Types and Determinants of Substances Use among Nation-Wide Professional Football League Players in Nigeria

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Abstract:
Use of substances nowadays has gone beyond the primary aim of correcting, preventing and treating of ailments. Sport participants use substances to enhance their performances. The objective of this study is therefore to investigate and determine the substances use among Nation-Wide Professional Football League Players, Nigeria. A cross sectional study was carried out among eight clubs during their training sessions and three research instruments were used in the study. These instruments were administered on 270 respondents. Cronbach Alpha coefficient was used to determine the internal consistency of the three research instruments with reliability values of 0.61, 0.60 and 0.84 respectively. Two null hypotheses were formulated and tested at 0.05 level of significance with linear regression model. The results revealed that personal characteristics ($\beta = 0.193$, $t = 3.228$, $p<0.05$) and team influence ($\beta = 0.284$, $t = 4.843$, $p<0.05$) significantly determined the substances use among Nation-Wide Professional Football League players in, Nigeria. It is therefore recommended that sports organizations, coaches, sport psychologists and exercise scientists should be proactive in educating and discouraging the use of performance enhancing substances. Hence, soccer players should focus on performance skills rather than performance substances use. Also, football coaches should encourage wholesome and fair competition by emphasizing healthy nutrition, training practices and taking a strong stand against win at all costs philosophy.

Keywords: *Personal characteristics, Team influence, Substance use, Nigeria, Nation-Wide League*

1. 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 are no exception. And, any problem or propensity that pervades society will also pervade sports, since sports is part of society (Adegboyega, 2014).

Activities were done traditionally for the fun of it, but nowadays, participations in sports have gone beyond the intrinsic reward, it has included extrinsic reward. According to Akindutire, Adegboyega and Olanipekun (n.d) the rewards for winning are so high nowadays and the penalties for losing are so severe that sport administrators, coaches trainers and athletes may succumb to the temptation to win at all costs. They may not care about the methods they employ as long as they win. The salaries of

coaches and managers are now high, compared with what they were receiving only a few years ago. However, there are strings attached, if the team fails to succeed, the manager or coach is unceremoniously sacked. It is not surprising therefore, that athletes go to great lengths in finding ways to enhance their sports performance. Thus, the use of doping by athletes to improve sports performance and achieve superiority over the opponents becomes a worldwide problem.

According to Molobe (2012), drug use and abuse is a global phenomenon that follows sporting events worldwide. Most sports men and women use drugs to enhance performance or personal appearance, or to reduce pains as well as for recreational purpose. Many of these drugs pose health risk. And, despite the range of health risks and ethical implications, many sports men and women at both professional and amateur level continue to use these dangerous and prohibited substances, and this has become a subject of public health.

Gerdes (2008) stressed that human desire to obtain a competitive advantage has always been part of human nature whether it is in combat, business, or sports. The use of performance enhancing drugs used by athletes may increase an athlete's strength and stamina well beyond what the athlete would normally achieve by nutrition and training alone. Molobe (2012) reported from his study that 44.4% of the respondents felt that someone should use drugs to boost performance in sports while 55.6% do not agree with such attitude. Most respondents (56.0%) perceived most achievement records in sports to be related to drug use. His respondents admitted that they have used the following prohibited drugs; alcohol (57.2%), ephedrine (11.8%), codeine (8.2%), steroid (5.6%), cocaine (5.6%), insulin (5.0%), marijuana (4.0%), heroin (1.1%), amphetamine (0.7%), cannabis (0.4%) and hygroton (0.4%). Findings also revealed that some of the sports persons also abuse OTC [e.g acetaminophen and NSAIDs] analgesic medicines (1.1%) and nonorthodox-herbal concoctions (1.8%) for performance enhancement.

