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PERCEIVED EFFECTS OF PHARMACOLOGICAL ERGOGENIC AIDS ON SPORTS PERFORMANCE AND HEALTH OF NIGERIAN UNIVERSITY ATHLETES

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Abstract

The study investigates the perceived effects of pharmacological ergogenic aids on health and sports performance of Nigerian university athletes with a view to increasing the credibility of athletes' performance. The study adopted descriptive survey design. A total of 332 university athletes were randomly sampled during Nigeria University Games from four popular groups of sports: track and field athletics ball/racket and stick games, combat sports and aquatic sports. A self- designed and validated questionnaire which focuses on state and pattern of use of pharmacological ergogenic aids and their perceived effects on sports performance and health was used for this study. Percentage and chi-square statistics were used to analyze the data. The results showed that stimulants, narcotics, anabolic steroids and depressants are types of pharmacological ergogenic aids used by university athletes. The results further showed that the perceived effects of ergogenic aids on health and sports performance was not significant (X^2=7.82, p>0.05.The study concluded that ergogenic aids had adverse effects including weight gain and insomnia on both health and sports performance. It was therefore recommended that drug diagnosing laboratory equipment should be available every in NUGA competition to detect doping violators and include drug education in the general school curriculum.

Keywords:

Ergogenic aids, Adverse effects, University athletes.

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Introduction

Sport has become phenomenally popular worldwide and successful athletes frequently become instant celebrities with lucrative commercial opportunities. Unfortunately, some of these athletes use prohibited substances to give themselves a competitive edge over other. In recent years, there have been many stories in the media on the use performance enhancing drugs in sports. The use of derives and substance to aid performance is not a new practice. It dates from ancient Olympians that used food items to perform better to today's athletes that use the ever-changing agent to improve their physique, performance and to cap it all, increase their chances of winning in competition. (Baker 2009)

Silver (2017) reported that ergogenic aids are substance, derives or practices that enhance sports performance. These include mechanical aids (such as special clothing and equipment), Nutritional aids (such as sports drinks), physiological aids (such as blood transfusions), pharmacological aids (such as steroids), and psychological aids (such as meditation). Rosen (2000) added that ergogenic aids is anything that gives one a mental or physical edge while exercising or competing. Oshodin & Egor (1999) concluded that such substance helps to increase energy, strength, fat metabolism speed and endurance; promote recovery and aerobic capacity; stimulate weight gain in muscles and raise testosterone and growth hormone level; reduce body fat and lactic acid levels as well as deliver more nutrients to the muscles.

A previous study reported in the journal of Sports in 1997 showed that more than 95% of athletes were willing to use performance –enhancing substances to compete in competitive sports, and that 50% of them were willing to use these substances and reap victory for five years while not impressing them even if they would die from the consequences. From this study, it can be assumed that athletes are able to cross any limit to win in competition, even if their health is in question (Mahendru, 2019). Recently, researchers have shown that younger athletes in secondary and tertiary institutions have joined the professional and elite athletes in the use of performance enhancing drugs for reasons such as, to improve their appearance and push up their athletic and academic ability (Adegboyega, 2012).

Mottram (1988) reported that testosterone, the primary male hormone was first synthesized in 1935 and in the 1940s' athletes began to use anabolic steroid to increase their muscle mass. Concern about the incessant use of performance enhancers, the International Olympic Committee (IOC) listed such aids and banned their use by athletes in early 1960 (IOC 2006). In 1988, during the Seoul Olympic held in South Korea, the Jamaican born Canadian Sprinter Ben Johnson was stripped of his God medal after testing positive to anabolic steroid. This was the first time a gold medalist in track will be disqualified from the Olympic Games for using illegal drug (Miller 2012). Since then, several notable and celebrated athletes had followed the same path and were caught for committing the same offence. At national and local levels where authentic aids' screening is rarely conducted, persistent use and abuse should be speculated. Burke (2012) estimated that between one million male and female athletes in the world have used several ergogenic aids and the frequency is increasing yearly. The most commonly used anabolic steroids are either taken orally or by intramuscular injection. More recently, gel and creams are being used by elite athletes as delivery mechanism in an attempt to circumvent drug testing.

