The role of cannabidiol in professional sports: A scoping review

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ABSTRACT

Aim

The purpose of this scoping review was to map and examine the available literature on the use of cannabidiol in professional sports.

Methods

Scopus, SPORTDiscus and Web of Science online databases were searched using a three different search protocols for traditional white literature purporting to the use of cannabidiol in sports for pain and/or inflammation. Grey literature was searched in a similar manner using ProQuest Dissertations & Thesis, PubMed, the Cochrane Library, the World Health Organisation International Clinical Trials Registry Platform Search Portal, Australian New Zealand Clinical Trials Registry, and ClinicalTrials.gov. Records were considered for analysis if they were of any study designs including reviews and blogs pertaining to the use of cannabidiol in any sport at any level of participation, involving people of any age or gender. All texts written in English regarding any physical and/or mental health condition pertaining to pain and/or inflammation and/or recovery in a sporting context were considered.

Results

Three records were identified for inclusion from the traditional white literature search. A further 30 blog articles were selected from the grey literature search and were included in this scoping review.

Conclusion

There is a vast gap in the current scientific literature supporting the use of cannabidiol in professional sports. There appears to be an ever-increasing amount of grey literature anecdotally supporting the use of cannabidiol for reducing pain, inflammation and enhancing athlete recovery. As cannabidiol is currently sold in un-regulated markets around the world, there is an urgent need for human clinical trials to determine its safety and efficacy.

Keywords

Cannabidiol, CBD, Sports, Athlete, Pain, Inflammation, Recovery, Scoping Review.

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INTRODUCTION

Cannabidiol, or CBD, is one of over one hundred compounds derived from the marijuana and hemp plants.[1] However, unlike tetrahydrocannabinol (THC), cannabidiol contains no psychoactive properties.[2] Furthermore, it is regarded as a safe, non-addictive substance with no evidence to suggest cannabidiol carries a potential for abuse with no known adverse effects on health.[2-4] Until 2018, the World Anti-Doping Agency (WADA) prohibited the use of cannabidiol in professional sports. Since its legalisation for athletes in competitive sports,[5] it is well-known that an increasing number of athletes are turning to cannabidiol products to aid their recovery and improve their performance. Athletes from a multitude of sports are promoting cannabidiol, with both athletes and sporting bodies signing multi-million-dollar sponsorship deals.[6] Famous athletes like Mike Tyson are becoming entrepreneurs and starting their own cannabidiol companies.[7] These bring cannabidiol into the public eye, further increasing product awareness and opening the door for potential research. Podcasts, documentaries, blogs and increasing literature discussing cannabidiol and its purported benefits are ever-increasing, however there is a common theme that there is little literature to support its applications specifically within a sporting context.

Countries around the world have varying rules and regulations on restricting public access to cannabidiol. Countries such as New Zealand for example only allow access to cannabidiol products via prescription,[8] where the products available on prescription have previously been too expensive, therefore limiting access.[9] Other countries such as Great Britain and USA commonly sell cannabidiol products in unregulated markets, most often advertised and sold as supplements, thus carrying an inherent risk of contamination and mislabelling.[10] Additionally, global views and political climates on marijuana have meant very few clinical trials have been performed on compounds such as cannabidiol, making it difficult for clinicians to recommend cannabidiol products, its potential uses, dosages or product safety. As it currently stands, for example, the National Institute for Health and Care Excellence guidelines (NICE) are still only in the development stages of producing guidelines on the use of cannabidiol products for the treatment of seizures in the UK,[11,12] with the National Health Service in the UK not recommending cannabidiol for any other conditions.[13]

Some of the purported benefits of cannabidiol include; pain relief, reduction of inflammation, reducing anxiety and depression,[2,14,15] the potential to provide neuroprotection[16,17] and improve fracture healing times.[18] However, there is currently a paucity of traditional literature addressing the role of cannabidiol in sports, despite it being a legal product under the WADA code while other natural and synthetic cannabinoids remain strictly prohibited (37). This suggests that a wide-ranging review of available literature and information sources would be of interest to both athletes and the wider sports and exercise medicine community. This scoping review will focus on the use of cannabidiol in professional sports as it would appear the purported benefits are already being realised by athletes around the world.

All athletes regardless of level of participation, however, need to be able to make informed decisions on supplements they intend to use, especially when they risk taking tainted