

## The Psychosomatic Reflection of AAS (Androgenic Anabolic Steroid) Usage between Bodybuilders in Baghdad Gyms

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### Abstract

Bodybuilding is a non-Olympic sport spread widely in a lot of countries including Iraq, it's represented by strenuous physical exercises that strengthen and enlarge the muscles of the body. Films and cinema were factors supporting the ideas of the pleasant appearance of bodybuilders.

The non-Olympic laws let athletes free to smoke, consume alcohol or steroids. And using steroids by some of the athletes out of their medical purpose works to enhance their muscle growth and appearance.

In the first half of 2021, this cross-sectional study was conducted and data were acquired among weight lifters regularly visiting Baghdad gyms. Six gym locations were randomly chosen and 500 athletes (bodybuilders) were exposed to the evaluation to fill out a self-addressed anonymous survey. The survey was divided into two sections: general personal information and substance-abuse-related questions. The frequency of AAS was evaluated based on three strategies: self-reports, projective inquiries, and the crosswise model.

500 male athletes itemized in this study, with mean age ( $24.2 \pm 3.2$ ). Anabolic steroid use was up to (80%) in their last year of training, Cigarette and waterpipe smoking was (36%), and alcohol consumption was (10.5%) among all.

The usage of AAS was more common among unmarried and less educated athletes ( $P < 0.05$ ). The primary goal of use was to increase muscular mass.

Of the huge impact of the media, it should be used to support clean sports and quit AAS by showing their serious side effects rather than supporting its usage.

**Keywords:** Psychosomatic reflection, Substance abuse, Anabolic steroids, Athletes, bodybuilding, Baghdad.

### Introduction:

Anabolic steroids are synthetic derivatives of testosterone (the sex hormone in male). They have anabolic and androgenic effects, by which working on increasing skeletal mass and masculinization respectively.

The sport's categories are, men's physique, classic physiques, and bodybuilding. Steroidal medical uses are in counted doses and clearly demonstrated for therapeutic purposes only. A medical prescription written by a medical practitioner is the only way to permit a patient to be supplied with a medicine or treatment containing steroids is only the legal way to use systemic steroids in many countries. [1]

Bodybuilders abuse the androgenic steroids for their effect on their muscle size and mass, doubling their uptake up to 10-100 times more than the accepted dose. Which carries serious and irreversible side effects including; Increased blood pressure and LDL, decreased HDL, liver damage, liver tumors and cancer, severe acne, low sperm count, infertility, and tremors are all linked to high blood pressure and LDL [2,3]. Athletes have turned to anabolic drugs to increase their body weight and strength with less exertion. [4]. Regularly exercising bodybuilders highly use anabolic steroids more than other athletes. [5]

Although scanning the world's records it shows an increase usage of anabolic steroids among athletes [5], developed world countries showed also an increasing usage of anabolic steroids among their athletes [6,7]. While taking US athletes as an example Anabolic steroids were used by less than 10% of bodybuilders, lifetime incidence was 3.9 percent in Swedish gyms [8], Nigerian athletes reported a prevalence of 5.6 percent [9], and the numbers found in Iran are around 20.0 percent. [10]. (Fig1).

Self-reports were the main data source for all the abovementioned studies. The information was obtained from reports, which are the best sources for estimating the prevalence of common drugs like tobacco, but the authors stayed away from law-related questions. [11].

The utilization of this crosswise model has been proposed as a strategy for assortment of genuine replies in such sensitive issues [12], This strategy enables us to precisely demonstrate how irregular replies reduce the tendency to have fake unrealistic answers [13].