Martinsen and Sundgot-Borgen (2012) examined cigarette smoking, use of snus, alcohol, and performance-enhancing illicit drugs among adolescent elite athletes and controls, and possible gender and sport group differences. First-year students at 16 Norwegian Elite Sport High Schools (n = 677) and two randomly selected high schools (controls, n = 421) were invited to participate. Totally, 602 athletes (89%) and 354 (84%) controls completed the questionnaire. More controls than athletes were smoking, using snus, and drinking alcohol. Competing in team sports was associated with use of snus [odds ratio = 2.8, 95% confidence interval (CI) 1.6 to 4.7] and a similar percentage of male and female handball (22.2% vs 18.8%) and soccer players (15.7% vs 15.0%) reported using snus. For controls, not participating in organized sport was a predictor for smoking (odds ratio = 4.9, 95% CI 2.2 to 10.9). Female athletes were more prone to drink alcohol than males (46.3% vs 31.0%, $P < 0.001$). Only, 1.2% athletes and 2.8% controls reported use of performance-enhancing illicit drugs. In conclusion, use of legal drugs is less common among athletes, but this relationship depends on type of sport and competition level. The association between team sports and use of snus suggests that sport subcultures play a role.

From the finding of Akindutire et al. (n.d), out of the doping substances identified by their respondents, only one of them i.e. anabolic steroids, had not been tried by the respondents. Other doping substances already tried by the respondents included, methadone (5.3%), cocaine (4.5%), phenobarbital (6.1%), caffeine (3.7%), stanozolol (6.9%), nandrolone decanoate (7.3%), ephedrine (2.2%), heroine (4.9%), melhodone, (5.3%), dianabol (1.6%), amphetamine (1.0%), opium (0.8%), barbiturate (5.5%), morphine (2.2%) . Thus, sportsmen and women in tertiary institutions were aware of doping substances used in sports.

The use of drugs to enhance sports performance by athletes is a world wide social problem. The drugs are originally used during competitions in an attempt to enhance performance in strenuous events or

reduce the sensitivity to pain. However, many athletes now use stimulants during training (Adegboyega, 2014).

With an increase in the number of sports participants, the techniques of selection and training programmes have become more rigorous with technological innovations. Thus, the rewards for winning are so high today and the penalties for losing are so severe that sports administrators, coaches, and athletes succumb to the temptations to want to win at all costs. In this, athletes may not care what methods they employ as long as they win. It is not surprising therefore, that modern day athletes go to great lengths in devising ways to enhance their performance (Adegboyega, 2014). The growing incidence of the use of drugs among the elite athletes may be the fact that competition is becoming tougher with increasing standards and stringent rules governing sports (Oshodin & Egor reported by Adegboyega, 2014).

Performance enhancing substances are substances used by athletes to improve the performance from which sport they play. Performance enhancing substances over the years have become more widely used and sophisticated as most organizations have banned performance enhancing substances as well as developed a testing and enforcement procedure to prevent athletes from using such substances. Athletes caught using these performances enhancing substance are typically penalized and sometimes even banned from the sport (Voy, 1991).

Performance enhancing substances are not new to the sports world as they have been there all along dating back to the late 1890's. As most things evolve over time so did performance enhancing substances which grew to be more effective and more dangerous. It was in 1898 when a twenty four year old Welsh Cyclist dies days after winning the race from Bordeaux to Paris from a reported as his death was the cause of typhoid fever, many believe that he took a stimulant trimethyl to be the true cause of his death (Shore, 2008).

It was the German scientist, Adolf Butenandt, who discovered anabolic steroids in 1935 while trying to treat hypogonadism which is a testosterone deficiency. Later in the 1940 – 50's, the Nazis would test anabolic steroids on prisoners, Gestapo's, and even Adolf Hitler himself. The Nazis used anabolic steroids to promote aggressiveness, and physical strength and according to Hitler's physician, his mental state towards the end of his life exhibited the characteristics associated with heavy steroid use such as mania, acute paranoid phychoses and violent behaviour (Shore, 2008).

By tradition, the definitions of anabolic steroids are molecules that are synthetic steroids are molecules that are synthetic derivatives from the natural hormone testosterone. Testosterone is a steroid which a steroid is any chemical that possesses the specific 17 – carbon atoms in a four ring molecular structure (Taylor, 2002).

Classifying performance enhancing substances is not a clear cut task as there are various types of substances that may have significant effects on an athlete's performance. There are certain substance enhancing substances such as anabolic steroids whereas there are other substances which are never classified as performance enhances such as vitamins and protein supplements. The lines between which substances are categorized as performance enhancing drugs and which are merely supplements are blurred. Some sports organizations will consider caffeine as a performance enhancer while others will not. According to the International Olympic Committee (IOC) "doping is the administration of or use by a competing athlete of any substance foreign to the body or any physiological substance taken in abnormal quantity or taken by an abnormal route of entry into the body with the sole intention of increasing in an artificial and unfair manner his/her performance in competition" (Voy, 1991).

