



DOPING AWARENESS, AND KNOWLEDGE AMONG SUDANESE ATHLETES AND SPORTS PLAYERS

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Article Received on
19 Dec. 2017,

Revised on 10 Jan. 2018,
Accepted on 31 Jan. 2018

DOI: 10.20959/wjpps20182-11020

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ABSTRACT

Background: Doping materials were now a focus of the international community. The adverse effects of doping material necessitate anti-doping activities and regulations. In Sudan, this line is not surveyed before, and no documented data reported. **Objectives:** To investigate the Knowledge and awareness of Athletes & Sport Community in Sudan on Anti-Doping. **Materials and Methods:** This study was conducted among 60, conveniently selected, Athletes and other Sport Community Population, in Khartoum state. Self-administered questionnaire was the research instrument. Descriptive statistics, T-test and One Way Anova were used. **Results:** Sixty athletes participated in the study, (85 %) were Males, and 15% were females. 88% of them participated in competitions. Above 70% of the respondents recorded

awareness about banned substances, and 60% knew about World Anti-Doping Agency (WADA); 58% were not educated about doping tests; 75% were not checked for doping before, and those who were checked, did the test inside the country. (5%) of the athletes recorded using medicines to improve performances, while (95%) did not use these substances. The total athletes, who gave the correct answers about banned substances, were (23%). **Conclusion:** Results were conflicting between awareness in some points, and lack of knowledge in other points, as testing procedures, and banned substances names. Deeper knowledge, about regulations and prohibited substances, is required. Programs for education should start earlier in schools, and further in colleges. Coaches and teacher trainees, and health professionals should be educated about doping.

KEYWORDS: Anti-doping, sports, Sudan.

INTRODUCTION

Doping is considered as one of the most important problems facing sport internationally. Efforts are directed towards controlling this through many mechanisms. The adverse effects of doping materials necessitate anti-doping activities and regulations. The World Anti-Doping Agency (WADA) has the greatest input in this field. In 2004, WADA published its current list of prohibited substances, and this has now been adopted by most sports, although each sport may make slight modifications to the list according to its own needs.^[1] Doping is used to improve the physical capacity to win in a competition or to improve the picture of the athlete. In a systemic review of elite athletes' attitudes, beliefs, and knowledge, the authors concluded that the main reason for using banned substances is to improve performance, and that the (false consensus effect), in which athletes with history of illicit drug use overestimate the use of drugs among other athletes, has the greatest role in legitimizing the use of banned substances.^[2] The extended importance of anti-doping activities emerges from the fact that, these materials are also used among young sports people in schools and out of competition.^[3] Athlete's knowledge about doping and its risk is below the expected information, and this is reported in studies from many countries.^[4-8]

Doping materials were now a focus of the international community. In Sudan, this line is not surveyed before, and no documented data reported. There is a need for knowing the awareness of our athletes, to devise specific programs for them. The objective of this study was to identify and determine the awareness and Knowledge of Athletes & Sport Community in Sudan on Anti-Doping, in Khartoum state.

MATERIALS AND METHODS

This study was a cross-sectional study, which was conducted among Athletes and other Sports Community Population, 18 years old and above. The study was done during the period from May 2012 to April 2013.

A convenient sample of 60 was selected. Self-administered questionnaire was used, and this was pre-piloted among 10 athletes.

Statistical analysis: The Data were entered and analyzed using SPSS23, and the Statistical methods used were descriptive statistics (frequency and percentage), T-test for comparison of gender, and One Way Anova for age ranges comparison. P-Values less than 0.05 were

considered as significant. Self-administered questionnaire was used, and this was adapted for WADA2004 information.^[1]

The questionnaire consisted of three parts. The first section consisted of demographic and general information (age, sex and type of sport). The second part consisted of (yes/no) questions regarding participation in competition, awareness, whether doping test was done before, what is the test done, where it was done, and whether medicines were used before, to improve performance. The third part assessed knowledge about prohibited materials, by giving a list of substances and asking respondents whether it is a prohibited substance or not. The list of the substances contains other non-prohibited substances. The percentage of those who obtained the correct answer was then calculated. The correct answer given was only one, and testosterone as an example of androgens, was chosen as the correct example. Other Substances which were not prohibited include: aminophylline (bronchodilator), epinephrine (vasopressor), and dextromethorphan (antitussive).

RESULTS

Demographic profile is shown in Table 1. Sixty athletes participated in the study, Males were (85 %) and Females were (15 %). One fifth (20%) of the respondents were of younger generation, and 30% of them were approximately fifty years old and above. That means young people as well as people reaching fifties were involved in sports activities .The types of sports in which respondents were involved in, were as follows: Athletics (20 %), Football is (35 %), Weight lifting is (2%) and other sports (e.g. basketball, and volleyball) were (43 %). There was no significant variation in gender (P0.35), age (P0.27) and type of sport (0.15), when compared with questionnaire responses.

Table 1:Demographic profile.

Athlete response	Percentage %
Gender	
Male	85%
Female	15%
Age(years)	
18-28	20%
29-38	30%
39-48	23%
49-60	27%
Type of sport	
Athlete	20%
Football	35%
Weight lifting	2%
Other	43%

General information is illustrated in Table 2. Most of the respondents participated in competition(88%). Above 70% of athletes recorded awareness about types of substances banned by Athletics organizations.