There is no doubt that the use of pharmacological ergogenic aids has negative effects on health. Burke (2012) submitted that users of pharmacological ergogenic aids may suffer either short-term or long-term effects including muscle cramping, menstrual irregularities,

depression, tendon injuries, hallucination, heart failure, impotence loss of hair, stroke, liver carcinoma, left ventricular hypertrophy and arrhythmias. Mackenzie (2001) added that major adverse effects of pharmacological ergogenic aids include ligament sprain, tremor, muscle weight gain, cerebral accidents, insomnia, seizures, focal and general convulsion. Martinez-Sanz (2017) asserted that psychological effects such as mood swing, irritability, aggression, anxiety, drug dependency and infections such as hepatitis B and C, HIV and others associated with the use of needles for administration have been great danger to the users of ergogenic aids. Anderson (2012) revealed that reported cases of death during athletes performance has been traced to the use of drug. In spite of the negative effects suffered by athletes who use performance enhancers and even in the face of stiff penalties resultant of the use of ergogenic substances, many athletes are still using them largely because, the Olympic spirit of "Participation" has completely give way to the spirit of "Winning at all cost".

At the University level, many intramural and extramural sport competitions including the bi-annual Nigerian University Games and West African University Games are held. Representatives of each University have the challenge of competing with athletes from other University either within or outside the country, ordinarily, competing with excellence is solely dependent on regular and intensive skill training of athletes at whatever level, one may not hesitate to conclude that it is far from being intensive. For instance, camping sessions are haphazardly organized with very short duration. Financially, athletes are not motivated or encouraged to take part in pre-competition training and yet high performance have always been expected of these athletes might be relying on other means other than intensive training to make podium appearance similarly, inadequate training, media pressure to win, the desire to be the best, public exception about national competitiveness, the general prevalent attitude that doping is necessary to the successful and a crowded completion calendar may prompt athletes to try ergogenic substances to aid performances. Since most of the athletes may not be aware of the danger inherent in the use of ergogenic aids at school level, there is ample need to conduct research on the perceive effects of ergogenic aids on health and sports performance of Nigerian University athletes. The use of ergogenic aids has become a major challenge threatening the credibility of athletes' performance at both Local and International levels. Sports is gradually beginning to lose its value, appeal and the feel that they have not had a level plain and fair competition since some aided their performance with the use of drugs. The adverse effects of their use on health generally should not be over looked. The Olympic records have established that many excellent performances in sports were aided with performances enhances and did not represent the true physical capabilities of athletes. Despite the measure put in place to curb the menace of drug use in sport, the trend persisted and athlete still indulge in it use. Unfortunately, most empirical researches in the area especially on home-based athletes are outdated. There is need for current and up-to-date researchers hence, this study.

Objectives of the study.

Specifically, **theresearch is designed to**;

1. Identify the commonly used pharmacological ergogenic aids by Nigerian University Athletes?

2. Examine the perceived effects of pharmacological ergogenic aids on health of users

3. Examine the perceived effects of pharmacological ergogenic aids on sports performance.

ResearchQuestions

1. What are the commonly used pharmacological ergogenic aids by Nigerian University Athletes?

2. What is the perception of athletes of the side-effects of pharmacological ergogenic aids on health?

3. What is the perception of athletes of the side-effects of pharmacological ergogenic aids on sports performance?

Hypothesis

1. The perception of athletes in different sports of the effects of pharmacological ergogenic aids on users' health is not significantly different.
2. The perception of athletes in different sports of the effects pharmacological ergogenic aids on sports performance is not significantly different.
3. The perception of athletes in different sports of the pattern of pharmacological ergogenic aids is not significantly different.

Conceptual Review

Definition and History of Ergogenic Aids.

Ergogenic aids are defined as any means of enhancing energy utilization, including energy production, control and efficiency (Silver, 2016). According to Hobberman (2017), such products have special work- enhancing power but stressed that foods and their supplements are not classified as ergogenic. However, this definition contradicted that of Burke (2018) who saw ergogenic aids as substances, foods or training methods that enhance energy production, use or recovery and provide athletes with superior advantage over others. Clark(2007) added that ergogenic aids are chemical substances, agents or procedures designed to provide advantage in athletic performance.As cited by Clarke, the Medical Commission of International Olympic Committee(IOC) summed up these definitions and concluded that ergogenic aid is the administration of or the use by a competing athlete of any substance foreign to the body or any physiological substances , taken in abnormal quantity or taken by abnormal route of entry into the body , with the sole intention of increasing in an artificial and unfair manner for performance in a competition.

