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Effect of Performance Enhancing Drugs on Athletes Career

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Athletes use prohibited medications, drugs, or treatments with the intention of improving their performance, this is termed as doping. Doping is a very common term used in sports. It is an unethical way of enhancing performance therefore prohibited by most of the organizations. It also goes against the spirit of the game. There are many health risk factors of doping, that's also a reason to ban doping.

The main reason why doping is banned, as these substances can have harmful and long lasting side effects related to heart, nervous system, respiratory and hormonal changes. It can lead to irregular heartbeat, High blood pressure, heart attack that may lead to death of the person. Doping also has effect on nervous system causing anxiety, insomnia, depression, aggressive behaviour, addiction with withdrawal symptoms, psychosis, tremor dizziness, stroke, etc. In many cases it also leads to respiratory problems like nose bleeding, sinusitis, etc. This may also affect hormonal changes causing infertility, Gynecomastia (enlarges breast), decrease testicular size, low sex drive, acromegaly (coarse bone in face, hands and feet, cancer).¹

Beyond the physical complications there is moral and ethical dilemma also. These ban substances are used to gain an unfair advantage which significantly devalues the spirit of competition².

As stated by World Anti Doping Agency (WADA) the purpose of an anti-doping programme is, "to protect the athletes' fundamental right to participate in doping free sport and thus promote health, fairness and equality for athletes worldwide..."³

Researcher took up to research on this topic with following objectives

Objectives:-

- To understand the regulations that govern doping
- To identify the methods of doping
- To critically examine the Physical, ethical and legal effects of doping on the career of athletes (Specific Case studies)
- To suggest the remedy to the growing menace of doping

¹ SportsMedToday.com; <https://www.sportsmedtoday.com/doping-va-119.htm#:~:text=%E2%80%9CDoping%E2%80%9D%20refers%20to%20the%20use,to%20improve%20thei,r%20athletic%20performance>. Visited on 20th May 2021

² ibid

³ ibid



Regulations governing Doping

The World Anti-Doping Code (Code) a document drafted by World Anti Doping Agency (WADA) is the document that harmonizes regulations regarding anti-doping in sport across all sports and all countries of the world. The Code provides a framework for anti-doping policies, rules, and regulations for sport organizations and public authorities.⁴ UNESCO formally recognised WADA and code. The UNESCO-led International Convention against Doping in Sport was unanimously adopted by the 33rd UNESCO General Conference in Paris in October 2005 and went into force in February 2007. UNESCO Member States are now working to ratify it individually according to their respective constitutional jurisdictions⁵.

Sports Organisation code:-

Sports Organisation code has to make sure that their rules and policies are in the same frame work with mandatory articles and principles of the code. WADA assists signatories by reviewing their anti-doping rules to ensure that their Code-compliant and, where this is not the case, by offering assistance to remedy the situation.

WADA closely monitors doping cases and has the right to appeal to the Court of Arbitration for Sport for cases under the jurisdiction of organizations who have implemented the Code.⁶

Substances and Methods of Doping

Substances and doping methods are banned when they meet at least two of the three following criteria: enhance performance, pose a threat to athlete health, or violate the spirit of sport.

⁴ World Anti doping Code [https://www.wada-ama.org/en/questions-answers/world-anti-doping-code#:~:text=The%20World%20Anti%2DDoping%20Code%20\(Code\)%20is%20the%20document,sport%20o rganizations%20and%20public%20authorities.visited](https://www.wada-ama.org/en/questions-answers/world-anti-doping-code#:~:text=The%20World%20Anti%2DDoping%20Code%20(Code)%20is%20the%20document,sport%20o rganizations%20and%20public%20authorities.visited) on 22th May2021

⁵ ibid

⁶ ibid



Following are some of the substances and methods used for doping in sport:

1. Erythropoietin (EPO)- It a hormone produced by kidney with small amount made by liver. It plays a major role to produce red blood cells. When an athlete is injected with EPO it increases the concentration of RBCs and consequently their aerobic capacity. It can also lead to serious health risk for the athlete. EPO thickens the blood in the human body which can further risk the life of an athlete by getting heart disease, strokes etc. EPO has also been a reason behind the deaths of several athletes.

