

# Assessing the Need for Anti-Doping Education: A Study among Athletes

Diwakar Lal Amatya

Lecturer, Central Department of Sports Science, Tribhuvan University  
Email: amatya.diwakar987@gmail.com

## Abstract

*The present study aims to assess the level of awareness and knowledge among athletes regarding anti-doping education. Population of the study was 102 Nepalese athletes who participated in different South Asian Games held until 2019. The participants of this study were the athletes selected from sports disciplines that were entertained in the 13th South Asian Federation Games held in Kathmandu/Pokhara/Janakpur and earlier. This study employed non-probability sampling method to select the athletes who were interviewed on their knowledge and education on doping. This study used a mixed-methods research design which employed quantitative data analysis techniques to identify patterns and trends in athletes' responses and qualitative to explore athletes' experiences, attitudes, and perceptions to gain qualitative insights into the need for anti-doping education. Moreover, this study employed interview as a tool of data collection and descriptive method used to analyse data. It used statistical graphic techniques to present information about data such as pie charts, bar-diagrams and simple percentage to analyze the data. It is revealed that one third of the athletes are found to ignore the effect of coffee and taking drug and the cough syrup could cause them into trouble of doping. Also, higher number of athletes did have not knowledge on side effects of anabolic androgenic steroids. Surprisingly, one fourth of athletes used to take diuretics for the reduction of the body weight before competition. The findings suggest that the level of awareness and knowledge regarding anti-doping is limited in Nepalese athletes. Based on the results of the study, the athletes should be provided anti-doping education properly in order to prevent trouble of doping in the athletes.*

**Keywords:** Athletes, doping, drugs, hormones, sports

## Introduction

'Doping' refers to an athlete's use of prohibited drugs or methods to improve training and sporting results. Steroids are the drugs that often come to mind when we talk about doping, but doping also includes an athlete's use of other banned drugs such as stimulants, hormones, diuretics, narcotics and marijuana, use of forbidden methods such as blood transfusions or gene doping (Uppal, 2021).

Performance-enhancing drugs have been used from ancient times. Various plants were used for their stimulant effects in speed and endurance events as well as to mask pain, allowing injured athletes to continue competing (Yesalis & Barkhe, 2003).

In the 1904 Olympics, marathon runner Thomas Hicks used a mixture of brandy and strychnine and nearly died. The use of such drugs was common practice until heroin and cocaine became available only by prescription in the 1920s. In the 1950s, the Soviet Olympic team first used male hormones to increase strength and power. These well-documented and controlled hormonal doping experiments on adolescent athletes yielded a crop of gold medalists, but in turn, these athletes suffered severe medical abnormalities, including premature death (Franke & Berendonk, 1997).

The world became acutely aware of the extent and benefits of doping in sport when Ben Johnson's gold medal was stripped in the 1988 Seoul Olympics for using the steroid stanazolol. The International Olympic Committee (IOC) medical commission had established a list of prohibited substances in 1967 and introduced anti-doping testing of athletes in the 1972 Munich Games. Doping became so prevalent in Olympic sport that some argued all records should be discarded or put on hold until all forms of doping could be detected and stopped. In 1999, the IOC organized a World Conference on Doping in Sport in response to a shocking discovery of massive amounts of performance enhancing drugs at the 1998 Tour de France. It was at this meeting that an independent global agency was founded, the World Anti-Doping Agency (WADA) with the mission to work independently of the IOC, sports organizations and governments to lead the fight against doping in sport (World Anti-Doping Agency, n.d.)

Anabolic steroid usage has been recognized as a serious health and ethical problem in athletes for several decades. Numerous examples of steroid usage have led to the suspension and stripping of medals from international athletes, as well as many American professional athletes. Elite athletes and recreational athletes also use steroids to enhance performance and to improve personal appearance. Furthermore, evidence indicates that steroid usage often starts during high school (Yesalis et al., 1993).

Doping can help athletes to build strength and muscle, reduce tiredness or cover pain, but it has bad side effects too. Steroid use can cause acne, particularly on the back. Doping can cause heart, liver and kidney problems and has even killed some athletes.

Sport has almost become a part of the educational system in our modern society and therefore, it is an important agent of socialization. In Nepal, whether in school, college, university, or community, sports have become an essential and unavoidable part of the youth subculture. Around 53 years ago Nepalese people got opportunity to playing modern sports. In those days, common people rarely received opportunity to participate in modern games. Five decades later, along with other development we have found development of sports elsewhere including Nepal.

