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MONOGRAPH

**ANALYSIS OF CULTURISTS USING STEROIDS AND THEIR INFLUENCE ON
SPORTS PERFORMANCE**

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GRATITUDE

I would like to thank God for the opportunity of being in a nice family, a good school and to continue giving me strength to move forward with my life.

I have great pleasure in showing my gratitude to my family because they guide me to go on the right path and to fulfill my goals and objectives, also through their effort and dedication I can be part of Unidad Educativa “Javier” that has strengthen my knowledge which I can share with my colleagues in this monograph.

My acknowledgement would be incomplete without thanking my teachers because they were always available with dedication and patience, they shared their knowledge with each one of us every day so that we can become professional and virtuous people that can move forward despite the walls that exist in the society.

This would not have been possible without the ideas of my partners in the gym who helped me decide my topic and cleared out all my doubts.

SUMMARY

Steroids are currently used without preventions and control. Consumers use it for different reasons, for instance to treat specific diseases, to have a muscular body or even to take some advantages in sports.

We are living in a society where people want to get attention with their bodies or hide insecurities about their bodies, so they start the use of steroids without control or knowledge of the side effects and this, is causing a lot of repercussions in their health.

People who use steroids to take some advantages in sports undermines the ethics of sport, the physical and mental integrity of the athlete and the principle of equality for all because the steroids give increase the abilities in the athlete in the competition.

In some diseases like cancer steroids are important to reduce inflammations and allergic reactions, control headaches, puke and kill carcinogenic cells. Meanwhile to treat HIV it is important for gain weight.

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INTRODUCTION

This monograph work is about Steroids and how people use it nowadays, how it works, the types and consequences. Steroids play an important role in the life of bodybuilders because these substances develop their muscles.

In my social environment a lot of people use steroids, and this inspired me to do this monograph. I see a lot of my friends using it and I grew up with people that use it in my gym and friends of my father who are athletes that participate in a lot of competitions and consumes steroids. None of them are completely aware of what it means to consume these substances nor their side effects.

This monograph has 3 chapters, every chapter have a different topic but have like global objective, explain to people what steroids are causing and the consequences of it.

The first chapter is an introduction of steroids, how to use them, the existing types and its advantages and disadvantages.

The second chapter talks about the working process of steroids, why people use these substances, possible improvements in consumers and different reason why people should use them for their aesthetics.

The third chapter is an interview of a bodybuilding champion and a physical trainer who prepared several champions and competitors for the same discipline

CHAPTER I

INTRODUCTION TO STEROIDS

“Steroids are used in all sports” (Dorian Yates, Professional bodybuilder winner six consecutive times of the Mr. Olympia competitions from 1992 to 1997)

Steroids are normally used in athletes but in various sports the use of it is illegal. Normally the athlete who uses steroids receive a sanction that prohibit the athlete to continue with his career. In case the athlete that consumes steroids won a medal or a championship, the organization would remove his award and they would give it to the contestant who finished in second place.

Steroids helps the physical performance of the consumer, giving him or her the best level of hormonal axis because it increments the strength and resistance.

The common stereotype about steroids is negative, most of the society thinks only vain people who care too much about their muscles consumes it. These prejudices are filled

with misinformation because is not always as presented. In fact, consumers believe that taking steroids and pumping their muscles is a type of lifestyle.

1.1 What are steroids

Steroids are synthetic drugs that resemble natural hormones made in the body. The type of steroids that are misused are anabolic androgenic steroids (AAS), which copy the effects of the male hormone, testosterone. People use AAS to build muscle or increase strength. The steroids can be swallowed or injected into the muscles. AAS are different to corticosteroids, which are medically prescribed to treat conditions such as asthma. Corticosteroids copy the effects of the cortisol hormone and have no muscle-building or performance enhancing effects.

Steroids can be defined by their chemical structure. Steroids are organic compounds that contain four rings of carbon atoms. All steroids have three 6-sided carbon rings and one 5-sided carbon ring.

1.2 Types of steroids

Different steroids have different functional groups attached. Functional groups are groups of atoms that are often found together and have a specific behavior. When they are attached to different functional groups to the basic steroid rings, we find steroids with different functions.

There are numerous types of steroids basically all of them are made of testosterone with different functional groups. The most famous steroids are: stanozolol (winstrol), testosterone propionate (sustanon), methenolone acetate (primobolan) and methandrostenolone (dianabol) this last steroid was very popular in the 70's and it was mainly used for Arnold Schwarzenegger actor and seven times champion of Mister Olympia.

Use of steroids

Steroids were created with the purpose of treating diseases like Hypogonadism and Asthma. Hypogonadism is a condition in which the testicles do not produce enough testosterone to ensure the growth, development and normal functioning of the person.

Asthma is a condition in which your airways narrow and swell and produce extra mucus. This can make breathing difficult and trigger coughing, wheezing and shortness of breath.

