

Selected Factors on the Rising Cases of Doping Among Kenya Athletes

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Abstract: A number of Kenyan athletes have tested positive for either medicinal or recreational drugs prohibited by WADA during competitions (IAAF, 2011). Such cases of doping portray Kenyan athletes as being largely ignorant of banned substances, doping test procedures and their rights and responsibilities. Studies to determine the athlete's level of awareness of doping regulations stipulated by WADA is scanty. The recent statistics released by WADA and published by AK (2013) on the list of athletes serving a ban for doping indicated a drastic rise of Kenyan athletes in the list, from 4 in 2010/2011 to 17 in 2012/2013 representing an increase by 425%. The main aim of this study was to assess factors influencing the rising cases of doping among athletes in Kenya. Specifically, the study was set to establish effect of money in athletics, peer pressure, availability of doping drugs and drugs abuse legislation on the cases of doping in Kenya. The target population of the study was the 110 officials of Athletics Kenya spread over 10 regions in Kenya. The study used probabilistic sampling technique provided recommended by Bartlett and Kotlik (1997). The study employed simple random sampling technique to randomly pick the 86 samples of the AK officials across the 10 regions in Kenya. To establish relationship between money in athletics, peer influence, availability of doping drugs and drug abuse legislation and cases of doping were measured using regression analysis. The study established that three factors to be the major ones contributing to the rising cases of doping; money in athletics, peer pressure and drugs abuse legislations.

Keywords: Drugs in Athletics, Doping, Performance Enhancement Drugs.

INTRODUCTION

Kenya's sterling performance in marathon, cross country, middle and long distance racing has put her in the world map as far as athletics is concern. In 1968, Kenya won its first gold medal and by 1972, it made remarkable mark in athletics after winning the men's 4x400m relay. Kenya displayed another remarkable performance in the 1988 Seoul Olympics when she won four gold medals. The feat was repeated in the 2008 Beijing Olympics where she won 6 gold, 4 silver and four bronze medals, all in middle and long distance racing [1].

According to Fields [2] Athletes have been using drugs to enhance their performance since ancient times. The use of drugs by Athletes is almost as old as the Olympic Game itself. He further reported that the pressures of professional athletics conditions and the accompanying lifestyle can create a situation in which Athletes seek both relief and the enhancement of performance by using alcohol or other drugs.

As a result of the increase in the incidence of drug use by Athletes world wide, the World Anti-Doping agency brought out the 2009 prohibited list of International standard. The list was target substances

and methods prohibited at all times (in and out of competition). The prohibited substances include:

- 1) Anabolic Agents
- 2) Hormones and related substances
- 3) Beta-2 Agonists
- 4) Hormone antagonists and Modulators
- 5) Diuretics and other Masking Agents
- 6) Stimulants
- 7) Narcotics
- 8) Cannabinoids
- 9) Glucocorticosteroids

Athletes frequently use ergogenic aids to improve their performance and increase their chances of winning in competition [3]. Ergogenic aid according to Silver [3] is defined as any means of enhancing energy utilization including energy production, control and efficiency. He further described an ergogenic aid as any means of enhancing energy production and utilization. Studies have explored possible reasons for Kenyan success in athletics, for example Elbe *et al.*, [4] established that Kenyan runners are motivated by extrinsic reasons compared to their Danish counterparts who were included in the study. Onywera, Scott, Boit & Pitsiladis [5] which demonstrated that majority of Kenyan runners were motivated by economic reasons. Onywera [6] established that Kenyan athletes have

benefited more 3 from use of basic equipment and amenities that are available within their environment than use of technology but none has explored the possibility of use of performance enhancing drugs.

A number of Kenyan athletes have tested positive for either medicinal or recreational drugs prohibited by WADA during competitions [1]. Examples include; Susan chepkemei and Lydia Cheromei who tested positive for medicinal drugs, David Munyasa and Komen who tested positive for recreational drugs. In all the cited incidences, the athletes did not apply for the Therapeutic Use Exemption (TUE) and neither did they make appeals after the cases were determined. Such cases of doping portray Kenyan athletes as being largely ignorant of banned substances, doping test procedures and their rights and responsibilities. No studies have been done to establish the athlete's level of awareness of doping regulations stipulated by WADA. The current study aimed to establish this crucial information that can be used in the improvement of doping education programs in the country.

