

Prevalence and Psychosocial Factors of Illicit Drug Use among Nigeria Elite Athletes

Joseph Afolayan Adegboyega, Ph.D

Department of Human Kinetics & Health Education
Faculty of Education
Ekiti State University
Nigeria

Abstract

Considerable attention has been focused upon the use of drugs as an artificial means of enhancing athletics performance by both amateur and professional athletes. Although sports administrators are doing a lot to discourage the practice, yet the incidence appears to be on the increase. It is against this background that the study investigated the prevalence and psychosocial factors of drug use among elite athletes in Nigeria. The population of this study consisted of all the athletes (male and female) who have represented Nigeria at least once at an international competition. A total of 220 athletes were randomly sampled from eleven popular sports in Nigeria. A set of questionnaire developed and validated by the researcher was used to collect data for the study. The data collected were analyzed using descriptive statistics, t-test and Analysis of Variance (ANOVA). Scheffe post-hoc analysis was used to locate any significant f-ratio. The hypotheses were tested at 0.05 level of significance. The results showed that participants in this study had used ephedrine, caffeine, anabolic steroids and dianabol. Also, there was a significant influence of psychological factors on drug use among the participants. Participants in team sports scored the psychological reasons for drug use significantly higher than participants in individual and dual sports. However, sociological factors have no significant influence on drug use among the participants. These data may help physical education teachers for effective teaching of drug education in schools.

Keywords: drug, popular sports, anabolic steroids, caffeine, ephedrine

Introduction

Man has used and abused drugs since time immemorial. In almost all cultures there has been the desire for man, consciously or unconsciously, to escape from monotony, frustrations and pains, and to seek euphoria or a sense of well-being when taking part in different achievement tasks. Sports is no exception. Any problem or propensity that pervades society will also pervade sports, since sports is part of society.

The issue of illicit drug use in sports is assuming an alarming rate and it is becoming a big problem which is threatening the existence of sports (WADA Code, 2005). The wide spread of illicit drug use in sports may be as a result of the characteristic and physiological effects of some of the drugs that allow wide patronage amongst athletes. The illicit drugs which are referred to as ergogenic substances are taken by athletes to enhance their performance. Generally, athletes are trying to achieve one or more of five types of improvement. These five areas include increased lean muscle mass; increased strength; increased oxygen depth and capacity; increased energy and decreased recovery time after exertion.

The use of drugs in sports is not a common phenomenon only in modern times. Chemical substances were known to have been used in connection with sports in ancient times. In ancient Rome, for example, the Romans used to give their racing horses a mixture of honey and water to enhance their performances by increasing their speed, while the Indians of South America chewed coca leave (Kurda, 1995). Also, Spartans and Athenians in Greek city states massaged their competitors with performance enhancing chemical substances before they competed in various sports competitions (Harley, 1979).

A capsule review of literature revealed an evidence that man made use of substances contained in plants when physical strength and courage were needed for mountain hunting and fighting (Ryan and Aliman, 1974). Similarly, Ancient Greek athletes used stimulants to improve their performances as early as the third century B. C. (Hanley, 1979).

However, up to the middle of this century there has been little documentary evidence available to substantiate the hypothesis that drugs have been used in sports. Periodic reports describing the use by athletes of caffeine, strychnine ether and alcohol, appeared between the middle of the nineteenth century and the advent of the Second World War. Around the time of the Second World War, the development of amphetamines-like central nervous stimulant drugs reached its peak. According to Mottram (1988), these drugs were administered on combat troops in order to enhance their mental awareness and to delay the onset of fatigue. The author, further stated that in 1940s and 1950s, amphetamines became the drug of choice for athletes, particularly in sports such as cycling, where the drug effects were perceived to be beneficial in enhancing sports performance.

It is not out of place to reason that as the international sports became more competitive and commercialized, manufacturers of drugs started producing highly potent drugs often with dangerous side effects to improve sports performance (Nwankwo, 1988). As a result of this new development, reports of the misused of drugs in sports became widespread, particularly at the time of the 1964 Olympic Games in Tokyo.

