

Anxiety Disorder Associated with Androgenic Anabolic Steroid Abuse

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ABSTRACT:

Background: Anxiety occurring in participants using AAS is probably as a result of hypothalamic pituitary gonadal axis suppression. **Objectives:** To know the nature and extent of anxiety associated with anabolic steroid abuse in people visiting gymnasiums. **Materials and Methods:** This was a cross sectional study consisting of 114 participants who are the gym going population of local gymnasiums in Delhi NCR. Tools used are: General Health Questionnaire 28, semi-structured Proforma for Socio-demographic data, and the Self Rating Anxiety Scale of Zung. **Results:** Male participants were found to use anabolic androgenic steroid (AAS) more commonly than females. Participants having high AAS dependence scored significantly more positive on GHQ-28. This suggested that these high scored participants suffered from other psychiatric co-morbidities as compared to non-users or non-dependent users. It was observed that who were AAS dependent also suffered more from anxiety disorders as compared to non-users or non-dependent users. **Conclusion:** It was observed that who were AAS dependent suffered more from anxiety disorders as compared to non-users or non-dependent users.

Key Words: androgenic anabolic steroid, anxiety, gymnasiums.

INTRODUCTION:

An anxiety attack is a feeling of overwhelming anxiety, restlessness, or fear. With generalized anxiety, anxiety can be felt as a burden that makes life overwhelming or uncontrollable. People with generalized anxiety find it difficult to control or stop these worries, whether they are related to work, school, money, relationships, or health.

People with anxiety disorders often experience intense, excessive, and persistent worries and fears about everyday situations (Goldberg, 1995). Anxiety disorder goes beyond the usual nervousness and mild fear that you may experience from time to time (Dunstan and Scott,

2020). When feelings of intense fear and anxiety become overwhelming and prevent us from doing our daily activities, an anxiety disorder may be the cause (Kanayama et al., 2009; Sadock and Sadock, 2008).

Frequently, anxiety disorders involve recurring episodes of sudden attacks of intense anxiety and fear or terror that peak within minutes (panic attacks) (Bahrke et al., 1996). When your anxiety symptoms are so severe, repetitive, and upsetting that you feel extremely uncomfortable, out of control, or helpless, it may signal an anxiety disorder. Anxiety disorders differ from transient, often stress-induced fear or anxiety because they are persistent (e.g. lasting 6 months or more), although the duration criterion is intended as a general guideline for some degree of flexibility and is sometimes shorter in duration in children (Anderson and Bolduc, 1997).

Generalized Anxiety Disorder includes persistent and excessive anxiety and preoccupation with activities or events, even ordinary and routine problems (Bahrke et al., 1996; Kashkin and Kleber, 1989). Generalized Anxiety People with generalized anxiety are always worried or anxious about a number of things in their daily lives.^[7] Some people experience excessive and irrational anxieties and worries that become constant and distressing and interfere with their daily lives. Children often experience a certain amount of anxiety, worry, or fear at certain times (Middleman and DuRant, 1996).

Although fear and anxiety are common in children, persistent or extreme forms of fear and sadness can be associated with anxiety or depression. Anxiety can manifest as fear or anxiety, but it can also make a child irritable and angry. A child may be diagnosed with an anxiety disorder when a child does not overcome the typical fears and worries of young children, or when there are too many fears and worries that interfere with school, family, or play (Middleman and DuRant, 1996). Anxiety can be described as feeling restless, nervous, restless, fearful, or fearful of something that is about to happen or might happen.

While personal anxiety is worry about future events, anxiety disorders are a group of mental disorders characterized by feelings of anxiety and fear. Social anxiety disorder includes a range of feelings such as stage fright, intimacy anxiety, and anxiety about humiliation and rejection. Social Anxiety (Clark and Henderson, 2003). Most people experience anxiety in some social situations from time to time, but in people with social phobia, this anxiety is intense and lasts for a long time. Anxiety is very unpleasant, so people tend to avoid situations or objects that may trigger their anxiety.

Aims and Objectives:

Aim: To know the nature and extent of anxiety associated with anabolic steroid abuse in people visiting gymnasiums.

Objectives:

1. To study anxiety found in this population.
2. To compare the prevalence of anxiety found in this population with socio demographic variable like age, sex, socio economic status

MATERIALS AND METHODS:

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

Methodology: Participants were given instructions for filling the semi-structured proforma. Chi square test and t-test was applied for comparisons:

1. General Health Questionnaire 28
2. Semi-structured Proforma for Socio-demographic data
3. The Self Rating Anxiety Scale of Zung.
 1. General Health Questionnaire 28 (Pope and Katz, 1988)

GHQ 28, developed by Goldberg 1978, is a 28 item measure of emotional distress. It is divided into four subscales: Somatic symptoms (items 1-7); anxiety/insomnia (items 8-14); social dysfunction (items 15-21); and severe depression (items 21-28).