Since the advent of athletic competition, athletes have utilized a variety of methods in attempts to enhanced performance. Two of the earliest drugs used were alcohol and caffeine, and their effectiveness as ergogenics has been investigated since the latter parts of the 19th century because they were they were commonly used by athletes in competition to help mask or prevent fatigue. As medical science progressed, advancing the understanding of human physiology, pharmaceutical research began to produce drugs or chemicals designed to mimic the action of endogenous hormones or compounds. For example, amphetamines were designed as sympathomimetics to the physiologic and psychologic effects of epinephrine, and anabolic steroids were designed to elicit the effects associated with testosterone. Historically, the use of ergogenic substances by athletes is not new. Performance boosters had been in use since the earliest Olympiads (Egor, 2019). As early as 776BC, Yesalis (2006) revealed that substances such as dried figs, mushrooms and strychnine were used . However, medical advancement now produced performance enhancers that are much effective than those that

earlier existed. During the 1980s, reported positive drug test results range from 2% to 5% (depending on whether the test were announced or conducted at random). The use of performance boosters became well spread at random). The use of performance boosters became well spread at 1984 Los Angeles and at 1988 Seoul Olympic, Since then, there has been a steady increase in the rate at which athletes in various sports use performance boosters.

Commonly Used Pharmacological Ergogenic Aids

Although, the range of drugs commonly used as ergogenic aids in sport is huge but those that have received much attention in recent years and which will be discussed: Caffein , Anabolic steroid , Creatine and Amphetamine **.**

Caffeine: Caffeine is an adenosine –receptor antagonist and a stimulant of the dimethylxanthine class. It is a mild stimulant that is mostly found in coffee, tea, kolanut and energy drinks. Barnard (2004) reported that caffeine is also found in several other products as prescription medication, diuretic and pain reliever. There is evidence of positive effect of caffeine on performance during prolong endurance events. The author added that the ergogenic effect of caffeine may be related to its stimulant properties particularly in mobilizing fatty acids, which can be used as fuel. Bell and Jacobs (2015) opined that the primary activity of caffeine is to stimulate the central nervous system and promote lypolysis .Adverse effects of caffeine are minimal; however, its central nervous system effects can cause anxiety ,dependency ,and withdrawal.

Ephedrine and Pseudoephedrine: These are sympathoamimetic amines that possessed stimulating properties. For these reason, many athletes used them in the hope of increasing energy and delaying fatigue. Ephedrine, also classified as ephedra alkanoids, and is classified an herb, and therefore a dietary supplement. Pseudoephedrine is classified as a drug, and is the world most commonly used decongestant sold OTP. Both ephedrine and pseudoephedrine are also marketed as appetite suppressant used for weight loss, leading to indiscriminate use by wrestlers wishing to reduce body mass prior to competition.

Anabolic steroid: Anabolic steroids are drugs containing hormones, or hormone like substances that are used to increase strength and promote muscle growth. Smith (2017) reported that anabolic steroids are made naturally by testes and adrenal cortex in men and that steroid drug, which some athletes take, have synthetic varieties that combine muscular effects of male hormones and growth stimulation of the adrenal steroid. The drug increase muscle mass by increasing muscle protein synthesis. The primary aim is for the body to produce accelerated muscle bulking in response to exercise in both men and women. Adverse health consequences are well established and include increased virilisation in women, menstral irregularities, premature closure of of growth plates, hirsutism, acne, aggressive behaviour, increased cardiovascular risk and liver dysfunction.

Creatine: Creatine has been of particular interest as an ergogenic aids because of the role that creatine phosphate plays in energy production. It is a naturally- occurring substance that is found in fish, meat and also produce by human body in the kidney, liver and pancreas. In the human body, Creatine is converted into phosphocreatine and stored in the muscles where it is used for energy which is mostly used for high intensity and short duration exercise. Hass (2019), reported that during the first few second of exercise, creatine phosphate is broken down to produce Adonesine triphosphate(ATP). This is an extremely fast method of energy

production and it is used for quick explosive burst of power in activities such as sprints and weight lifting. Common side effects of Creatine are weight gain, muscle cramp, stomach upset, muscle cramps and high blood pressure. (Simon, 2015).

