DOI:
10.3109/14659891.2014.911977

Document Version
Peer reviewed version

A qualitative study of anabolic steroid use amongst gym users in the United Kingdom: Motives, beliefs and experiences

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Abstract

The illicit use of anabolic steroids amongst the gym population continues to rise in the United Kingdom presenting serious challenges to public health. This study used qualitative interviews to explore the experiences of 24 users of anabolic steroids and investigate their motives and experiences. Body satisfaction was a motivating factor in the use of anabolic steroids. Anabolic steroid users' drug use and associated behaviour were influenced by numerous sources of information, in particular, first-hand accounts of their peers, along with personal opinion and anecdotes on the Internet. As a result of this knowledge, users expressed their belief that these drugs can be used relatively safely. The prevailing viewpoint, that the harms associated with anabolic steroids can be managed and that this behaviour is part of a healthy lifestyle, contributes to the potential health risks.

Keywords

Anabolic steroids, gym population, motivations for use.

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Introduction

The use of anabolic steroids and, more broadly, prohibited doping substances in elite sport has been well-known, and thoroughly debated, for decades. While doping techniques and specific substance use in competitive athletes varies tremendously (for example, depending on type of sport), the overarching aim of this form of drug use is to improve performance and to win. Yet most people who use anabolic steroids do not compete in organised sport (Baker et al., 2006; Pope et al., in press) and most studies into anabolic steroid usage indicate that the main reasons to use these drugs are to enhance the performance of muscle, for example by increasing strength, or improving the appearance of the body (Evans-Brown et al., 2012).

The use of anabolic steroids amongst gym users has been reported in countries in Europe, Australasia, and North America (Sagoe et al., in press), and, more recently, in countries such as Brazil (Santos et al., 2011), the United Arab Emirates (Al-Falasi et al., 2008), and Iran (Allahverdipour et al., 2012). The Crime Survey for England and Wales found that 0.2% of those aged 16-59, estimated at 59,000, had taken anabolic steroids in the past year (2012/2013) (Home Office, 2013).[1] Data collected from needle and syringe programmes in Merseyside and Cheshire, North West England, shows a significant increase in the number of new steroid injecting clients attending such harm reduction services from the 1990s onwards (ACMD, 2010). These data, along with arrests of illicit retailers, seizures of illicit market products, media reports, monitoring of discussion forums on the Internet, and case reports/series of adverse events, indicate that the use of anabolic steroids and other drugs for the purpose of human enhancement is steadily growing (Evans-Brown et al., 2012).

Anabolic steroid usage in the gym population presents a challenge to public health, in relation to adverse effects (both acute and chronic) amongst users (Pope et al., in press) as well as potential exposure to blood borne viruses from the sharing of contaminated

[1] Of note is that concerns have been raised regarding the accuracy of these estimates (ACMD, 2010; Evans-Brown et al., 2012).

needles, syringes and drug vials (Hope et al., 2013). Due to the growing use of anabolic steroids in the United Kingdom this study explores the experiences of the users and investigates their motives, beliefs and steroid-related experiences.

Background literature

Perceptions and management of anabolic steroid-related health harms

Case reports/series, along with observational studies, indicate that acute adverse reactions from the pharmacotoxicological actions of anabolic steroids are diverse in their characteristics and severity, and include acne, hair loss, gynaecomastia, disruption of growth, damage to tendons and ligaments, testicular atrophy, erectile dysfunction, liver damage (especially with oral products), and cardiovascular events (Pope et al., in press). Use in women can lead to growth of body and facial hair, deepening of voice, clitoris enlargement, increased libido, menstruation irregularities, and reduced fertility (Evans-Brown et al., 2012). Adverse psychological effects have also been reported in the literature, including increases in aggressive behaviour, and depression following the cessation of use (Haug et al., 2004; ACMD, 2010). Severity of effects is partly idiosyncratic, but would also appear to be dose dependent.

