

Anabolic Steroids

Introduction:

Anabolic steroids are drugs that are now used primarily to unnaturally enhance the growth of muscles. Not long after the initial production of these drugs, athletes began to use and eventually abuse them, to increase their performance.

I chose to research anabolic steroids because they were originally produced to cure, or to help inhibit, legitimate problems and diseases (listed in the next section). Consequently, I find it interesting that they have become a problem in sports, such as baseball, specifically because it is “America’s favorite past-time”, and the use of such drugs is considered highly unethical. Additionally, I would like to explore how users cope with adverse side affects (discussed below), and why they choose to do so.

Section 1: Background and Problem Statement

Anabolic steroids were initially developed in the 1930s to treat a condition that prohibited the testes from producing enough testosterone to aid in the normal development and sexual functioning of males; the condition was called *hypogonadism*. These drugs were also used to treat specific causes of impotency, cases of late on-set puberty, and to prevent the decay of the body due to HIV. Soon after the first development of these steroids, scientists found that they could also be used to increase the growth of skeletal muscle. This discovery led to the abuse of these drugs by bodybuilders and weightlifters, as well as other types of athletes.

The use and abuse of steroids should be considered a public health issue for many reasons. The largest risk of abusing steroids is the possible development of liver cancer and an increased risk of heart attacks due to elevated levels of cholesterol. In the case of an adolescent abusing steroids, it is possible that the drug will prohibit the growth of bones before completing maturation, which causes stunted growth. It is common for male users to develop breasts; female users typically lose their breasts and develop chin and chest hair. People who choose to inject steroids are at risk of transmitting diseases such as hepatitis or AIDS. In some cases steroids have been found to be

physically and mentally addictive. In such situations users will endure a withdrawal period that induces insomnia, mood swings, depression, loss of appetite, decreased sex drive, restlessness and fatigue. It is also possible that depression will induce suicidal thoughts and attempts; these feelings may remain present for up to a year or more after the discontinuation of steroids.

- **Office of National Drug Control Policy (Steroids Facts & Figures):**
 - http://www.whitehousedrugpolicy.gov/drugfact/steroids/steroids_ff.html

Although Healthy People does not address, nor define the direct problem of the abuse of steroids, they provide insight on the influence of these drugs on society. According to Healthy People 2010, 1.2% of children as young as **13 (8th grade)**, have been exposed to and have experimented with steroids more than once. Surprisingly, this percentage has decreased from the same survey performed previously for HP 2000, which recorded the use at 4.11%.

- **Healthy People 2010 (Prescription drug abuse):**
 - <http://www.healthypeople.gov/document/html/tracking/od26.htm#riskofuseabuse>

In response to the health issues caused by the abuse of steroids (as well as the expanding illegal market), Congress placed the drug into Schedule III of the Controlled Substances Act. This act states that all prescription drugs may only be distributed if a written/oral prescription is presented. Additionally, if a person is found with prescriptions that do not contain their name, they will be arrested.

- **United States Drug Enforcement Administration**
 - <http://www.justice.gov/dea/pubs/csa/829.htm#b>

Section 2: Research

Research concerning how the use of steroids influenced premature mortality was done using a group of highly suspected steroid users and an equal group of non-users.

After 12 years, researchers performed a follow up and found that 12.9% of the original users had died, where as only 3.1% of the control population had died.

The most common causes of death among the steroid users were suicide, acute myocardial infarction, hepatic coma and non-Hodgkin's lymphoma. These findings provide evidence towards the relationship between anabolic steroid use and premature death.

- **Thieme eJournals**
- <https://www.thieme-connect.com/ejournals/abstract/sportsmed/doi/10.1055/s-2000-304>

Studies were performed to analyze existing data to measure how much adolescents used anabolic steroids, as well as to identify any present trends, between the years 1988 and 1996. Researchers compared state and national studies given over multiple periods of time; these studies included the Monitoring the Future (MTF) study, the National Household Survey on Drug Abuse, and the Youth Risk and Behavior Surveillance System. Most of these studies were performed on junior high and high school students; all surveys were anonymous and given in school classrooms.

It was found that steroid use did continue despite legal consequences and education on the issue. However, it was found that over time, only male users decreased, and eventually discontinued their use. After 1991 it was found that female users actually increased their use.

These findings suggest that intervention, education and prevention should be more influential, in hopes to reduce the abuse of steroids among adolescents.

- **Archives of Pediatrics & Adolescent Medicine: Trends in steroid use among adolescents.**
 - <http://archpedi.highwire.org/cgi/content/abstract/151/12/1197>

In relation to the stereo-type that males who are more muscular and bulky appear more attractive to females, researchers conducted a study consisting of 15 questions. They presented this survey to 197 adolescents and found that this theory was correct.

This drive to be larger and more muscular was connected to low levels of self-esteem and increased levels of depression among boys, the same was not found for girls. Additionally, the drive to be muscular was unrelated to the desire to be thin.

- **Heldref Publications (drive for muscularity in adolescent boys and girls)**
 - <http://heldref-publications.metapress.com/app/home/contribution.asp?referrer=parent&backto=issue,7,10;journal,60,77;linkingpublicationresults,1:119928,1>

Section 3: Statistics

Healthy People 2010 conducted research to determine the amount of steroid use among adolescents; researchers then compared the current data to the data collected in 2000.

By using the MTF, NIH and NIDA, they found that 1.2% of 8th grade students had reported using steroids one or more times in the past year. This figure was decreased from the data found in 2000 that reported 4.11% of 8th graders had used.

