

STEROIDS: A DANGEROUS DRUG
IN OUR SOCIETY; A PROBLEM
AND SOLUTION ANALYSIS

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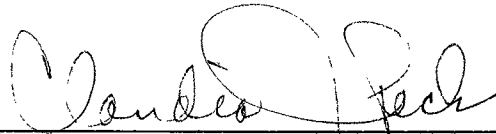
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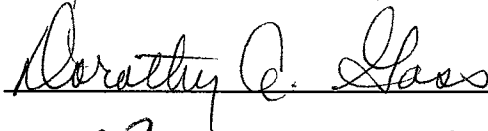
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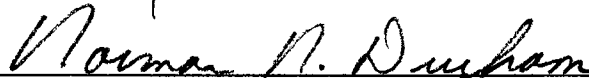
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CHAPTER I

INTRODUCTION

Problem Background and Justification

In our society everyone wants to be the best he or she can be. Notoriety brings fame and fortune. In athletic competition the drive to be number one is no different. Some athletes will take any risk that is necessary to become stronger and faster than others. They want to stand out and receive admiration from their peers and fans. Often times these risks take the form of drug usage to improve upon the body's growth and capabilities. Steroids are the drugs these athletes take as the avenue to become super human.

Since the 1950s, according to Lamb (1984), increasing numbers of athletes have experimented with anabolic drugs. These substances promote tissue growth and presumably lead to increased muscle mass and improved strength and power for athletics. The most abused among these anabolic drugs are the anabolic-androgenic steroids. These include the male sex hormone, testosterone, and its synthetic counterparts that are either injected or consumed in tablet form (Lamb, 1984). The term "anabolism" means a constrictive process, thus, the primary medical use of anabolic steroids is to

help build body tissues and prevent the breakdown of tissues that occurs in debilitating diseases (Hecht, 1984).

Male athletes and bodybuilders are not the sole users of steroids. Abuse of this drug has spread throughout our society and users now include women and teenagers (Groves, 1987). Many adolescents hear about their sport stars taking steroids so they think it is okay. These teenagers want to have the macho appearance so they have come to experiment with steroids as well. According to Groves (1987), the problem has become so prevalent that muscle building steroids may be put in the same drug classification as cocaine. "We're hearing more and more reports that steroid use has broken out into the general school population," says Dr. Robert Voy, Chief Medical Officer and director of sports-medicine science at the U.S. Olympic Committee (Groves, 1987, p.43). "It's the Charles Atlas syndrome - kids are now starting to use steroids to look good in muscle shirts, not just to enhance athletic performance. And this is disconcerting because of the severe side effects" (Groves, 1987, p.43).

A great number of female athletes especially bodybuilders and weightlifters have also begun to take steroids. Dr. Edward P. Donatelle, chairman of the department of family and community medicine at the University of Kansas School of Medicine, Wichita, said he considered the non-prescribed use of steroids "grossly abnormal, and I certainly would discourage it in both women

and men. It's terrible, there's no good use for it anywhere." In women said Donatelle, the synthetic male hormones override and suppress female hormone production. "Literally what it does, is it masculinizes the female" (Gaertnier, 1985, p.60).

If steroids are so bad for individuals, why then are so many people willing to take the risk in using them? Many feel it is a grandiose effect that steroids have on individuals, giving them an invincible feeling. Studies have shown more often than not, that steroids have a more of a psychological effect on individuals than an actual increase in body performance. The American College of Sports Medicine issued a position statement on the use and abuse of anabolic-androgenic steroids in sports (1977, p.xi).

There is no conclusive scientific evidence that extremely large doses of anabolic-androgenic steroids either aid or hinder athletic performance. Serious and continuing effort should be made to educate male and female athletes, coaches, physical educators, physicians, trainers and the general public regarding the inconsistent effects of anabolic-androgenic steroids on improvement of human physical performance and the potential dangers of taking certain forms of these substances, especially in large doses, for prolonged periods.

Currently, anabolic steroids are sold legally only by prescription. Stronger controls and regulations are definitely needed today with the number of people involved in steroid use. The public needs and deserves to be informed of the pros and cons of the drug and the hazards associated with taking it. There has to be major assistance from the U.S. Government.