Recently [7] the IAAF banned three top Kenyan athletes for doping; Wilson Erupe Loyanae, a two time winner of Seol marathon, Nixon Kiplagat and Moses Kurgat, both renowned Kenyan distance runners [8]. Furthermore the recent statistics released by WADA and published by AK [8] on the list of athletes serving a ban for doping indicated a drastic rise of Kenyan athletes in the list, from 4 in 2010/2011 to 17 in 2012/2013 representing an increase by 425%. Regrettably most of the cases tested positive for PEDs rather than medicinal or recreational drugs as witnessed in the past. There has also been wide allegations of doping by Kenyan athletes by both print and 6 electronic media and even among the athletes' themselves. Two Kenyan athletes, Moses Kiptanui and Mathew Kisorio have openly confessed that doping is rife in Kenya (BBC Interview, 15th February 2013) This has raised concern by WADA who has issued stern warning to Kenya Government to address the issue.

It is now evident that Kenyans athletes are doping to gain the outstanding performance observed over years. This is evident by Susan chepkemei and Lydia Cheromei who tested positive for medicinal drugs, David Munyasa and Komen who tested positive for recreational drugs. In all the cited incidences, the athletes did not apply for the Therapeutic Use Exemption (TUE) and neither did they make appeals after the cases were determined. Such cases of doping portray Kenyan athletes as being largely ignorant of banned substances, doping test procedures and their rights and responsibilities. Recently [7] the IAAF banned three top Kenyan athletes for doping; Wilson Erupe Loyanae, a two time winner of Seol marathon, Nixon Kiplagat and Moses Kurgat, both renowned Kenyan distance runners [8].

Recent statistics released by WADA and published by AK [8] on the list of athletes serving a ban for doping indicated a drastic rise of Kenyan athletes in the list, from 4 in 2010/2011 to 17 in 2012/2013 representing an increase by 425%. Regrettably most of the cases tested positive for PEDs rather than medicinal or recreational drugs as witnessed in the past. These cases have been reported and documented but there is no clear study that has been carried out to establish why there is rise of doping in Kenya necessitating the current study that analyzed influence of money in sports, peer influence, availability of doping drugs and drug abuse legislation on the rising cases of doping among Kenya Air force Athletes.

LITERATURE

Theoretical Framework

The study was guided by a model derived from the Drug Compliance in Sport model, developed by Donavan, Egger & Kapernickl [9]. This conceptual framework sought to facilitate compliance to regulations pertaining use of performance enhancing drugs. The framework was derived from three scientific theories, the social cognition, threat/fear appraisal, and instrumental/normative theories. The model was modified to include two other significant variables which the researcher intended to assess, the influence of demographic information and access to disseminated information on doping. The model comprises of six components that are likely to influence attitudes and intentions towards dope, namely; knowledge of legitimacy of doping, threat appraisal, benefit appraisal, personal morality, demographic characteristics and reference group. The model predicts that likelihood of doping is lowest when fear of effects is high, knowledge of benefit is mediocre, personal morality is opposed to doping, knowledge of legitimacy is high, and the reference group disapprove the use of drug.

The model is stratified into four major levels that guided the procedure in conducting the research and analyzing the results. At the first level, the researcher assessed the sources of 11 doping information used by Kenyan elite athletes and their usefulness to them. Through questionnaires, the research established the most commonly used methods as well as those preferred by the athletes. At the second level as per the model, the research evaluated the level of knowledge possessed by Kenyan elite runners with regard to various aspects of doping. The researcher also assessed possible association between levels of knowledge and athletes demographic characteristics such as age, gender, and level of experience in sport. At its third level, the researcher examined the attitude of Kenyan elite athletes towards doping. The study further examined the effect of two other variables on athletes' attitude towards doping; the influence of reference group (coaches, family, friends and colleagues) and athletes personal morality (perceived rightness or wrongness of the action). At its final level the research

established the level of practice among Kenyan elite runners to establish if this was related to their levels of knowledge.

Doping

Kenya's sterling performance in marathon, cross country, middle and long distance racing has put her in the world map as far as athletics is concern. In 1968, Kenya won its first gold medal and by 1972, it made remarkable mark in athletics after winning the men's 4x400m relay. Kenya displayed another remarkable performance in the 1988 Seoul Olympics when she won four gold medals. The feat was repeated in the 2008 Beijing Olympics where she won 6 gold, 4 silver and four bronze medals, all in middle and long distance racing [1].