The following are the types of performance enhancing substances used by athletes:

1. Stimulants: stimulants are psychoactive drugs which temporarily improve mental or physical functions and are normally referred to as "uppers". The effect of these "uppers" may include enhanced wakefulness, alertness, endurance and motivation since stimulants increase the activity in the central and peripheral nervous system. These stimulants are used by athletes to stimulate their bodies to perform at the most optimum levels which the stimulants will decease fatigue, increase aggressiveness and increase ones alertness. Examples of stimulants are caffeine in coffee, cocaine, ephedrine, methyl phemydate, modafinil, Ritalin etc. (Shore, 2008).
2. Lean Mass Builders: Lean muscle mass builders are steroids used to drive and amplify muscle growth and lean body mass. The class of drugs this steroid falls into includes anabolic steroids, beta-2 aganists, SARMS and other human hormones. Lean mass builders are the steroid of choice as most athletes in most sports take anabolic steroids to gain body mass, strength, agility, endurance and overall improve performance. Early on in the doping era, steroids were being used by athletes in all strength sports and "weightlifter themselves were quickly convinced that steroids made them bigger and stronger".
3. Painkillers**:** Painkillers also known as analgesic are a group of drugs used to relieve pain. These painkillers act on the peripheral and central nervous system to decrease pain and inflammation. Painkillers may include acetaminophen, NSAID's such as salicylates and narcotics such as morphine. Many athletes use painkillers to mask ones pain so they may continue to compete and perform without showing signs of weakness. Painkiller's will increase the blood pressure which causes the cells in the muscles to increase oxygen and may be found in over the counter medicines such as Ibuprofen.
4. Sedatives: A sedative is a substance that will reduce irritability or excitement and increase sedation. Benzodiazepines are sedatives used to provide a calming sedative effect and relieve anxiety. The most common sedative drug is alcohol which can be abused to produce an overly calming effect. Athletes may sometimes use sedatives in their sport which may require steady hands and precise aim such as archery. Today's society has seen many kids grow up since they began playing professional sport at such a young age. Sedatives may also be used by an athlete to overcome excessive nervousness or discomfort such as an eighteen year old kid playing his first big game on live television in front of thousands in the stands.
5. Alcohol is a substance that man has learned to ingest in order to get special bodily sensation many continues ago and is deeply embedded in diverse culture of the world. It is used in almost all parts of the world yet many people are not even aware that it is a drug. According to Odejide (1989), many Nigerians do not regard alcohol as a very potent drug due to the fact that it is readily available and its use is socially accepted by the society.
6. Diuretics**:** A diuretic is any drug that will elevate the rate of urination and provide forced diuretics expel water from an athletes body which keeps the athlete at ideal weight and performance. Diuretics are often used by athlete who needs to meet weight requirements such as wrestlers.
7. Masking Drugs**:** masking drugs are used to prevent the detection of other classes of drugs such as diuretics. Diuretics are used to reduce the present of another drug in ones urine sample as well as epitestosterone, plasma expanders and secretion inhibitors may be used to reduce the present of banned drugs in their blood. Technology has evolved year by year as has masking drugs as each time an organization such as Major League Baseball (MLB) develops their testing methods to prevent performance enhancing drug, use another masking drug comes onto the market to counter it.

The term doping used in sports refer to the use of illicit or prohibited substances by sports person to unfairly gain advantage over fellow sport person in competition. Such use and abuse of drugs pose a significant risk to the health, safety and well-being of sports people (Molobe, 2012). Doping in sports mirrors a microcosm that reflects a developed society. This is because the society exerts considerable effects on the behaviour of persons within its span of influence. Athletes are first members of the society before belonging to the sport subculture, and because youths constitute the majority of active

sport men and women they inadvertently transfer overt behaviours (including the use of drugs) to this subculture (Shore, 2008).