The Food and Drug Administration (FDA) needs to invoke stricter fines and work with other federal agencies to limit the easy accessibility to illegal steroids. There has been some progress made. Since 1985, federal investigations have resulted in indictments, convictions and the seizure of \$7 million in illegal steroids (Stehlin, 1987).

Professional Athletic Associations also need to recognize the problem of steroid use and invoke harsher penalties on those members who abuse the drug. Testing on the athletes should become commonplace and sports physicians should control the usage of any drug taken by team members and counsel them of the side effects of that drug. Counseling should also be done at the high school level by educators and physicians to inform students of the risks before they experiment with the drug.

Purpose of Investigation

The purpose of the investigation is to discuss the effects and ramifications of anabolic steroid usage in our society today. This study looks at the topic and analyzes it in a

problem, solution fashion. Discussed first is the identification of types of users who take steroids, the reasons for taking them, and the side effects or risks involved. Secondly, this study reviews possible solutions to reduce steroid distribution, ways to inform the public of their hazards and methods to decrease usage.

Assumptions and Limitations

There are many types of steroids. This study only deals with the anabolic-androgenic type which the majority of individuals are taking today to increase muscle and tissue growth. They are only legal if taken under a doctor's prescription. Any reference to the word steroids used throughout the paper, unless otherwise stated, is of the anabolic type. This study does not concern itself with the medical composition or the process of developing steroids, only their accessibility and the effects they have on humans.

Definition of Terms

ANABOLIC STEROIDS - Any of a group of hormones that increase constrictive metabolism.

ANABOLISM - Constrictive part of metabolism concerned especially with macromolecular synthesis.

ANDROGEN - Any one of a group of hormones which governs the development of the sexual organs and the secondary sexual characteristic of the male.

DIANABOL - A proprietary trade name for methandienone.

HYPOGONADISM - Condition characterized by deficient production of the hormones secreted by the gonads: that is the ovaries and testes.

METHANDIENONE - Dianabol - an anabolic steroid used by athletes.

OSTEOPOROSIS - Increased porousness of bone due to the lack of calcium salts.

PLACEBO - A medicine or pill given to a patient not because it will have any definite action but because the patient will not be satisfied unless he/she receives some active treatment.

STACKING - Taking more than one drug at a time, both injectable and oral dosage forms.

STEROIDS - Components that resemble cholesterol chemically. The group includes sex hormones, the hormones of the adrenal cortex, and bile acids.

TESTOSTERONE - A male hormone that is produced by the testes or made synthetically. It is responsible for inducing and maintaining male secondary sex characteristics.

CHAPTER II

REVIEW OF LITERATURE

Steroids - Development

Anabolic steroids were developed in the 1930s to build body tissue and prevent the breakdown of tissue that occurs in some debilitating diseases. A Food and Drug Administration (FDA) review of these drugs years later failed to find evidence that they were effective for those purposes (Miller, 1987). Steroids gained world wide recognition after World War II with their use to rebuild body weight in survivors of German concentration camps (Hecht, 1984). They were first introduced in this country in the early 1960s for a wide variety of ill-defined and general uses. Among these were the promotion of body tissue-building processes, treatment of gastrointestinal disorders, preoperative, and postoperative therapy in undernourished patients, and promotion of weight gain in infants and children (Hecht, 1984).

Ironically, the first use of steroids to improve performance began during World War II. They were given to the German troops to enhance their aggressiveness. Their first use in athletics was carried out by the Soviets in 1954. A team physician from the United States recognized

their use at that time and, in the late 1950s conducted tests of the drugs in American athletes (Haupt & Rovere, 1984). Steroids have become increasingly popular among athletes since that time. At first they were used almost exclusively by weight lifters and heavy throwers, then, their use later spread to football players, swimmers, and other track and field participants. Today, the use of steroids has reached epidemic proportions. They are used and abused by not only professional athletes, but by younger athletes in search of bigger muscles. "This drug abuse involves boys not yet in their teens; high school, college and professional athletes, and body builders of both sexes" (Miller, 1987, p.17).