2. CERA (Continuous Erythropoiesis Receptor Activator)- It is a third-generation form of EPO it requires less frequent injections. It is taken to increase the oxygen carrying capacity to boost endurance. It is also taken for quick recovery from the training.

3. Anabolic Steroids- It is a drug which resemble testosterone. It's a hormone which is produced from male testes and is much lesser in female ovaries. It helps to increase the strength and size of the muscle. It also helps to reduce body fat and helps in recovery from injury.

4. Human Growth Hormone (HGH)- It is also known as somatotrophin or somatotrophic hormone. It is naturally produced by the human body. It stimulates the liver and other tissues to secrete insulin-like growth factor, production of cartilage cells, resulting in bone growth and also plays a key role in muscle and organ growth. All of these can boost sporting performance. It can also cause diseases like diabetes in prone individuals, worsening of heart diseases, muscle, joint and bone pain, hypertension and cardiac deficiency, abnormal growth of organs and accelerated osteoarthritis.

5. Diuretics - It is a masking agent which prevents in detecting another banned substance. It helps in weight loss which could be an advantage in sports.

6. Synthetic Oxygen carriers It is hemoglobin-based oxygen carriers (HBOCs) or perfluorocarbons (PFCs), are purified proteins or chemicals that can carry oxygen. It is a high-risk drug for cardiovascular disease in addition to serious side effects such as strokes, heart attacks.



7. Blood doping - There are 2 types of blood doping Autologous blood doping and Homologous blood doping. Autologous blood doping is the transfusion of one's own blood, which has been stored, refrigerated or frozen, until needed. Homologous blood doping is the transfusion of blood that has been taken from another person with the same blood type. The World Anti-Doping Agency (WADA) says it is funding research into developing a test for autologous transfusions, and it is also leading the development of so-called "biological passports" which keep a record of an athlete's blood and biological variables over time.

8. Insulin- It enhances glucose uptake into the muscle and aids the formation and storage of muscle glycogen. Athletes might use it for events that require high levels of endurance. There is also evidence that it is abused by dopers in conjunction with growth hormones or anabolic steroids to boost muscle growth. Misuse of insulin can lead to very low blood sugar levels - a condition known as hypoglycaemia which can lead to the loss of cognitive function, seizures, unconsciousness, and in extreme cases can lead to brain damage or death.

9. Gene Doping- It is done to modify their genes to enhance their physical capabilities. Gene doping could in theory be used to increase muscle growth, blood production, endurance, oxygen dispersal and pain perception. Gene doping is defined by WADA as the transfer for nucleic acids or nucleic acid sequences, and the use of normal or genetically modified cells. There are currently no testing methods capable of detecting gene doping.

Cases of Sports Personalities found Doping

1. Maria Sharapova :-In 2016, Maria Sharapova was banned for two years from playing tennis testing positive for the banned drug. Meldonium drugs to regulate metabolism which was prescribed to help protect heart tissues. But the drug helped to increase in the endurance performance of the athlete. Also helped in improving rehabilitation after exercise, protects against stress.

2. Tyson Gay:-In July 2013 Moscow World Championships & May 2014 Olympic, he was pulled out of tournament for testing positive for banned substance.

3. Hysen Pulaku:-Albanian weightlifter Hysen Pulaku was the first athlete to be ejected from London Olympics in 2012 after traces of the anabolic steroid Stanozolol were found in his urine sample.

4. Shane Warne:-He was tested positive for MoD uretic it is a drug used in the treatment of hypertension, high blood pressure and fluid retention. It also acts as a masking agent for steroids by



diluting traces of the substance in the urine.

5. Shoaib Akhtar:-In 2006, he PCB found Akhtar guilty of using the steroid nandrolone that is used to aid recovery from injury, increase muscle size, strength and power and increase aggression.

Conclusion

Doping has negative effect on sports person. Performance-enhancing drugs are highly risky for athletes health. It also has side effects which can affect the body and may destroy their bodies in the long run.

Suggestion

The Coaches should must be aware of WADA regulations and guide the athletes properly. There is also a need of proper planning and arrange teaching session about doping regulations. Emphasis should be to teach the sportsperson to play with the spirit of sportsmanship respecting discipline and fair play. Coaches need to guide the sportsperson, about the misuse of drugs, dangers and temptations involved specially when travelling abroad.

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