Studies have pointed out that person's use of drugs in sport could be attributed to a complex interaction of personal and environmental factor. Possible contributing environmental factors include attitudes of peer pressure and parents, accessibility to drugs, and cultural norms and value. In addition, according to the theory of planned behavior, a person's behavior is mainly determined by his/her behavioural intent which, in turn, is influenced by attitude towards the behavior (Orbel & Blair, 2001 cited by Molobe, 2012).

So many reasons have been advanced for drug use and abuse as a phenomenon with a complex etiology. For instance, if the players who are potential drug addicts continue to reside in the social environment in which past drug use occurred, suggests that the use of such drug may continue. This is because, most cases of drug use and abuse emanates from any array of psycho-social reasons. Rintaugu, Ngetich and Kamnde (2012), reported reasons which made the student-athletes to consume beer are relaxation (82.2%), to overcome shyness and tension (72.6%), manage boredom (66.4%), conform to peer pressure (57.7.2%), alcohol influences physical performance/coordination (18.5%), to play better (18.5%), think and act better (23.3%), to conform to peer group pressures (57.5%), to reduce body pains from sports (15.8%), feel tough during competitions (26.7%) and become alcoholic/cannot do without it (8.2%).

In a study carried out by Schneider and Morris (1993) on college athletes and drug testing, 95% of the respondents were aware of the university's mandatory drug education and testing program for athletes, 24 (12%) claimed to be using banned substances (including alcohol) one or more times a month. Eighty (41%) athletes said drug use is socially acceptable in college. Only 28 (14%) said drug use by athletes should be acceptable in college. There were significant differences between responses based on team affiliation ($p<.0005$), with five of six tennis players (83%) saying: "Yes, drug use by athletes should be acceptable in college," and baseball (16), field hockey (11), and softball (11) players unanimous in saying: "No, it should not be acceptable." Again, athletes claiming to have experimented with illegal substances while in college numbered 112 (57%), but differences by gender and between teams were not statistically significant at $p<05$. For those who had experimented, only 11 (10%) said they had experimented for purposes of performance enhancement. The remaining 101 (90%) claimed they experimented for social or peer pressure reasons. While eighty-five (43%) claimed to know of at least one teammate using illegal substances.

The list of licit and illicit substances that are touched to enhance performance by increasing strength, combating fatigue, facilitating injury recovery, controlling body fat, or improve concentration is extensive. The use of these performance enhancing substances among the players persists, even in the face of increasing public scrutiny and severe consequences. Performance enhancing substances are considered drugs of abuse. However, this class of substances may be somewhat district, in that they rarely appear to be used for their pleasurable or euphoric properties (Castillo & Comstock, 2007).

Performance enhancing drugs are more debilitating rather than helpful as for every inch of muscle growth an athlete gains using performance enhancing drugs, the athlete will also gain some adverse negative effects. One example of this would be "every 15 minutes boost of energy a cocaine user feels, he also experiences an hour of depression" (Voy, 1991). A great majority of the public is not aware of the major health risks and adverse negative effects performance enhancing drugs can cause but many football players are aware of the effects. Player look to gain that competitive edge so when the looks into performance enhancing drugs and sees all the possible negative effects they are obligated to make a very tough decision while is to take the drug and hope for the best or to work harder and be competitive naturally.

Moronkola (2003) also pointed out that some substances alter the mind, changed the user's feeling, perception and behaviour when they are used because they exert action on the brain. Global studies on drug use and abuse revealed that early initiation of drug use is one of the best predictors of future drug abuse and dependence; for instance, players whose drugs use started before the age of 14 are more vulnerable to drug problems later in life than those who started using drugs at the age of 21 and above.

The objective of the study is to determine the factors that influenced the use of substances use among the nation-wide professional football league players in, Nigeria. Hence, the following two null hypotheses were formulated to achieve this objective:

1. Personal characteristics will not be a significant factor of substances use among the football players and,
2. Team influence will not be a significant factor of substances use among the football players.

2. Methodology

A cross sectional study was carried out among the Nation-Wide League Players and Women Professional Football League Players (Oyo States Chapter), Nigeria. Total enumeration sampling technique was use to draw two hundred and seventy respondents from Afijio United F. C. of Jobele, Ogbomoso United F. C. of Oyo, 3Sc Starlet of Ibadan, Crown Feeder F. C. of Ogbomoso, Gani Babes F. C. of Ibadan and Tewo Queens F. C., Ibadan.