Most anabolic steroids are manufactured out of the country and smuggled in, usually from Mexico and Eastern Europe. The prices are reasonable enough that almost anybody can afford them in moderate doses. A six to eight week supply of dianabol, the most widely used anabolic steroid, costs \$25 to \$30 (DeMarco, 1986). The majority of steroids used by individuals are not prescribed by physicians, but are obtained directly from employees of pharmaceutical houses, veterinarian, pharmacists, other people who have obtained the drugs abroad and from other non-medical sources. Studies of steroid using athletes have reported that from 85 percent to 100 percent obtained their steroids on the black market. These users are served by a black market that was estimated recently at \$100 million

annually (excluding veterinary grades and imported steroids) (Taylor, 1987). Health clubs are a major supplier of steroids to their members. They obtain the drugs from these illegal distributors who collect them from pharmaceutical companies and veterinarian drug houses located all over the world.

Many athletes claim that steroids not only enhances their physique and performance but also helps mend their bodies after injuries.

But the American Medical Association (AMA) Drug Evaluations calls this a "medically trivial indictment." The only uses FDA allows on anabolic steroids labels are for treating certain types of anaemia, certain kinds of breast cancer in women, and hereditary angioedema, a type of allergic reaction to some insect bites, foods, viruses and so forth (Miller, 1987, p.18).

Recently, the FDA, the Federal Bureau of Investigation (FBI), and the Department of Justice have combined efforts against the illegal use of steroids and other drugs to enhance athletic performance. Also in December, 1986, the AMA passed a resolution recognizing the widespread abuse of steroids and the significant misuse of potential of synthetic Human Growth Hormone (HGH) (Taylor, 1987).

There have been many studies to actually determine whether individuals taking steroids increase their muscle size and strength. Results from these tests are

inconsistent, but they do give insight on how the drug affects humans. The Hervies group in England did a study on methandienone (trade name: dianabol), the most widely used anabolic steroid by athletes. It was given to eleven athletic men in a double-blind, crossover experiment. In this type of experiment, a certain number of participants receive a placebo, a substitution which makes them think they actually received the drug. The dose of methandienone was 100mg/day for six weeks. Body weight and composition, muscular strength and performance and the endocrine function were studied. Strength and performance improved over each training period but not significantly different on the drug than on the placebo. "Although the weight and body composition changes may demonstrate an anabolic action of methandienone in man, they may alternatively have been caused by an increase in intracellular fluid, and the question of anabolic action therefore remains open" (Hervey, 1976, p.699).

In another study done by Fowler, Gardner and Egstrom (1965) involving dianabol, similar results were found. The performance of 47 men was measured during a 16 week study. Eight of the men received placebos; nine received dianabol, and anabolic steroid; 15 received placebos and exercise; and 15 received the drug and exercise. There was no significant differences in strength, motor performance or physical working capacity between the control and the dianabol supplemental groups. Difference in other factors such as

vital capacity, limb circumferences and skin-fold thickness were also nonsignificant. Under the conditions imposed in this study there was no evidence that the anabolic steroid increased strength in young men (Fowler, "et al", 1965).

In other studies, scientists have looked at the psychological aspect of athletes who think they are taking steroids and the effect it has on their training. One such study looked at 15 athletes who were informed that they would be all taking steroids. Instead, six selected subjects were given placebo pills. Taking the placebo apparently supplied the psychological inducement to increase strength gains above and beyond reasonable progression (Ariel & Saville, 1972). One of the problems with double-blind and placebo studies that is unique to steroids is athletes may be able to tell when they are getting steroids because they experience emotional changes. Also, there are ethical and medical questions that arise when using experimental human subjects. Steroid amounts used by athletes are excessive and subjecting these amounts to test participants could endanger their lives for a non-medical purpose (Hecht, 1984).

In summary, objective evidence for increased athletic performance by steroids is inconclusive. Some people think steroids improve the body physically, some think mentally, some think both. If steroids improve performance in some way, the improvement might be due to increase in the degree of training rather than to any drug or additive effect.