Amphetamines: Amphetamines are central nervous system stimulant drugs that increase alertness, confidence and concentration and decreased appetite and sleep while creating a feeling of increased energy. They are appetite depressant and ward off sleepiness. The street names are 'speed' or 'upper. They belong to a class of drugs called sympathomimetic amines or stimulant that cause the release of excitatory neurotransmitter, such dopamine. The adverse health effects of amphethamines are: increased heart rate, insomnia, convulsion , increased blood pressure, hallucinations, paranonia. Death may also occur due to rupture blood vessels in the brain, heart attack, heart rhythm abnormalities and heatstroke (Bhagar, 2023).

Cocaine: Cocaine is a stimulant, illegal and highly addictive classified by World Anti-Doping Agency (WADA) as an 'S6 stimulant of illicit drug. It is an illegal substance listed on the Prohibited Substances and methods list under the substances of abuse category as a drug which is prohibited for use In- Competition'. It is a stimulant drug which speeds up the messages travelling between the brain and body work, causing high level of dopamine to be released. As a narcotic, cocaine has the potency to relieve pain and aches and enable athletes to exert themselves beyond their normal pain capacity.

Underlying Factors the use of Pharmacological Ergogenic.

Several factors that are unique to current and past society may contribute to young athletes using drugs to succeed in sports. Generally, each category of pharmacological ergogenic aids is used for certain reasons. Such factors include:

- Muscular strength
- Muscular Endurance
- Pressure to Win
- Fame
- Increase Alertness/ Self Confidence

Theoretical framework

Drug use in sport is one of the important challenges in the field of sport. This study explained predictability of theory of planned behaviour on the use of drugs related behaviours among athletes.This study was anchored on the theory of Planned Behaviour. It was developed by Icek Ajzen in 1985. The theory state that attitudes toward behaviour, subjective norms and perceived behavioural control, together shape an individual's behavioural intentions and behaviour. It is a theory that links belief and behaviour. It assumed individuals make reasoned choices, and that behaviour results from intention to engage in a specific behaviour (i.e. whether they plan to do so). The theory state that attitudes toward behaviour, subjective norms and perceived behavioural control, together shape an individual's behavioural intentions and behaviour (Cao, H., Fujii,& Managi 2015) . The theory of planned behaviour is a theory which predicts deliberate behaviour because behaviour can be deliberate and planned. The theory holds that only specific attitudes towards the behaviour in question can be expected to predict the behaviour.

Methodology

A descriptive survey design was adopted for this study. The population comprised all 3,240 athletes who participated in the NUGA Games. A total of 332 athletes were selected for the study using a stratified random sampling technique. Stratification was based on the sport in which the athletes participated. The sports coordinated by the NUGA body (excluding mind games) were categorized into four groups: (1) Track and field events, (2) Ball/racket/stick games, (3) Combat sports, and (4) Aquatic sports. From each group, approximately 9% of the athletes were selected using accidental random sampling. The primary instrument for data collection was a self-structured questionnaire. The collected data were analyzed using descriptive statistics, including percentages and chi-square analysis.

Results and Discussion

Table 1: Commonly used pharmacological EA among university athletes

Item 1 Which of these pharmacological ergogenic aids do you think are most commonly used	Option	Track and field	Ball/racket &stick game	Combat	Aquatic	Total No %
	Stimulants,e.g Caffeine	59(44.02)	46(29.56)	17(36.17)	11(30.56)	133(100)
	Narcotic,e.g morphine	59(44.02)	46(40)	17(36.17)	11(30.56)	133(100)
	Anabolic steroids,e.g Stanozolol	37(27.61)	20(17.39)	13(27.65)	0(0.00)	70(52.63)
	Diuretics e.g any aids that induces urination	51(38.06)	42(36.52)	15(31.91)	11(30.56)	119(96.99)
	Depressants,e.g Alcohol	51(38.06)	42(36.52)	15(31.91)	11(30.56)	119(96.99)

Table 1 indicates that all; 133(100%) respondents who perceived that pharmacological EAs are commonly used in sports also had the perception that specifically, stimulants and narcotic are most commonly used pharmacological EAs by university athletes while only 15 (12.60) respondents perceived diuretics to be commonly used .Also as many as 119(96.99) respondents had the perception that depressants drugs are commonly used.

