

## **AWARENESS AND HARMFUL EFFECTS OF STEROID USE AMONG MESOMORPHIC ATHLETES IN CALABAR METROPOLIS**

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### **ABSTRACT**

Achieving a perfect body type and structure has become imperative for many athletes all over the world. The quest to achieve this has led to the abuse and incessant use of steroids among mesomorphic athletes without considering the health risk. Mesomorphic athletes in Calabar metropolis (Cross River State) have little or no proper education or awareness on the use and adverse effects of steroids which can be dangerous to their health. The present study aimed to determine the awareness level on the use of steroids as well as the harmful effects following its use among mesomorphic athletes in Calabar metropolis. Questionnaires were used for data collection; these were distributed randomly to 85 respondents; the identities of the respondents were anonymous. Out of the 85 respondents, 72(84.7%) were male, while 13(15.3%) were female. The dominant age group was within the age range of 18-23 which constitute 62.4% of the respondents. Responses revealed that 72(84.7%) of the respondents had little knowledge on the use of steroids and its effects, while 13(15.3%) had no knowledge on the use of steroids. 28(32.9%) respondent used steroids for muscle development. 8(28.6%) of steroid users used it on daily basis while 15(53.6%) used steroid 3 times per week. 12(42%) of steroid users were still willing to continue the use of steroid for muscle developments despite the health challenges associated with the use of these drugs. The side effects mentioned by steroid users includes psychological problems such as aggressiveness and mood swings which was 3(25%) and 1(8.3%) respectively; Liver diseases was 2(16.7%); Low libido was 2(16.7%); Cardiovascular problems such as chest pain and chest burn was 1(8.3%) and 1(8.3%) respectively; Muscular problem such as muscle pain was 1(8.3%) and skin folding was 1(8.3%). The use of steroids is prevalent in young adult males with very little awareness on the adverse effects of steroid use among mesomorphic athletes in Calabar Metropolis.

**KEYWORDS:** Mesomorphs, Athletes, Steroids, Awareness, Calabar.

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### **INTRODUCTION**

In recent years, achieving a perfect athletic body has become the target of many individuals, this “dream physique” has nevertheless led to desperation in young adults who embark on extreme measures to achieve it (D'Andrea et al. 2007; Kasikcioglu et al. 2009). One of such which is of much clinical importance is the use of steroids originally meant for therapeutic purposes. It is necessary to be aware of the extent to which people risk their health in order to achieve this body shape, thus the use of steroids with the intention of muscle development among athletes and/or young adults has to be in check (Kanayama et al. 2013).

Steroids are biological active compounds which alter membrane fluidity and also act as signaling molecules in the cell (Nussey and whitehead, 2001). The most commonly used steroids among athletes for muscle development

is the androgenic anabolic steroids (AAS) which interact with androgen receptors to increase muscles synthesis (Powers, 2011).

In most cases, healthcare providers prescribe steroids to treat conditions such as delayed puberty, muscle loss and in some cases of cancers (Perry et al. 2012). the abuse of anabolic steroids can lead to numerous side effects such as, hypertension, atherosclerosis, blood clotting, hepatic carcinoma, tendon damage (Vanberg and Atar, 2010; Kanayama et al. 2013). Steroids have been found to reduce fertility rate, cause gynacomastia, erectile dysfunction, kidney problem and liver damage in males (Turillazi et al. 2011).

With the limited available information regarding the use, misuse and abuse of AAS in Nigeria, it is quite clear that the use of AAS is on the rise and been consumed by the bodybuilders and athletes especially in developing countries

without any form of professional advice in majority of the cases (Usman et al. 2015; Zafar et al. 2018). Within the same context, it is observed that the use of AAS among athletes and gym users is quite prevalent in the city of Calabar, Cross River state Nigeria. The abuse of androgenic anabolic steroids (AAS) is a remarkably prevalent problem (Turillazi et al. 2011; Kanayama et al. 2013; Fink et al. 2019) in competitive and non-competitive athletes. Hence, there is need to summarize the relevant issues regarding AAS abuse including prevalence, mechanism of action, efficacy and adverse effects. This information will therefore enable physicians and pharmacists to adequately educate and guide athletes, teenagers, parents, teachers and coaches to stay away from any form of anabolic steroids abuse.