One survey conducted amongst members of 18 gyms in the United Arab Emirates reported that 59% believed that the benefits of using anabolic steroids outweighed the risks (Al-Falasi et al., 2008). A similar study included steroid users attending two needle and syringe programmes in the United Kingdom, and found that nearly all of the respondents said that they have been given information regarding the potential health harms of anabolic steroids and yet more than half had no intention of stopping their use of these drugs in the next 12 months (Walker & Joubert, 2011). While these and similar studies are beneficial in determining the perceived hazards of steroid use, they offer little insights into the reasons behind, and experiences with, the use of these drugs and the potential impact on behaviour. In relation to motivation and drivers to use anabolic steroids, a significant issue is the apparent relationship between social as well as cultural ideals and body satisfaction in men (Mishkind et al., 1986). In terms of studies into body image satisfaction, it has been shown that body dissatisfaction, along with the desire to enhance muscularity, can prompt the use of anabolic steroids in men (Grogan, 2008). The few existing qualitative studies show that users exchange anabolic steroid-related knowledge and will often defer to opinion leaders (sometimes referred to as ‘steroid gurus’)

and more experienced steroid users (Petrocelli et al., 2008). This knowledge, based predominantly on personal experience and anecdotes, includes information on methods to reduce or avoid adverse effects (Monaghan, 2001). Here steroid usage is essentially seen as a strategic endeavour of control and risk management which may result in some people ignoring the potential harms. Beliefs about, and strategies towards, dealing with negative affects in individuals are of particular importance in understanding the issue and effectively responding to the use of anabolic steroids.

Method

Qualitative interviews with 24 users of anabolic steroids were conducted between 2009 and 2011 as part of a study of harm reduction services for anabolic steroid users in England and Wales (for an overview of respondents see Table 1).[2] The study had ethical approval granted by Liverpool John Moores Research Ethics Committee. A mix of purposive and convenience sampling was utilised in order to select a cross section of steroid users (Wengraf, 2001). Seven steroid users were recruited from fixed-site needle and syringe programmes; three from an outreach service; nine from steroid clinics; one from a gym; and, four from a prison. The majority of respondents had begun their use of anabolic steroids around the age of 25, although three had started at the age of 16. The oldest respondent was 61 and the youngest 21 (mean age 34 years). Four users were on their first course of anabolic steroids at the time of the interview whereas seven had more than two decades of experience with these drugs. In this latter group, most were engaged in competitive bodybuilding. Only two respondents had taken part in competitive sport (rugby and weightlifting) other than bodybuilding (six respondents). Five respondents worked as doormen. The sample also included two gym owners, while three individuals revealed that they were involved in illicit supplying of anabolic steroids. All the respondents were male, reflecting the gender findings of previous studies (Evans-Brown & McVeigh, 2009; Hope et al., 2013; Leifman et al., 2011). In addition, a number of respondents were recruited from harm reduction services; however, many female users engage in competitive bodybuilding or other types of sports and may choose therefore to avoid health services of fear of being exposed as steroid users (Korkia et al., 1996).

[2] Services included fixed-site needle and syringe programmes, outreach harm reduction service provision in gyms and so-called steroid clinics providing harm reduction interventions designed specifically for users of anabolic steroids. For more information regarding these programmes see (ACMD, 2010).

Insert table 1

Semi-structured interviews were conducted, lasting between 30 to 75 minutes, including questions on body (dis)satisfaction, motivations for steroid usage; patterns of steroid use, sources of steroid-related knowledge and accounts of health harms. Most interviews were recorded, and subsequently transcribed, except when prison regulation prohibited the use of electronic devices, or when respondents felt uncomfortable about discussing sensitive issues of using or supplying anabolic steroids. In such cases, a written record was compiled immediately after the interview. Written interview records were subjected to thematic content analysis in order to identify and verify themes relevant to the experiences of steroid usage (Burnard et al., 2008).[3] Themes were continuously developed and refined as the study progressed (Miles & Huberman, 1994). Analysis revealed three broad and chronological themes: steroid use was linked to desires to improve appearance; users acquired knowledge from 'steroid handbooks', discussion forums on the Internet and behavioural examples of peer users in gyms; and, comparisons to other groups in society like smokers or people that are obese, who steroid users believed were worse off health-wise, made users ignore their own risky behaviour.