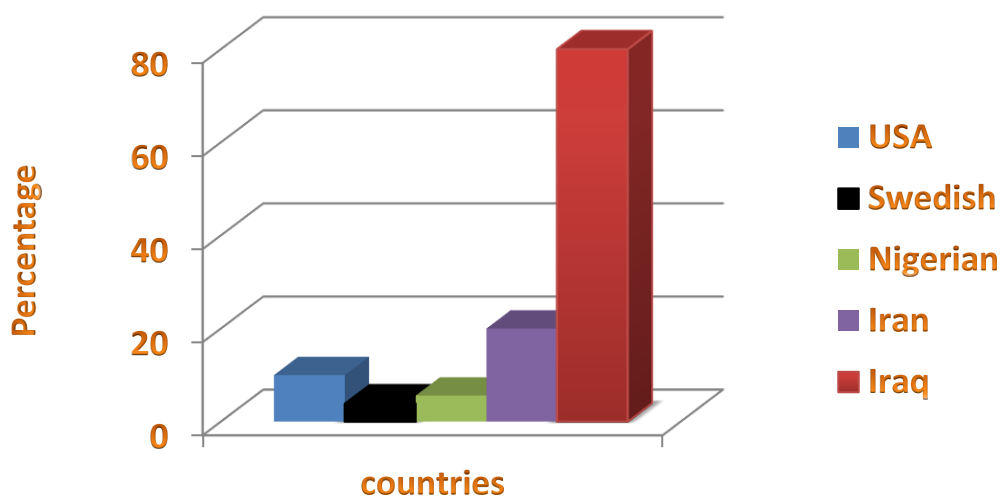


Fig1: a comparison between some countries with the addition of Iraqi athletes' usage of AAS

## Methods

This cross-sectional study was conducted in the first half of 2021 (from June until May) among working-out athletes who regularly visited fitness clubs in Baghdad. Six gyms were selected in a random way out of 40 other male gyms in the city, 500 athletes were subjected to the examination. The study sample was males aged ( $24 \pm 3.2$ ) from

different cultures, environments, and educational levels they were asked to complete a self-administered un-named questionnaire. The survey had two sections: general questions and questions on substance abuse. Self-report, projective inquiry, and the crosswise model were used to determine the prevalence of anabolic steroids.

The questionnaire was done based on crosswise model by asking sensitive and non-sensitive questions, [14] and it was of two parts; A substance-related section includes questions about the length and recent usage of cigarettes, waterpipe, alcohol, opiates, and anabolic steroids, (e.g., Nandrolone, Dianabol, Winstrol, testosterone, oxandrolone, Primobolan, and Sustanon). as well as questions about the baseline characteristic features of the athlete (such as age, marital status, and education). Normal anabolic steroids were not mentioned in discussions with competitors, coaches, or drug sellers.

The legitimacy and dependability of the substance in the poll was affirmed in past examinations and studies [15]. After completing the survey with the competitors secretly, they were told to drop the un-named survey into a fixed paper envelope.

## Results

500 male athletes itemized in this study, the ages of subjects were mean  $\pm$  SD age of subjects ( $24.2 \pm 3.2$ ). Anabolic steroid use as shown in (Table1) was up to (80%) in the last year of training, Cigarette and waterpipe smoking individuals were (36%), and alcohol consumption was found to be (10.5%) (fig2). Unmarried and less educated people were more likely to use anabolic steroids ( $P < 0.05$ ). The primary motivation for using anabolic steroids was to increase muscle mass as the athletes were asked about what made them consume this material. (Fig3).

Table1: The collected data from the questionnaire showing the percentage of AAS usage among athletes,

Substance	Ever use
<b>Cigarette and Waterpipe</b>	36% (180)
<b>Alcohol</b>	10.5% (55)
<b>Anabolic steroids</b>	80% (400)
<b>Low education</b>	30%
<b>Synthetic protein intake</b>	90%
<b>Martial status</b>	Single 70%
<b>Use of insulin</b>	Denied revealing
<b>Use of diuretics</b>	Denied revealing

