Prevalence of Doping Drug use and Awareness of their Adverse effects among Bodybuilding Athletes in Zahedan

Shahsavani Alireza

Pregnancy Health Research Center, Zahedan University of Medical Sciences, Zahedan, Iran

ABSTRACT

The purpose of this study was to investigate the prevalence of using energetic drugs among bodybuilding athletes in Zahedan and their awareness of their adverse effects in 2007. This descriptive analytic study is cross-sectional. The study population comprised of all sportsmen of bodybuilder in Zahedan sport clubs in 2007. A total of 370 athletes were chosen by random considering the number and location of body building clubs in 4 districts. Two clubs were chosen from each district and finally 8 samples were selected by clustering. To collect the data, a questionnaire was used with 8 questions in the first section and 15 questions in the second section which was related to determining awareness. The questionnaires with regard to validity have content validity and for its reliability, the relearning was used. The results showed that there is no difference between doping athletes and non-doping athletes. Also there is a significant relationship between knowledge and age (r = 0.3) and there was also a significant association between awareness and experience in sports (r = 0.12) .

INTRODUCTION

It seems that the use of agents to enhance athletic performance is as old as competitive sport. The first documented case of abuse dated back the ancient Olympic Games in the third century BC [6]. In this era, some athletes used special diets and stimuli potions such as psilocybin mushrooms and pellets to increase their efficiency [10]. Use of these materials include a wide range of substances such as anabolic steroids, diuretics, drugs for weight loss, stimulant drugs (psychotropic) and narcotics, alcoholic beverages, ergogenic drinks, human growth hormone, erythropoietin and various drugs [21].

Today, sport is an important part of lives of many people. Some do it causally and some professionally. The ever-increasing attention of the people to this phenomenon is an international fundamental industry all over the world [10]. In spite of sport’s advantages and outcomes, one of its problems, especially during the recent decades, is the major focus of authorities, coaches and athletes to the results of sports competition and marginal issues like body image by increasing muscle mass had resulted in nutritional disturbances and abusing doping agents among teenagers and young people, as young people intend to have muscular body [12]. Some teenagers believe that boys with larger muscles are more attractive [16] and this discontent from body image and desire to change it is one of the most important factors in taking some drugs like anabolic steroids [17,20,5].

Consumption of each drug category in different sports is different, in a way that some drugs are used more in some sports. While other athletes in other sports may not use them [10,20,5].

Today, consumption of various supplements is increasing dramatically worldwide, which include daily vitamins, herbal supplements, and performance enhancers. Currently, there are various supplements in the market, which are commonly bought and sold, and not only there is no guarantee in using them and their safety was not proven by credible scientific investigations, but there are some concerns over using them by athletes of different sports [4].

Different researches have studied the awareness of using various energetic drugs and their adverse effects which showed that athletes did not have enough information about using them and neither pay attention in selecting and using them nor to their bad behavioral and physical effects [13,1].

Of course, consumption of some drugs is different in various sports and different and some drugs are more prevalent in some sports [5,10]. The researches that have done abroad to study the prevalence of using drugs,
energetic supplements, the awareness and insight of athletes and non-athletes about doping and its adverse effects, have shown that athletes are more prone to use of these drugs [5,9,15] and patterns of drug use are different in different sports [5,10]. In the meantime, powerlifting and bodybuilding athletes are more prone than other athletes to take these drugs [3,22].

Anna et al. [2] in their reports about attitude, incidence and awareness of high school students about the use of steroids and growth hormone showed that 1.6% of them have used doping drugs, 25.2% have used steroids at least once, 1.76% used testosterone and 0.6% growth hormone. Most boys and girls were opposed to doping and boys who had reported using doping drugs compared to those who did not use the drug, had a more positive attitude toward doping.

Martin and colleagues [14] investigated the use of dietary supplements by athletes of college teams found that 98.6% of the total members of the teams have used dietary supplements and men compared to women have used more supplements like sports drinks, hydrocarbonate jells, creatinine and protein powders. In this study, lots of users reported that they have little information about supplements and intends to know more in this regard.