According to Fields [2] Athletes have been using drugs to enhance their performance since ancient times. The use of drugs by Athletes is almost as old as the Olympic Game itself. He further reported that the pressures of professional athletics conditions and the accompanying lifestyle can create a situation in which Athletes seek both relief and the enhancement of performance by using alcohol or other drugs. Many high school College, and even professional Athletes are ill prepared for these pressure.

Orkula [10] reported that the use of banned substances is a global problem that the World Anti-Doping Agency (WAD) has been grappling with in the last three or more decades. He explained that this ugly trend has ruined the careers of many world super and rising star Athletes like Marion Jones, Ben Johnson and a host of other foreign and local Athletes.

Empirical Review

Cases of Doping

Orkula [10] reported that the use of banned substances is a global problem that the World Anti-Doping Agency (WAD) has been grappling with in the last three or more decades. He explained that this ugly trend has ruined the careers of many world super and rising star Athletes like Marion Jones, Ben Johnson and a host of other foreign and local Athletes. Canadian sprint super star Ben Johnson was striped of his Gold medal some hours after winning the event when he tested positive to the use of anabolic steroid [11].

Past researches have used the epidemiological approach which requires athletes to declare or admit a behavior that would jeopardize their careers [12]. This limits the reliability of the findings. Increased knowledge of factors that lead to doping are among WADA's top priorities as evidenced in the call for proposals on the subject in the 2009 scientific researches.

In a study on doping regulations [13], findings revealed that there were no institutional frameworks for

doping control among institutional sports associations. Such bodies rely on specific national sports federations for guidance. Their efforts to implement doping regulations may further be hampered by lack of sufficient finances allocated to sports. Though Kenya has no specific anti-doping laws, there are several pieces of legislations that touch on regulations of doping drugs and methods. The Medical and Dentist Practitioners Act provides for training and registration of medical practitioners and dentists. This act also does not control administration of doping substances and methods. This implies a doctor can comfortably aid an athlete to dope without fear of losing licenses or any penalties so long as it is with the athletes' consent.

Levent Ozdemir *et al.*, [14] conducted a survey research on doping in Sivasi state in Turkey. The aim of the study was to determine the rate of doping and performance enhancing drug use in Sivasi, Turkey, and to analyze the main reasons for their use. A cross sectional study based on a self-reported questionnaire was carried out. The subjects filled questionnaires describing population in terms of demographics, sports practice, doping in sports, and other substance abuse. Number of respondents was 883 of which 433 were athletes 450 were healthy non-athletes. Mean age of volunteers was 21 years. Male and female ratios were 78.2% to 21.8% respectively.

Athletics in Kenya

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Factors Influencing Increase in Doping

Today, drug use in sport has reached enormous proportions in society and is adversely affecting sports. Nowhere is the problem more serious than in professional athletics where Athletes, Coaches and Trainers misuse drugs in search of ways to improve performance. Many Athletes fail to take their time when making the decision whether to use drugs to their advantage. Unfortunately Athletes may use drugs for the treatment of illnesses, therapeutic indications, recreational or social reasons, as muscular aids or to mask the presence of other drugs during drug testing. By doing this, the safety of the Athlete's health is being neglected. Drug use has led to an increased number of deaths and suspensions of Athletes [15].

External pressure to win at all cost [16, 17], paranoia about chemically enhanced competitions [18-21, 17] and speeded recovery from injury [20, 22]. According to the studies, external pressure mainly resulted from the demands of the coach for excellent performance. Yesalis *et al.*, [19] further pointed out that athletes use performance enhancing drugs and methods as a means of coping with the physical demands of training and competitions.

In spite of numerous studies in the field of doping in sport, there have only been a few attempts of comprehensive explanations (models) which could with certainty and on an adequate theoretical basis assume the factors and the extent of their relevance for reaching the decision to use doping in sport. Furthermore, most of the studies were carried out on samples of professional athletes, whereas recreational athletes were used quite rarely. While attempting to clarify the motivation for doping substance use in nonprofessionals, we could start with the models made primarily for explaining the doping behaviour of competition-oriented athletes and thus, in the course of the discussion eliminate the influences characteristic exclusively of competitors and include the factors present primarily in recreational sport.