The present study aimed to determine the awareness level on the use of steroids as well as the harmful effects following its use among mesomorphic athletes in Calabar metropolis.

## MATERIAL AND METHOD

### Study Subjects:

The population of this study consisted of one hundred and fifty (150) mesomorphic athletes of male and female gender residing in Calabar metropolis. The respondents were selected using simple random sampling procedures from different recreational centers such as Gym, Stadium and, Club houses. Informed consent was obtained from each respondent and the purpose of the study was explained to them before the commencement of the study.

### Data Collection and analysis

This research was carried out using quantitative data collection by the use of surveys or questionnaire. Participation on the survey study was voluntary and the respondent had the sole right to withdraw if he or she wished to do so. Information provided was treated confidentially and respondent anonymity was adequately maintained. The data gathering methods in the present study were similar to the works of Tamir et al. (2004), Hussain et al. (2019) and Eskandarion et al. (2019). Data were analyzed for descriptive and inferential statistics using statistical package for social sciences (SPSS 20.0) software.

## RESULTS

**TABLE 1: General information and responses by respondents**

Variable	Sub -variable	n	%
<b>Sex</b>	Female	13	15.3
	Male	72	84.7
<b>Age group</b>	<18	9	10.6
	18 -25	53	62.4
	26 -35	23	27.1
<b>Participation</b>	No	10	11.8
	Yes	75	88.2
<b>Duration of work out</b>	Don't visit gym	11	12.9
	1 -3x/wk	26	30.6
	4 -6x/wk	35	41.2
	Everyday	13	15.3
<b>Body mass gain</b>	Very slow	11	12.9
	Slow	15	17.6
	Fast	22	25.9
	Very fast	37	43.5
<b>Awareness of the use of steroids.</b>	No	13	15.3
	Yes	72	84.7
<b>Usage of steroids by Respondents</b>	No	57	67.1
	Yes	28	32.9
<b>Frequency of usage of steroids by abusers</b>	1 -3x/wk	15	53.6
	4 -6x/wk	5	17.9
	Everyday	8	28.6
<b>Side effect noticed</b>	Aggression	3	25.0
	Chest burn	1	8.3
	Chest pain	1	8.3
	Liver disease	2	16.7
	Low libido	2	16.7
	Mood swing	1	8.3
	Muscle pain	1	8.3
	Skin folding	1	8.3
	<b>Continuation of use Steroids</b>	Yes	12
No	39	45.9	
Can't disclose	34	40.0	

Table 1 summarizes the responses gotten from the study subjects based on variables such as sex, age, duration of workout, body mass gain, awareness of steroid use, usage of steroids by respondents, frequency of steroids, noticeable side effects and continuous usage of these steroids. These variables were used to quantify and infer the effects of steroid use on different health parameters including Aggression/Mood swings, Chest burn and pain, Liver disease, Low libido, Muscle pain and Skin folding.