## Methods

This study employed interview as a tool of data collection and descriptive method used to analyse data. The data for this study has been collected from the 102 athletes from different sports disciplines, who participated in the 13th South Asian Federation Games held in Kathmandu/Pokhara/Janakpur in 2019. The informants for this study were the Nepalese national athletes of five sports namely Boxing, Karate, Weightlifting, Gymnastics and Body-building. A total of 102 players from 212 were selected using non-probability random sampling method who were interviewed face to face on their knowledge and education on doping. This study used statistical graphic techniques to present information about data such as pie charts, bar-diagrams and simple percentage to analyze the data.

## Results and Discussion

Data received were analyzed under several headings below.

### Educational status

The analysis revealed the percentage distribution of Nepalese athletes on different levels of education standard.

**Table 1**

*Nepalese athletes' education status*

Education Level	(%)
Up to SLC (10 Class) and below	66.96
Up to Class 12	17.86
Up to Bachelor's degree	13.40
Up To Master degree	1.78

Data shown in table 1 reveals that two third of Nepalese athletes have received education level of ten standard of education. Out of 102 athletes, 66.96% of the athletes have education level below class 10. Similarly, Intermediate, Bachelors and Masters Graduates consisted of 17.86%, 13.40% and 1.78% respectively.

### Sports disciplines

It is revealed that a total of 102 athletes participated in five major sports namely Boxing, Karate, Weightlifting, gymnastics and Body-building in the SAF games.

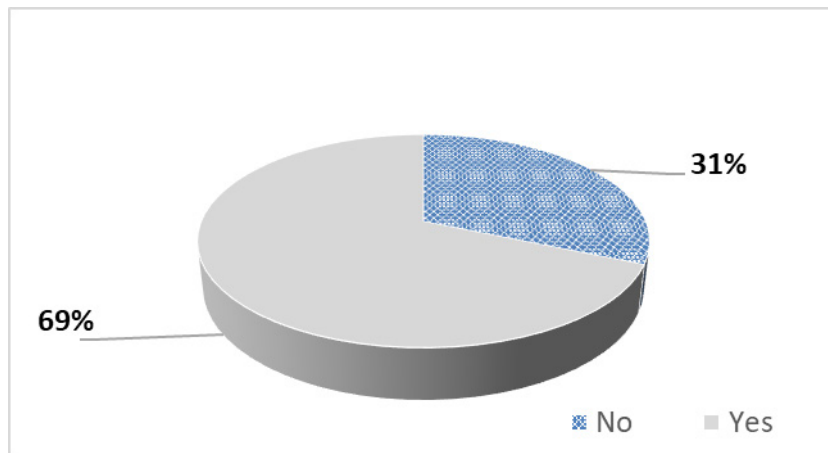
**Table 2***Sports participation*

Sports	Total Athletes	Percentage
Boxing	21	20.59 %
Karate	19	18.63 %
Weightlifting	23	22.55 %
Gymnastics	22	21.57 %
Bodybuilding	17	16.67 %
Total	102	100.00 %

It is revealed that 102 athletes participated in five sports in the South Asian Games where most athletes made participation in Weightlifting (22.55%) followed by Gymnastics (21.57%), Boxing (20.59 %) and Karate (18.63%) and the least in Bodybuilding (16.67%)

**Anti – doping education**

The athletes were asked a few questions regarding doping education. The athletes were inquired whether they had any idea that doping was done.

**Figure 1***Knowledge of doping*

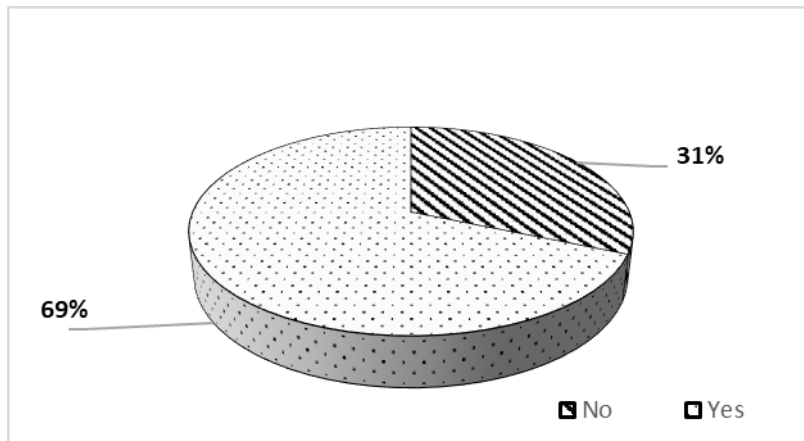
Analysis revealed that 68.63% of the athletes were aware of doping whereas 31.37% of them did not have any idea about this. It means there is lack of anti-doping education in Nepal. In contrast, according to the findings, 20.82% of the respondents had got anti doping instruction more than once, and 30.10% had received it at least once. (Murofushi et al., 2018). From the prospective of value of anti-doping education a study found when