Hazaveii and Abdolmaleki in 1999 when studying the use of steroids anabolic androgenic among bodybuilders in Hamedan found that out of 370 samples of this study, 71 people (19.2%) with a mean duration of 7.18 months used steroid. The knowledge of bodybuilders about anabolic steroids in users compared to other non-users was significantly greater.

Hossein Saleh and other [8] investigated the use of dietary supplements and illegal drugs in fitness clubs of Isfahan. The results showed that among men, 68% of the athletes used creatinine, 63%, vitamin supplements, 55% amino acids and 40% of the used anabolic steroid.

Several other researchers studied the prevalence of these drugs, supplements of enhancing performance, and awareness of athletes about adverse effects of these substances, that all showed the high prevalence of their use and low awareness of athletes and non-athletes. Also, several investigations showed that consumption of some of these drugs like anabolic steroids besides dangerous adverse effects for person’s safety could pave the way or be an introduction for using other drugs such as narcotics and alcoholic drinks [15,16,19].

With respect to the importance of the subject, the researcher attempts to study the prevalence of using these drugs and awareness of bodybuilding athletes in Zahedan. Then, based on the results, identifies the weak and strong points and offers some substantial approaches for overcoming and improving current obstacles, does a step, however small, to prevent injuries to athletes and intends to investigate the following questions:

• How often is the frequency of doping drugs consumption in bodybuilding athletes in Zahedan?
• How much are bodybuilders aware of doping drugs?
• Is there a relationship between the use of energetic drugs and sports record, age, marital status and education level?
• Is there a relationship between knowledge and doping drugs consumption?

Methodology:

The research method in this descriptive-analytic study is cross-sectional. The study population comprised of all bodybuilder athletes in Zahedan clubs in 2007. A total of 370 were chosen by random considering the number and location of body building clubs in 4 districts. Two clubs were chosen from each district and finally 8 samples were selected by clustering. To collect the data, a questionnaire was used with 8 questions in the first section and 15 questions in the second section which was related to determining awareness. The questionnaires with regard to validity have content validity and for its reliability, the preliminary study was done and questions were distributed two times with an interval of 15 days between 30 athletes and a high correlation was found. Then based on the obtained scores, the leveling of the awareness was done and awareness scores were categorized as high (score>21), average score (between 11 and 20), and low (0 to 10). After collecting the data, they were coded and entered into the computer using the statistical software SPSS. 16. Next, the analysis was performed using descriptive and inferential statistics.

Findings of the research:

In the studied sample, bodybuilders who had used doping agents were 36.2%, but 63.8% of them did not use any drugs. The average age of drug consumers was 24.7 years, and non-drug consumers was 25.3 years. Based on the t-test, there is no significant difference between the two groups (doping and non-doping groups) (P =0.17). There was no significant difference between marital status and using energetic drugs, (P =0.057).

Among single athletes, only 59.3% used drugs, but among married people using energetic drugs was lower (40.7 %).

The educational status of athletes who used ergogenic drugs were as follows: elementary school (1.35 %), guidance school (9.6%), high school education (49.6%), higher education (40%), and educational status of athletes who did not use ergogenic drugs were as follows; illiterate people (3.8 %), elementary school (3.4 %), guidance school (9%), high school education (34.1%), higher education (42.7 %). Based on the Whitney U-test,
there was no significant difference between the two groups of athletes (doping and non-doping) in terms of academic performance \( (p = 0.76) \). However, the results showed the prevalence of doping drugs among athletes as follows: (Creatine = 31.9, Stazon = 5.9, Boldron = 3, Nandelron = 5.9, Oxi methadone = 3.7, Amino = 0.7, Testosterone = 8.9, Mokamel = 8.1, total = 68.1, missing = 31.9).

But the knowledge of doping and non-doping drug user groups of bodybuilders is shown in Table 1.

**Table 1:** Mean and standard deviation of degree of awareness among doping and non-doping drug user groups of bodybuilders

<table>
<thead>
<tr>
<th>Awareness</th>
<th>Number</th>
<th>Mean</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doping</td>
<td>135</td>
<td>9.16</td>
<td>3.16</td>
</tr>
<tr>
<td>Non-doping</td>
<td>238</td>
<td>9.65</td>
<td>3.19</td>
</tr>
</tbody>
</table>

The results show no difference in terms of knowledge between doping and non-doping people.