The instrument for the study was self-structured questionnaire. The modified Likert scale summated weight of Strongly Agree (SA), Agree (A), Disagree (D), and strongly Disagree (SD) was used to obtain the responses of the respondents focused on the variables for the study. Cronbach Alpha coefficient was used to determine the internal consistency of the three research instruments with reliability values of 0.61, 0.60 and 0.84 respectively. Two null hypotheses were formulated and tested at 0.05 level of significance with linear regression model and descriptive statistics was used to present the personal characteristics of the respondents.

3. Results

Table 1: Demographic information of the respondents

Variables	Frequency	Percentage
Gender		
Male	239	88.5
Female	31	11.5
Age range		
15-19 years	52	19.3
20-24 years	120	44.4
25-29 years	81	30.0
30-34 years	17	6.6
Religion		
Christianity	136	50.4
Islam	115	42.6
Traditional	19	7.0
Educational level		
Primary	11	4.1
Secondary	108	40
Tertiary	151	55.9
League type		
Nation-Wide	239	88.5
Women Professional	31	11.5

Names of Club		
Afijio Utd FC	39	14.4
Vela FC	31	11.5
Atiba	30	11.1
Ogbomoso United	35	13.0
3SC Starlet	40	14.8
Crown Feeder	35	13.0
Gani Babes	30	11.1
Teewo Queens FC	30	11.1

From the analysis, a total of 270 respondents were surveyed consisting of 239 (88.5%) male and 31 (11.5%) female. Fifty-two respondents (19.3%) were between age 15-19 years, 81 (30.0%) were between age 25-29 years, also, 17 (6.6%) were age 30-34 years while majority 120 (44.4%) were between age 20-24 years. Among the respondents, 136 (50.4%) were Christians, 115 (42.6%) came from Islam religion and 19 (7.0%) were traditionalists. In addition, 151 which represents (55.9%) had tertiary education, 108 (40%) had secondary education while only 11 (4.1%) had primary education. When asked about the league type, 239 (88.5%) respondents belonged to the nation-wide and the remaining 31 (11.5%) were women professionals. The number in each club side ranged from 31 to 40 while 3SC Starlet had the slightly higher number and this may be due to the fact that it is one of the oldest club in the State and even Nigeria (table 1).

Table 2: Substances used by the respondents

	Responses	
Substances use	**N**	**Percent**
Kolanut	69	10.4%
Alcohol	58	8.7%
Tramadol	41	6.2%
Boney tablets	47	7.1%
Cocaine	32	4.8%
Marijuana	34	5.1%
Tobacco	47	7.1%
Heroin	25	3.8%
Amphetamine	37	5.6%
Tranquilizer	32	4.8%
Caffeine	40	6.0%
Calcium CAC 1000	48	7.2%
Cesilian	38	5.7%
Centrum	67	10.1%
Crestine	51	7.7%

From the study, the result indicated that the substances used by the respondents were kolanut (10.4%), centrum (10.1%), alcohol (8.7%), crestine (7.7%), calcium CAC 1000 (7.2%), tobacco and boney tablets respectively (7.1%), tramadol (6.2%), caffeine (6.0%), cesilian (5.7%), amphetamine (5.6%), marijuana (5.1%), tranquilizer and cocaine respectively (4.8%) and heroin (3.8%) (table 2).

Hypothesis 1: Personal characteristics will not be a significant factor of substance use among the football players.

Table 3: Linear regression model showing relative contribution of personal characteristics on substances use

Model	Unstandardized coefficient		Standardized coefficient	t	Sig.
	B	Std. Error	Beta		
(constant)	-.432	.913		-.473	.636
Personal characteristics	.162	.050	.193	3.228	.001

Linear regression mode was performed to ascertain whether personal characteristics will predict the use of substances among football players. The predictive value are $\beta = 0.193$, $t = 3.228$, $p<0.05$ (table 3). It is concluded therefore that, personal characteristics significantly predicted the use of substances among the Nigeria nation-wide and women professional football league players.

