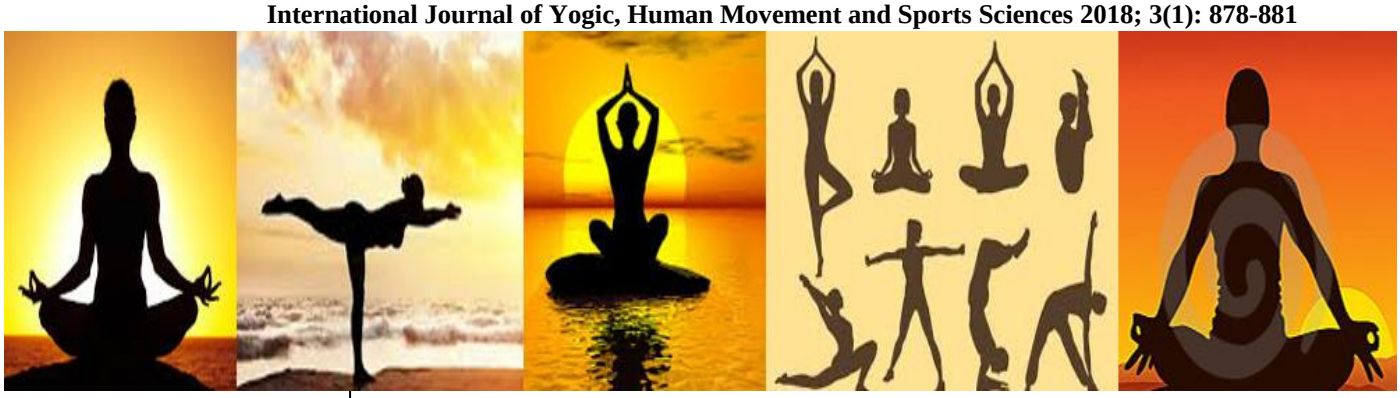
International Journal of Yogic, Human Movement and Sports Sciences 2018; 3(1): 878-881



ISSN: 2456-4419
Impact Factor: (RJIF): 5.18
Yoga 2018; 3(1): 878-881

www.theyogicjournal.com
Received: 24-11-2017
Accepted: 25-12-2017

Tejpal
Assistant Professor, DIET
Panchkula, Haryana, India

Correspondence
Tejpal
Assistant Professor, DIET
Panchkula, Haryana, India

Effects of doping on health

Tejpal

Abstract
The use of doping substance and methods is expansive not only among elite athletes, but also among amateur and recreational athletes. Many types of drugs are used by athletes to enhance performance, to reduce anxiety, to increase muscle mass, to reduce weight. However, the violence of doping substances and methods has been related with the amount of numerous health side-effects. The undesirable effects depend on the type of the consumed drug, as well as the quantity and period of intake and the sensitivity of the body, since there is a large inter-individual variability in responses to a drug. Usually the doses used in sports are much higher than those used for therapeutic purposes and the use of several drugs in combination is common, foremost to higher risk of side-effects. Among biomedical side-effects of doping, hyperlipidemia, hypertension, thrombosis, arrythmogenesis, heart failure and sudden cardiac death have been noted following drug abuse. This paper reviews the literature on the negative effects on health after abuse of illegal substances and methods in athletes, aiming to inform physicians, trainers and athletes and to discourage individuals from using drugs during sports**.** Thus, there are certain drugs that can improve selective aspects of physical performance. However, most of the doping agents exert serious side-effects, especially when used in combination, at high doses and for a long duration. The extent of long-term health consequences is difficult to predict, but likely to be substantial, especially when gene doping is considered. These review summaries the major groups of doping agent used by athletes.

