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The issue of doping in sports

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Abstract

A drug is a chemical substance that alter the physiological process of the body which is use for the diagnosis prevention and treatment of disease. The use of drugs to improve performance in sports is prevalent since ancient times. A drug is any substance (other than food that provides nutritional support) that, When inhaled, injected, smoked, consumed, absorbed via a path on the skin or or dissolved under the tongue causes a temporary physiological (and often psychological) change in the body. The use of performance enhancing drugs is probably the major problem facing sport today many drugs have been banned in sports, if they are deemed to provide an unfair advantage, pose a health risk or are seen to violate the spirit of sport. The use of banned drugs by athletes is referred to as doping. The international olympic committee (IOC) and more recently, The world anti- Doping Agency (WADA) have been leading the way in the battle against drugs in sports. Drugs testing programs have been established by amateur and professional sports authorities to promote a safe and fair competitive environment clinicians Who treat athletes should be familiar with the commonly abused substances and doping methods.

Keywords: Drug, doping, sports

Introduction

Drug: is defined as a substance that alters the physiological processes of the body which is used for the diagnosis, prevention and treatment of disease. Doping: is define d as the use by an athlete or player of prohibited substances or methods in order to enhance his/her sports performance. “performance enhancing Drugs are various substances, chemical agents, or procedures designed to provide an advantage in athletic performance. Performance-enhancing drugs affect the body in different ways, such as enlarging muscles or increasing the blood oxygen-carrying capacity. Despite these apparent benefits, the use of such drugs is considered both competitively unethical and medically dangerous. Most performance-enhancing drugs are outlawed by organizations that govern major amateur and professional sports” The use of performance-enhancing drugs is probably the major problem facing sport today. Proponents of accepting performance-enhancing drugs (PEDs) in sports argue that their harmful health effects have been overstated, that health risks are in athletes decision to make, that using Drugs in part of the evolution of sports much like improved training techniques and new technologies, and that efforts to keep athletes from using PEDs are overzealous, unproductive, unfairly administered, and bound to fail, opponents argue that PEDs are harmful and potentially fatal, and that athletes who use them are cheaters who gain an unfair advantage, violate the spirit of competition, and send the wrong message to children. They say PED users unfairly diminish. The historic achievements of clean athletes, and the efforts to stop PED use in sports should remain strong.

Why is doping prohibited in sports?

Doping is prohibited because it is fundamentally contrary to the spirit of sport. No player should gain an unfair advantage over other players by using an unethical substance or method The use of drugs may also be extremely dangerous to the health of players.

Historical background: “The use of drugs to enhance performance in sports has certainly occurred since the time of the original olympic games [from 776 to393 BC]. The origin of the word ‘doping’ is attributed to the Dutch word ‘doop’ which is a viscous opium juice, the drug of choice of the ancient Greeks.

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- Ancient Greek athletes are known to have used special diets and stimulating potions to fortify themselves.
- Strychnine, Caffeine, Cocaine, and Alcohol were often used by cyclists and other endurance athletes in the 19th century.
- Reports of doping were common in the 19th century. The first reported drug-related death occurred in 1896 when an English cyclist died of an overdose of trimethyl.
- Thomas Hicks ran to victory in the Olympic Marathon of 1904 in saint Louis with the help of raw egg, injections of strychnine, and doses of brandy administered to him during the race.
- The origins of current epidemic of drug use among athletes can be traced back to the introduction of various substances during World War 2.
- Amphetamines were introduced to the US troops to help keep them awake at the battlefield. Following the War, some athletes began to use amphetamines.
- It was alleged that the soviet athletes used anabolic steroids in 1952 Olympics in Helsinki.
- The use of anabolic steroids, specially by power athletes, became widespread in the late 1960 and 1970.
- AT the 1988 seoul Olympics, the positive test results for anabolic steroids on 100 m winner ben Johnson focused world attention on the continuing problem of drug abuse in sports and resulted in renewed international attempts to stamp out the use of performance-enhancing drugs in sport.