Results

Body satisfaction and drugs

In line with previous research into the use of anabolic steroids (Grogan et al., 2006; Evans-Brown & McVeigh, 2009), findings clearly indicated that anabolic steroid usage was linked to getting a better looking body. However, other reasons to use these drugs included improvement of strength, maintaining appearance when getting older and enhancement of muscle definition. Importantly, reasons to use these drugs may shift over time, providing further insights into why users behave as they do:

> At this moment in time, I'm not looking to get any bigger as a bodybuilder for example. I like to increase my strength, and now it's more for conditioning. I'm only five foot five and I'm around 15 stone.[4] I wouldn't wish to be any heavier than that, because carrying more than 15 stone, you are just going to give yourself health

[3] The article presents quotes only from interviews recorded on audio.

[4] A stone is a unit of weight equivalent to 14 pounds (about 6.35 kg). Fifteen stone is around 95 kg.

problems. My next cycle, I'll be doing a 'cutting cycle', I'll be dieting and getting down to a reasonable healthy weight. (Steroid user and doorman aged 35)

The desire to build a better looking body could also be motivated by dissatisfaction with other parts of the body besides poor physique, such as male pattern baldness, suggesting that self-assessments of bodily discontent is complex and plays a significant role in the motivation to change the size or shape of the body:

> In all honesty, I think I started weight training more seriously as I was losing my hair because I think I started to suffer a loss of confidence, and then I think that sort of replaced it, because I felt more confident about myself as I was building my body up. (Steroid user aged 35)

Taken together, accounts revealed that the motivation to use these drugs depended upon multiple factors including personal and societal bodily ideals. In addition, users noticed the improvements they were looking for which in many cases seemed to make the risk they associated with these drugs worthwhile. Overall, this provides at least some explanation as to why steroid users acknowledged the potential harms of anabolic steroids and yet continued their usage.

Gaining and using knowledge

Drug using patterns were complex and highly personalised with no two respondents reporting identical regimens. Even so, users told of 'stacking', that is taking two or more types of steroids at the same time, in an attempt to maximise their efficacy, over a certain period of time known as being 'on' cycle. Some types of anabolic steroids were used to increase 'bulk' whereas others were used for 'cutting'—that is enhancing muscle definition. Other distinct categories included 'weak' and 'strong' anabolic steroids; a classification that was used to guide procedures for the 'stacking' of specific drugs:

> I started off on testosterone enantate, which is quite a weak one, it's not 'quick active'. Then I did 'Deca' [Deca-Durabolin® (nandrolone decanoate)], two millilitres of that and then I got sick [the flu]...'Deca' is a strong steroid. You are supposed to mix it with Sustanon [Sustanon 250® (blend of four different types of testosterone)], so maybe that's why I got sick. Maybe it's like, it is a strong steroid and it attacked my immune system. (Steroid user aged 22)

The use of drugs to stimulate the natural production of testosterone during the 'off' cycle, usually referred to as 'post-cycle therapy', was common, as was the use of drugs for the self-treatment of steroid induced side effects:

> If I get problems with cholesterol, I'll take statins, which is a drug that can lower cholesterol. That helps control that. (Steroid user aged 35)

More complex drug regimens included the use of various anabolic steroids together with synthetic growth hormones and insulin to enhance muscle size and lose body fat. Additionally, some respondents included sexual enhancement products and skin darkening drugs in their drug repertoires (for an overview see Table 2).

Insert table 2

An important part of acquiring knowledge about anabolic steroids—commonly referred to by respondents as doing 'research'—was to ask other users for advice:

> My mate was on them, so I started to learn from him. He got on the Internet and researched, so that he made sure that he knew what he was doing. (Steroid user aged 21)

In fact, there were no indications that any of the respondents engaged in the use of steroids on their own. Instead they told of training partners in gyms with whom they exchanged knowledge about anabolic steroids. Here steroid users tended to form subgroups based on individual characteristics such as those working as doormen or competing bodybuilders. Of particular importance is the diffusion of steroid knowledge from experienced users, such as competing bodybuilders and gym owners, into groups of young and inexperienced users:

> ...as I got bigger, or if people have seen my photos, and you've competed [in bodybuilding], you do get people asking for your opinion...that's nice, because it's like they recognise what you've done, and you get a little bit of respect...Younger people do ask for advice, whether they want to get bigger or whether they want to compete [in bodybuilding] or lose body fat. (Steroid user and competing bodybuilder aged 45)

Whereas existing studies have highlighted the transfer of knowledge amongst users in gyms, (Monaghan, 2001; Grogan et al., 2006), it was clear in this study that the Internet was also seen as an important sources of information, particularly when it came down to finding information about the types of steroids that are available on the illicit market. Again, it seemed that having access to information provided a sense of safety in users:

> You do get a lot of 'counterfeits' [on the illicit market], but it comes down to the Internet. Just go on the Internet, they have pictures, and explain things to look out for. It's just about being switched on really. (Steroid user and doorman aged 27)

Researchers have previously demonstrated how knowledge about different types of anabolic steroids, dosages, along with practices for 'cycling' and 'stacking' are being used to plan the use of these drugs in attempts to maximise efficacy and minimise harm (Monaghan, 2001). Although this was clear in some users in this study, who kept detailed records of their steroid regimes, users also revealed elements of irrationality as they ignored the commonly accepted 'guidelines' for steroid use and in spur-of-the-moment behaviour adopted practices based on rumours which they perceived as 'emerging evidence'. This was typically the case when steroid users heard about the claimed efficacy of novel types of drugs, either from other steroid users, illicit suppliers or on the Internet. In other cases, recording specific regimes and doses of users presented difficulties (partly because of difficulties in remembering the exact duration of previous courses and partly because users were unaware of precise amounts or measurements). For example, some reported the use of a specific number of millilitres per week or per injection without knowing the amount of pharmacologically active substance in vials.

The harmfulness of anabolic steroids: what do users have to say?

About one-third of those interviewed reported adverse reactions which they attributed to their anabolic steroid use, including acne, soreness around the nipples, 'smaller testicles', hair loss, hair growth on the body, high blood pressure and high cholesterol. Of note is that many of these were depicted as acceptable side effects of steroid use. One had suffered from 'heart complications' for which he had received medical treatment in a hospital. Furthermore, a number of respondents reported 'lumps' and abscesses at the injection site.

Simmonds and Coomber (2009) found that steroid users stigmatised other groups of drug users, such as intravenous drug users, whom they believed were jeopardising their

health. In doing so, steroid users enforced their own sense of being ‘responsible drug users’. Similarly, respondents in this study expressed that the use of anabolic steroids, along with their training regimes, was a healthier alternative to a sedentary lifestyle, obesity, ‘drinking in weekends’ and using recreational drugs. For instance, according to this user (working as a doorman), recreational drugs were the cause of violence in the night-time economy, not anabolic steroids:

> Working as a doorman I get provoked every night. But what I see is that with the kind of people who are stereotyped as ‘roid rage’ people—and I see how these people conduct themselves on a regular basis—it’s the alcohol and the drugs [stimulants] that are making them angry. It’s just that they look muscular at the same time, and that is where the ‘roid rage’ comes from. (Steroid user and doorman aged 35)

By contrast, one respondent claimed (below) he had stopped using steroids because he believed they made him behave more aggressively. Of note is that his account also revealed incidents of violence in the night-life environment, conflicts with the police and serving time in prison. Additionally he reported the use of alcohol and cocaine. For these reasons, it is not possible to identify the role that the pharmacological effects of anabolic steroids played in causing the aggressive behaviour given that the use of cocaine and alcohol, underlying personality traits, together with environmental and local cultural and social factors, cannot be ignored (Eisenegger et al., 2010; Mazur, 2005).