Keywords: Doping, beta- blocker, growth harmon, hyperlipidemia, hypertension, thrombosis, arrythmogenesis

Introduction
The use of doping substance and methods is expansive not only among elite athletes, but also among amateur and recreational athletes. Many types of drugs are used by athletes to enhance performance, to reduce anxiety, to increase muscle mass, to reduce weight. However, the violence of doping substances and methods has been related with the amount of numerous health side-effects. The undesirable effects depend on the type of the consumed drug, as well as the quantity and period of intake and the sensitivity of the body, since there is a large inter-individual variability in responses to a drug. Usually the doses used in sports are much higher than those used for therapeutic purposes and the use of several drugs in combination is common, foremost to higher risk of side-effects. Among biomedical side-effects of doping, hyperlipidemia, hypertension, thrombosis, arrythmo genesis, heart failure and sudden cardiac death have been noted following drug abuse. This paper reviews the literature on the negative effects on health after abuse of illegal substances and methods in athletes, aiming to inform physicians, trainers and athletes and to discourage individuals from using drugs during sports**.** Thus, there are certain drugs that can improve selective aspects of physical performance. However, most of the doping agents exert serious side-effects, especially when used in combination, at high doses and for a long duration. The extent of long-term health consequences is difficult to predict, but likely to be substantial, especially when gene doping is considered. These review summaries the major groups of doping agent used by athletes.

There are many people who survive a life that is painful and which they want to run away from. If they are having family problems, financial difficulties, or employment issues, actuality that is too painful for them to contract with. If a person wants run off from reality, he or she will sometimes toward drugs. Drugs be able to set them in a different state of mind, and help him or her forget what their problems are. The use of drugs to improve physical performance and muscular development has been observed for thousands of years.

Today individuals continue to use a wide variety of drugs in expect of improving their athletic performance and physical appearance. Day by day increase the demand for performance-enhancing drugs has been produced by society for better sports achievement. Addiction, sickness, and death, are just some effects which drug use can have on a person health. There are physical, emotional and mental effects of drug use.

Most people would agree that sport enhances health and overall personal development. Modern society influences sport, which is by no means except from some of its problems. In a system that flouts the basic role of sport and extol victory at any price, abuses in the form of violence, cheating and doping. Anti-doping campaign, like the battle against violence and cheating, is part of an extensive movement to protect the concept of sport, including sport itself and its associated values. In adopting the World Anti-Doping Code, the international sporting community and national governments have attached forces with the World Anti-Doping Agency (WADA) to address the bane of doping, which many consider to be sport's community adversary number one. They established their support for common values to be promoted through sporting activities, thereby allowing leisure time and sports to play their future role in society.

Coaches are the important personality in every sporting activity. They hold athletes from the time they start out until they achieve the top of their selected sport. Research has shown the important influence coaches can have over their athlete. Not only can they help to develop athletic skills of athlete, but they also play the role of educator, model and advice-giver. They educate through the values they express to their charges; they act as models by behaving in a way that others want to follow, and by perfecting their own sporting ability; and they become advisers thanks to the association of confidence they develop with the athletes for whom they are dependable.

The World Anti-Doping Code encourages the development of a negative attitude towards doping among athletes by entrusting coaches with the job of influencing the athletes' values and behaviors. Because they are in close regular contact with athletes, coaches are the only people who are truly able to educate them on the subject of sport ethics. Coaches are also in a position to react to situations in which the rules of ethics are breached, and can also help their athletes develop a critical mindset that will permit them to make informed choices in difficult situations. The information and advice contained in this Guide will help coaches to be more effective in this respect. It is therefore important for coaches to use it as a supporting tool. There are many drugs that professional athletes can use to increase their performance in sports. In this drug era in today's sports there are tons of drugs that athletes can use to help them do better in their specific sport there participating in sports.

This paper serves two purposes, as they relate to performance enhancing drugs. It lays out a general overview of the performance enhancing drugs. Due to the overwhelming varieties and methods of doping, this paper has a strong emphasis on beta blocker and human growth hormone. It discusses some of the other performance enhancing drugs that have played public and instrumental roles in the history of doping, in order to give proper context to the issue and for the purposes of distinguishing among sports. Most of the time, it is generally accepted that these rules should exist, but under closer analysis, the issue is not so clear. In this paper introduce beta-blocker and human growth hormone. Analyzes the presumptions and preconceptions we have about the righteousness of anti-doping regulations and considers the possibility that anti-doping rules are not the given that we generally accept them to be.

Doping

Doping means athletes taking illegal substances to improve their performances. There are five classes of banned drugs, the most common of which are stimulants and hormones. There is health risks involved in taking them and they are banned by sports' governing bodies.

