

Mania Associated with Anabolic Steroid Abuse in People Visiting Gymnasiums and Health Clubs

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Abstract:

Background: The use of anabolic steroids has increased in popularity over the last decade in many high-income countries, where they may cause aggressiveness, depression, mania, and psychosis, as well as a number of physical complications. Objectives: To study mania associated with anabolic steroid abuse in people visiting Gymnasiums and health clubs. Materials and Methods: This was a cross sectional study, the sample consisting of 114 participants who are the gym going population of local gymnasiums in Delhi NCR. Tools: Chi square test and t-test was applied for comparisons. Following psychiatric rating scales will be used for collection of data: General Health Questionnaire 28, Semi-Structured Proforma for Socio-Demographic Data, Young Mania Rating Scale. Result: In our study more participants belonging to age group >30 year were found to have moderate to severe dependence that was statistically significant between the age groups as compared to 15.84% participants of age group 18-30 years. In our study we found that participants having scored significantly more positive on GHQ -28 (87.50%) as compared to non-users or non-dependent users where only 46.67% scored positively on GHQ-28. These findings suggest that significantly more participants who were AAS dependent also suffered from other psychiatric co-morbidities as compared to non-user/ non-dependent users. During the period of our study we could not find any participant of AAS dependence to be suffering from mania, or any individual suffering from mania with history of anabolic androgenic steroid use. In our study all the participants scored <20 on Young Mania Rating Scale. Conclusion: Participants having high AAS dependence scored significantly more positive on GHQ -28. During the period of our study we could not find any participant of AAS

dependence to be suffering from mania, or any individual suffering from mania with history of anabolic androgenic steroid use. In our study all the participants scored <20 on Young Mania Rating Scale.

Key Words: Anabolic Steroid Abuse, mania, dependence.

INTRODUCTION

The use of anabolic steroids has increased in popularity over the last decade in many high-income countries, where they may cause aggressiveness, depression, mania, and psychosis, as well as a number of physical complications. Why People Misuse Anabolic Steroids Anabolic steroids may be used as a performance-enhancing medication, increasing lean body mass and decreasing body fat, but they also produce many unwanted effects. Many people who use anabolic steroids are aware of the dangers of taking them, and they think they can avoid the side effects by taking the drugs a certain way. The symptoms of addiction to anabolic steroids are similar to those seen with other drugs of abuse, suggesting that some common treatments for drug abuse can be effective for those addicted to steroids (Foley and Schydlower, 1993).

People using steroids also seem at higher risk of using other drugs, such as alcohol or cocaine, often as a way of offsetting some of the adverse effects of steroids. Unfortunately steroids also cause serious short-term and long-term side effects. This means that you may crave anabolic steroids, need more of them to achieve the same effects, and experience withdrawal symptoms should you abruptly stop taking them. Examples of medications used to manage short-term negative effects from anabolic steroid abuse are erythropoietin, human chorionic gonadotropin (HCG), and tamoxifen (Bahrke, 2007). A field study on illegal anabolic-androgenic steroid users suggests some individuals experience mania or violent reactions to these drugs, which is a potential public health concern. Abstract There are a number of reports on psychiatric effects from the use of anabolic-androgenic steroids (AAS) (Frankle et al., 1988; Maravelias et al., 2005). In clinical settings, anabolic-androgenic steroids (AAS) may be used for conditions such as male hypogonadism, pathological muscle loss, and anaemia with findings suggesting their effectiveness for treating depression² and conditions related to type 2 diabetes.

Anabolic steroids have limited medical uses and are not to be confused with corticosteroids, a different type of steroid medication that is generally prescribed to a wide range of conditions. There are several health risks associated with taking anabolic steroids synthetic substances similar to the male hormone testosterone. Steroid use can disrupt the growth of young adults. Oral steroids may even cause liver cancer. Steroid intake may also lead to increased aggression a concern cited by observers specifically concerned about whether the drug could cause violence. Some experts, however, said that proving there is a direct connection between steroids and violence is hard.

Studies are generally not able to capture the full range of effects seen with actual use of AAS because of limitations of methodology, such as controlled doses of an individual anabolic steroid, and the exclusionary criteria for participants, including prior drug abuse and mental health conditions (Goldberg and Hillier, 1979; Skinner, 1982).

Certainly, plenty of people are using steroids both for body image/cosmetic purposes, as well as to enhance their sports performance--bodybuilding may include both. Some use steroids via pills, gels, creams, or injections because they believe steroids will enhance their athletic performance or how they look.

Psychiatric adverse effects

Mood Swings: Some individuals may experience abnormal mental status and behavioral changes with anabolic steroid use, including irritability, euphoria, and mood swings (Buckley et al., 1988; Kanayama et al., 2009). Adolescents may lack the maturity to cope with possible drug-induced mood changes. In addition, the development of appropriate social skills and controls necessary to deal with pubertal changes may be made difficult if changes occur more rapidly than expected. There have also been reports stating that there is a relationship between hormone levels (gonadotropins, steroid hormones, and adrenal androgens) and the emotional dispositions and aggressive behaviors of adolescents. The results indicate that high hormone levels were related to potentially adverse psychological consequences for boys and girls.

Aggressive Behaviour: Anabolic steroid use is associated with aggressiveness (Kaplan and Sadock, 1988; Nakhaee et al., 2013). A recent study by Tamir et al. on health club athletes revealed that 90% of users reported episodes of over aggressiveness and violent behavior which were believed to be induced by steroids, (Bahrke, 2007) whereas other studies do not support any association between AAS use and aggressive behavior (Bahrke et al., 1990).