From where Athletes taking information

1. Internet sites
2. Coaches and Trainers
3. Doctors
4. Pears follow athletes
5. Friends and family

Why athletes take drugs?

Unfortunately, there has been little research. Into this question, Athletes are aware that drugs taking a risk to health and life

- Media coverage: In their attempt to sell newspapers and other promotional material, the media tend to give extensive coverage to doping scandals within sport. This may give the athlete a misleading impression of the extent to which performance-enhancing drugs are used in sport.
- Peer pressure: Athletes may directly observe or hear of the practices of fellow athletes who use performance-enhancing drugs. Alternatively, athletes may be offered performance-enhancing drugs by their fellow competitors or team members.
- Support team pressure: Those people who support athletes such as family members, coaches and healthcare professionals may instil additional pressure on athletes to improve performance by any means available.
- Availability of substances: In addition to the more traditional sources of drug supply, an athlete can now obtain virtually any product they wish through the internet.
- Misleading information: Some apparently safe supplements may contain traces of prohibited substances. In addition, the labelling of some supplements may not be complete or accurate.
- Lack of understanding: Athletes are not pharmacologists and the plethora of information that appears on medicinal products can be confusing to the untrained eye.

Drugs used in sports and their adverse effects?

Table 1: Represent drugs and their adverse effects

Substance	Health Effects
• method(s) of consumption •	

Table 2: Represent drugs and their pros and cons

I. Anabolic Agents (56) • oral or intramuscular injection •	Pro	Con
A. Exogenous Anabolic Androgenic Steroids (AAS): 1. 1-androstendiol 2. 1-androstendione 3. bolandiol 4. bolasterone 5. boldenone 6. boldione 7. calusterone 8. clostebol 9. danazol 10. dehydrochloromethyltestosterone 11. desoxymethyltestosterone 12. drostanolone 13. ethylestrenol 14. fluoxymesterone 15. formebolone 16. furazabol 17. gestrinone 18. 4-hydroxytestosterone 19. mestanolone 20. mesterolone 21. metenolone 22. methandienone 23. methandriol 24. methasterone 25. methyldienolone 26. methyl-1-testosterone	Enhances athletic performance in the following ways: 1. endurance increase 2. fat loss 3. muscle recovery increase 4. muscular size and strength increase in combination with exercise Used medically to treat the following symptoms and diseases: 1. anemia 2. asthma 3. bone pain from osteoporosis 4. gonadal function decrease or absence (males) 5. hereditary angiodema metastatic breast cancer (females) 6. muscle loss (i.e. burn injury, HIV-infection, muscular dystrophy) 7. postmenopausal symptoms such as hot flashes and sweating (postmenopausal females) 8. puberty delay (males)	<ul style="list-style-type: none"> • abnormal menstrual cycles (females) • acne • aggressiveness • asthenia • baldness • brain tissue damage 1. breast enlargement (males) 2. clitoris enlargement (females) 3. depression 4. dizzy spells 5. fever 6. hair growth on the face and body (females) 7. HIV and other disease contraction due to contaminated needles used for injection of steroid 8. hypertension 9. impotence (males) 10. kidney tumours 11. liver dysfunction 12. mania 13. masculinization (females) 14. muscle strains or ruptures 15. myalgia 16. nausea 17. periorbital pain 18. prostate gland enlargement (males) 19. psychiatric dysfunction