Table 2. Percentage Distribution of Respondents by Their Perceptions of the Adverse Effects of Pharmacological Ergogenic Aids on the health of users

Item 1	Options	Track & Field No (%)	Ball Games No (%)	Combat sports No (%)	Aquatic sports No (%)	Total No (%)
Adverse effects that you think the use of	Skin infections Weight loss Weight gain	37 (20.56) 0 (0.00)	28 (15.56) 23 (12.78) 41 (22.78)	2 (1.11) 3 (1.67) 9 (5.0)	8 (4.44) 7 (3.89) 4 (2.22)	75 (41.67) 33 (18.33) 146

pharmacological EAs could have on users' health?	Baldness	92 (51.11)	28 (15.56)	2 (1.11)	0 (0.00)	(81.11)
	Change in sex characteristics	22 (12.22)	18 (10)	7 (3.89)	0 (0.00)	53 (28.89)
	Profuse sweating all the time	7 (3.89)	64 (35.56)	6 (3.33)	0 (0.00)	32 (17.78)
	Sleeplessness	41 (22.78)	64 (35.56)	10 (5.56)	13 (7.22)	111 (61.67)
	Impaired sex function	88 (48.89)	9 (5.0)	2 (1.11)	0 (0.00)	175 (97.21)
	Menstrual prob.	7 (3.89)	32 (17.78)	6 (3.33)	6 (3.33)	18 (10)
	Incessant headache	22 (12.22)	55 (30.56)	6 (3.33)	5 (2.78)	66 (36.67)
	Heart rhythm abnormalities	41 (22.78)	41 (22.78)	3 (1.67)	6 (3.33)	107 (59.44)
	Dizziness	7 (3.89)	32 (17.78)	7 (3.89)	0 (0.00)	107 (57.22)
	High blood pressure	18 (10)	18 (10)	2 (1.11)	1 (0.55)	38 (21.11)
	Hallucination	53 (29.44)	18 (10)	3 (1.67)	2 (1.11)	18 (10)
	Irritability	15 (8.33)	9 (5.0)	2 (1.11)	0 (0.00)	70 (38.88)
	Fear/anxiety	7 (3.89)	41 (22.78)	6 (3.33)	5 (2.78)	50 (50)
	Violent behaviours	18 (10)	18 (10)	9 (5.0)	8 (4.44)	46 (25.56)
		55 (30.56)				39 (21.67)

Data on table 2 shows that out of 180 respondents who perceived that the use of EAs could have contra effects on the health of users, as many as 175 (97.21%) and 146 (81.11%) respondents had the perception that the of EAs could result in sleeplessness and weight gain respectively, while only 18 (10%) respondents each perceived EAs to result in impaired sex functions and irritability respectively.

Table 3. Percentage Distribution of Respondents on Whether or Not Pharmacological Ergogenic Aids Have Adverse Effects on Sports Performance

Item 2	Options	Track & Field	Ball Games	Combat sports	Aquatic sports	Total
		No (%)	No (%)	No (%)	No (%)	No (%)

Do you think that pharmacological EAs could have contra effects on sports performance?	Yes No I don't know	37(11.14) 94(28.31) 3 (0.90)	24 (7.23) 89(26.81) 2 (0.60)	10 (3.01) 36 (10.8) 1 (0.30)	4 (1.20) 32 (9.64) 0 (0.00)	75 (22.59) 251 (75.6) 6 (1.81)
		134 (40.36)	115 (34.64)	47 (14.16)	36 (10.84)	332 (100)

Data shows that out of 332 respondents in this study, as many as 251 (75.6%) respondents had the perception that the use of EAs does not have effects on sports performance, as against 75 (22.59) respondents who perceived that the use of EAs could. A total of 6 (1.81%) of the 332 respondents did not know whether or not EAs use could have contra-effects on sports performance. .