One of the most complex models was proposed by Donovan *et al.*, [9]. The model proposes six major influences on the attitude and intention of a sportsman toward using PED (PESM) (Performance Enhancing Drugs-Substances): threat appraisal, benefit appraisal, reference group influence, personal morality, legitimacy and the psychological characteristics of individuals. Doping behaviour is not only influenced by attitudes and intentions, but also by two 'market' factors: availability and affordability i.e., how easy/difficult it is find these substances and what their price is when compared to the material abilities of the potential consumer.

Risk assessment is not a simple variable. It consists of assessing two notions: that the athletes will test positive on the doping test and that the substance

abuse will cause negative effects on one's health. Due to the fact that the first component of this variable is irrelevant for recreational athletes (because they are not forced to take the test), we will consider only what Donovan *et al.*, [9] propose about health damage. These components are: perceived likelihood of negative effects on health, the perceived onset of these effects, perceived reversibility of the effects and the perceived severity of the effects. Getting acquainted with the real effects and health risks caused by different doping substances forms an integral part of all the models of the prevention of PED use.

Morality is also influenced by two variables which, as it has been proven in research, have a direct influence in the start and duration of doping substance use. Their influence has been considered primarily in the theory of reasoned action [23], planned behaviour [24] and the theory of trying [25]. What these theories have in common is that they propose that one's intention to behave in a certain way comes from a set of weighted convictions about the consequences of such behaviour. There are two major input factors: attitude toward the behaviour per se (based on beliefs about the consequences of the behaviour and an evaluation of those consequences) and perceived subjective norm (based on beliefs about what relevant others think about proceeding with that behaviour, weighted by the individual's motivation to comply with the relevant others). The thesis that it is of utmost importance to differentiate between what relevant others say is supposed to be done and what they actually do is to be applied in both nonprofessional and professional sport [26].

Donahue *et al.*, [27] find an empirical confirmation of the thesis that intrinsically motivated athletes have a smaller chance of giving in to doping when compared to those who are motivated by external motivation. If the primary motivation of this group of athletes is maintaining and enhancing health and physical fitness, enjoying the very physical activity, as well as the need for a well-shaped and strong body, then the greatest potential threat to not using PED lies in the possible peer consumer group. The mechanism this group might use to influence an individual to start using PED will not differ greatly from the mechanisms applied for any other drug.

Laure [28] finds that the consumers of forbidden substances have low self-respect and pronounced anxiety. Furthermore, he states that these two psychological factors are connected with risky behaviour in general and that they could represent the association between using PED, alcohol and cannabis. This author broadens the perspective when it comes to substance abuse and observes that the proper way is to consider this as doping behavior, not doping drug use. According to Laure [28] doping behaviour represents using substances with the aim of enhancing

performances when facing obstacles (real or imaginary), which are perceived as real by the consumer himself or the people surrounding him. Thus, it is not the substance which defines behaviour, but the reasons which cause its consumption. The author also believes that contemporary society puts pressure on people through its institutions (schools, companies, family, sport clubs, media). It is important to mention that his work is not concerned only with physical PED and sport activities.

Athletics Kenya which is affiliated to IAAF and WADA is by law expected to adopt the anti-doping regulations from these International bodies [29]. There is evidence of actions having been taken by AK against athletes who have been found to dope. The case of Florence Muthoka is an example. The 800m runner had qualified to participate in the 2008 Olympics but was removed from the list after she tested positive for anabolic steroids in July 2008. AK in liaison with IAAF constituted a committee to give the athlete a hearing. After the hearing, AK suspended the athlete for two years and communicated the same to IAAF as per the rules [1]. There is also evidence that though AK has structures of handling doping cases, it seems to lack adequate educational programs on banned substances and athletes' rights and responsibilities. The case of Susan Chepkemei is an example. Susan tested positive for sulbutamol, a drug which was used to treat her for a chest infection at the hospital. She was suspended for two years and she did not appeal. In this case Susan should have avoided suspension by seeking Therapeutic Use Exemption (TUE) or even launched an appeal of

the case if she had adequate knowledge of doping regulations [1]. With limited sports academies in Kenya, sports talents are tapped from youngsters participating in secondary, college and university sports. These institutional sports are run by national bodies which include Kenya Primary Schools Sports Association (KPSSA), Kenya Secondary School Sports Association (KSSSA), Kenya Teachers Colleges Sports Association (KTCSA), and Kenya Universities Sports Association (KUSA).