> I got bigger, I got stronger, but I also got nasty and more aggressive, and the two put together was dangerous. I kept fighting all the time and used to get myself locked up, and in the end it wasn’t working. I could be really nasty. I was a horrible person to talk to. (Steroid user and rugby player aged 23)

Despite contradicting viewpoints pertaining to the harms of anabolic steroids, most steroid users in this study seemed to agree with this viewpoint: ‘very few people suffer any serious side effects, if any at all’ (Steroid user, competing bodybuilder and gym owner aged 45). Tellingly for the general perception of the harmfulness of anabolic steroids, the respondent below used three different types of anabolic steroids at the same time, in dosages of 1,000 mg per week, and yet perceived himself to be of better health now than before he started using these drugs.

> I enjoy weight training, certainly when I'm not in the gym I miss going to the gym and I wouldn't like to let myself get back to the kind of health and body shape that I used to have before I got into it. (Steroid user aged 35)

Discussion

Numerous factors including perceptions of the ideal body, steroid knowledge shared amongst users, the function of the illicit market, and personal assessments of health influenced the motivations and beliefs amongst steroid users. Users did not generally express anxiety over the possible harms of these drugs as many told that these could be avoided, or at least minimised by accessing knowledge about anabolic steroids embedded within groups of users in gyms and diffusing on the Internet. This resonates with work of Monaghan (2001), highlighting that many users distinguish between 'sensible' and well-organised steroid use contra the 'abuse' of these drugs such as 'high' and unplanned dosages of multiple drugs.

A significant finding was that comparisons between themselves; for example training regularly and thus being part of a gym lifestyle which is generally accepted as healthy, and other groups in society, such as people who are obese, smokers and recreational drug users, appeared to function as a mechanism to downplay the risk of anabolic steroid use as portrayed by people outside steroid using cultures. The fact that a number of respondents told that their current lifestyle had replaced former health problems such as depression, poor physique/obesity, back pain and recreational drug usage (cannabis smoking) further enhanced their belief that they are healthier than other populations in society. Overall, this appeared to serve multiple purposes, including questioning the trustworthiness of information about the potential harms of these drugs from health authorities, and coping with insecurities about the use of these drugs by increasing the sense of security and well-being (Wills, 1981). Overall, accounts left the impression that as a result of the norms and practices within the environment of steroid use, many users believed that these drugs can be used relatively safely.

The accounts of steroid users revealed tremendous inconsistencies in the perception of the harms of anabolic steroids between users and health authorities, the media and policymakers with serious implications for the promotion of public health. Further difficulties arise from the gaps in our understanding and inability to quantify the potential health harms of these drugs (ACMD, 2010). Importantly in this respect, the exact extent

and severity of harms caused by the self-administration of anabolic steroids has never been quantified (Pope et al., in press). In addition, the denial of the efficacy of anabolic steroids followed by unsupported health warnings about the harms of anabolic steroids has resulted in barriers to credibility and trust (Dawson, 2001; Grogan et al., 2006; Petrocelli et al., 2008). It is paramount therefore to gauge more accurately the risks of anabolic steroid usage in order to being able to provide users with unambiguous advice. However of equal importance is that the exploration of problems, harms and benefits of steroid usage as seen by the users themselves is used in the process of developing public health strategies (including harm reduction interventions) that are credible and effective.

The significant role of the 'steroid guru' (opinion leaders) may be seen as a barrier to the delivery of effective harm reduction information to users of anabolic steroids and associated drugs. However, this may also offer a potential opportunity to deliver accurate information via an established and credible communication network. Engagement with the most influential members of the steroid using community may be the initial stage in providing accessible and acceptable health related information.

It is important to consider the limitations of this study. It was not possible to recruit female users in this study, reflecting the relatively low level of anabolic steroid use by women in the United Kingdom (ACMD, 2010). All respondents had been in contact with harm reduction services and it is not possible to know if these individuals are truly representative of the wider population of anabolic steroid users who may have never presented to services. The recording of drug regimes, in terms of types of drugs being used and dosage, rely on self-reports, which may not be accurate. Given that users obtained their drugs from the illicit market their exact composition cannot be determined without submitting them to drug testing and analysis (Evans-Brown et al., 2009). Considering these limitations is important when extrapolating the findings to the wider population of anabolic steroid users.

Declaration of interest

None declared.

Acknowledgements

The author wish to thank all the respondents in the study. The author would also like to thank Jim McVeigh for his constructive and helpful advice.