Today, it is universally known that some top athletes use illicit drugs to enhance their performance. The prevalence of illicit drug use in sports among sportsmen and women may be better appreciated by the number of athletes caught using prohibited substances by the IOC Medical commission (2007) accredited laboratories around the world between 1985 and 2006. For instance, in 1985, 930 cases were detected; in 1986, it was 627; in 1987, 854 cases were recorded. In 1988, 1153 cases; in 1989, 1341 cases and in 1990, 1064 cases were detected with 30 different kinds of ergogenic drugs being used by athletes. Also, Dore (1995) reported that 89,166 cases out of which 1,222 athletes tested positive by IOC Medical Commission. The International Paralympics Committee sanctioned 9 athletes between 2005 and 2006 for anti-doping rule violations for a period of two years in sporting events such as power lifting, shooting, athletics and archery (IOC medical commission, 2007).

Studies revealed that the most common illicit drugs used as performance enhancing agents by athletes include anabolic agents, amphetamines, cocaine, ephedrine, caffeine and diuretics (Dubin, 1990; Kwarajafa, 1991; Oshodin, 2004; Laker, 2005 and Synthetic Report, 2007). The use of illicit drugs did not become a major issue in sports until after the 1988 Olympics in Mexico, when many athletes set new records. Drug testing began at the Olympics in 1968, and since then numerous athletes have been caught taking substances ranging from alcohol, amphetamines to steroids. The most unfortunate aspect of drug use in sports is that sports superstars around the world who are supposed to serve as role models to the youths are being caught using performance enhancing drugs. For instance, superstars like Asafa Powell; Sherone Simpson; Tyson Gay and Allison Randall were among five athletes who allegedly tested positive for banned performance-enhancing drugs during the Jamaican national championships in June, 2013 (The Nation Sporting life, July, 2013).

In Nigeria, there was an assumption that sportsmen and women were not involved in the use of illicit drugs to enhance sports performance. Evidences have proved the assumption wrong because Okujeni (1990) and Oshodin & Egor (1999) noted that Nigeria as a nation in African sports may not be totally free from doping problem because of its exposure to other nations through international competitions. The assertion holds good as there were reported cases of Nigeria athletes tested positive to performance-enhancing drugs – most especially in weight lifting and athletics (Emeka, 1991; Oshodin & Egor 1999; IOC Medical Commission, 2006 and Lisse, 2009).

The illicit use of drugs to enhance performance by elite athletes in Nigeria has been a source of embarrassment not only to government but also to sports administrators, coaches and spectators (Mgbor, 1995). Although, sports administrators are doing a lot to discourage the practice, yet the incidence appears to be on the increase. It stands to reason that this trend is the result of overriding urge by athletes to win competitions at all costs (Levy, 1997), as a result of this urge the athletes resorts to trying special diets, drugs and other feasible means to achieve his or her goal. Thus, the use of drugs to improve sports performance and achieve superiority over the opponents becomes a world wide problem. It is not out of place to reason that the use of drugs to aid sports performance has been on the increase because of the benefits which await the “high performer” from governments, cultural institutions, philanthropists and other big enterprises after winning. Such gifts in the form of scholarship, huge financial rewards and other career prospects bring about the “winning at the cost syndrome” which promotes the use of illicit drugs in sports.

Another reason for the growing incidence of illicit drug use in sports among sportsmen and women may be traced to the fact that the competition is becoming tougher with increasing standard and the winning at-all-cost syndrome (Oshodin & Egor, 2000). For instance, at every sport of international standard, old records are broken and new ones are set. Furthermore, with an increase in the number of participants, the technique of selection and training programme have all become more rigorous with technological innovations.

It appears that many youths of diverse backgrounds are now willing to experiment with various types of drugs to enhance their performances. The world Health Organisation (1995; 1999) and Knotts (2000) reported that many youths involved in the use of various drugs such as amphetamines, cocaine, tobacco, lysergic acid diethylamide (LSD), steroids and other doping substances for various psycho-social reasons. Such psycho-social reasons include escape from reality, identity and identification, frustration, expectation of failure in competition, pressure from team mate, social recognition peer approval and motivation from mass media.

The earlier studies of Fawole (1986), Atolagbe (1988), Yusuf and Atere (1988), Emiola (1990) and Boroffice (1991) provide a vital base for establishing prevalence, rates and trends in drug use among the elite athletes in Nigeria. However, none of these studies covers the areas of psycho-social factors which may influence athletes' drug use behaviour. Because of the absence of sufficient and reliable data in Nigeria on which generalization can be based, the present study was carried out to fill the gap.