Table 4. Percentage Distribution of Respondents by their Perceptions of the Adverse Effects of Pharmacological Ergogenic Aids on Sports Performance

Item 3	Perceived effects on sports performance	Track & Field No (%)	Ball Games No (%)	Combat sports No (%)	Aquatic sports No (%)	Total No (%)
Check and tick the contra effects that you think the use of EAs have on sports performance?	Slowed reaction/reflex time	10(13.33)	15 (10)	2 (2.67)	1 (1.33)	28 (37.33)
	Reduced power of concentration	14(18.67)	18(24)	0 (0.00)	2 (2.67)	34 (45.33)
	Reduced stamina/strength	18 (24)	12 (16)	2 (2.67)	2 (2.67)	34 (45.33)
	Unexplained body heaviness	20 (26.67)	2 (2.67)	3 (4)	2(2.67)	27 (36)
	Low endurance	16 (21.33)	6 (8)	2 (2.67)	0 (0.00)	24 (32)
	Visual misjudgment	16 (21.33)	9 (12)	8 (10.67)	1 (1.33)	34 (45.33)
	Poor Body Coordination	9(12)	18 (24)	6 (8)	2 (2.67)	35 (46.67)
	Faulty moves					

	resulting in frequent injuries	20 (26.67)	4 (5.33)	8 (10.67)	2 (2.67)	34 (45.33)

Data on 4 table shows that out of 75 respondents who had the perception that the use of EAs could have contra effects on sports performance, more than 40% respondents perceived that poor body coordination, faulty moves resulting in frequent injuries, visual misjudgment, reduced stamina and concentration power could be contra effects suffered by EA users while only 24 (32%) perceived low endurance as contra effects.

Hypothesis Testing

The perception of athletes in the different sports of the patterns of pharmacological eargogenic aids is not significantly different.

Table 5: Chi square analysis on Respondents' Perception of the Patterns of Pharmacological Ergogenic Aids Used by Athletes.

Variable	**N**	**Df**	**Calc.x**	**Crit.x^2**	**P-Value**	**D**
Track and field athletes	134					
Ball/Stick/racket game athletes	115					
Combat sports athletes	47	6	23.74	12.59	0.05	Sig
Aquatic sport athlete	36					

Table 5 indicates that , when the data on the perception of athletes from the four sports groups (track and field events, ball game, combat and aquatic sports) of the patterns of ergogenic aids use were subjected to chi square test, result indicated that the calculated X^2 value of 23.74 is greater than the tabulated X^2 value of 12.59,df:6 at 0.05 level of significance, therefore, Hypotheses1,which states that the perception of athletes in different sports of the pattern of ergogenic aids is not significantly different was rejected .This implies that perception athletes in the four sports groups of the pattern of ergogenic aids were different.

Hypothesis 1. The Perception of different categories of athletes of the effects of ergogenic aids on health is not significantly different. Data on table 5 were used to test this hypothesis.

Table 6

Item	Variables		Df	Calc.X^2	Crit.x^2	P.value	Deci.
A	Skin Infections			43.52			
B	Weight loss			30.62			
C	Weight gain			133.76			
D	Baldness			45.83			

E	Change in sexual characteristics	332	3	20.75	7.82	0.05	S
F	Profuse sweating			27.76			
G	Sleeplessness			101.78			
H	Impaired sexual functions			10.54			
I	Incessant headache			71.20			
J	Heart rhythm abnormalities			73.20			
K	Dizziness			51.56			
L	High blood pressure			27.97			
M	Hallucination			21.16			
N	Irritability			11.78			
O	Fear /anxiety			48.06			
P	Violent Behaviour			65.28			

Table 6 indicates that, when the item- item responses on the perception of contra effects of pharmacological ergogenic aids on health from athletes in the four sports groups were subjected to x^2 test, the results indicated that the calculated value for all the 16 investigated items (A-P) were greater than the tabulated x^2 value of 7.82, df :3 at 0.05 level of significance, Therefore, hypotheses 3, which states that the perception of different categories of athletes of the contra-effects of pharmacological ergogenic aids on health is not significantly different is rejected.

Hypothesis 2: The perception of different categories of athletes of the effects of ergogenic aids on sports performance is not significantly different. Data on table 5 were used to test this hypothesis

Table 7. Chi-square Analysis on Respondents' Perception of the contra effects of pharmacological ergogenic aids on Sports performance.