Definition of Doping

One popular source define doping as "the use of a drug or blood product to improve athletic performance." However, we can see that such a simple definition is obviously much too broad to serve as a precise definition for doping. After all, under this definition, taking Tylenol to relieve muscle aches after a hard workout or using an asthma inhaler to prevent the constriction of the airway and to allow proper respiration, 2 would be considered doping, but it is doubtful that many, if any, authorities would consider those actions to fall under the pejorative category of "doping." Many other broad, philosophical definition of doping also succumb to the same criticism-it is almost impossible to draw a line, ex ante, 1Dictionary.com,foundathttp://dictionary.reference.com/search?q=doping.

Objective

To study the effects of doping on health. Bloodworth *et al*. reported that the use of any substance to improve concentration was the most accept-able, while gene manipulation was the least acceptable in a survey of 403 athletes. In their study, 10% responded that they would take a ''magic'' drug. Meanwhile, 72.6% reported that at least some other athletes would take the drug if it had no harmful effects, while more than 40% reported that some athletes would take the drug, even if it shortened the lifespan. Similar results were obtained in the study by Blood worth and McNamee Doping has developed into a widespread problem in competitive and high-performance sports due to increasing professionalism and commercialization of sports (Striegel *et al*. 2002) [3].

The use of performance-enhancing drugs has undergone a process of diffusion from elite level sport to lower levels, with anabolic steroids being freely available and widely used in many gyms, particularly those frequented by bodybuilders (Lenehan *et al*, 1996; Monaghan, 2001) [8, 5].

Beta-blocker

Beta-blockers are a class of medications prescribed to block the effects of adrenaline, a hormone created by the adrenal glands. They assist the heart work more proficiently, so reducing blood pressure, heart rate, muscle tremors and even anxiety. As well, beta-blockers have a relaxing effect on muscle function, gaining the drug class a popular reputation as an illegal, performance-improvement drug for athletes who advantage from the adrenaline-blocking effects of the medication.

Meaning of Beta Blocker

Beta blockers, meanwhile, which may be prescribed for heart attack prevention and high blood pressure, are banned in sports such as archery and shooting because they keep the heart-rate low and reduce trembling in the hands.

The effect of beta-blockers on muscle action has made the drugs a popular, though illegal, choice of some athletes whose performance depends on balance (such as gymnastics) or a steady hand (archery, shooting, and biathlon).Because an athlete will tend to use beta-blockers at the same dose that is used for genuine therapeutic use, the drug will not be detected in suspiciously large quantities. It is at that point that an athlete's past history becomes important. If an athlete has no history of heart trouble or migraines, for example, the presence of a beta-blocker in submitted urine or blood samples may be cause for suspicion. Beta-blockers can be taken orally in the forms of tablets or capsules, an injection, or as eye drops in the case of glaucoma medication. A variety of different beta-blockers are available by prescription. Examples include: acebutolol, atenolol, celiprolol, levobunolol, pindolol, and timolol. Some beta-blockers are designed to be selective; they block beta-1 receptors more than beta-2 receptors. Beta-1 receptors are involved in heart rate and beat strength. Nonselective beta-blockers block both the beta-1 and beta-2 receptors; the latter are important in the function of smooth muscles such as the heart. Athletics who seek the illegal benefits of beta-blockers will likely experience side effects that include drowsiness or fatigue, reduced circulation through the hands and feet, dizziness, and a dry mouth. Some of these effects detract from athletic performance. Rarely, more serious side effects, including memory loss and impotence, can result. Beta blockers refer to a group of three different prescription drugs that, in essence, stop adrenaline from binding to nerve receptors, thus "blocking" the effects of adrenaline. Beta blockers are commonly prescribed for heart conditions--most commonly to control or reduce high blood pressure.

Use of Beta Blockers in Sports

Use of Beta Blockers in Athletics: Despite the common use of beta blockers for heart conditions, for years now athletes have used beta blockers as a sports enhancement drug. Beta blockers broaden the arteries, allowing for greater blood flow and reducing involuntary muscle spasm. Research has also determined that beta blockers decrease anxiety. Both decline of muscle spasms and anxiety is useful in many sports.

