder [2]. The majority of studies report a comparable prevalence and gender distribution of depression among athletes and non-athletes. However, athletes have to deal with special sport-associated factors that might increase their vulnerability towards depression. The career window of professional athletes is short. Thus, athletes suffer from a unique pressure to perform. Often the time for social contacts and people dedicated to suicide prevention is lacking. The athletes themselves as well as their physicians frequently ignore

psychiatric and psychological problems in favour of short-lasting success. Moreover, coaches might, unintentionally, disempower athletes, with a loss of their autonomy as a consequence. Long periods of exercise with little recovery time can result in depression-like symptoms or even depressive disorders. Moreover, there are behavioural patterns and personality traits that are important for the performance of top athletes but can be problematic in the background of suicidal behaviour, e.g. increased impulsiveness, perfectionism or fear of failure. Especially with the end of the athletes' careers, disempowerment becomes a problem. The consequences of retirement on self-worth, self-confidence, body image as well as on biochemical processes might lead to a crisis [3].

The usage of performance enhancing drugs, such as testosterone, nandrolone, and stanozol or recreational drugs like alcohol or cocaine, is a common problem among athletes. These substances are linked, next to physical adverse health effects such as cardiovascular and endocrine disorders, to psychiatric alterations, with some of them effect the impulse control and increase suicide risk [4].

Injuries are often an unavoidable part in an athlete's career that might impose a substantial physical and mental burden. Traumatic brain injuries (TBI) result from an unexpected damage to the brain. The lesions caused by TBI might lead to biochemical alterations such as an increase in excitatory neurotransmitters and a subsequent neuronal loss which has been linked to chronic depression [5]. Due to frontal lobe injury or other neuropathological mechanisms TBIs are hypothesized to play a role in impulsivity and disinhibition. TBI affects several areas of life, especially psychological aspects as well as a high incidence of suicide [6]. Chronic traumatic encephalopathy (CTE) is a neurodegenerative disease exhibiting an extensive quantity of hyperphosphorylated tau which develops as a consequence of TBI [7]. CTE incidence seems to correlate with a history of extensive repetitive head trauma and has been reported in football players, wrestlers, soccer, rugby and hockey players [8]. A possible positive connection between CTE and suicidality is discussed widely in scientific literature but not proven [9]. Further investigation is needed to assess the relationship between repetitive head trauma in sports, the development of CTE as a result and possible clinical manifestations including psychiatric conditions that may lead to suicide. Detailed research results as well as the identification of further possible solutions in early detection, treatment and prevention are required.

Conclusion

Despite increasing effort, there is still a lack in psychiatric and psychotherapeutic care in high-performance sports. These findings may be rooted in the complex topic of stigmatization around mental health concerns in professional sport. Suicide prevention in professional sports must include frequent obligatory screening for mental health problems and substance abuse, e.g. as part of the preparticipation physical examination. Athletic organizations, sport organizations, research institutes and sports medicine clinics should work to improve screening and intervention to diminish morbidity and mortality, for instance by establishing consensus based guidelines for diagnosis and management of mental health symptoms and disorders in elite athletes. Educating the professional team surrounding the athlete about their fundamental role for the mental health of their teammates and how to recognize symptoms of substance use or mental health problems might also be an important key for suicide prevention. Finally to further deepen the understanding of the relatedness of suicide and professional sports prevalence studies and ongoing research activity is required and thus an intensified communication between science and sports. An invitation is extended to join in the discussion and collaboration.

Corresponding author

Dr. med. univ. Eva-Maria Pichler, MSc.
Department of Psychiatry and Psychotherapy
Psychiatric Services Aargau AG
Brugg-Windisch, Switzerland
eva-maria.pichler@pdag.ch

References

1. Timpka T, Spreco A, Dahlstrom O, et al. Suicidal thoughts (ideation) among elite athletics (track and field) athletes: associations with sports participation, psychological resourcefulness and having been a victim of sexual and/or physical abuse. Br J Sports Med. February 2020. doi:10.1136/bjsports-2019-101386
2. Simon RI, Hales RE, American Psychiatric Publishing. The American Psychiatric Publishing Textbook of Suicide Assessment and Management. American Psychiatric Pub; 2012. https://www.appi.org/American_Psychiatric_Publishing_Textbook_of_Suicide_Assessment_and_Management_Second_Edition. Accessed October 25, 2018.
3. Park S, Lavallee D, Tod D. Athletes' career transition out of sport: a systematic review. Int Rev Sport Exerc Psychol. 2013;6(1):22-53. doi:10.1080/1750984X.2012.687053
4. Kanayama G, Pope HG. Illicit use of androgens and other hormones. Curr Opin Endocrinol Diabetes Obes. 2012;19(3):211-219. doi:10.1097/MED.0b013e3283524008
5. Guskiewicz KM, Marshall SW, Bailes J, et al. Recurrent Concussion and Risk of Depression in Retired Professional Football Players. Med Sci Sport Exerc. 2007;39(6):903-909. doi:10.1249/mss.0b013e3180383da5
6. Wasserman L, Shaw T, Vu M, Ko C, Bollegala D, Bhalerao S. An overview of traumatic brain injury and suicide. Brain Inj. 2008;22(11):811-819. doi:10.1080/02699050802372166
7. Stern RA, Daneshvar DH, Baugh CM, et al. Clinical presentation of chronic traumatic encephalopathy. Neurology. 2013;81(13):1122-1129. doi:10.1212/WNL.0b013e3182a55f7f
8. Galgano MA, Cantu R, Chin LS. Chronic Traumatic Encephalopathy: The Impact on Athletes. Cureus. 2016;8(3):e532. doi:10.7759/cureus.532
9. Bieniek KF, Ross OA, Cormier KA, et al. Chronic traumatic encephalopathy pathology in a neurodegenerative disorders brain bank. Acta Neuropathol. 2015;130(6):877-889. doi:10.1007/s00401-015-1502-4