Thus, the purpose of the study was to determine the extent to which the athletes have actually used performance-enhancing drugs and also, to investigate the psycho-social factors influencing such use.

Three hypotheses were postulated for verification at $P < .05$, thus

- 1) Sex and age of athletes will have no significant influence on illicit drug use.
- 2) There is no significant difference in the perception of athletes who used illicit drugs and those who did not on the psychological factors of drug use.
- 3) There is no significant influence of sociological factors on the attitudes of athletes who used illicit drugs and those who did not.

Research Design

The study adopted a descriptive survey research design. The survey research typology enables information to be obtained from a representative sample of the population so as to describe situation as they exist.

Population

The population of this study consisted of all the athletes who had represented Nigeria at least once at an international competition before this study was undertaken. The rationale for sampling this category of athletes is based on their exposure to international competitions which afford them the opportunity to interact freely with athletes from other countries, some of who might have used drugs to enhance their performance.

Participants

A total of 220 athletes (males = 135, females = 85) acted as the participants of this study. All the participants who had represented Nigeria at least once at an international competition were drawn from eleven sports usually competed for by Nigeria at the international level. The participants were stratified by their sex (either male or female) and by the type of sports (individual, dual and team sports) they were involved in.

Procedure

A self-developed questionnaire was designed on the bases of literature relating to drug use in sports and also a scheduled oral interview that was carried out on 20 athletes and 10 coaches the results of this initial interview assisted the researcher to include more relevant questions on the psycho-social factors that may influence drug use among the elite athletes. The instrument consisted of two sections. The first part dealt with socio-demographic variables of participants, while the second part contains items on the use of illicit drugs and psychosocial factors influencing such use. The instrument was given to three experts in the areas of sports psychology, medicine and health education in the Universities of Ilorin and Ile-Ife in Nigeria for scrutiny for face and content validity. In order to determine the reliability of the questionnaire and its applicability to the Nigerian context, a pilot study was undertaken. In the pilot test, the questionnaire was administered on 60 athletes (male = 30, female = 30) at two weeks interval.

The scores from the two sets of responses were correlated using Pearson Product Moment Correlation. A correlation coefficient of 0.85 was obtained. This shows that the questionnaire is stable and appropriate enough to be used for data collection for the study.

Each participant responded to the questionnaire independently. Participants response were regarded as reflecting current status on the psycho-social scale of drug use. It was assumed that all responses given by the participants were frank and sincere. It is relevant to add that the researcher was a former national and international sportsman and hence had little or no difficulty in interacting with the athletes and coaches.

The responses were scored and the resulting data were, subjected to inferential statistics such as Chi-square, t-test and Two-Way Analysis of Variance (ANOVA). In the ANOVA analysis, the independent variables were sex of participants as factor A(a_1 = male, a_2 = female) and type of sports as factor B(b_1 = individual sports, b_2 - dual sport and b_3 = team sports). The dependent variable was the scores obtained from the ratings in the attitudinal scales. The level of statistical significance for each analysis was set at 0.05.

Results

Reported use of Illicit Drugs by Participants

The drugs reported in this study were those which previous researches and informal interviews by the researcher were familiar to, or used by athletes. The participants were asked to indicate the drugs they have seen and the extent they actually used the identified drugs. The responses are reported in Table 1.

Table 1: Extent of Illicit Drugs used by Participants

Types of drugs	Drug seen	Used currently	Used discontinued but	Never used
Anabolic steroids	27 (12.3)	8 (3.6)	4 (1.8)	208 (94.5)
Stanozolol	11 (5.0)	1 (0.5)	0 (0.0)	219 (99.5)
Dianabol	11 (5.0)	6 (2.7)	2 (0.9)	212 (96.4)
Nandrolone	2(0.9)	0 (0.0)	0 (0.0)	220(100.0)
Heroin	22 (10.0)	5 (2.3)	0 (0.0)	215 (97.7)
Morphine	9 (4.1)	2 (0.9)	1 (0.5)	217 (98.6)
Methadone	9 (4.1)	4 (1.8)	2 (0.9)	214 (97.3)
Opium	16 (7.3)	0 (0.0)	4 (1.8)	220 (100.0)
Amphetamines	22 (10.0)	2 (0.9)	0 (0.0)	217 (98.6)
Ephedrine	45 (20.1)	18 (8.1)	1 (0.5)	201 (91.4)
Cocaine	46 (20.9)	5 (2.3)	1 (0.5)	214 (97.3)
Caffeine	44 (20.0)	11 (5.0)	1 (0.5)	208 (94.5)
Phenobarbital	26 (11.8)	2 (0.9)	2 (0.9)	216 (98.2)
barbiturates	22 (10.0)	1 (0.5)	1 (0.5)	218 (99.1)