compared to non-attendees that athletes who have attended antidoping seminars demonstrate much greater knowledge levels, and a significantly higher 80% reported visiting their Team doctor prior to using any therapeutic drugs (Krishnan et al., 2022).

### Responses on drink

**Figure 2**

*Knowledge of drinks and doping*

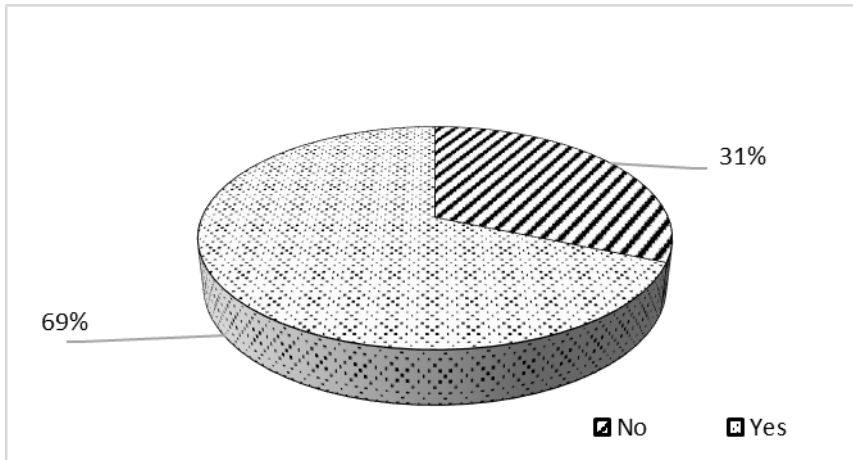


Most of the Nepalese athletes (65%) showed their ignorance on drinks and doping correlation but 35% of them nodded their heads. Drinking Coffee and Coke is normal among Nepalese athletes. The Nepalese Athletes (65%) reported that this could cause them fall on doping. Similar results were found by Nyawose et al. (2022). They found drinks and dietary supplements were utilized by participants to help with energy provision (67%), health improvement (65%), and performance improvement (55%;  $p < 0.001$ ). Eighty-seven percent of participants had never attended an anti-doping awareness campaign or a workshop on the safe use of supplements and beverages, and 73 percent of participants were unaware of the anti-doping policy ( $p < 0.001$ ).

## Cough syrups and doping

**Figure 3**

*Knowledge of cough syrups and doping*

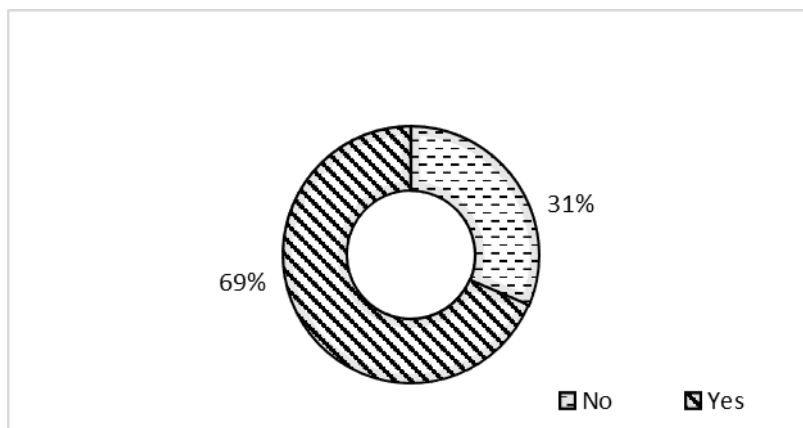


Nepalese athletes knew that cough syrups could cause them into trouble of doping (61%) whereas 39% of them were unaware of this. Cough syrups are easily available in medicine stores in Nepal. Most athletes showed their ignorance of doping these medicines.