The same research was conducted on 10th and 12th grade students; 1.2% of 10th grade students admitted to using steroids in the past year. Not surprisingly, the percentage of 12th grade users was greater than that of the 8th or 10th grade, the reported figure was 1.7%.

It was also found that males are, in fact, more affected by the presence and use of steroids than females, however, rates of use have dropped from previous years.

- **Healthy People 2010**
 - <http://www.healthypeople.gov/document/html/tracking/od26.htm#riskofuseabuse>

Research done by the United States government in 2008 also used the Monitoring the Future study to survey 8th, 10th & 12th grade students. It was found that not much change in use had occurred from 2007 to 2008.

During 2007, 0.8% of 8th grade students reported using steroids in the past year, that number increased to 0.9% in 2008. In 2007 1.1% of 10th graders reported using

steroids, that number decreased to 0.9%. Finally, 1.4% of 12th graders in 2007 reported using steroids in the past year, this number has increased to 1.5% in 2008.

Researchers also asked the same students to rate the availability and ease of buying steroids: 16.8% of 8th graders, 24.5% of 10th graders and 35.2% of 12th graders in 2008 said that steroids were “fairly easy” to obtain. However, 60.8% of those 12th graders surveyed felt there was a “great risk” attached to steroid use.

- **Office of National Drug Control Policy**
- http://www.whitehousedrugpolicy.gov/drugfact/steroids/steroids_ff.html

A general study among black, white and Hispanic students found that African American students are less likely than white or Hispanics to take part in unhealthy behaviors, such as the use of steroids or any other drugs. It was also found that 1.8% of white students will intravenously inject a drug one or more times in their lifetime, while only 1.5% of black will do the same.

A further study was done to examine what kinds of students were offered to buy drugs on school property. 19.2% of black answered yes, 20.8% of whites agreed, and 29.1% of Hispanics also agreed.

- **National Center for Chronic Disease Prevention and Health Promotion**
- http://www.cdc.gov/healthyYouth/disparities/black/risk_behaviors/alcohol_drugs.htm

Section 4: Consumer Information

Anabolic steroids can also be used to treat other illnesses or diseases. Some steroids are used to help patients gain weight back after a severe infection or illness. They may also be used to maintain the desired weight. Steroids also aid in the treatment of certain types of anemia, as well as some types of breast cancer. Finally, they can also help treat hereditary angioedema, which is a disease that causes swelling of the arms, legs, throat, windpipe, sexual organs, and face.

Steroids could additionally be used to treat certain blood clotting diseases and Turner’s syndrome.

- **Drugs.com**
- <http://www.drugs.com/cons/anabolic-steroid-oral-parenteral.html>

People who abuse steroids may ingest up to 100 times more than their normal dose, they may also take more than one at a time (stacking). Other possibilities are that they will alternate between a high dose and a low dose, they call this “cycling”. Finally, users may slowly increase their dosage amount, they call this “pyramiding”. The use of anabolic steroids has become so widespread that not only bodybuilders abuse them. Today, users include school-age children, athletes, business professionals, and some women.

- **Injuryboard.com**
- <http://westpalmbeach.injuryboard.com/fda-and-prescription-drugs/anabolic-steroids-the-consumer-the-fda-and-the-manufacturer.aspx?googleid=268752>

It has been found that anabolic steroids do induce addictive behavior. Research using animals proved that the drugs are addictive because the animals (when given the opportunity) could self-administer the drug, and chose to do so much like other addictive drugs. Despite the effect addiction may have on a user’s personal life and social problems, they continue to abuse the drug and spend enormous amounts of money on it. The only difference between anabolic steroids and other highly addictive drugs is that steroids do not induce a euphoric feeling. This means that they do not increase the levels of dopamine being released in your brain.

- **National Institute on Drug Abuse**
- <http://www.drugabuse.gov/infofacts/steroids.html>

Section 5: Solutions to the Problem (or Issue)

- **Medicine Net**
- http://www.medicinenet.com/anabolic_steroid_abuse/page7.htm#treatment
- **Summary of the information:**
 - Can anything be done to completely avoid steroid use? Probably not completely, however, most prevention involves the disapproval of use in

the Olympics or other nationally known sports events. It has been found that almost 9 percent of secondary school systems conduct some form of drug test program on their athletes. Unfortunately less than 4 percent of the nation's high schools test for steroid use. It has also been discovered that merely teaching students about adverse effects of steroids is not enough to keep them away from it.

- **NIDA**
- <http://www.drugabuse.gov/infofacts/steroids.html>
- **Summary of the information:**
 - Generally, supportive therapy paired with increased education about possible withdrawal symptoms and how to cope with them will be enough to help the abuser. In rare cases, medications will be used to maintain homeostasis of the body and hormones. If withdrawal symptoms are extremely severe or are lasting longer than expected, hospitalization may be necessary.

- **About.com**
- http://alcoholism.about.com/cs/steroids/f/steroids_faq09.htm
- **Summary of the information:**
 - Most attempts at preventing the use and abuse of steroids begin at school levels. Some districts test for the use of illicit drugs, including steroids. Further research will be conducted to determine if in fact drug testing helps prevent the use of illicit drugs. When showing the facts and adverse effects of using anabolic steroids, adolescents were more receptive and understanding.

Conclusions:

After conducting research about anabolic steroids I have learned that there are many other good uses for the drug, rather than what they have become known for, which is being abused by athletes. I would hope that people see the adverse side effects as reasons not to use steroids, and that they would be content with how their body is meant to be.

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