% in parenthesis

The data in table 1 showed that there was a wide gap between having seen a particular drug and actually trying or using it. While a high number of participants saw the drugs, only a few of them had actually used or tried them. On the whole, few of the participants indicated that they were currently using ephedrine (8.1%), caffeine (5.0%), anabolic steroids (3.6%) and dianabol (2.7%). Out of the fourteen identified drugs, only two had not been tried by the participants. These were nandrolone and opium.

A two-way analysis of variance (ANOVA) was further performed on the responses to determine the extent of drug use by sex and age of athletes. The results of ANOVA (table 2) was statistically significant ($F_{1, 210} = 35.02$; $P < 0.05$) for sex of participants. Scheffe post-hoc analysis showed that male participants used drugs more significantly higher than female counterparts. However, the sex by age (A x B) interaction effect were not statistically significant.

Table 2: Summary of Two-Way Analysis of Variance on the Use of Performance Enhancing Drugs by Sex and Age of Participants

Source	Ss	df	Ms	F
Sex (A)	43.41	1	43.41	35.02*
Age (B)	3.11	4	.78	.63
Interactions (A x B)	1.48	4	.37	29
Error Terms S/AB	260.33	210	1.24	

* Significant results

Psychological Reasons of Illicit Drugs use

Table 3 below showed the results of the test analysis for drug users and non-users on whether certain psychological factors have significant influence on drug use.

Table 3: Comparison by (t-test) of drug users with non-users on psychological factors

Source	Drug Users (N= 80)		Non-Users (N=140)		t-Value (df, 218)
	\bar{X}	SD	\bar{X}	SD	
Desire to experiment	2.56	1.00	2.71	.93	1.08
Fear of failure	2.52	1.00	2.42	.95	-0.76
Nervousness	2.66	.98	2.95	.99	2.21*
Frustration	2.05	.95	2.51	.87	3.66*
Desire to excel	3.03	.87	3.02	.84	-0.03
Arousal elevation	3.06	.91	3.02	.86	-0.33
Monetary/material reward	2.65	1.06	2.35	.86	-2.21*

* $p > 0.05$ (Significant)

The results on table 3 above indicated that there were differences in the mean scores of drug users as compared with those of non-users on almost all the psychological factors of drug use. In order to test for statistical significance of the differences in each of the factors, the t-test analysis was used. The results showed that there was a significant difference on only four of the psychological factors. A 't' value of 2.21 was established for nervousness and $t=1.08$ for desire to experiment while a 't' - value of 3.66 was established for. Thus, the scores of the participants who were non-drug users on these three reasons were significantly higher than the scores of drug users. However, drug users scored significantly higher on monetary and materials reward (t-value of -2.21) than the non-drug users.

In order to determine if the differences observed in all the factors are statistically significant with respect to sex of participants and type of sports. A Two-way analysis of variance was computed. The results (table 4) showed that there was significant main effect of type of sports ($F_{2, 214} = 5.16; P < 0.05$). Post-hoc analysis of the significant effect of factor B showed that participants in team sports scored significantly higher on the psychological factors than those in the other two sports group. Therefore, drug users and non-users in team sports viewed psychological factors as more influential in drug use habits among the athletes.

Table 4: Summary of Two-Way Analysis of Variance on Psychological Factors of Drug Use by Sex and Type of Sports

Source	Ss	df	Ms	F
Sex	21.95	1	21.95	1.61
Type of Sports	140.86	2	70.43	5.16*
Tow-way Interaction (A x B)	23.85	2	11.92	.87
S/AB	2916.50	214	13.62	

* $P > .05$ (Significant result).