Though Kenya has no specific anti-doping laws, there are several pieces of legislations that touch on regulations of doping drugs and methods. The Pharmacy and Poisons Act which regulates the training, licensing and registration of pharmacists and the handling and distribution of drugs touches on a wide range of prohibited substances. However, it makes no reference to doping control. The act does not make it a requirement for a pharmacist to know the prohibited substances in doping and neither does it prohibit them from dispensing them to athletes for whatsoever reason. It also does not provide for labeling of prohibited substances on the products. This makes it easier for pharmacist to dispense or even administer doping substances without fear of the law. The Medical and Dentist Practitioners Act provides for training and registration of medical practitioners and dentists. This act also does not control administration of doping substances and methods. This implies a doctor can comfortably aid an athlete to dope without fear of losing licenses or any penalties so long as it is with the athletes' consent.

Conceptual framework

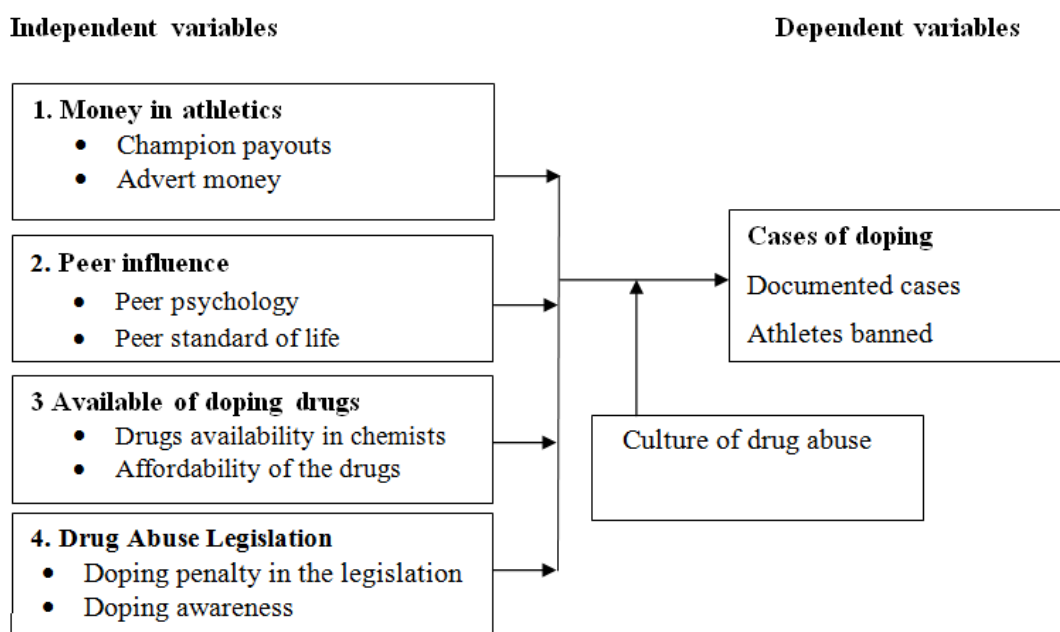


Fig-1: Factors influence rising cases of doping
Source: Author (2017) [30]

The independent variables of the study include; money in athletics, peer influence, availability of doping drugs and drug abuse legislation. The dependent variable is cases of doping measured in terms of cases documented and athletes banned because of doping. The moderating variable is culture of drug abuse. When the Kenyan athletes are able to manage the money they get from champions, peer influence, the Kenya government control the flow of doping drugs and amend the drug abuse legislation to incorporate doping then the cases of doping will drop and vise vase.

METHODS

Study design, population and sample selection

The research design that the study adopted was descriptive survey design. This is because descriptive survey design provides information about naturally occurring characteristics of a particular group.