It is also possible that since increased weight is of advantage in some athletic events (shot-put, javelin throw), an increase in body water itself could give athletes an advantage in these events. Likewise, an increase in blood volume might be beneficial in events that depend on endurance (Wilson & Griffin, 1980, p.1284).

Problems

The researchers who developed steroids expected them to speed healing of bone fractures, muscle and tendon injuries, and burns. Also, they were to be useful in treating of conditions such as malnutrition, anaemia, and post-menopausal osteoporosis in women. According to Taylor (1985), the initial use of steroids temporarily aided individuals suffering from these ailments. Doctors, however, discovered steroids had other damaging effects to body organs, ie; liver and heart disease. As a result, the studies were limited and today steroids are seldom used in treating disease or injuries (Taylor, 1985). This lack of information on what steroids could do to a healthy body presented a problem to athletes, coaches, trainers, and sports doctors. The official medical position was that anabolic steroids do not enhance athletic ability. Some of these individuals, however, started experimenting on their own and ignored the medical debate. It became obvious to reporters and fans that something other than improved

training techniques was responsible for new records and bigger physiques. Individuals in the sports world insisted that steroids could improve performance. Doctors acknowledged these results that steroids were producing but warned that the drugs could also harm the athletes who use them, and something should be done about this dangerous situation (Taylor, 1985).

Studies done on athletes taking steroids are now just being documented and results made more openly to the public. What is known about the effects of these drugs is generally based on studies of patients receiving therapeutic doses. Athletes not only take as much as 10 times the recommended dose, but they indulge in a practice called "stacking"; that is taking more than one drug at a time, both injectable and oral dosage forms. The result of stacking doses on athletes' bodies are still being scrutinized (Hecht, 1984).

How the body uses testosterone needs to be looked at to give us an idea of why steroids are so dangerous. Testosterone is mimicked by the use of anabolic steroids. Testosterone is secreted by the testes in mature men in quantities of 10mg to 25mg daily. Those who use steroids to build muscle, stack steroids in quantities of 100mg or more daily. "Testosterone stimulates and maintains many of the sex organs, including the penis, prostate gland and the semen sacs. It also stimulates the development of bone, muscle, skin and hair growth and emotional responses to produce the characteristic adult masculine traits" (Miller, 1987, p.20).

The physical side effects of anabolic steroids range from the cosmetic, ie, acne, to the very serious, ie, liver tumors. Most liver tumors associated with steroid use are slow to develop and quick to return to normal when the drug is discontinued. Some deaths have been reported, however, including one of an athlete who used anabolic steroids to build muscles. Hecht, (1984) discovered the following:

According to a letter in the January, 1984, Annals of Internal Medicine, the 26-year-old man had taken five drugs over a period of four years before his death from liver cancer. Another rare disorder associated with prolonged steroid use is the development of blood-filled sacs in the liver (peliosis hepatis). These sacs can rupture and cause severe hemorrhaging. (p.15)

The most evident and the more common side effects of men using steroids are acne, balding, and changes in sexual desire. Men may experience enlargement of the breasts, testicle atrophy, a decrease in sperm count, and occasionally, temporary infertility. Most changes are usually reversible if the drugs are used for a short time. If they are used over the long run, steroids can be deadly (Hecht, 1984). In women using steroids, changes are more drastic and in some cases not reversible. The effect is a harsh masculinization. There is growth of facial hair, development of male pattern baldness, deepening of the voice, shrinkage of breast size, enlargement of the

clitoris, uterine atrophy and menstrual irregularities (Grove, 1987).

Steroids also have a drastic psychological effect on individuals and can produce major mental problems. Moderate and large doses of steroids normally result in clear personality changes, even for a time after they stop taking the drug. While on steroids individuals have an increase in self-esteem, sex drive, appetite, explosive hostility and violence, mental intensity, energy, tolerance to pain and a desire to train intensely. Other changes include sleeping disturbances and nightmares (Taylor, 1985). Unfortunately, steroid users have these emotions and feelings both while competing and in everyday life. This emotional unbalance and feelings of invincibility have gotten many steroid users in trouble with the law and have led to broken homes.