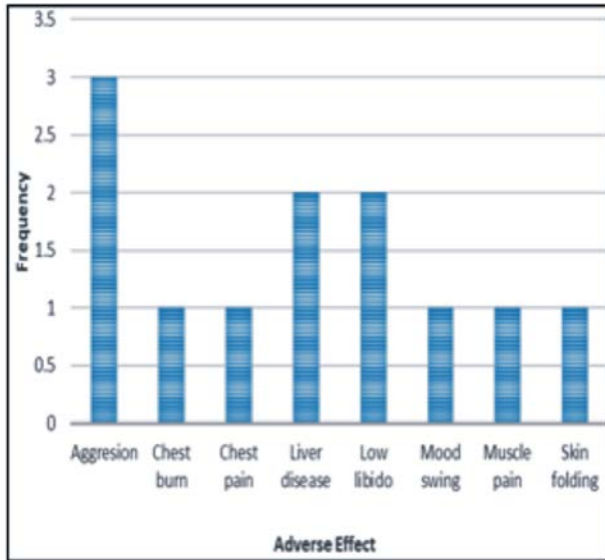


Figure 1. Side effects of steroids noticed

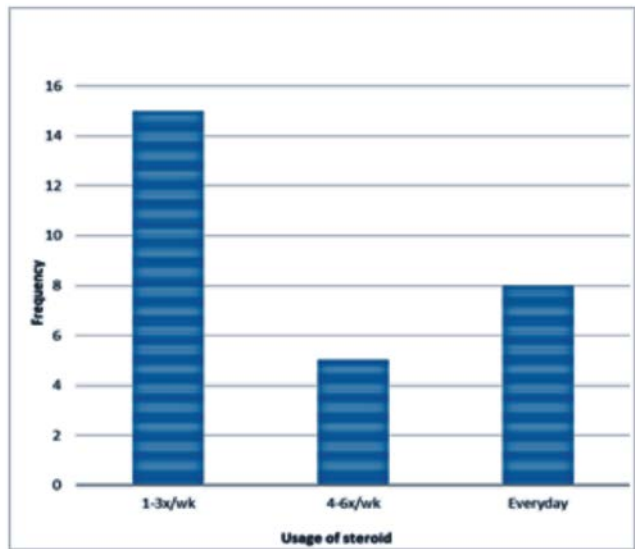


Figure 2. Frequency of usage of steroids

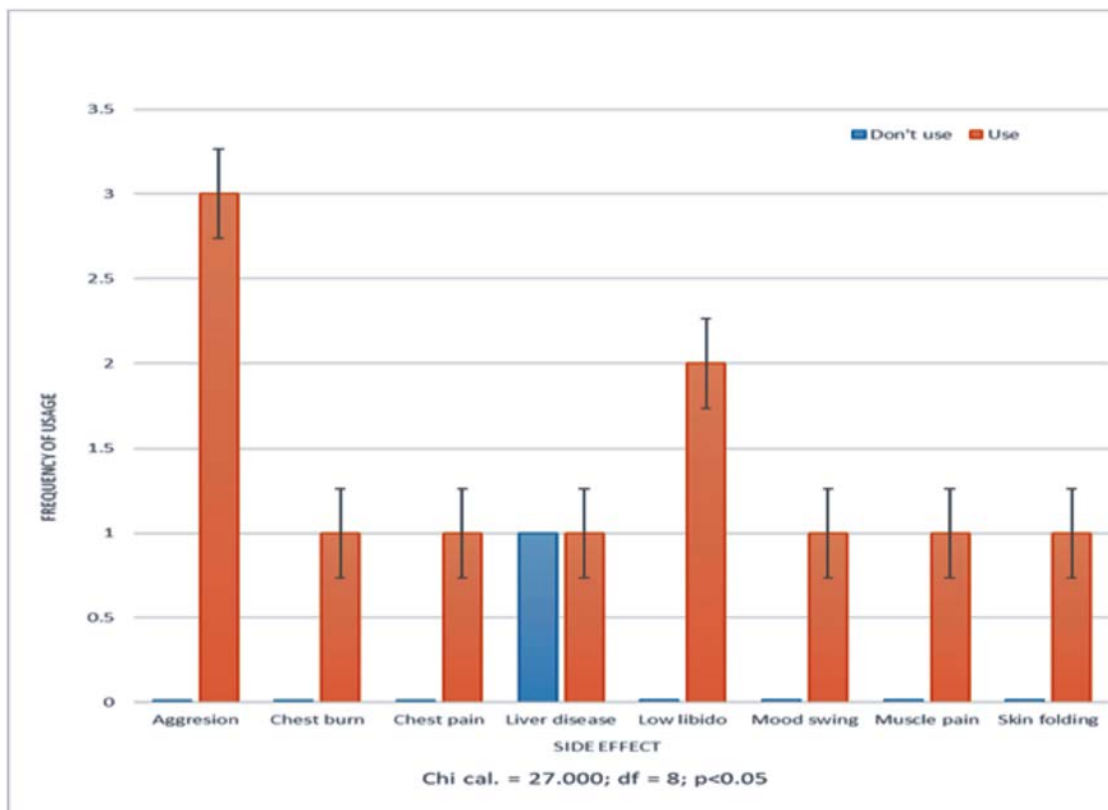


Figure 3. Association between frequency of usage and side effects noticed by respondents

