

ADHD and Sport: Controversial about Treatment

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Editorial

Attention-Deficit Hyperactivity Disorder (ADHD) is one of the neuropsychiatric conditions that has received most attention in the scientific literature in the last years [1], and is the most widespread problem in developmental neurology and one of the commonest reasons for neuropaediatric consultations. The prevalence of this disorder is generally accepted to be around 5-6% in children of school age (range 4-12%) [2].

ADHD is a chronic psychiatric disorder that is characterized by three nuclear symptoms; inattention, hyperactivity, and impulsivity. The predomination of one of them define the subtypes of ADHD: inattentive, hyperactivity or combine. ADHD symptoms have an adverse impact in academic, social and family relationship and also affect to sport. Despite this disorder is manifest during childhood and adolescence and also can persist into adulthood, there are scarce information about the problematic of that individuals with this condition could be taking part in sports activity at all competition levels.

Moreover, ADHD is a disorder without no cure but treatment can help relieve the symptoms and make the condition much less of a problem in day-to-day life. ADHD can be treated using medication or psychotherapy, but a combination of both is often the best way to treat it. On the other hand, when ADHD is untreated, we can also found an increase of other problems like depression, conduct disorder, substance abuse, anxiety, etc [3]. How to manage this situation is complicated for the specialist and patient because there is important restriction in sport guidelines.

In the global therapy, we could find pharmacological and non pharmacological therapy. Psychostimulants (methylphenidate or dextroamphetamine) are one the most drugs employed. Its beneficial has been showed in numerous clinical trials, especially since 1999, with the publication of the multicentric and randomized study by the US National Institute of Mental Health on treatment combinations in the long-term treatment of ADHD, known as MTA, Multimodal Treatment Study of ADHD [4]. At this point, we need to remember what is a psychostimulant: "Agents that stimulate the central nervous system and have effect on mental function and behavior, producing excitement and euphoria, reduced sensation of fatigue and increase in motor activity" [5]. For this reason, psychostimulants have been used for a long time and also very popular lie abuse, and psychostimulants are misuse for achieving euphoria, use to stay awake, etc [3].

An important aspect, in relation to sport, is to considerer the effect of psychostimulants on persons with or without ADHD. In these sense, in the last years, is a habitual practice to consume caffeine (no

forbidden in competition in this moment) to improve capacity for athletes [6]. In studies about sport and ADHD, curiously, adolescents improve in attention to task and peer relationship but when they play a softball game not improves their skills [7]. Recently, White et al. [8] concluded in a literature review, that exercise benefits many athletes with ADHD, why these are able to participate at all competition levels (following published guidelines and requirements).

There are much speculation about ADHD and medication; mainly these drugs are included in sport proscribed drug since 1968. Some athletes use stimulants as an ergogenic aid and to increase awareness [7]. From historical perspective, by the 1940s professional football players in the National Football League (NFL) were beginning to use amphetamines to improve strength and speed, and, in 1957 two Olympic athletes admitted to using amphetamine in competition. But what happens in an adolescent or adult with ADHD? What does an athlete do if he has a diagnosis of ADHD? Stop the medication or not to participate? This problem is especially important in the elite sport. Conant-Norville and Tofler [9] pointed out that the use of drugs has a positive aspect if improve the attitude in class but there is not the same value on the practice field or competition.

However, Corrigan [7] suggested that a clear guideline for athlete with ADHD could be include adequate documentation, history about symptoms of ADHD, standardization of method diagnosis, symptoms need treatment with psychostimulants, and review for any change in therapy every 12 month while the athlete intends compete.

In some sports there has considered a special review of medical condition but, in general, sporting organizations could consider the benefit for ADHD support and include some rules in their guideline that help to ADHD athletes to be treated and to compete without problems. Furthermore, it is necessary more studies focused on adolescent/adult with ADHD and they practice competition sport.

References

1. López-Muñoz F, Álamo C, Quintero-Gutiérrez FJ, García-García P (2008) A bibliometric study of international scientific productivity in attention-deficit hyperactivity disorder covering the period 1980-2005. *Eur Child Adolesc Psychiatry* 17: 381-391.
2. Polanczyk G, de Lima MS, Horta BL, Biederman J, Rohde LA (2007) The worldwide prevalence of ADHD: a systematic review and meta-regression analysis. *Am J Psychiatry* 164: 942-948.
3. Lakhani SE, Kirchgessner A (2012) Prescription stimulants in individuals with and without attention deficit hyperactivity disorder: misuse, cognitive impact, and adverse effects. *Brain Behav* 2: 661-677.
4. [No authors listed] (1999) A 14-month randomized clinical trial of treatment strategies for attention-deficit/hyperactivity disorder. The MTA

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- Cooperative Group. Multimodal Treatment Study of Children with ADHD. *Arch Gen Psychiatry* 56: 1073-1086.
5. Deventer K, Roels K, Delbeke FT, Van Eenoo P (2011) Prevalence of legal and illegal stimulating agents in sports. *Anal Bioanal Chem* 401: 421-432.
 6. Pesta DH, Angadi SS, Burtcher M, Roberts CK1 (2013) The effects of caffeine, nicotine, ethanol, and tetrahydrocannabinol on exercise performance. *Nutr Metab (Lond)* 10: 71.
 7. Corrigan B (2003) Attention deficit hyperactivity disorder in sport: a review. *Int J Sports Med* 24: 535-540.
 8. White RD, Harris GD, Gibson ME (2014) Attention deficit hyperactivity disorder and athletes. *Sports Health* 6: 149-156.
 9. Conant-Norville DO, Tofler IR (2005) Attention deficit/hyperactivity disorder and psychopharmacologic treatments in the athlete. *Clin Sports Med* 24: 829-843, viii.