Mental disorders created by steroid abuse are more serious than just the feelings of being indestructible. Drs. Harrison G. Pope Jr., an associate professor of psychiatry, and David L. Katz, a psychiatrist, both at Harvard Medical School, studied 41 body-builders and football players, 39 men and 2 women. According to the standard measure of mental illness, five of the study subjects (12 percent) showed signs of psychosis as a result of steroid abuse. These symptoms included delusions of grandeur, paranoia and hearing nonexistent voices. Nine (22 percent) suffered serious mood disturbances such as depression and mania. "All told, about a third of the study

subjects suffered mild to severe forms of mental disorder" (Monmaney & Robins, 1988, p.75).

The popularity of anabolic steroids has given society and consumers other problems besides the harmful side effects it imposes upon the individuals who use them. The growth of a large black market and the development of pseudo steroid products is one of these problems. Conservative estimates put the black market gross at \$110 million a year. Many athletes, coaches, and trainers have ignored the risks and legality of the distribution of steroids and have purchased steroids from underground labs and foreign countries. Some of these products produced are of questionable quality and purity (Miller, 1987).

One Australian physician, Tony Millar, has openly admitted to prescribing steroids to athletes. He has said that athletes will obtain steroids on the black market anyway so they might as well take them under the supervision of a doctor. His stance is considered unethical and has outraged many other sports physicians (Miller, 1986). Another doctor who prescribed steroids eventually quit. "Robert B. Kerr, MD, claimed that his original intention was to steer athletes clear of black market steroids of dubious quality and to minimize the medical risks of taking steroids by prescribing so called safe types and dosages" (Duda, 1986, p.173). However, Dr. Kerr's patients went to the black market for additional steroids and used more than the dosage he prescribed. He felt he was doing no good.

Dr. Robert Voy, MD, Chief Medical Officer to the U.S. Olympic Committee, did a small study which indicated that 30 percent to 40 percent of the steroids used by bodybuilders came from physicians. He believes those figures are dropping as doctors become more aware of the drug's dangerous side effects. Also, Dr. Voy feels that malpractice suits are fully cutting into the mindless prescribing of these drugs (Miller, 1987).

Another problem associated with steroids deals with the reasons why individuals take the drugs. If the information is getting out on the street about the hazards and repercussions of steroid abuse then why do individuals still use them? One reason is the tremendous amount of money now available to star athletes, amateurs, as well as professionals, and to those who develop, coach, manage, and employ them. The second is the growing importance, around the world, attached to athletic achievement. These factors combine to give the traditional win-at-any-cost sports philosophy a new, deadly meaning (Taylor, 1985). Athletes are willing to take risks concerning steroids affecting their bodies. They figure their peak athletic years are only for so long therefore; to be the best, to be number one, to make the most money, they will sacrifice taking steroids. These athletes are not concerned with any long term detrimental result.

Willingness to take the risk type of attitude towards steroids makes control of the drug very difficult. Our

society now has a legal drug being bought and used illegally. There are also certain respected authorities aiding in the illegal distribution of a drug which produces harmful side effects. This poses a serious problem for the youth of the country. "Unfortunately, proscription against drug abuse and misuse are not usually considered effective when dealing with adolescents, and they notoriously disregard such advice if the warnings are based on the purported risks" (Dyment, 1984, p.602). Adolescents see their sports heroes publicly admitting to taking steroids so they think its okay. Many of these youngsters want muscles just to show-off or to stand out so their motives for taking the drug are athletically unrelated. In junior high and high school the selling of steroids has become as popular as marijuana and cocaine. The youth of our country also see steroids as a way of becoming more aggressive and overcoming inhibitions.

One case study revealed a 16 year old who was turned in by his mother who found dianabol in his room. He was interviewed by a doctor and stated that he was taking 30mg daily of dianabol. He was also paying a friend to give him 250mg intramuscular injection of sustenone once a week. Sustenone is a steroid that can be bought over the counter in Mexico. This was going on for approximately two months before he was discovered. The boy's weight was 145 lbs. on 15 October, 1984 and 162 lbs. on 12 June, 1985 (Kwasman, 1986). This case is not uncommon. There is an attitude

today that adolescents are getting from the sports world and that is that steroids are okay, just do not get caught. Adolescents need to receive feedback from our society that steroids are not okay and are as dangerous as other drugs.