About approximately 60% of respondents have low level of education about doping tests.

Most of the athletes were not checked for doping before (75%).

Doping tests taken by athletes were: Blood test (2 %), Urine test (13 %), and both blood and Urine tests(5%). Most of the respondents did doping test in Sudan(80%), and (20 %) perform their test outside Sudan. About 60 %of the athletes knew about the WADA {World Anti-Doping Agency}.

Most of the athletes were not using medicines to improve performances (95%).Only 5% declared using prohibited substances.

Table. 2: General information.

General information	Yes (%)	No (%)
Participation in competition	88%	12%
Awareness about banned substances	73%	27%
Previous education about doping tests	42%	58%
Previous check- up for doping	25%	75%
Place of checking		
In Sudan	20%	80%
Outside Sudan	80%	20 %
Type of test taken		
Blood test	2%	98%
Urine test	13%	77%
Blood and urine test	5%	95%
Knowledge about WADA	60%	40%
Previous use of medicines or nutritional supplements to improve performance	5%	95%

Regarding the question about the substances prohibited in competitions, the athletes who get the correct answer were only 23% of the respondents. This displayed in Table 3.

Table. 3: knowledge about prohibited substances.

Prohibited substance	Percentage of correct answers
Aminophylline	13%
*Testosterone	23%
Epinephrine	23%
Dextromethorphan	10%

*This is the only prohibited substance.

DISCUSSION

The results of this study showed that there were variable responses of awareness and knowledge, about doping, among Sudanese athletes. Although some of them reported knowing about the agency of doping (WADA), and awareness about banned substances, but this seems rather a superficial knowledge. Because when knowledge about banned substances was tested, only 23% gave the correct answer, although a famous anabolic steroid was used. A deeper knowledge about regulations, tests, and prohibited substances was not, yet, established. About 60% reported their lack of education about doping tests, and three quarter of them did not perform tests before. This means that there is less checking done by the authorities, and it is not a regular practice, although 88% reported their participation in competitions. The majority did not participate in competitions outside the country (80%). This may explain that they were not in touch with the culture of doping with variety of substances. Most of respondents did not use substances to improve performance; the rate of use is 5%, and this should be augmented by continuous testing and education.

Our results are similar to other ones from different countries. In a study from Cameroon^[9], among amateur footballers (elite players, local players and female players), the study showed that 60% of them declared not knowing about cocaine, 68% never heard about anabolic steroids, 74% not heard about amphetamine, and only 15% knew about erythropoietin. The authors concluded that their study revealed some degree of unlawful use of drugs, and a vague awareness of doping. A study from Uganda^[10], among athletes (basketball, football, handball, and rugby), the results indicated less use of doping agents, with knowledge gap (e.g. 80% of them could not correctly define doping). In a study from Saudi Arabia^[11], among sport players, about 95% of the respondents did not use prohibited substances before, 65% received advice on prohibited substances, and 64% not tested before, for doping. This in general shows that still the culture of doping is not evident in African and some Asian countries, compared to European countries.

The results of the current study showed that Sudanese athletes and sports players did not have, also, the culture of doping in sports, like in Europe or even those in western Africa, nevertheless, other alternative methods, which were not restricted may be used, and this needs further investigation. It was clear that there was a gap in deeper knowledge about doping, which requires different interventions ranging from education to testing before competitions. Educational programs should start as early as possible, since the most affected

are the younger generation, and it should encompass not only athletes and sport players, but should be also extended to students in schools and university colleges, and many other related professions. Investigation of attitudes of Japanese physical education university students^[12] showed that 20% of the students approved of drug use in sports, and 10% might have used drugs in sport. Investigation of teacher trainee participating in national ball games and track and field athletics competition, in Kenya^[13], founded that teacher trainees were not aware of the World anti-doping code and its regulations neither they aware of the effect of a selected drug/substances to sports performance and their health. There is an increasing medical concern about widespread of misuse of doping agents, particularly androgenic steroids, from athletes to even general population.^[3] Students are, especially prone to such an extension, which necessitates specific educational programs in schools and colleges. Reports from Sudan^[14] showed that the spread of use of narcotics among university students, and the prevalence of substances use was 31%, and this is considered as an additional new gate for misuse of doping substances.

Although many interventions were done, by different countries, since the appearance of WADA regulations, this did not hinder the progressive use of prohibited substances, among athletes. Other authors^[15], postulated different strategies to be carried for prevention of doping. Examples of these are pre-competition blood screening and adoption of the hematological passport. The 'hematological passport', is based on repeated evaluation over time of several hematological parameters to enable longitudinal comparison of athletes. To our knowledge, this is the first preliminary study to be done among Sudanese athletes and sports players. Future studies should investigate about the attitudes of the athletes towards doping, and reveal other psychological and sociological depths of doping in Sudan.

CONCLUSION

The study showed conflicting results, of some awareness and lack of deeper knowledge about doping. Educational sessions should be started earlier in schools and extended for colleges, and even coaching members and trainees. Other professions should participate in giving advice or improving awareness; among them are pharmacists, doctors and other health professionals.

ACKNOWLEDGEMENT

The authors acknowledges the role of the staff of Sudanese Olympic committee, and the athletes and sports players who agreed to participate in this research.

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