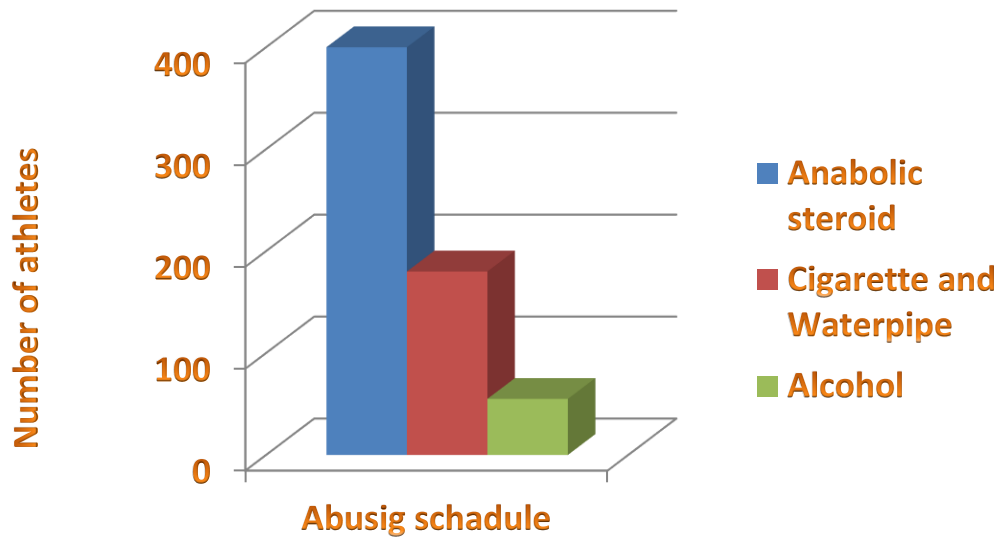


Fig2: Number of athletes abusing the AAS, Alcohol, Waterpipe, and Cigarette

Table2: days and hours of training for athletes

Days of training per week	3-5 days