Future Concerns and Solutions

The use of steroids in our society is a fairly new issue which has increased rapidly over the last 25 years. Depending on people's background and experience, opinions on how steroids should be used or controlled vary greatly. The issue has just now gotten to the point where it affects a great many people. Something has to be done to control this drug and its distribution to the populace. Anabolic steroids are sold legally only by prescription and most doctors would not prescribe them for body-building. The majority of the selling comes from black market distributors and retailers operating through health clubs, gyms, and mail order houses. Much of the illegal supply is smuggled in from foreign countries.

Law enforcement organizations working with federal agencies and taking a positive stand is one way to deal with a drug that is trafficked illegally. The government has recently taken small steps towards fighting the steroid problem. In May of 1987, the FDA, the U.S. Justice Department and the Customs Service arrested 34 illegal black market steroid dealers across the country. The arrests shattered an international drug network that controlled 70

percent of the \$100 million U.S. black market on steroids (Groves, 1987).

States need to invoke stronger penalties against steroids. Last year, California classified steroids as a controlled substance, subject to stronger penalties for illegal distribution. Many feel the federal government should follow California's lead and reclassify steroids as a controlled substance like narcotics. This would put more emphasis on the investigations.

Steroids have other characteristics of a controlled substance which would further support the argument for reclassification it as such. Besides the distribution of the black market, some of the side effects of steroids are similar to other classified controlled substances. These properties include; habituation, addiction, withdrawal depression, aggressive and violent behavior, and criminal behavior. Steroids are also used by adolescents, causes possible permanent effect on stature, and may lead to the abuse of other prescription drugs (Taylor, 1987). The precedent is there for the reclassification of an uncontrolled drug. Amphetamine was once unclassified but because of the drug's abuse, habituation and addiction, withdrawal phenomena, and other health risks, was later reclassified as a controlled substance under federal law. Some may argue that it would be too expensive to enforce the restrictions on steroids if they were reclassified. But the

cost to human health must be considered before the drug's use and distribution get out of hand (Taylor, 1987).

In sports, drug testing and stiff penalties are the best way to deal with the steroid problem. Ben Johnson, the Canadian sprinter, was disqualified in the 1988 Olympics because he tested positive for steroid use. This incident was widely publicized and relayed a message to all societies that steroids will not be condoned in athletics. However, according to Dr. Robert Voy, Chief Medical Officer for the U.S. Olympic Committee, the testing presently used today in organized sports, both amateur and professional is too programmed. "Athletes have days to weeks to prepare, all they have to do is get off the drug in time to pass the test" (Nance, 1988, p.4c). Dr. Voy proposes that the best way to rid the sports world of steroids should be unannounced or short notice drug tests. Dr. Charles E. Yesaslis III, professor of health and human development at Penn State says, "the life span of steroids in the body is short. Elite athletes self-test themselves to determine when they have to get off the drug to be clean" (Nance, 1988, p.4c).

Depending upon the organization, the periodic testing is as follows; U.S. Olympic Committee, at competitions; NFL, once during mini-camp and training camp; NCAA, during championships and post season events; Baseball does not have a steroid testing policy. The problem Dr. Voy is having with the short notice testing is individual rights but he

feels that you can do effective testing with a 24 or 48 hour testing program (Nance, 1988). The testing procedure has become more sophisticated. Gas chromatography/mass spectrum is the method used in urine testing. It separates the components of a mixture, breaks it into pieces and gives a fingerprint of a specific drug. It has an accuracy of one part per billion of concentration (Miller, 1987).

Testing has increased in the last four years in athletics which is a good sign for society. The International Amateur Federation now requires athletes who break records to submit to tests for steroids and other drugs. It recently suspended seven athletes for life after they failed the tests (Leepson, 1984). The NCAA took its first action against steroid use on January 14, 1986, when it announced that beginning with the 1986 season drug tests would be administered to 36 players from each bowl and play-off bound team. Those athletes who tested positive would be declared ineligible for those post season games. The NFL found 97 out of 1,600 players in 1987 that tested positive for steroids, six percent (Nance, 1988).