Beta Blockers in Gymnastics: Gymnastics is a sport that relies deeply upon balance and stability. Cramping and involuntary muscle spasms are common in the sport and can simply be the difference between winning and losing. Gymnasts often use beta blockers to reduce or remove these spasms. Additionally, since any level of athletic competition can be nerve-wracking, beta blockers can calm performance anxiety.

Beta Blockers in Archery: Archery depends greatly on a steady body, especially the arms and hands. Any twitch or spasm in the entire body can send the arrow off the mark. Beta blockers are used to steady one's anxiety and muscles, allowing for solid power of the body and better accuracy. In approximately the exact same way, beta blockers are used in shooting sports to control the muscles and reduce anxiety for more accuracy.

Beta Blockers in Other Sports: While the above sports rely heavily on balance and the stability of certain muscles, beta blockers are also used by a wide range of other athletes, especially at the collegiate or professional level. As noted, beta blockers reduce anxiety, and many athletes use them to calm their nerves during competition.

Beta blockers have side effects, especially for people who only take them occasionally. Still, Walton cautioned against sharing drugs without a prescription. People with asthma, depression, low blood pressure, cardiac issues and other problems or who are on certain medications should not take beta blockers. And beta blockers will not help anyone with severe anxiety.

The drugs seem designed for phase anxiety. They inhibit the harrowing effects of the adrenaline-laced fight or flight response that make a nervous performer even more nervous: pounding heart, quavering voice, trembling and sweaty hands. It's no wonder then that performers turned to them shortly after their invention nearly four decades ago.

Growth Hormone

Growth hormone (GH), also known as somatotropin (or as human growth hormone or HGH in its human form), is a peptide hormone that stimulates growth, cell reproduction, and cell regeneration in humans and other animals. It is thus important in human development.

Growth hormone, a hormone naturally secreted by the anterior pituitary gland, stimulates the growth and cell production of humans, as well as other vertebrates. Human growth hormone is used by athletes for the dramatic improvements in sports performance. But after some time it lead to reduced muscle mass, reduced muscle strength, impaired concentration, etc. The benefits that aging members of the population are trying to capture are the same ones that athletes are trying to utilize when they exploitation human growth hormone-increased strength, coordination, and mental capabilities. Unlike anabolic steroids and blood doping, where the beneficial aspects are usually proven and accepted, the benefits of human growth hormone as an ergogenic aid are not as commonly accepted in sports. There have been extensive unreliable facts of benefit by athletes-after all, human growth hormone would not be such a desired and controversial drug if athletes that used them did not experience any benefit (real or imagined) from its use.

Barry Bonds, one of baseball's biggest stars, and extensively suspected of using performance- enhancing drugs, is reported as having used human growth hormone widely. 125 In Game of Shadows: Barry Bonds, BALCO, and the Steroids Scandal that Rocked Professional Sports, the writers, Mark Fainaru-Wada and Lance Williams, claim that Bonds was particularly fond of human growth hormone for multiple reasons. First, growth hormone, like steroids, permitted him to increase his muscle mass, but unlike steroids, it also strengthened joints and connective tissue, thus decreasing the likelihood of blowing out a joint. 126 additionally, growth hormone left him feeling energized and flexible, while still maintaining that muscle- bound appearance that he was so used to. Lastly, as someone who always had phenomenal eyesight that allowed him to track the seams on baseballs coming at him at 90+ miles per hour, Bonds felt that his vision quality was declining, as he reached his mid-thirties. Use of growth hormone reversed that trend, he felt. He could see the baseball improved than ever. 127 it is un-confirmed whether this was the real effect of growth 125 Fainaru-Wada & Williams, supra. 126 In Game of Shadows, the authors document a previous incident when Bonds used steroids and built up so much mass that he ended up blowing out his elbow by tearing his left triceps tendon. Bonds and his trainer speculated that this was the result of putting on so much muscle on his arms that the associated joints and tendons were not able to support all the muscle mass. Bonds felt that growth hormone was able

to remedy that problem.

Physical hazards of Human Growth Hormone.

Robert N. Butler, M.D., the noted gerontologist has also weighed in on this matter. According to Dr. Butler, "Although hormone-replacement trials have yielded some positive results (at least in the short term), it is clear that negative side effects can also occur in the form of increased risk for cancer, cardiovascular disease, and behavior changes."