In the 30's, scientist probed these substances with animals and they saw how easy the muscle grew and realized that steroids can be used to increment strength and build muscle in humans giving some advantages over people who don't consume it.

Nowadays there is an alarming use of steroids. The abuse of steroids increased over the years, there is a ready availability of steroids and steroid related products. The problem is widespread throughout society including school-age children, athletes, fitness, professionals, etc. The National Institute on Drug Abuse (NIDA) estimates that more than a half million 8th and 10th grade students are now using these substances and an increasing

numbers of high school seniors. Some people are taking dietary supplements that act as steroid precursors without any knowledge of the dangers associated with their abuse. Currently, the society does not perceive Steroids as risky.

1.3 Advantages and Disadvantages

Some advantages of the use of steroids are:

They produce nitrogen retention that is ordinarily lost through the urinary tract, and when added to an intense physical activity, they favor muscle growth due to the formation of new fibers.

By occupying receptors for corticosteroids in muscle cells, they stimulate the production of proteins necessary for the construction of tissues and act as mediators in the enzymatic processes that metabolize these proteins

It is argued that these steroids also stimulate the production of creatine phosphate in muscle tissue which in turn increases the availability of adenosine triphosphate, giving explosions of energy for physical exercise and training.

They produce an increase in the delivery of oxygen to the muscle cells, and also greater availability of lipids and carbohydrates, which enlarge the vessels of the muscles worked, achievements very sought after and valued by athletes of high strength or intensity.

Steroids also reduce recovery time between workouts, which makes it possible to train harder and thereby further improve strength and endurance.

Some people who are not athletes also take steroids to increase their endurance, muscle size and strength, and reduce body fat which they believe improves personal appearance.

Disadvantages

When you use the steroids for a long time, you have a problem. It's a drug problem. It's a drug and it's not good for the sport." (Anderson Silva, Former UFC middleweight champion).

One of the principal disadvantages is that the people who start the consume of steroids begin to see steroids like a necessity because when you stop the consume of these substances the body start to low his muscle and level in the training taking it to use it with more frequency.

As generally happens in any exaggerated practice, in this case the abusive use of anabolic steroids, brings the following consequences:

In reproductive functions: it alters the process of spermatogenesis, which is the formation of sexual cells, it is accompanied by irrecoverable testicular atrophy and total impotence, which can also be accompanied or not by gynecomastia (Gynecomastia literally

means "woman's breast." It is an increase in tissue commonly occurs in periods in which man experiences hormonal changes, such as childhood, adolescence and old age).

Women are virialized: hirsutism (abnormal growth of beautiful limbs and the body in general) produces a thicker voice, hypertrophy of the clitoris, cutaneous acne, menstrual irregularities, etc.

Liver damage and all related functions, which can lead to serious problems, including death.

Cardiovascular disorders: such as heart attacks, strokes, sudden deaths, etc.

Disturbing psychological effects such as: for example, increased irritability, increasing aggressiveness, anxiety, depression and psychosis.

Possible physical side effects include the following: High blood cholesterol levels that may lead to cardiovascular problems, Severe acne, Thinning of hair and baldness, Fluid retention, High blood pressure.

Possible psychological disturbances include the following: Mood swings (including manic-like symptoms leading to violence), Impaired judgment (stemming from feelings of invincibility), Depression, Nervousness, Extreme irritability, Delusions, Hostility and aggression

CHAPTER II

WHY PEOPLE USE STEROIDS

“First they ignore you, then they laugh at you, then they fight you, then you win”

Mahatma Gandhi Quotes. (n.d.)

One of all reasons for people who use steroids are the low confidence that they have, they think they need to be a strong man for winning people respect, they start consuming steroids to looking good, then start the obsession to take steroids every single week, every single month. Use steroids is like use drugs you never want that the effect ends, you always want to be a muscle man. I think they use steroids because they feel weak, because they are too skinny, because they think if they look muscular, they will not be disturbed again, they think the people will not mock him again.

“When I think of steroids, I think of an image. You have the advantage over someone, which is a form of cheating. I guess it wouldn't be right unless it was legal for everybody. Reason it's not legal for everybody is because it can hurt people seriously”. (“Evander Holyfield Quotes”, 2018)

The other reason to consume steroids are to take advantage to other athletes in some competitions.

Take steroids without control can be harmful to our body because high doses can have side effects that can take us to the operating room.

People don't know the magnitude of these substances if they use it without control

1.1 How it works

The steroids help to increase the protein synthesis of the muscles and boost the protein production. As a result, the muscle fibers become bigger and reduce the rest time while blocking the effects of the hormone of stress cortisol in the muscle tissue, that means that muscle will be repair faster than a normal person.

The testosterone come from the cholesterol and the cholesterol to be a fatty substance, the testosterone will share some similar features and one of these is the most consistent like oil.