Another possible solution to steroid use is to substitute the drug with amino acids supplements. These are commercial products that some people believe help build muscle faster but have no side effects. These are used by the Los Angeles Rams as recommended supplements. The Food and Drug Administration has said there would be no real advantage in using them (Groves, 1987). There could be a

psychological benefit in taking these if individuals felt they needed an artificiality to aid in training. With no side effects, it would be more beneficial to take these amino acids supplements than steroids themselves.

Enforcement and testing are only a small portion of possible solutions to the steroid problem. A better way to deal with the problem is through education. C. Everett Koop, M.D., the Surgeon General of the U.S. states that, Education is needed - indeed, it is imperative.

Children and their parents need to know that steroids can stunt growth. Girls need to know that the masculinization effects, including balding, and voice deepening, are irreversible. Boys should know that withdrawal can result in the development of female-like breasts that may require surgery for correction. And it should be impressed upon athletes that the muscle that may be added will stay there only if the steroids are continued (Koop, 1987,p.1).

Education really becomes a factor to our society regarding steroids when some coaches push steroids on young athletes, "Our children have got to know what steroids really are," says FDA Commissioner Frank E. Young, M.D., PhD (Miller, 1987, p.19) "These things aren't a simple shortcut to building muscle. They're complex chemicals that the body doesn't handle easily, particularly in the amounts being taken by weight lifters and athletes. Anabolic steroids can be dangerous - deadly dangerous" (p.19).

The FDA, the Department of Education and the Drug Enforcement Administration have joined together in developing a public education program on steroids aimed at adolescents. One of the problems with trying to educate youth is that young people believe they are immortal. They think death is for old people. Another problem is that the bad effects of steroid use may not show up for a decade or two after the user stops taking the drugs. Cardiovascular problems and liver tumors ten years down the road does not mean much to a high school senior trying to make first-string linebacker. Young athletes should at least be educated enough to know about the immediate steroid reactions like acne and roid rages (aggressive and combative behavior). This goes along with the notion that everybody in our sports loving society should have the knowledge that some sacrifices for winning are not worth it (Miller, 1987).

The various ways of distributing information to our schools are numerous. A number of high schools are including information in their curriculum on the dangers of steroids, according to the National Federation of State High School Associations. A California law passed last year require that all gyms display posters detailing the dangers, both medical and legal of using steroids (Groves, 1987). Also, the testimony of professional athletes both present and former who had once used steroids could talk to schools outlining the dangers involved. This way is very effective

when someone tells their personal story and is used with other drugs so why not with steroids?

Society cannot rely on the media or word of mouth to get information to the public and consumers on the ills of steroid use. Professional individuals like medical doctors, sports physicians, and scientific researchers should come to the forefront and take it upon themselves to inform individuals on the hazards of steroid use. It gives credibility to the problem when a doctor tells someone they are damaging their body as opposed to a friend or coach telling someone the same thing. One of the best ways is to have doctors discuss problems of steroids with high school youths. This can be done in groups or when pediatricians give pre-participation physical examinations to adolescent athletes. According to Dymont (1984), pediatricians not only should discuss the risks (an unsuccessful way to influence adolescent behavior) but also the drug's degree of ineffectiveness should be stressed. The moral question should also be discussed with adolescents on steroid use. The idea of a competitor attempting to gain an illegal edge should be brought to the minds of our youth (Dymont, 1984).

Education and counseling on the steroid issue should not just start and end in the schools. Sports and team physicians in college and professional sports should continually hold sessions and give players updates on the repercussions of drug abuse involving steroids. Counseling is already one way the National Football League is handling

the problem. Use of steroids is still not considered as detrimental to individuals as other controlled substances but information is now getting out on how dangerous they can be. Parents, teachers and coaches can now go to physicians for reliable information if they suspect a youth is on steroids. Identification is an important key. One should know the signs to look for with an individual experimenting with steroids. Counseling sessions can then be set up and the problem can be dealt with by a professional. Our society must not overlook the implications of this serious drug.