The target population of the study was the 110 officials of Athletics Kenya spread over 10 regions in Kenya. The study used probabilistic sampling technique provided in an article by James E. Bartlett and Joe W. Kotlik [31] titled Organizational Research: Determining Appropriate sample size in Survey Research is used to calculate the sample size for this study.

$$s = \frac{(z)^2(p)(q)}{(d)^2}$$

S= Sample size
 Z= Value of selected alpha level. In this study 0.25 in each tail = 1.96
 d= acceptable margin of error for proportion being estimated = 0.05.
 (p) (q)= estimate of variance = 0.25 maximum possible proportion (0.5) (1-0.5). This produces maximum possible sample size.

$$s = \frac{(1.96)^2(0.5)(0.5)}{(0.05)^2} = 384$$

$$s_1 = \frac{S}{1 + \frac{S}{n}}$$

Where,
 S1= Required Sample size
 S= uncorrected sample
 N= Total target population

$$s = \frac{384}{1 + \frac{(384)}{(110)}} = 86$$

which formed the sample of the study

The study employed simple random sampling technique to randomly pick the 86 samples of the AK officials across the Country.

Study Instruments

The study used close ended questionnaires based on Likert Scale as the main mode of data collection. The use of questionnaires was justified because they assured an effective way of collecting information from a population in a short period of time and at a reduced cost.

Data Analysis

To establish relationship between money in athletics, peer influence, availability of doping drugs and drug abuse legislation and cases of doping was measured using regression model below. All inferential statistics were tested at $\alpha = 0.05$ significance level.

$$y = \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_4X_4 + \epsilon$$

Where;
 Y= cases of doping
 α =constant
 $\beta_1 \dots \dots \beta_{4d}$ = parameter estimates
 X₁ = money in athletics
 X₂ = Peer pressure
 X₃= Availability of doping drugs
 X₄= Drugs Abuse Legislation
 ϵ is the error of prediction.

RESULTS

Descriptive Analysis

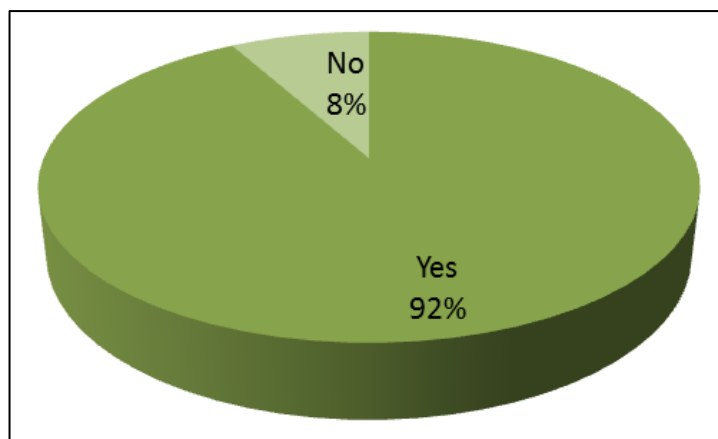


Fig-2: Awareness of Doping

Majority of respondents 92% were aware of doping compared to 8% who were not aware. This finding indicated that awareness of doping is quickly

gaining ground among athletics official in Kenya and therefore is becoming a phenomenon.

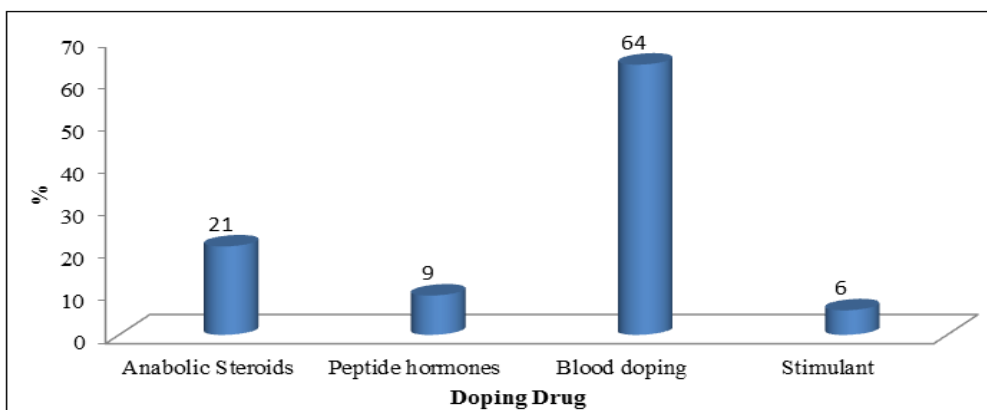


Fig-3: Doping Drugs used by Athletes

Concerning doping drugs abused by athletes, the study established that majority of respondents 64% observed that athletes abuse blood doping drugs, 21% observed that athletes abused anabolic steroids, 9%

observed that athlete abuse peptide hormones and 6% abused stimulants. This finding showed that athletes in Kenya according to AK officials abused blood doping drugs and anabolic steroids.

