

DOPING AND ITS EFFECT ON PHYSICAL AND MENTAL HEALTH OF SPORTS ATHLETES- AN OVERVIEW

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ABSTRACT

Doping in sports refers to the use of prohibited substances or methods to enhance athletic performance. While doping may offer short-term gains such as increased strength, endurance or focus, it poses serious risks to both physical and mental health. Recognizing these dangers, global bodies like World Anti-doping Agency WADA strictly regulate and prohibit doping practices.

Keywords: Anabolic androgenic steroids, doping, physical activity, WADA, illicit drug.

INTRODUCTION

The use of drugs to improve performance in sports is prevalent since ancient time. The use of drugs to enhance Physical performance and muscular development has been observed for thousand of year. Today individual continue to employ a wide variety of drugs in the hope of improving their athletics performance and physical appearance. The word doping originate from 'dop', a term that conventionally refers to a stimulants drink. Doping means to application, ingestion, injection or consumption by any means whatsoever of any prohibited substance or prohibited method (UNESCO 2005). Doping incident have become an integral part of sports Elle athletes have used performance enhancing stimulants since the ancient games.

The Doping problem is not limited just too modern elite sports which makes it impossible to solve with in the sports context. Most people in western society believe that participation in sports has pedagogical value , however the belief conflicts with the goal of winning at all cost which is also an integral part of modern high performance sports because doping also occurs in recreational sports the so called spirit of sport is threatened when athletes. Our effort should lie in the Coubertin ideal: The important thing in life is not victory, but struggle: the essential is not to conquer, but to fight well.

In today society several of the biggest names in sports of foreign countries athletes like. Alex Rodriguez, Lance Arm Strong Rogers Clemens, and Marion Jon, Ben Johnson. Indian athletes Seema Antil, Neelam J Singh, Mandeep Kaur, Ashwani Ankuji, Sini Jose, Inderjeet Singh, Dharambir Singh & Nar Singh Yadav has been involved in drug scandles including use of performance enhancing drugs , prescription, medications and other harmful supplements to gain a quick advantage.

A. Harmful Effects of Doping in physical health of sports Athletes

Side effects of prohibited substances and methods

(1) Anabolic Agents- Anabolic Androgenic Steroids (AAS)

The anabolic androgenic steroids can be derived both endogenously (natural) as well as exogenously (synthetic).

After administration of anabolic androgenic steroids the formation of protein is promoted in genital organ, skin, skeleton and muscles. Athletes may be tempted to use anabolic androgenic steroids to improve their physical and physiological capacity to train and compete at highest level by reducing associated fatigues and recovery duration. In an impression to increase muscular power and strength these substances are sometimes taken by athletes involved in weightlifting, throwing and other sports involving strength parameters.

(i). Side Effects of Anabolic Androgenic Steroids:

The side effects associated with anabolic androgenic steroids are extremely serious and are divided into general, male specific and female specific.

General Side Effects:	Male specific Effects:	Female specific Effects:
Greasy skin and acne	Breast development	Male pattern hair growth and baldness
Infertility	Testicular atrophy	Menstruation disturbances
Hypertension	Diminished male hormone production	Decreased size of breast
Liver and kidney dysfunction	Diminished sperm production	Deeper voice (hoarseness)
Aggressive behaviour	Impotence	
Tumour	Alopecia	
	Prostate cancer	

(ii). Side Effects of other Anabolic Agents:

- Trembling
- Restlessness, aggressive behavior
- Anxiety
- Arrhythmias
- Muscle cramps

(2). Hormones and related substances

The synthetic drugs like hCG, hGH, ACTH and EPO are known as analogues having similar effects to peptide hormones.

- ❖ Erythropoietin (EPO) hormone increases the number of red cells in blood and is used by athletes in endurance performances.
- ❖ Human growth hormones (HGH) are used by athletes for muscular strength.
- ❖ Human chorionic gonadotrophin (HCG) hormones are used by athletes to increase endogenous production of steroids specially to in an impression to improve the muscular strength.

HCG is usually taken by those athletes who takes anabolic steroids to counteract the effects of testicular damage or as a masking agent. The use of synthetic gonadotrophin hormones by

athletes stimulates ovulation in women and testosterone in men. Insulin may be illegally used in conjunction with anabolic steroids in an attempt to increase muscular strength.

(i). Side Effects of EPO:

- Increased viscosity of blood
- Hypertension
- Myocardial infarction
- Cerebral infarction
- Pulmonary embolism
- Convulsions

(ii). Side Effects of HGH:

- Acromegaly (overgrowth of limbs)
- Soft tissues swelling
- Abnormal growth of organs
- Arthropathies (joint disorders)
- Diabetes mellitus

(iii). Side Effects of HCG:

- Menstrual disorders
- Gynecomastia (breast development in males)

(3). Hormone antagonists and modulators

These substances may be illegally used by athletes to counteract undesirable side effects associated with anabolic steroid use such as gynecomastia.

Side Effects of Hormone Antagonists and Modulators:

- I. Hot flushes
- II. Gastrointestinal disorders
- III. Fluid retention
- IV. Venous thrombosis

(4). Narcotics

The narcotics prohibited in sports are those derived from morphine and its chemical and pharmacological analogues.

These substances act on central nervous system and reduce pain feeling. The use of narcotics causes a false sense of cure in an injured athlete that leads to ignorance of a potentially serious injury and risking further damage.