CHAPTER III

CONCLUSION

The use of anabolic steroids by individuals to enhance their physique and athletic performance is controversial. It has become a serious consumer issue because it affects many facets of our society. Steroid use started out with a few athletes and sports physicians experimenting with a prescription drug. Unfortunately the effect they wanted to achieve, ie; large muscle growth, lead to the taking of the drug in mass quantities. This procedure was not sanctioned by doctors because of health reasons and the serious side effects it produced. Individuals who then obtained the drug did it illegally which lead to a black market and underground distribution.

The debate is still going on dealing with the valid use of steroids. On one side, many athletes believe that steroids improve athletic performance and thus provide an advantage to those who use them. On the other side, the medical and scientific communities believe that inadequate scientific data exist to support the claim that anabolic steroids can improve athletic performance even though scientific data have demonstrated steroids physical effects (Haupt, 1984). A possible conclusion drawn from this is

that anabolic steroids have the potential for improving strength performance in some individuals but not in others. Individual differences in sensitivity to steroid treatment are widely recognized (Lamb, 1984).

Unlike the perceived performance debate of steroid usage, the resulting side effects of using the drug are well documented and are a serious threat to the consumer. Cardiovascular diseases and liver tumors are two of the most serious physical ailments produced by steroids. However, psychological effects are much more prevalent and equally as harmful. Increased aggressive behavior and personality changes make the individual unable to cope with others in society and unable to handle daily routines. The individual on steroids is in his/her own little world and becomes obsessed with improving his/her physical performance. Psychological changes persist for a time even after the individual has stopped taking steroids (Taylor, 1985). There have not been any studies documented on very long term use of steroids but most doctors agree that serious illness would result, eventually leading to death.

Since athletics is such an important part of our society, sports stars are very much admired by the general populace. Many people try to improve upon their own capabilities to be bigger and stronger like their sports heroes. This modeling is not limited just to the adult male population. Women and adolescents have started to use steroids either to impress people or to strengthen their

bodies for certain athletic events. In addition to the side effects already discussed concerning steroid use, adolescents of both sexes can experience stunted growth (Groves, 1987). Steroid use can also lead to the use of other drugs. An example would be: many people who take steroids have sleeping disturbances so they take sleeping pills or tranquilizers to calm themselves.

Federal agencies like the FDA, FBI and the Department of Justice have come to the aid of the consumer in limiting the distribution of steroids. Many arrests have been made of black marketeers making the distribution of steroids more difficult. The FDA has put warning labels on certain drugs telling of the potential hazards and dangers of taking them without a prescription.

The federal agencies, however, need help from other areas of our society. Physicians need to honor their oath and closely monitor the doses their patients take with any steroid related drug. On sports teams, athletes should be counseled by sports physicians on the risks of steroids and the sport organizations themselves should levy severe penalties for misuse. Testing should be used extensively to identify the problem. Making steroids a controlled substance by the government would further show society the importance and seriousness associated with the drug.

Education is the key to combat the steroid problem. Consumers need to be informed from credible sources so they can pass the information to their children. Children must

be made to understand the hazards associated with the drug and the medical, legal, and moral issues involved. Steroids can kill you, put you in jail and its not okay to cheat. Parents should not push their kids into athletics unwantingly. Adolescents must understand that the idea of taking questionable risks and that doing anything to be number one is wrong. Adult participation needs to be done in a healthy atmosphere. This idea should be generated from professional sports stars demonstrating that being good and strong can and should be done without the use of steroids.

Steroids is such a large societal problem that credible information about them needs to be disclosed and made public. Curriculum guides should be made up for schools with this drug included in them. Teachers could then pass steroid information to students at an early age. Instruction on steroids could also be part of health classes or done at school assemblies when talking about other drugs. This way adolescents would be reminded that when preserving body and health, the risks of steroids are not worth it. Parents should get involved and counsel their children on the illls of substance abuse and discuss the steroid problem with them. Also, advertising could have a positive effect on informing adolescents about steroids. Information on steroids can come from federal agencies, medical and sports physicians, teachers, counsellors and parents. Whatever the source, information needs to be passed along about this dangerous drug.

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