Items	Variables	N	Df	Calc x^2	Crit x^2	p-value	Decision
A	Slowed reaction/reflex time	332		19.13	7.82	0.05	S
B	Reduced power of concentration			27.65			
C	Reduced stamina /strength			22.00			
D	Unexplained heaviness of the body			34.74			
E	Low endurance			25.34			
F	Low visual misjudgment			23.15			
G	Poor body coordination			24.66			
H	Faulty movements resulting in frequent injuries.			35.35			

Table 7 indicates that, when the item-by –item responses on the perception of contra effects of ergogenic aids on sports performance from athletes in the four sports group (track and field events, ball game, combat and aquatic sports) were subjected to X^2 test, results indicated that the calculated X^2 value for all eight investigated items (A-H) were greater than the tabulated X^2 value of 7.82, df :3 at 0.05 level of significance, Therefore, hypothesis 4, which states that the perception of different categories of athletes of the contra-effects of ergogenic aids on sports performance is not significantly different is rejected

Discussion of Findings

The result of this study that athletes are perceived to use Ergogenic aids to gains more strength was consistent with the submission of Silver (2017) who found that ergogenic aids like steroids produce accelerated muscle bulking ,which helps the body to gain more strength,. However, the findings were at variance with the reports of Dyment(2007) whose subjects had contrary perceptions. The differences in these studies could be attributed to the facts that while Silver examined perceptions of aquatic athletes alone, who are not likely to gain strength, but endurance, this current study, examined athletes from various sports, among who are combat and ball game athletes who require enough energy to excel in their sports. That respondents perceived that athletes use ergogenic aids to increase alertness and confidence is in agreement with the previous research of Cawart (2006) who found that drug like amphetamines increase alertness and confidence. Both this findings and those of Weiss & Latis (2008) that ergogenic aids are used to suppress/ relieve pains tallied .The former authors buttressed this assertion by saying that ergogenic aids like cocaine has the potential to relieve pains and aches and enable athletes to exert themselves beyond their normal pain capacity. The use of ergogenic aids as confirmed in this study was strongly supported by Antonio (2004) and Tseng (2006) who found that ergogenic aids including caffeine have positive effects on endurance performance and for increasing upper body strength for resistance training. That respondents in this study perceived that the use of ergogenic aids could have effect on the health of the user was found by Awosusi (2012).This result and that of Goldman (2006) that ergogenic aids causes insomnia are in agreement.

That this study indicates that the respondents from the four sports groups significantly differ in their perception of the contra effects of ergogenic aids was quite expected .The facts is that different athletes use different drugs depending on what their sports requires. It is therefore definite that a combat athlete who uses a drug in excess of what is medically prescribed will experience a contra effect that is different from which a sprinter who uses a drug with normal dosage will experience. Yesalis & Bahrke(2015) supported the finding of this study that athletes perceived that the use of ergogenic aids could cause weight gain .As stated by authors , athletes experience an increased in muscle size after taking anabolic steroids. Although, this result show that incessant headache is a key contra effect of ergogenic aids and supported by Fawole (1996), it should be noted that stress from intensive trainings and competitions could also result in incessant headache. The findings of this study may not be have devoid of some limitations such as athletes choosing their options from questionnaire through guessing ant not really being sure of the answer .In addiction, the collection of data was conducted after training season and mostly when they are relaxing in their various hostels. Nevertheless, the result of this study should be considered valid because the identified limitation did not in any way affect the findings of the study.

Conclusion

Based on the results of this study, it was concluded that athletes use pharmacological ergogenic aids specifically to gain more strength, increase alertness and suppress pains. Although, result of this study indicated that this performance enhancers were perceived to be very effective in sports, yet they are opined to have adverse effects on both health and sports performance. Paramount of these effects is sleeplessness, weight gain, and poor body coordination, faulty moves resulting in frequent injuries, visual misjudgment, reduced stamina and loss of power of concentration .Finally, phenomenon of the use of the banned substances in order to artificially increase physical performance by athletes has evolved a lot

in recent years, and its understanding is essential for the development of effective programs to prevent this phenomenon.

Recommendations

Considering the results and the conclusion drawn from this study, the following recommendations were made:

1. Schools authorities should promote alternative activities to drug involvement by setting up drug-free clubs in school campuses through which students may be aware of the danger inherent in substance use

2. There is ample need to include drug education in the general school curriculum at primary and secondary levels. At the university level, drug education should be made a compulsory elective for all students. This will give them the right orientation as regards the use of drugs.

3. There should be a comprehensive anti-doping programme before, during and after NUGA competitions to educate athletes on the dangers inherent in the use of performance enhancers. Such can be in form of symposium, workshop lecture e. t.c

4. On legislation, doping should be strictly legislated against and laws enforced without favour. It is therefore suggested that first offenders should face a year ban while second offender should be banned for life.

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