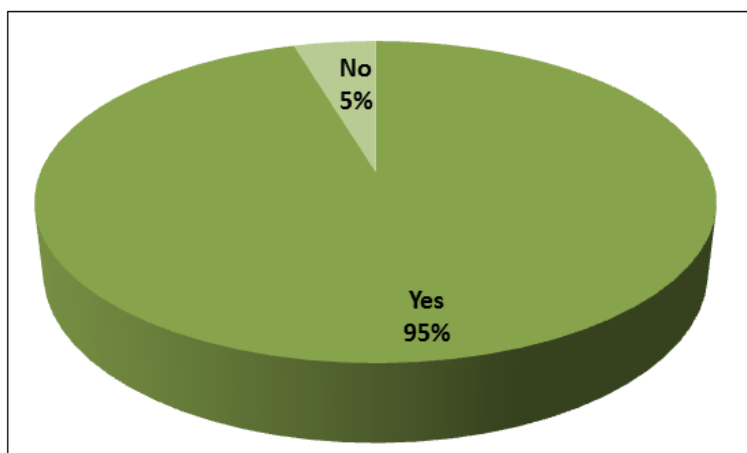


Fig-4: Doping a Challenge in Kenya

Majority of respondents 95% observed that doping is becoming a challenge to athletics in Kenya compared to 5% who observed that it is not a challenge.

Table-1: Money in Athletics is a Contributing Factor to Doping

Money in athletics	5	4	3	2	1
	SA (%)	A (%)	NS (%)	D (%)	SD (%)
Money awarded to champion	47	39	0	5	9
Money in sports advertisement	41	43	5	6	5
Money in government sponsorship	32	37	0	16	15
Money from sponsors	44	46	0	4	6

Source: Field Data (2018)

Key: SA = Strongly Agree, A = Agree, NS = Not Sure, D= Disagree and SD = Strongly Agree

The study established that majority of respondents 86% agreed that doping was on the rise due to money awarded to champion when they win during international athletics compared to 14% who disagreed. Majority 85% agreed that doping was on the rise due to money associated with sports advertisement, where winners are used in advertising world super brands like Coca Cola products, Samsung products and other motor vehicles compared to 15% who disagreed. Concerning

government sponsorship, the study established majority of respondents 69% agreed that doping was on the rise due to money associated with government sponsorship to those who attend international athletics compared to 31% who disagreed. Concerning athletes sponsors, the study established that majority of respondents 90% agreed that doping was on the rise due to money associated with athletes sponsors either individuals, sports agents or corporate.

Table-2: Peer Pressure in Athletics is a Contributing Factor to Doping

Peer Pressure in athletics	5	4	3	2	1
	SA (%)	A (%)	NS (%)	D (%)	SD (%)
Peer pressure encourages doping	35	38	0	16	11
Peers ways of life encourage doping	42	47	0	5	6
Professional athletes encourages doping	42	47	0	5	6
New social status encourages doping	49	43	2	4	2

Source: Field Data (2018)

Concerning peer pressure in athletics, the study established that majority of respondents 73% agreed that peer pressure encourages doping compared to 27% who disagreed. Majority of respondents 89% agreed that peers expensive ways of life encourage encouraged other athletes to be involved in doping so that they can sustain such expensive lives and also peer

crossing to professional athletes encourages doping respectively compared to 11% who disagreed. Concerning social status, the study established that majority of respondents 92% agreed that peers acquiring new social status encourages doping by athletes compared to 6% disagreed and 2% who were not sure.

Table-3: Drugs Availability is a Contributing Factor to Doping

Doping Drugs	5	4	3	2	1
	SA (%)	A (%)	NS (%)	D (%)	SD (%)
Doping drugs are local available	31	35	5	19	10
Doping drugs are affordable	44	47	0	5	4
Doping drugs are portable	49	45	0	2	4
Doping drugs does not need prescription	20	19	0	38	23

Source: Field Data (2018)

The study established majority of respondent 66% agreed that doping drugs are local available and therefore were accessible to the athletes compared to 34% who disagreed. Majority of respondents 91% agreed that doping drugs were affordable to the athletes and therefore was not a problem obtaining them compared to 9% who disagreed. Majority 94% agreed

that the doping drugs were portable and therefore athletes could move with them anywhere compared to 6% who disagreed. Concerning prescription, majority of respondents 61% disagreed that doping drugs does not need prescription compared to 39% who agreed they need prescription and therefore was a factor that encouraged doping.