2. Semi-structured proforma: It was made to collect socio-demographic details like name, age, sex, family and personal history of psychiatric illnesses, etc.
3. The Self-Rating Anxiety Scale of Zung (Ip et al., 2015a): It is scored from 1 to 4 points. Most answers are in the order of 1 (a little of the time) to 4 (most of the time). Scores are then calculated and individuals are given the results as Normal range 20-44. Mild – Moderate anxiety levels range 45-49. Marked to severe anxiety levels ranging between 60-74. Extreme Anxiety levels are from 75 – 80.

RESULTS:

Table :Distribution of Participants on the basis of ZUNG SELF RATING ANXIETY SCALE SCORE

ZUNG SELF RATING ANXIETY SCALE	PERCENTAGE
20-44	74.56
45-59	22.81
60-74	2.63
TOTAL	100.00

DISCUSSION:

In the 114 individuals in our study, we discovered that participants with AAS dependence scored considerably higher on the Zung self-rating anxiety scale than non-dependent users or non-users, who only scored favorably. According to Kaplan (Sadock and Sadock, 2008), anxiety among AAS users is likely caused by hypothalamic pituitary gonadal axis suppression.

In a study published in 2012 in the United States and titled "Psychological and Physical Impact of Anabolic androgenic steroid Dependence. Pharmacotherapy," HG Hope Jr. et al. revealed that AAS dependent people also had anxiety issues.

AAS usage is linked to increased anxiety and altered responses to stress in both adults and teenagers, who are more likely to use them since affect-regulating brain regions are still developing and highly hormone/neuromodulator sensitive (Sato et al., 2008). The DSM III-R criteria for at least one mood or anxiety disorder were met by 22% of the 41 bodybuilders and football players who used AAS, as was previously noted (Pope and Katz, 1988). In a survey of 479 athletes recruited from forums on various fitness, bodybuilding, weightlifting, and steroid websites, 16% of male AASdependent users had a history of DSM-IV-TR anxiety disorders, such as generalised anxiety disorder, panic disorder, posttraumatic stress disorder, obsessive-compulsive disorder, or social phobia, compared to only 8% of AAS-nondependent users (Piacentino et al., 2015).

The features of 67 male AAS users and 76 male nonusers, both aged 40 and older, who were recruited through fitness, weightlifting, bodybuilding, and steroid websites, were studied in a subsequent study by the same research team (Ip et al., 2015). Compared to non-AAS users, more AAS users had anxiety problems.

Some of the behaviours anticipated in anabolic androgenic steroid abusers have been predicted by the administration of anabolic androgenic steroid substances in animal research and observations of human people exhibiting elevated levels of endogenous testosterone. Extreme anxiety, depressive symptoms, irritability, an increase in aggression (also known as "road rage"(Jenssen and Johannessen, 2015), and violent behaviour (Mullen et al., 2020) have all been identified as typical reactions.

Numerous studies have shown that anabolic androgenic steroid exposure causes anxiety in animals (Onakomaiya et al., 2014) and anabolic androgenic steroid users are disproportionately diagnosed with anxiety disorders (Ip et al., 2012). Therefore, it is unexpected that prolonged usage of anabolic androgenic steroids may actually have a calming impact on grownups (Morrison et al., 2015). This shows that anxiety in adulthood may be caused by an unrelated illness or may be a result of adolescent usage of anabolic androgenic steroids.

AAS misuse has been linked to substance abuse in other studies, it has been discovered. However, we found that younger people, notably those between the ages of 18 and 30, used AAS more frequently (64.71%) than people over the age of 30.

SUMMARY AND CONCLUSION:

The study comprised 114 people in total who provided written, informed consent and met the inclusion and exclusion requirements. Significant differences between the younger and older age groups were seen, it was observed. More people over the age of 30 displayed moderate to severe dependence.

Anabolic androgenic steroids (AAS) were reported to be used more frequently by male participants than by female ones. In contrast to other participants of higher socioeconomic position, we discovered that participants from the upper middle socioeconomic class had moderate to severe dependence.

It was observed that who were AAS dependent also suffered more from anxiety disorders as compared to non-users or non-dependent users.

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