<p>27. methyltestosterone 28. methyltrienolone 29. methyltestosterone 30. mibolerone 31. nandrolone 32. 19-norandrostenedione 33. norboletone 34. norclostebol 35. norethandrolone 36. oxabolone 37. oxandrolone 38. oxymesterone 39. oxymetholone 40. prostanazol 41. quinbolone 42. stanozolol 43. stenbolone 44. 1-testosterone 45. tetrahydrogestrinone 46. trenbolone B. Endogenous Anabolic Androgenic Steroids (AAS): 47. androstenediol 48. androstenedione 49. dihydrotestosterone 50. prasterone 51. testosterone C. Other Anabolic Agents: 52. clenbuterol 53. selective androgen receptor modulators (SARMs) 54. tibolone 55. zeranol 56. zilpaterol</p>		<p>20. sexual appetite increase 21. sperm production reduction (males) 22. stunted growth (in adolescents) 23. tearing of tendons 24. testicular shrinkage or atrophy (males) 25. voice deepening (females) 26. vomiting</p>
<p>II. Hormones & Related Substances (7)</p>	<p>Health Effects</p>	
	<p>Pro</p> <p>Enhances athletic performance in the following ways: 1. endurance capabilities enhancement during exercise 2. muscle recovery increase Used medically to treat the following symptoms and diseases: 1. anemia due to kidney failure, HIV, and some cancers</p>	<p>Con</p> <p>1. death 2. deep vein thrombosis 3. heart attack 4. hyperviscosity of the blood 5. myocardial infarction 6. pulmonary embolism 7. stroke 8. thrombosis</p>
<p>58. Growth Hormone (hGH), • oral or intramuscular injection • 59. Insulin-like Growth Factors (e.g. IGF-1), • intramuscular injection • 60. Mechano Growth Factors (MGFs) • intramuscular injection •</p>	<p>Enhances athletic performance in the following ways: 1. body fat percentage decrease 2. growth stimulation 3. muscle definition enhancement 4. muscle size and strength increase 5. muscle tissue repair 6. protein synthesis increase Used medically to treat the following symptom and diseases: 1. cosmetic symptoms of aging 2. growth hormone deficiency in children 3. growth retardation in children 4. Turner's syndrome</p>	<p>1. abnormal body changes 2. acromegaly 3. antibody formation 4. arthritis 5. brain swelling 6. cardiomyopathy 7. congestive heart failure 8. coronary artery disease 9. Cruetzfeldt-Jakob disease development when drug is produced from cadaveric specimens 10. diabetes mellitus 11. diabetic (hypoglycemic) coma 12. facial nerve paralysis 13. forehead and jaw shape change 14. hand enlargement 15. heart enlargement 16. hypercholesterolemia 17. hypoglycemia 18. hypothyroidism 19. impotence 20. menstrual irregularities 21. metabolic dysfunction 22. myopathies 23. osteoporosis</p>
<p>61. Gonadotrophins (e.g. LH, hCG) - prohibited in males</p>	<p>Enhances athletic performance in the following ways:</p>	<p>1. increased risk of gynaecomastia 2. similar effects as anabolic steroids</p>

• intramuscular injection •	<ol style="list-style-type: none"> 1. masking agent (for anabolic steroids) 2. testicular damage (due to anabolic steroid use) counteraction 3. testosterone and epitestosterone production stimulation 	
62. z injection •	<p>Enhances athletic performance in the following ways:</p> <ol style="list-style-type: none"> 1. muscle definition when used in conjunction with other substances 2. muscle growth when used in conjunction with other substances 3. protein breakdown reduction 	<ol style="list-style-type: none"> 1. brain damage 2. breath shortness 3. coma 4. death 5. drowsiness 6. hypoglycaemia 7. nausea 8. shaking 9. weakness
63. Corticotrophins (ACTH) • intramuscular injection •	<p>Enhances athletic performance in the following ways:</p> <ol style="list-style-type: none"> 1. increases adrenal corticosteroid levels 2. antiinflammatory action aids recovery from injury 	<ol style="list-style-type: none"> 1. psychological effects such as irritability 2. softening of connective tissue 3. stomach irritation and ulcers 4. weakening of an injured area in muscles, bones, tendons or ligaments, osteoporosis and cataracts

Conclusion

Performance enhancing drugs used by the athletes not only harmful but also threat to the integrity of sports. Some time doping is very helpful to enhance the performance but long time use of drugs spoil the athlete physically and mentally WADAs playing very good role to preventing doping. This agency catching the cheater & giving punishment. No player should gain an unfair advantage through these substances. so, our moral duty is to educate the young athletes, tell them harmful effects of doping & make the country free from doping.

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