When the substance is injected in the muscle is forms a kind of warehouse where the substance is released little by little, how blood is liquid and the testosterone is oily it needs a transporter, then they join to proteins that can transport them in the bloodstream like the testosterone transport globulin, gradually the esterase enzymes break the bonds and slowly release the testosterone in the blood and when it reaches the muscle penetrates the target cell membrane and it binds to an androgen receptor (AR) located in the cytoplasm of that cell. From there, the hormone-receptor compound diffuses into the nucleus, where it alters the expression of genes by copying genetic information and making proteins.

Depending on the substance used, there is also another mechanism of action and it is by insulin growth factor, this improves the nitrogen balance, muscle hypertrophy is regulated by molecular processes where the IGF-I influences these mechanisms, the IGF-I system, are responsible for muscle growth caused by muscle damage induced by exercise.

1.2 Improvement in performance with the use of steroids

The research about the effects of anabolic steroid in the athlete performance increase began in the late 1960s and continued into the early 1980s.

At the beginning of the '90s, several researchers began to experiment with anabolic steroids in an effort to increase the muscle mass of patients with HIV. Since 1994 several articles have documented the effects of anabolic steroids to increase performance in athletes and healthy men. The results of these studies have generally shown positive effects of the use of steroids on strength, power and athletic performance. Prior to 1990, in particular, there was a data report of the covert doping program conducted by the German Democratic Republic (RDA). During this period, anabolic hormones were systematically administered to the RDA athletes. These substances were supplied to men and women who participated in a wide variety of sports, including athletics, swimming, gymnastics, handball, kayaking, rowing and various winter sports. The effects of these agents on the increase in performance were dramatic, especially in athletics and women's swimming events.

To summarize, the recent scientific reports are consistent with the large amount of anecdotal evidence, mainly, that anabolic steroids in low to moderate doses, particularly in combination with strength exercise, can increase performance in many types of exercise. they depend on the musculoskeletal function.

Unresolved issues related to the effects of steroids on performance

There are still several issues that need to be resolved in relation to the use of anabolic androgenic steroids for sports or cosmetic improvements. For example, we do not know what the minimum dose of a steroid or combination of steroids is needed to produce increases in strength and muscle mass in healthy men and women and with strength training. A second point that has not been reviewed in controlled studies is the belief that several different anabolic steroids used simultaneously will produce a significantly greater anabolic response than any substance alone. Finally, it is speculated that part of what is gained in mass and strength when using steroids are maintained indefinitely after stopping the use of the treatment with the substance. However, this has not been studied adequately.

The advantageous reactions of steroids are used by athletes who want to increase their performance, overcome brands and position themselves in the world elite, winning the competitions in which they participate.

CHAPTER III

In the first interview we talked to Eduardo Ramirez, a physical trainer who has been working 2 years in the preparation of different athletes. Eduardo share his opinion about steroids.

At the beginning he mentioned that steroids are necessary for the preparation of athletes because it allows them to have a better performance for the competition.

He considers is essential the use of steroids because these substances improve the muscular quality that the judges consider minimum details.

1.1 Interview

What was the reason for start taking steroids?

I started because I wanted to change my physical aspect, from thin to muscular. At the beginning I had lack of knowledge about steroids. I didn't know the correct use and doses.

When did you started taking steroids?

I started when I was seventeen years old.

you mention any notable effect on your physical performance?

Not really, I didn't perceive changes in my performance

Do you think is essential to use these substances to compete?

I do not think it is essential, it depends on the person and how they want to use it. I would recommend it for the preparation before the competence but it's completely doable in a natural way.

Did you experience any side effects in your body?

Only acne, that's the only side effect I have perceived in my physical appearance.

Do you think these substances should be legal in every country?

Honestly, I do not think is a good idea. If steroids were legal all over the world, people would use it incorrectly and it could be harmful for their health. This subject can be perceived as taboo but is only the knowledge of it that can help us have a good use of it. Nowadays it should be use with a prescription and medical controls.

How long have you been taking Steroids?

No more than two years. In the last year I became aware of the advantages and disadvantages and make professional use of the substance.

Are you satisfied with the changes obtained?

It has been good to me and my body.

CONCLUSIONS

At the end of this monographic work it is concluded that:

All steroids are made of testosterone which is the primary male sex hormone. This substance has different uses, for example: to treat diseases, gain weight, to have a muscular body, among others. The free sale of steroids has caused an uncontrolled use and addiction from the consumers because of the rapid physical effects. Most of the consumers mentioned they do not stop the use of steroids because this would mean to lose all the body weight and mass that was so hard to gain. Consumers can experience severe depression as a result of withdrawal. The abuse of it is also resulting in irreversible effects (as diabetes) if they are not detected on time.

All these substances can be dangerous if they are not used properly.

RECOMMENDATIONS

To prevent the undue use of steroids, it is recommended to have supervision of a professional or doctor that can prescribe the correct doses. It is also important to have

advisory about the secondary effects that steroids may have because it can be prejudicial to the health of the consumer.

The commerce of these substances should be regulated by health authorities to avoid the misuse of it.

It is important to have a healthy diet while using steroids. This substance affects cholesterol levels and increases it progressively.

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