## Use of Diuretics

**Figure 4**

*Diuretics for body weight management*



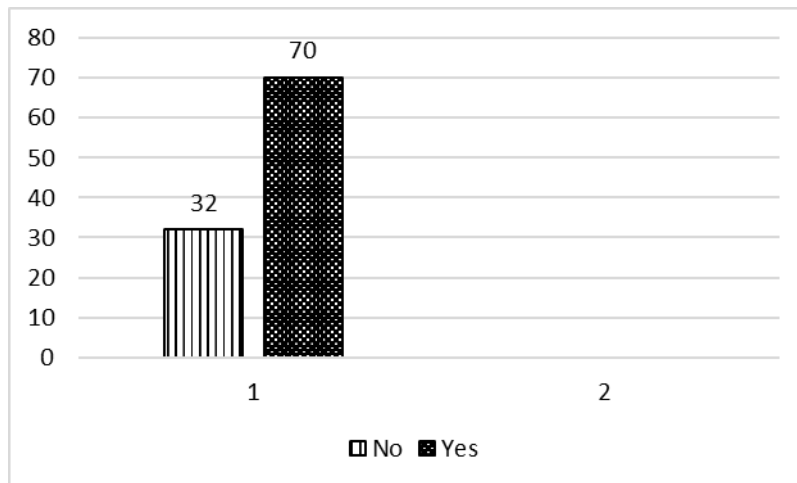
Diuretics are used to reduce their body weight in a short time and most of the weight categories sportsmen do use these medicines. It is surprised to note that 25 percent

Nepalese athletes do admit use of diuretics for the reduction of their body weight before competitions. Diuretics are prohibited from being used in competition and are often tested for by anti-doping laboratories. This is because athletes have abused them and they have been added to the World Anti-Doping Agency's (WADA) list of prohibited substances. Diuretics accounted for 436 cases, or 7.9% of all Adverse Analytical Findings recorded by WADA laboratories in 2008 (WADA, 2009a). The positive cases included diuretics from all classes; with 137 instances, hydrochlorothiazide was the most frequently found diuretic (Cadwallader et al., 2010).

### Anabolic steroids

**Figure 5**

*Side effects of anabolic androgenic steroids*



Anabolic steroids are drugs that resemble testosterone, a hormone which is produced in the testes of males and, to a much lesser extent, in the ovaries of females. But surprisingly, N=90 (88.24%) of the Nepalese athletes did not have the knowledge of side effects of anabolic androgenic steroids. Similarly, A higher proportionate of research participants did not know about the negative effects of using anabolic-androgenic steroids (AAS). A significant percentage of participants (43.2%) stated that they received an offer of AAS, and 68.7% thought that AAS were easily obtainable. (Allharbi et al., 2019).

### Health risks of anabolic steroids

Medical experts see significant dangers in the use – and particularly the gross over-use – of anabolic steroids. Some of the effects are minor or only last while the drug is being taken; others are more serious and long-term. For example, anabolic steroids can cause high blood pressure, acne, abnormalities in liver function, alterations in the menstrual

cycle in women, decline in sperm production and impotence in men, kidney failure and heart disease. They can also make both men and women more aggressive (Australian Academy of Science, 2004).

**Table 3**

*Knowledge about drugs and doping*

	I don't know	Yes
Knowledge about Anabolic Androgenic Steroids	87 (85.29%)	15 (14.71%)
	Yes	No
Medicines fall on doping	41 (40.20%)	61 (59.80%)
Need of doping education for Nepalese athletes	95 (93.14%)	7 (6.86%)

The above table shows that 87 percent Nepalese athletes don't know where Anabolic Androgenic Steroids can be purchased. Besides, only 41 percent athletes asked whether these prescribed medicines fell on doping with their doctors. Ninety five percent athletes felt the need of doping education from their concerned sports authorities.

Doctors, however, do not appear to have much knowledge of the subject of doping, as underlined by a study of the Nederlands Centrum voor Doping vraagstukken on 1000 general practitioners (GPs), according to which 85% of the respondents admitted that they were not familiar with banned drugs or their side effects. In another study involving 400 GPs in Sussex, UK, 12% of the respondents have stated that a doctor has the right to prescribe anabolic steroids for non-medical reasons, which is medically and ethically wrong, and only 35% knew that the International Olympic Committee's (IOC) list of prohibited substances appears in the British National Formulary (Greenway & Greenway, 1997).