The finding of this study is in congruent with Moran, Guerin, and Kirby (2008) report, which surveyed 375 high performance (HP) athletes on their attitudes to doping, and a number of relevant psychological variables have also been measured. Statistical results showed some significant relationships emerging between doping attitudes and psychological characteristics, including perfectionist tendencies and motivational variables. Also, Donovan et al. (2002) cited in Moran, Guerin, and Kirby (2008) used various behavioural science frameworks to identify six major inputs to an athlete's attitudes and intentions with respect to performance enhancing drug-usage. These are personality factors, threat appraisal, benefit appraisal, reference group influences, personal morality and legitimacy.

Hypothesis 2: Team influence will not be a significant factor of substance use among the football players**.**

Table 4: Linear regression model showing relative contribution of team influence on substances use

Model	Unstandardized coefficients		Standardized coefficients	t	Sig.
	B	Std. Error	Beta		
(constant)	-1.625	0.860		-1.890	0.060
Teams influence	0.306	0.63	0.284	4.843	0.000

Also, linear regression model was performed to ascertain whether team influence will predict the use of substance. The deduction drawn from analysis of hypothesis two shows that team influence significantly predicted the use of substance among football players. The predictive values are $\beta = 0.284$, $t = 4.843$, $p<0.05$ (table 4). From the analysis, team influence significantly influences substances use among the Nigeria nation-wide and women professional football league players.

Perko, Bartee, Dunn, Wang and Eddy (2000) report supported the finding of this study who said that 44.4% of their respondents agreed/strongly agreed with the statement that teammates would support their using dietary supplements for general health reasons. In line with the above report, Ford (2007) cited by Rintaugu, Ngetich and Kamnde (2012) reported that student athletes drink alcohol to please many people including coaches, teammates, teachers, school officials, classmates, fans and members of the media.

Williams, Perko, Usdan, Leeper, Belcher, and Leaver-Dunn (2008) also supported the finding of this study that while only half or fewer of their respondents were abstainers (50.0%) and moderate drinkers (46.4%) felt that their teammates would approve or would not care, 70.9% of heavy drinkers reported

that their teammates would not care or would approve. Those heavy-drinking athletes felt that their teammates and other athletic peers were more accepting of alcohol use and binge-drinking, thus giving support to the perception that alcohol use is an accepted norm in the life of a collegiate athlete.

4. Conclusion and Recommendations

In conclusion, it is revealed that soccer players engaged in substances usage in order to improve sustain and maintain their levels of performance. The uses of substances are just to stimulate the players and to make them excel–extra-ordinarily. The substances used by the respondents are kolanut, centrum, alcohol, crestine, calcium CAC 1000, tobacco, boney tablets, tramadol, caffeine, cesilian, amphetamine, marijuana, tranquilizer, cocaine and heroin.

Team influence and personal characteristic significantly determined substances use among nation-wide and women professional football league players in Oyo State, Nigeria. It is recommended that sports organizations, coaches, sport psychologists and exercise scientists should be proactive in educating and discouraging the use of performance enhancing substances. Hence, soccer players should focus on performance skills rather than performance substances use.

Also, football coaches should encourage wholesome and fair competition by emphasizing healthy nutrition, training practices and taking a strong stand against win at all costs philosophy.

As it is reported by some researchers, that, some athletes drink alcohol and some other substances to improve their performances just to please many people including coaches, teammates, peers, friends, teachers, school officials, classmates, family members, fans and members of the media, it is therefore suggested that studies should be conducted among these categories of people to validate their roles.

5. Acknowledgements

The authors wish to acknowledge the cooperation of the coaches and members of all the Clubs/Teams sampled for the survey work. The coaches were used as research assistants in the data collection processes.

6. Authors' contributions

We declare that this work was done by the authors listed below and all liabilities pertaining to claims relating to the content of this article will be borne by the authors. Professor ***Akintayo Michael (PhD)coordinated the research work and edited the manuscript. Abiodun I. Oyinlola (Phd) and Sunday T. Adesola conceived the study, participated in the study design, supervised the data collection and drafted the manuscript. Abiodun I. Oyinlola (PhD) analyzed the data, and edited the manuscript. James K. Fakeye (PhD) also participated in the study design and edited the manuscript. All the authors read and approved the final manuscript.

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