MATERIAL AND METHODS

Study Design:

This was a cross sectional study, the sample included the gym going population of local gymnasiums in Delhi NCR.

Study group: Gym going population of local gymnasiums in Delhi NCR.

Place of study: Delhi NCR

METHODOLOGY

All the participants were provided with written and informed consent proforma to be signed by them. Those participants who gave their consent were included in the study. Participants were

given instructions for filling the semi- structured proforma and other psychiatric rating scales. Chi square test and t-test was applied for comparisons.

Following psychiatric rating scales will be used for collection of data: -

Semi-Structured Proforma

Semi structured proforma was made to collect socio-demographic details like name, age, gender, year of education, residential background, family and personal history of psychiatric illnesses, etc.

General Health Questionnaire 28

GHQ-28 is a 28-item measure of emotional distress in medical settings. Through factor analysis, the GHQ-28 has been divided into four subscales. These are: somatic symptoms (items 1–7); anxiety/insomnia (items 8–14); social dysfunction (items 15–21), and severe depression (items 22–28) (Goldberg 1978). It takes less than 5 minutes to complete.

Young Mania Rating Scale

The Young Mania Rating Scale (YMRS) is an 11-item interviewer rated scale. Ratings can include other sources of information. The items have five defined grades of severity. YMRS features operationally defined anchor points and the normal expected score is ≥ 20 . Four items are double weighted (irritability, speech, thought content and disruptive/aggressive behavior).

RESULTS

TABLE 1: DISTRIBUTION OF PARTICIPANTS ACCORDING TO AGE

AGE	Percentage
1) 18-30	71.93%
2) >30	28.07%
Total	100.00%

TABLE 2: DISTRIBUTION OF PARTICIPANTS ON THE BASIS OF YOUNG MANIA RATING SCALE (YMRS) SCORE:-

YMRS SCORE	Percentage
<20	100.00%
Total	100.00%

DISCUSSION

A total of 114 participants who gave written and informed consent and fulfilled the inclusion and exclusion criteria, were included in this study.

In our study more participants belonging to age group >30 years (34.38%) were found to have moderate to severe dependence that was statistically significant between the age groups as compared to 15.84% participants of age group 18-30 years. These findings were similar to the data provided by Kaplan and Saddock's in their comprehensive textbook of psychiatry that the median age of onset is around 23yrs in both USA and other countries, and dependence forms thereafter. Similar findings were also reported by Kanayama G et al, 2009, in their study titled "Anabolic-androgenic steroid dependence: an emerging disorder" at USA (Kashkin and Kleber, 1989).

However, we found no significant difference between the age groups in terms of anabolic steroid use. However, we found that more participants belonging to the younger age group, i.e. 18-30 years (64.71%) were using AAS as compared to age group >30 years (35.29%). This finding is similar to data provided by Kaplan and Saddock's in their comprehensive textbook of psychiatry that median age of onset of AAS use is approximately 23 years, and only 5.9 % users initiated AAS use before the age of 17 years. Similarly, in their study Buckley W E et al, 1988 at Pennsylvania, USA, titled "Estimated prevalence of anabolic steroid use among male high school seniors" found no significant difference among age groups and AAS use (Ip et al., 2012).

During the period of our study we could not find any participant of AAS dependence to be suffering from mania, or any individual suffering from mania with history of anabolic androgenic steroid use. In our study all the participants scored <20 on Young Mania Rating Scale. In other studies numerous participants spoke of experiencing anxiety, depression, and/or low self-esteem after stopping AAS use. Many people relapse, and some start using AAS continually, to avoid these unpleasant symptoms. Continuous AAS administration prevents the body from recovering and returning to normal hormone levels, which may increase the chance for serious negative effects. Aggression, cognitive decline, mania, depression, and psychosis are among the mental effects of AAS usage that have been scientifically established [19]. Within days of beginning AAS use, these symptoms may start to appear. Recent research have focused on the long-term effects of AAS use in addition to the acute effects. A retrospective investigation of the long-term use of AAS among elite Swedish athletes revealed that those who had a history of using the drug were more likely to have sought professional help for mental health issues, particularly anxiety and depression. Long-term steroid use can also result in dependence and withdrawal symptoms. Because mechanistic findings from animal research have not received enough attention, steroid users still discount the behavioural consequences of these medicines despite these data from human subjects.

SUMMARY AND CONCLUSION

This study was carried out on 114 participants visiting various health clubs and gymnasium in Delhi NCR. It was a cross sectional study and participants were evaluated with General health questionnaire-28 (GHQ-28) scale, Young's Mania Rating Scale (YMRS) and Modified Kuppuswamy Socioeconomic Scale. The data collected was tabulated and analyzed.

It was observed that there was a significant difference in between the younger and older age groups more participants belonging to age group >30 years were found to have moderate to severe dependence.

Male participants were found to use anabolic androgenic steroids more than the female participants which was statistically significant.

We found that participants belonging to upper middle socio economic class were having moderate to severe dependence as compared to participants belonging to upper socioeconomic class.

Participants having high AAS dependence scored significantly more positive on GHQ -28. These findings suggest that significantly more participants who were AAS dependent also suffered from other psychiatric co-morbidities as compared to non-user/ non-dependent users.

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