Nevertheless, doctors seem regularly to be confronted with doping in their everyday practice. In one of the French GPs, 30% of the respondents stated that they were asked to prescribe banned drugs to athletes. The same was reported by 18% of the British GPs cited above concerning anabolic steroids. Moreover, 87% of the French GPs considered that doping is a public health problem, and 92% thought that they have a leading role to play in doping prevention, even if most (83%) considered themselves poorly trained in this domain (Laure et al., 2003).

### Conclusion

Doping in sport is cheating. It has destroyed fair play and sporting competition. There is much more to sport than just winning and, for sport to survive as a positive, worthwhile activity, honesty, cooperation and courage are essential. The study shows that there is a limited knowledge in athletes regarding the knowledge on antidoping, effects of coffee,



cough syrup, diuretics and anabolic steroids. These drugs which are banned could cause trouble in doping in the athletes.

This study suggests that Nepalese athletes consider that doping in sports is a real public health problem, and also that they want to participate in its prevention. However, although this observation does seem encouraging, their limited knowledge of the realities of doping should prompt the introduction of adequate educational and training for athletes, coaches and sports administrators in Nepal. Although the results of this study cannot be generalized as a whole picture of all the Nepalese athletes, so study should be carried out in whole country.

### References

- Alharbi, F. F., Gamaledin, I., Alharbi, S. F., Almodayfer, O., Allohidan, F., Alghobain, M., Arafah, A., Al-Surimi, K. (2019). Knowledge, attitudes and use of anabolic-androgenic steroids among male gym users: A community-based survey in Riyadh, Saudi Arabia. *Saudi Pharm J*, 27(2), 254-263. <https://doi.org/10.1016/j.jsps.2018.11.007>.
- Amatya, D.L. (2003). Study on Nepalese International Athletes' and Coaches' Academic and Professional Qualifications. *Sports Science and Physical Education Bulletin*, 39, 63-69. <https://www.icsspe.org/content/no-39-cd-rom>.
- Australian Academy of Science (2004). Who will win the race? *NOVA Science in News*, 2004.
- Cadwallader, A. B., de la Torre, X., Tieri, A., Botrè, F. (2010). The abuse of diuretics as performance-enhancing drugs and masking agents in sport doping: pharmacology, toxicology and analysis. *Br J Pharmacol*, 161(1), 1-16. <https://doi.org/10.1111/j.1476-5381.2010.00789.x>.
- Franke, W. W. & Berendonk, B. (1997). Hormonal doping and androgenization of athletes: a secret program of the German Democratic Republic. *Clin Chem*, 43,1262–1279.
- Greenway, P. & Greenway, M. (1997). General practitioner knowledge of prohibited substances in sport. *Br J Sports Med.*, 31,129–31.
- Krishnan, A., Datta, K., Sharma, D., Sharma, S. D., Mahajan, U., Jhajharia, S., Yadav, M. (2022). Survey of antidoping knowledge, attitudes and practices amongst elite Indian sportsmen and the way forward. *Med J Armed Forces India*. 78(1), 88-93. <https://doi.org/10.1016/j.mjafi.2020.03.020>.

- Laure, P., Binsinger, C. & Lecerf, T. (2003). General practitioners and doping in sport: attitudes and experience. *Br J Sports Med.*, 37, 335–338.
- Murofushi, Y., Kawata, Y., Kamimura, A. Hirosawa, M. & Shibata, N. (2018). Impact of anti-doping education and doping control experience on anti-doping knowledge in Japanese university athletes: a cross-sectional study. *Subst Abuse Treat Prev Policy*, 13, 44. <https://doi.org/10.1186/s13011-018-0178-x>.
- Powers, M. E. (2002). The Safety and Efficacy of Anabolic Steroid Precursors: What is the Scientific Evidence? *Journal of athletic training*, 37(3), 300–305.
- Uppal, A. K. (2021). *Scientific principles of sports training*. Friends Publications, New Delhi.
- World Anti-Doping Agency. (n.d.). *Prohibited list*. World Anti-Doping Agency. <https://www.wada-ama.org/en/resources/world-anti-doping-code-and-international-standards/prohibited-list>
- Yesalis, C. E. (2000). *Anabolic steroids in sports and exercise*. 2nd Ed. Champaign, IL: Human Kinetics.
- Yesalis, C. E.; Kennedy, N. J.; Kopstein, A. N. & Bahrke, M. S. (1993). Anabolic-androgenic steroid use in the United States. *JAMA*, 270,1217-1221.
- Yesalis, C. & Bahrke, M. (2003). History of Doping in Sport. *Int Sports Studies*, 24, 42-76.