Also, the frequency distribution of awareness is shown in Table 2 in both groups of doping and non-doping bodybuilding athletes.

**Table 2:** Frequency distribution of awareness of doping and non-doping groups of bodybuilders

<table>
<thead>
<tr>
<th>Awareness</th>
<th>Doping</th>
<th>Non-doping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weak (0-10)</td>
<td>85</td>
<td>62.96</td>
</tr>
<tr>
<td>Average (11-20)</td>
<td>50</td>
<td>37.04</td>
</tr>
<tr>
<td>Total</td>
<td>135</td>
<td>100</td>
</tr>
</tbody>
</table>

The average amount of knowledge based on marital status showed no significant difference between single and married ones in the sample. Married people were 38.8% and the rest were single. Based on the Pearson's correlation coefficient, the obtained results showed a significant relationship between knowledge and age \( (r = 0.3) \), also there was also a significant association between knowledge and experience in sports \( (r = 0.12) (P = 0.01) \).

**Discussion and Conclusion:**

The study results showed that 36.2% of the participants used doping substances, and studied showed that there are drug and supplement abuse in athletes of different sports and in different levels in professionals and armatures [6]. In another study conducted in our country, it was shown that 18.8% of athletes have used performance-enhancing drugs [7]. The results also showed that the highest levels of use belonged to creatine intake (43%) testosterone (12%), supplements (11%), nandrolone (8%), estazone (8%), and Oxymetholone 5%.

A study was conducted in the country, showed that anabolic steroid abuse is about 10.7-59% and the lifetime prevalence is estimated at 26-100%. For example, this prevalence among 143 bodybuilding athletes of Tehran clubs was 59% and in 8 bodybuilding athletes of Tehran clubs was 30% and among 370 bodybuilding athletes of Hamadan clubs was 19.2%, among 202 bodybuilding athletes of Kerman clubs was approximately 18.8%, among 377 bodybuilding athletes of Semnan clubs was 13.2% and among 4576 high-school boy students of Tehran was 10.7% during academic year [6]. Despite several reports concerning adverse effects of using these drugs, anabolic and androgenic steroids are widely used in sport and these drugs had the highest positive doping tests among athletes' samples. Testosterone is an important anabolic steroid. Anabolic steroids are synthetic testosterones, which are built by chemical changes in its structure to maximize its anabolic effects and minimize the androgenic effects [6]. Undoubtedly anabolic steroids are the most widely used drugs among many athletes in different sports, especially power sports. Based on the few studies conducted in the country, it seems that, unfortunately, these drugs have a wide range of use among athletes. The conflicting data about the effects of these drugs on efficiency of sport and their side effects which make confuse most athletes.

The obtained information shows that none of the participants in this research has suitable information and in total the maximum anticipated score gained from the questionnaire was 34 which in the study nobody got more than 20 score and the information levels were classified into two levels of poor and average. In the group who had used doping drugs, 59.3% had poor awareness and 40.7% of an intermediate level of awareness. And in the group who had not used doping drugs, 56.7% had poor awareness and 43.3% had a moderate awareness. Studies have shown that people have little information about doping drugs. The study, which was carried on sport teachers' knowledge of Zahedan schools regarding doping drugs in 2003 showed that they had little awareness [11].

It seems that the best way to combat doping is to educate the target groups and the easiest task is to inform and educate adults and adolescence during prevention and treatment. Most people incline to these drugs unaware of their adverse effects. Education programs in schools can prevent or reduce the consumption of drugs is effective. With increasing the young population of the country and their inclination towards different sports such as bodybuilding, holding educational courses for prevention of using doping drugs is recommended in schools and sport clubs. It was found in researches on athletes that most of them believe that the educational course of anti-doping especially for target group of young athletes could be effective in reducing consumption of doping drugs in future. Effective training programs can produce pleasant attitude about exercise, drugs or
other substances for athletes. Doctors, trainers, nutritionists, pharmacists and other health-related professions are to invited to especially during the first period of an individual sport, teach the psychological, and social factors which led to the use of drugs to the athletes and how to deal with them. Also coaches and authorities must be trained about the active and passive role in persuading athletes to compete without using drugs. So it seems that education is one of the most effective, most cost-effective ways of coping with the doping.

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REFERENCES