Hours of training per day	1.5-2 hours

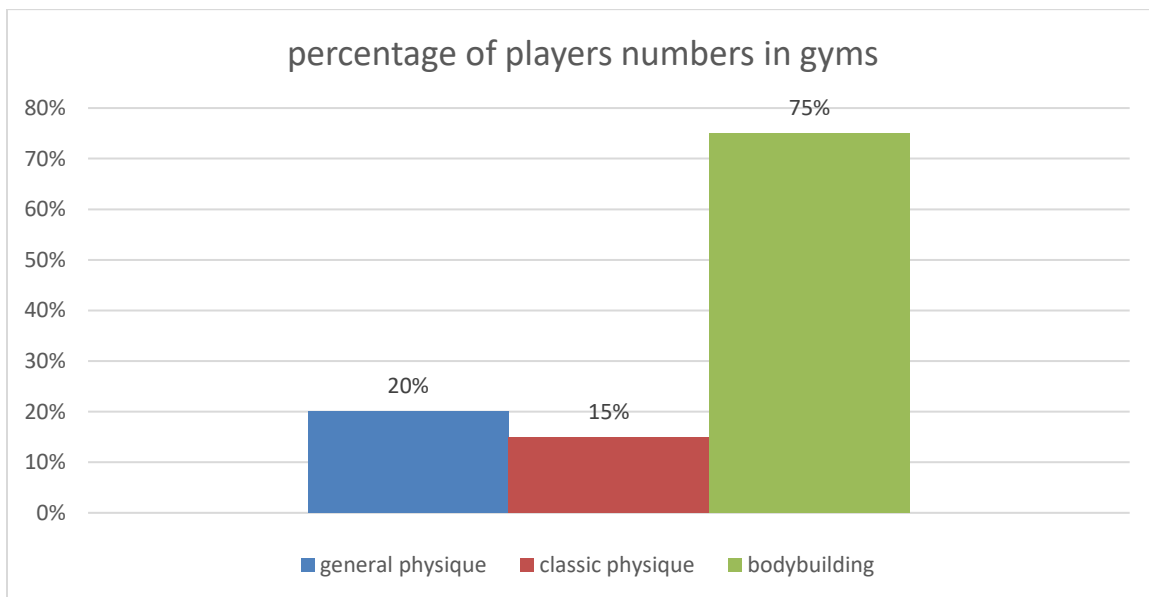


Fig 3: percentage of players numbers in gyms

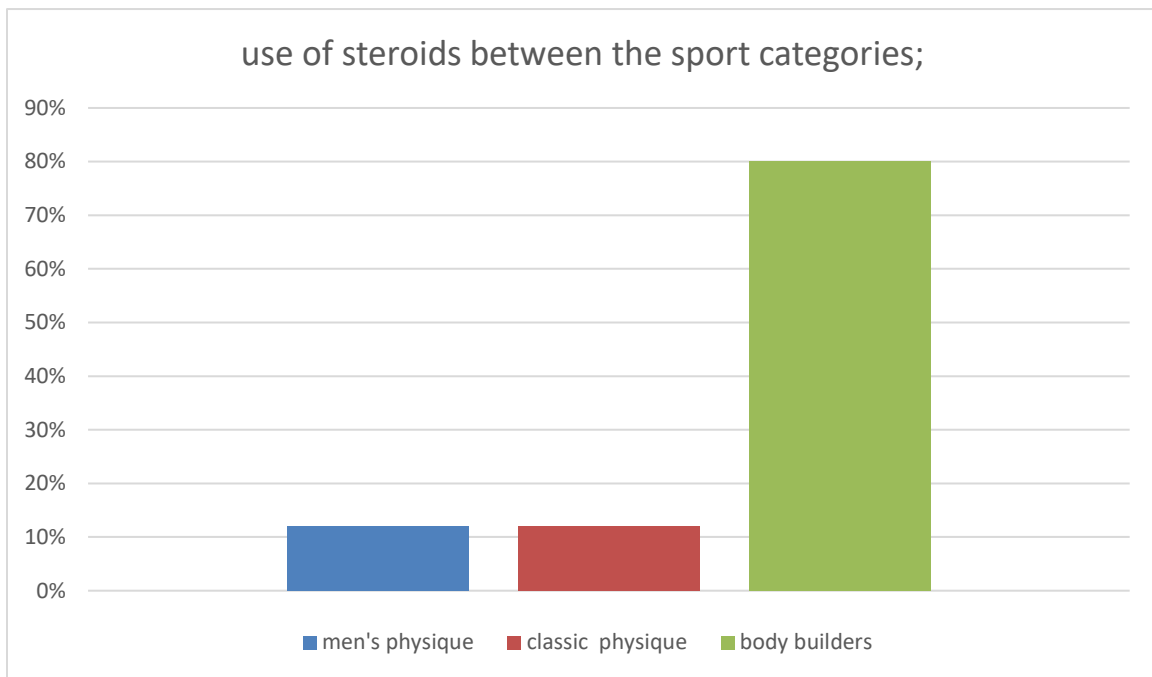


Fig 4: use of steroids between the sport categories;