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Table 1. Respondent profiles.[a]

Participant	Age	Area	Type of harm reduction service attended	User characteristics[b]
1	22	North West of England	Steroid clinic	Inexperienced user
2	27	North West of England	Steroid clinic	Doorman, very experienced user
3	21	North West of England	Steroid clinic	Doorman, experienced user
4	22	North West of England	Steroid clinic	Inexperienced user
5	21	North West of England	Steroid clinic	Inexperienced user
6	21	North West of England	Steroid clinic	Inexperienced user
7	37	London	Steroid clinic	Inexperienced user
8	27	London	Steroid clinic	Inexperienced user
9	36	North West of England	Conventional needle and syringe programme	Doorman, experienced user
10	61	North West of England	Conventional needle and syringe programme	Competing bodybuilder, very experienced user
11	29	North West of England	Conventional needle and syringe programme	Experienced user
12	35	North East of England	Steroid clinic	Doorman, experienced user
13	35	North West of England	Conventional needle and syringe programme	Competing bodybuilder, gym owner, involved in illicit steroid supply, very experienced user
14	39	South of England	Outreach service	Competitive weightlifter, involved in illicit steroid supply, very experienced user

15	35	South of England	Outreach service	Competing bodybuilder, involved in illicit steroid supply, very experienced user
16	45	South of England	Outreach service	Experienced user
17	45	South Wales	Conventional needle and syringe programme	Competing bodybuilder, gym owner, very experienced user
18	23	South Wales	Conventional needle and syringe programme	Rugby player, inexperienced user
19	27	South Wales	Conventional needle and syringe programme	Fitness trainer, inexperienced user
20	45	South Wales	Conventional needle and syringe programme	Competing bodybuilder, very experienced user
21	34	South Wales	Conventional needle and syringe programme	Experienced user
22	50	South Wales	Conventional needle and syringe programme	Very experienced user
23	55	South Wales	Conventional needle and syringe programme	Competing bodybuilder, doorman, very experienced user
24	34	South Wales	Conventional needle and syringe programme	Experienced user

[a]Study included 24 (male) users of anabolic steroids, aged 21 to 61 (mean 34 years).

[b]Four groups of steroid users can be identified based on the predominant reason to use these drugs: 1. sports competitors (including competing bodybuilders); 2. occupational users (such as ‘doormen’); 3. those using as treatment or anti-ageing; and, 4. usage for cosmetic reasons to enhance body satisfaction (Evans-Brown et al., 2012). This present study includes users from all four categories.

Table 2. Respondents' uses of drugs for human enhancement purposes.

Name	Respondents' reasons for use	Effects
Anabolic steroids	Increase performance during work out, enhance appearance of the body, anti-ageing	Synthetic male sex hormone with similar effects as testosterone
Growth hormones	Their anabolic effects and to enhance weight loss	Synthetic peptide hormone involved in growth and fat metabolism
Clenbuterol	Enhance weight loss and for its anabolic properties	A sympathomimetic prescribed in some countries as a bronchodilator. Increases the metabolic rate
Insulin	For weight loss and its anabolic properties	Hormone responsible for control of blood sugar and metabolism of fat and carbohydrates
hCG (human chorionic gonadotropin)	To trigger the production of testosterone in the body after the end of a steroid course	A hormone produced by women during pregnancy. Stimulates testosterone production in the body
Tamoxifen	Combats the negative effects of steroid use, e.g. gynaecomastia, by preventing the action of oestrogen	An anti-oestrogen prescribed for treatment of breast cancer that blocks the effect of oestrogen
Melanotan II	For skin tanning, in preparation for bodybuilding competition	A synthetic peptide that increases levels of melanin resulting in skin pigmentation
Ephedrine	Enhance weight loss	A stimulant used as a decongestant and to raise blood pressure. Increases metabolic rate
Sildenafil	Enhance sexual function	A phosphodiasterase type 5 inhibitor sold under the trade name Viagra®. Increases blood flow to the penis and causes erection
Amphetamine	To induce aggressiveness during work out	Synthetic stimulant