One of the main dangers of human growth hormone injections is the unregulated effect it can have on the overproduction of IGF-1 concentrations. This can lead to some very serious side effects like:

- Swelling in the arms and legs
- Carpal tunnel and arthritis-like symptoms
- Headaches and general muscle pain
- Diabetes
- Abnormal growth of the bones and internal organs
- High blood pressure
- General bloating
- Hardening of the arteries

For these reasons, human growth hormone injections should always be done prudently and with a qualified medical practitioner who has clinical experience in managing this type of hormonal deficiency.

Effects of GH on physical performance

A systematic review of 27 studies comprising a total number of 303 healthy adults in whom the effects of GH on various measures of athletic performance, such as muscle strength and endurance were analysed, concluded that claims that GH enhances physical performance are not supported by the scientific literature.

Conclusion

Explained by levent ozdemir, Doping and performance enhancing drug use was 71 (8.0%) in 883 subjects, and it was significantly higher (14.5%) in the athletes compared with the non-athletes (1.8%) in Sivas, Turkey. Since the potential side effects of doping drugs are not satisfactorily familiar to the most users, the education of athletes on the matter must be a top priority. Particular attention should be paid to the younger population, who may suffer the most from the health problems caused by doping use.

Despite the criticisms leveled above, it is clear that doping regulation can negative effect athlete not least by the degree of anxiety they can generate.

Throughout the long history of sport, participants have always required an advantage over their opponents, be it through training, technique, equipment, or medicine. Steroids, human growth hormone, and other performance enhancing drugs are merely the most current development. And while there is strong anecdotal evidence about the detrimental effects of many performance enhancing drugs, there is still much to be learned and studied about many other drugs. The medical consensus for many of these other drugs has yet to be reached, and perhaps, society and public opinion should allow the drugs to be fully investigated and researched before reaching a conclusion about the dangers and immorality associated with the use of such drugs. That being said, there have been many rationales set forward by commentators, analysts, and the public at large, as to why performance enhancing drugs should be banned from sports. Many of these arguments, as this paper has sought to demonstrate, are imitation and should not be grounds for banning steroids from the game. However, there are a couple arguments that stand up to precise analysis. One is the physical harm that many of these drugs are strongly alleged of causing. This rationale is particularly strong when viewed from the perspective of the prisoner's problem. The other argument is not so much a rationale, as just an explanation: performance enhancing drugs should be banned because society says they should be banned. The elected nature of sports requires that sports ban performance enhancing drugs. But it should be noted that these bans are not without costs and harms to innocent athletes, and these costs should be kept in mind when evaluating whether to maintain, develop, or eliminate doping policies. When all's said and done however, sports leagues are doing the right thing by elimination the use of steroids and other performance enhancing drugs by their athletes, at least until supplementary medical agreement is reached.

Reference

1. bbc.com/sport/athletics/33997246
2. Bloodworth AJ, Petro czi A, Bailey R. Doping and supple- mentation: the attitudes of talented young athletes. Scand J Med Sci Sports. 2012; 22(2):293-301.
3. Striegel H, Vollkommer G, Dickhuth HH. Combating drug use in competitive sports. An analysis from the athletes' perspective. Journal of Sports Medicine and Physical Fitness WADA the Prohibited List of World Anti-Doping Agency. Avaliable form. 2002, 2005; 42:354-359.
   URL:http://www.wada-ama.org.
4. Levent Ozedemir, doping and performance enhancing drug use in athletes living in sivas, MID-anatolia:a brief report Journal of sports science and medicine, 2005.
5. Monaghan LF. Bodybuilding, Drugs and Risk, London and New York, Rout ledge, 2001.
6. Yu-Hsuan lee. Performance enhancing drugs: History, medical effect, policy, 2006.
   http://nrs.harvard.edu/urn-3:HUL.InstRepos:8848241
7. Vita Birziece. Doping in sports effect, harm and misconception internal medicine journal, 2014.
8. Lenehan P, Bellis M, McVeigh J. A study of anabolic steroid use in the North West of England, The Journal of Performance Enhancing Drugs. 1996; 1(2):57-70.