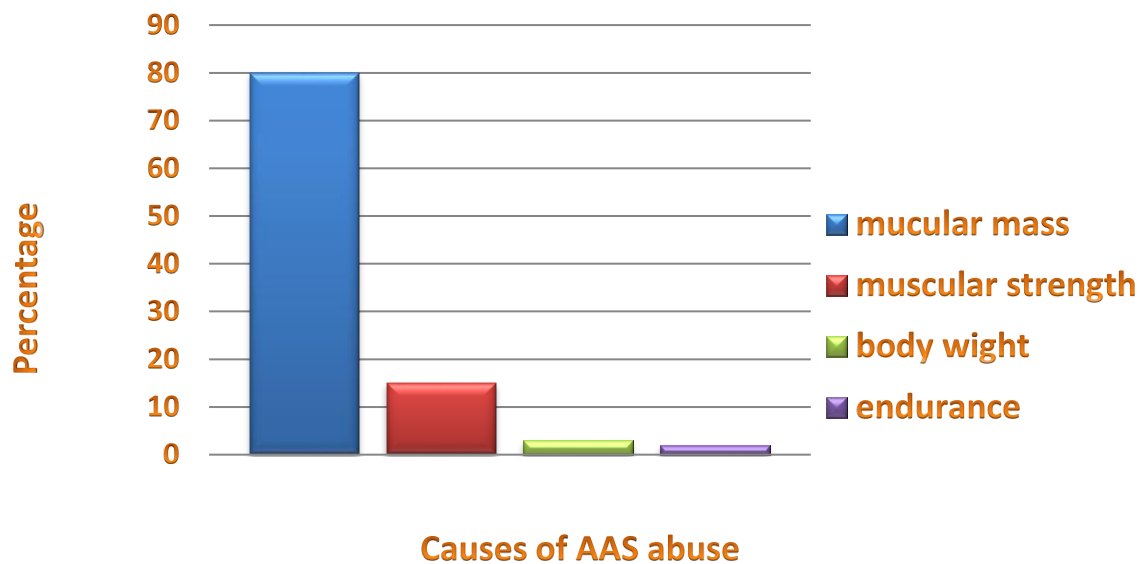


Fig5: effects of AAS usage and their percentage

## Discussion

The questions in the questioner were asked directly and indirectly, because the athletes were trying to protect the dealers, or being embarrassed from the drug's side effects, financial problems and finally thinking that the athlete will lose his muscular shape after withdrawal of the steroid and thinking that their physical and muscular shape would be attributed to the steroids rather than to their workout, all of these reasons had left a suspicion that athletes may deny the real answer. But our close communication with the external affairs of the gym's captains and other pharmacists in the city helped us to make sure that we are getting the most realistic answers.

The real issue is that the body building's admission criteria is a non-Olympic based sport that doesn't restrict taking steroids and other substances by their participants, at the variance of the Olympics.

Anabolic-androgenic steroids (AAS) refer to a group of genetically modified testosterone derivatives that are used in therapeutic treatment. These drugs are widely used in the general population to increase lean body mass and improve athletic performance. It has been accounted for that AAS use can create numerous unfriendly results, particularly in the event of cardiovascular danger. Despite the fact that many studies contradict each other, there is no consensus on the relationship between AAS usage and cardiovascular risk. The impact Psychosomatic reflection of AAS on the cardiovascular framework will be examined straightaway. What is used from AAS has many side effects on the body of the athlete, and these side effects include the psychological side, which is reflected significantly on the cardiovascular system, an increase in the number of heart attacks, an increase in severe depression and anxiety, in addition to other side effects that occur during and after use.

Coronary artery disease (CAD), hypertension, cardiac arrhythmia, cardiomyopathy, and thromboembolism are all heart and blood vessel disorders with different underlying pathogenic pathways depending on the condition. However, the cardiovascular systems of most AAS abusers are always harmed, and cardiovascular lesions in AAS abusers vary due to individual differences, resulting in a wide range of signs and symptoms.

Cardiovascular illnesses are the most related hazard to human existence and it is really a general medical issue across the world [14,15].

(Atherosclerosis) Calcification of the arteries (Exogenous androgen-prompted vascular calcification) was the subject of one examination. In vitro studies revealed that 9 days of treatment with testosterone or dihydrotestosterone increased the calcification of phosphate-incited mouse vascular smooth muscle cells, and immunohistochemical analysis revealed articulation of the androgen receptor (AR) in calcified human femoral artery tissue and calcified human valves [15]. Also narrowing of arteries because of atherosclerosis and lipid lopsidedness can likewise result from misusing AAS [18]. AAS can also cause digestion irregularity of a lipid expanding proportion of coronary supply route and cerebrovascular infections [19].

Furthermore, Peoples et al [20] discovered that long-term AAS misuse results in coronary atherosclerosis, which increases the risk of Coronary Artery Disease.

The connection between AAS and circulatory strain or blood pressure (BP) is as yet under investigation [21] and a few examinations have revealed a persistent BP elevation for 5 to a year after quitting AAS [23].

Additionally, a few investigations arbitrators have AAS causes coronary spasm and myocardial apoptosis [24]. Doppler echocardiography or cardiovascular attractive reverberation imaging shows cardiac hypertrophy in AAS users [25,26]. reports proposed that expanded cardiomyopathy in bodybuilders was straightforwardly identified with AAS misuse [22].

In terms of arrhythmia, AAS abusers can experience aberrant electrical activity in their hearts [27], which has been linked to sudden cardiac arrest [28,29].

### **Conclusion**

The Psychosomatic reflection of anabolic steroid abuse was found to be higher than tobacco and alcohol in bodybuilders. We could not investigate its level in the blood so the report depended on the self-reports.

The community has a crucial part in spreading the abuse of AAS through bullying, unemployment, low educational status, and the influence of media stars.

So the huge impact of the media, it should be used to support clean sports and quit AAS by showing their serious side effects rather than supporting the opposite idea.

### **Abbreviations**

AAS = Anabolic Androgenic Steroids

CAD = Coronary Artery Disease

AR = Androgen Receptor

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