Table-4: Legislation in Doping is a Contributing Factor to Doping

Legislation and Doping	5	4	3	2	1
	SA (%)	A (%)	NS (%)	D (%)	SD (%)
Lack of doping awareness	46	38	0	11	5
Less penalty encourages doping	49	46	0	0	5
Difficult to ascertain doping	35	31	15	12	7
Week legislation	49	46	0	5	0

Source: Field Data (2018)

The study established that majority of respondents 84% agreed that lack of doping awareness encourages doping among Kenyan Athletes compared to 16% who disagreed. Majority of respondents 95% agreed that less penalty levied on those found doping encourages doping and that less penalty on doping encouraged it among the athletes respectively compared

to 5% who disagreed. Majority of respondents 66% agreed that difficulty in ascertaining doping encourages it compared to 19% who disagreed and 15% who were not sure.

Inferential Statistics

Table-5: R Square

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.990 ^a	.980	.977	.15107

The R value was 0.990 whereas R Square was 0.980, which indicated a high degree of correlation. The R² value indicates how much of the dependent variable, "cases of doping", was explained by the elements of independent variables, "money in athletics, peer

pressure, availability of doping drugs and drugs abuse legislation ". In this case, 98.0% was the R Squared, which was very large indicating high degree of correlation.

Table-6: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	33.22	5	6.64	291.14	.000 ^b
	Residual	0.66	29	0.02		
	Total	33.89	34			

Predictors "money in athletics, peer pressure, availability of doping drugs and drugs abuse legislation" Dependent variable "cases of doping. Table 6 indicated that the regression model predicted the

outcome variable significantly with p=0.000, which was less than 0.05, and indicated that; overall, the model statistically and significantly predicted the outcome variable.

Table-7: Combined Effect of Factors Contributing to rising Cases of Doping

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.095	1.680		1.843	.075
	Money in athletics	.269	.232	.166	1.163	.025
	Peer pressure	.536	.214	.359	2.505	.018
	availability of doping drugs	.289	.243	.170	1.189	.244
	Drug abuse legislation	-.726	.238	-.437	-3.050	.005

The study established 3 factors having significant relationship with cases of doping, these were; money in athletics, peer pressure and drug abuse legislation whereas availability of doping drugs had insignificant relationship with cases of doping. In order for the study to influence the practice, the regression analysis was also used to indicate which of the factors contributed more towards the rising cases of doping in Kenya. According to the finding 'peer pressure' r=.536, p=0.018<0.05 contributed more to doping among athletes in Kenya compared to "money in athletics" r=.269, p=0.025 and "drug legislation" r=-0.726,

p=0.05. It is also important to not that there was no multicollinearity of the data used to arrive at this conclusion since the Variance Inflation Factor was VIF>1 but <10 in each of the factors contributing to doping.

Summary

Kenya is recognized and is respected world-wide for its performance in athletics especially track games in long distance, triple chase and also short distances. Such recognition and respect may be eroded by doping which is quietly creeping in Kenya. The main

aim of this study was to analyze factors contributing to the rising cases of doping among Kenyan Athletes. The study established that three factors to be the major ones contributing to the rising cases of doping; money in athletics, peer pressure and drugs abuse legislations. Money in athletics include; money directly awarded to champion when they win during international athletics, money associated with sports advertisement, where winners are used in advertising world super brands like Coca Cola products, Samsung, money associated with government sponsorship to those who attend international athletics and money associated with athletes sponsors either individuals, sports agents or corporate. Peer pressure associated factors include; peer pressure encourages doping, peers expensive ways of life encourage encouraged other athletes to be involved in doping so that they can sustain such expensive lives and also peer crossing to professional athletes encourages doping and peers acquiring new social status encourages doping by athletes. Drug abuse associated factors included; lack of doping awareness encourages doping among Kenyan Athletes, less penalty levied on those found doping encourages doping and that less penalty on doping encouraged it among the athletes respectively and difficulty in ascertaining doping.

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