The results presented in figure 1 shows that aggression(80%), Liver disease (60%), and Low libido are the most noticed side effects by the respondents while chest burns, chest pain, mood swings, muscle pain and skin folding accounts for 40% of the noticeable side effects as. Figure 2 shows the frequency of steroid usage by the respondents. 60% use steroids one (1) to three (3) times a week 25% use steroids for four (4) to six (6) times a week and 15% use steroids

every day. Figure 3 represents the fact that there is a significant association ( $p < 0.05$ ) between the usage of steroids and its side effects.

### DISCUSSION

The awareness of steroid use and its adverse effects among athletes all over the world is of major concern to the health of these athletes and to the sporting world at large.

From our study, 84.7% of steroids users were males while 15.3% were females, thus corroborates with another study that showed male preponderance to females (O'Connor et al. 2004; Bahri, 2017; Uddin et al. 2019). Younger adults between the ages of 18-25 years constituting 62.4% when grouped were noted to be more involved with the usage of steroids to develop their muscles not minding the adverse effects that comes with its use. Nevertheless, this age group cuts across both sexes. Elliot and Goldberg (2000) noted similar age group of young adults involved in illicit steroid use. The possible reasons for this is been attributed to the higher number of this age group in sporting activities especially competitive sporting events than other age groups. Although the level of awareness of steroid use is relatively high (85%), most of the participants are unaware of the adverse effects that accompanies its usage. Again they are unaware of the withdrawal symptoms that come up following stoppage of steroid consumption.

The present study recorded a 42.85% of steroid users who are willing to continue using it despite the harmful effects and complications. The adverse effects noticed by the respondents on wrong use of steroids include liver disease 2 (16.7%) as indicated by elevated liver enzymes. Friedl (2000) and Snyder (2001) noticed similar conditions such as hepatic dysfunctions and elevations in levels of liver enzymes respectively. Two (2) respondents (16.7%) experienced chest pain and chest burns (1 each) though could not tell whether they were hypertensive or had other cardiovascular problems.

Muscle pains and skin folding were also noticed; 1 (8.3%) each by respondents as Battista et al. (2003) reported an increase in musculo-tendinous injuries with steroid use. Low Libido was noticed in another 2 subjects (16.7%) hence embracing similar documentation by Snyder 2001 that noticed altered sexual characteristics following prolonged steroid consumption.

The present study found that 33.3% of respondents developed psychological effects in the form of aggression and mood swings. Though this is low compared to the 90% reported by Tamir (2004) on steroid users showing aggressive and violent behaviours.

Hall and Hall (2005), in their review, suggested that anabolic steroid abuse has become a major problem in the United States, with more than 1 million individuals abusing these drugs. Another study conducted among health club users in the South Wales area revealed that AAS use is prevalent (70%) among recreational gym users (Baker et al. 2006; Usman et al. 2015). The prevalence of AAS use among adolescents reported lifetime prevalence ranging from 1 % to 5 % (Thiblin and Petersson, 2005; Zafar et al. 2018). The number of gym users taking anabolic steroids is steadily increasing in Nigeria just as it is in the Middle East where the use of AAS ranges from 4.2% to 26 % of bodybuilders are reportedly using anabolic steroids (Nojoomi and Behravan, 2003; Tahtamouni et al. 2008; Alsaeed et al. 2015).

Generally, a proper public education and enlightenment is required so as to control and subsequently stop the wrong use of steroids by mesomorphic athletes. Therefore, there is need for proper review and awareness for steroid users to prevent numerous adverse health effects as unearthed in this research. The present study found that use and abuse of steroids is prevalent in young males who have little or no level of awareness on the adverse effects of steroid use among mesomorphic athletes in Calabar metropolis.

## CONCLUSION

The study revealed the prevalence of illicit usage of steroids among young mesomorphic adults of which the vast majority have no significant level of awareness on the adverse effects following the use of steroids. However, psychological effects such as mood swings and aggressiveness were identified as the most prevalent side effects among steroid users in the present study group.

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