

*Abstract*

# Interventional studies for promoting prevention of doping in cycling: a systematic review

V. Filleul<sup>1</sup>, F. d'Arripe-Longueville<sup>1</sup>, S. Scoffier-Mériaux<sup>1</sup>, E. Meinadier<sup>2</sup>, J. Maillot<sup>2</sup>, & K. Corrion<sup>1</sup>

<sup>1</sup> Université Côte-d'Azur LAMHES, Nice, France

<sup>2</sup> French Federation of Cycling

\* Correspondence: Valentine Filleul. [valentine.filleul@univ-cotedazur.fr](mailto:valentine.filleul@univ-cotedazur.fr)

Received: 30 May 2020; Accepted: 30 June 2020; Published: 30 December 2020

## 1. Background

The Anti-Doping Rule Violations (ADRVS) report of the World Anti-Doping Agency (WADA) in April 2018 indicates that doping remains a major problem in sport. Because of its history, cycling is now considered as a « high-risk » sport for doping. According to the anti-doping policy conducted by the current French Sport Minister, the French Cycling Federation (FCF) highlights the need to set-up a modern and multifaceted prevention program. This program will be based on up-dated scientific knowledge about the efficacy of prevention strategies existing in the literature.

This review aims to systematically record, categorize and assess interventional prevention studies related to doping in the literature.

## 2. Methods

Data on interventional studies promoting prevention of doping in sport were collected via an online search, in both English and French languages. Several prevention strategies were classified into five categories according to Gatterer et al. (2019): (a) knowledge focused, (b) affective focused, (c) social skills, (d) life skills, and (e) ethic and value-based.

## 3. Results

The best results were obtained in studies using several prevention strategies, including interactive techniques (e.g., role-playing game, discussions) while knowledge focused studies did not provide significant results (e.g., readings about risks for health). Ethic and value-based studies provided better results than those focusing on fear related to health or sanctions. To be efficient over time, programs have to be developed and conducted with both athletes and their staff. Most of studies included students, especially sport-students. Only a few studies focused on high level athletes and studies testing methods on the staff remain scarce (e.g., parents, medical staff, teachers and coaches). Both collective (e.g., football) and individual sports (e.g., athletics) were represented.

## 4. Conclusion

Results show a discrepancy between the effects of different prevention programs in the literature. No program promoting anti-doping offers a complete approach, including both knowledge focused, affective focused, social skills, life skills and ethic and value-based. This lack can be explained by reported barriers such as financial, time or human resources missing (Gatterer et al., 2019).



This systematic review will contribute to define, in collaboration with the FCF and the French Sport Minister, concrete guidelines to an innovating and efficient anti-doping prevention and health education program adapted to cycling.

**Keywords:** Prevention program; Anti-Doping strategies; Health education; Cycling.