Sociological Reason of Illicit Drugs use

In order to determine if the perception of drug users on each of the sociological factors of drug use differ significantly from those of non-users, the 't'-test analysis was computed for each factor. Table 5 presents the results on sociological factors of drug use.

Table 5: Comparison (By T-Test) of Perception of Drug Users and Non-Users on Sociological Factors of Drug Use

Source	Drug Users (N = 80)		Non-Users (N = 140)		t-Value (df, 218)
	\bar{X}	SD	\bar{X}	SD	
Athletes interaction	2.46	.90	2.40	.94	-.49
Social recognition	1.95	.84	2.01	.82	.55
Social/Doctor Influence	1.99	.88	2.02	.88	.28
Advertisement	1.67	.77	1.78	.85	.96
Peer group interaction	2.26	.98	2.13	.92	-0.02
Acceptance by other	2.18	.87	2.25	.92	.59

Table 5 above showed that the drug users did not differ significantly from the non-users in their perception on sociological factors of drug use. However, drug users and non-users scored athletes interaction very high. Thus, athletes' interaction among themselves may influence the use of illicit drugs in sports. Furthermore, the results of the Two-way Analysis of Variance (ANOVA) on all the sociological factors of drug use are presented on table 6.

Table 6: Summary of Two-way Analysis of Variance on Sociological Factors of drug use by sex and Type of Sports

Source	Ss	df	Ms	F
Sex A	1.37	1	1.37	.13
Type of Sport B	36.55	2	17.77	1.77
Tow-way Interactions (A x B)	1.42	2	0.71	.07
Error Term S/AB	2146.79	214	10.03	

Table 6 showed that the effects of sex of participants (factor A) and type of sports (Factor B) which were main effects were not statistically significant. Also, there was no significant sex by type of sports (A & B) interaction. Thus, there was no significant difference in the perception of male and female athletes and athletes in different type of sports, with respect to sociological factors of drug use.

Discussion

The findings in this study provide support in some respects for many of the findings of previous studies cited in the study. Many of the participants were not ignorant of illicit drug used to enhance sports performance. All the drugs identified in this study have been seen by the participants. Some of the athletes in this study identified themselves with one form of illicit drugs or the other. Prominent among drugs used by the athletes were ephedrine caffeine, anabolic steroids and dianabol. This finding was similar to the reports of Ivy (1996), Mandell (1999), Carroll (2001) and Bells (2006) that elite athletes used various types of doping substances for different sporting activities to perform beyond their natural abilities, increase their speed, power, strength, energy and endurance most especially in athletics, cycling, soccer and weight lifting to mention a few. The present study discovered that sex of participants influenced significantly the use of illicit drugs to enhance sports performance (Okujeni, 1990 & Mgbor, 1995).

The findings of this study also revealed that majority of drug users were influenced by psychological factors such as arousal elevation, nervousness, desire to excel and monetary reward. However, frustration which seems not to be an important factor of drug use among the drug users was found to be significant when compared with the mean scores of non-users. In other words, those athletes who did not take drugs recognised frustration as a strong factor that motivated an athlete to experiment with drugs. On the whole, drug users and non-users had high mean scores for desire to excel, nervousness and the desire to experiment. This finding is consistent with the earlier studies of Oyerinde (1990); Woolley (2000) and Oshodin (2001).

The sociological factors recognised by the respondents were athletes interaction, peer group pressure, acceptance by other athletes and the influence of the coach. Studies by Melvin (1983) and Mike (1983) had previously found out similar findings.

Conclusion and Recommendations

Based on the findings of this study Nigeria athletes were not ignorant of illicit drugs used to enhance sports performance. However, only few of the athletes were users of the drugs identified in this study. Some psychological factors such as desire to excel, arousal elevation, nervousness and the desire for material/monetary rewards are important factors that may influence athletes to use performance- enhancing drugs. On the other hand, the drug users did not differ significantly from the non-users in their perception on the sociological factors of drug use. However, the interaction of athletes among themselves may play a major role in inducing athletes to use performance – enhancing drugs. It is therefore, recommended that the Nigerian Government should intensify its campaign and public enlightenment programmes to educate the athletes and sports handlers on the health consequences associated with illicit drug use to enhance sports performance. Health Educators should be invited to organize drug education programmes for athletes and athletes’ support personnel during the off-season period.

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