Side Effects of Narcotics:

- a) Addiction
- b) Loss of balance and coordination
- c) Nausea and dizziness

- d) Insomnia & depression
- e) Decreased heart rate

(5). Cannabinoid

Cannabinoid is psychoactive chemical. Marijuana, hashish and hashish oil are derived from cannabis plant. Prolonged use of cannabinoid may result in loss of motivation, decreased concentration, impaired memory and learning disability, respiratory diseases such as lung cancer, throat cancer and chronic bronchitis.

Side Effects of Cannabinoid:

- I. Impaired balance and coordination
- II. Loss of concentration
- III. Increase in heart rate
- IV. Increased appetite
- V. Drowsiness
- VI. Hallucination

(6). Glucocorticosteroids

Glucocorticosteroids are prohibited in-competition when administered orally, rectally, intravenously or intramuscularly. Administration of glucocorticosteroids through these routes requires therapeutic use exemption certificate (TUE). All other routes including anal, aural, dermatological, inhalation, intra articular, nasal and ophthalmological require athletes to follow abbreviated therapeutic use exemption certificate (ATUE).

Side Effects of Glucocorticosteroids:

- Fluid retention
- Hyperglycaemia
- Systemic infections
- Musculoskeletal disorders

(7). Alcohol

Alcohol is a central nervous system depressant which slows down the actions of the brain and body. Combining alcohol with other drugs can magnify the effects of alcohol or of the other drugs which can be dangerous in many circumstances.

Side Effects of Alcohol:

- I. Impaired judgment
- II. Loss of reflexes and muscular co-ordination
- III. slurred speech
- IV. sleepiness and poor respiration

B. Harmful Effects of Doping in Mental health of sports Athletes

Hazards of performance-enhancing drugs

Steroids and their precursors can have severe, long-lasting health effects. In growing adolescents one of the major risks of using anabolic steroid precursors is the permanent stunting of height. Other side effects include:

- ❖ Blood-clotting problems
- ❖ High blood pressure and cholesterol
- ❖ Irregular heartbeats
- ❖ Liver problems
- ❖ Mood swings
- ❖ Reduced sperm production
- ❖ Shrinking testicles
- ❖ Higher risk of infections such as HIV/AIDS if sharing needles
- ❖ Enlarged breasts in males, decreased breast size in women
- ❖ Irreversible hair loss
- ❖ Acne

Creatine can also cause nausea, abdominal pain and kidney damage. The risk of kidney damage is higher when combined with certain medications, including over-the-counter pain-relieving drugs.

Social and career consequences

The career and social consequences of doping are often more immediate and visible than the physical health risks, frequently leading to the total disruption of an athlete's professional and personal life.

- ❖ **Sanctions and Bans:** Standard periods of ineligibility range from **2 to 4 years** for first-time intentional offenses, though lifetime bans are possible for multiple violations.
- ❖ **Forfeiture of Achievements:** Athletes are routinely stripped of medals, titles, world records, and rankings achieved while doping. This also impacts teammates, who may lose collective medals or points due to one individual's violation.
- ❖ **Loss of Employment:** Professional athletes often face immediate termination of team contracts. For coaches and support personnel, a doping violation can mean a permanent loss of their license to practice.
- ❖ **Future Career Barriers:** "Branded as a cheater," athletes find it nearly impossible to secure future roles in coaching, sports management, or media.
- ❖ **Sponsorship Termination:** Most endorsement contracts contain "morality" or "anti-doping" clauses that allow sponsors to terminate the deal immediately upon a positive test.
- ❖ **Repayment Obligations:** Athletes are often required to **reimburse prize money** and grants received from government bodies or sports organizations.

- ❖ **Legal Costs:** Defending against doping charges often involves expensive litigation and specialized legal counsel, further draining the athlete's resources.

Ethical and mental pressure factors

The decision to dope is rarely a simple choice between right and wrong; it is driven by a complex interplay of internal ethics and intense psychological stressors that "normalize" the use of prohibited substances.

- a) **Fear of Failure:** This is a primary driver. Athletes may see doping as a "safety net" to prevent losing their status, starting position, or livelihood.
- b) **Identity Crisis:** For many elite athletes, their **self-worth is entirely tied to performance**. A decline in results can lead to a crisis of identity, making them more susceptible to substances that promise to "restore" their athletic self.
- c) **Systemic & Entourage Pressure:** Pressure often comes from the "**athlete entourage**" (coaches, parents, and managers). Coaches who foster a "win-at-all-costs" or "performance climate" significantly increase the likelihood of their athletes turning to PEDs compared to those who focus on personal mastery.
- d) **The "Goldman Dilemma":** In a famous 1995 survey, **98% of elite athletes** stated they would use a banned substance if they were guaranteed to win and not get caught, illustrating the extreme psychological weight placed on victory.
- e) **Strong Moral Identity:** Athletes who view being a "moral person" as central to their core self-concept are significantly less likely to dope, even under pressure.
- f) **Task Orientation:** Focusing on **personal improvement** rather than purely on beating others (ego orientation) serves as a major deterrent.

CONCLUSION

Doping is used in sport and exercise contexts for a number of reasons, including the desire to win and to improve aesthetic appearance. Sports are governed by rules and codes, including those relating to the prohibition of doping. Conversely, illicit drug use is deemed to have a negative impact on health and adversely affect society. There is also evidence that the use of doping agents such as anabolic androgenic steroids, growth hormone and other anabolic agents, erythropoietin and stimulants conveys considerable health risks that include, but are not limited to: cardiovascular disease, diabetes, cancer, mental health issues, verification in females and the suppression of naturally produced androgens in males. This review will outline the anabolic, ergogenic and health impacts of selected doping agents and methods that may be used in both the sporting and physique development contexts.

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