

Patterns of anabolic-androgenic steroid use, aesthetic doping, and body image within the male Brazilian bodybuilding culture: an ethnographic approach

Abstract

The image of overly muscular bodies may appear to those not familiar with this bodybuilding culture, that muscle is the symbol of masculinity. Much of the time, however, the pursuit of the ideal body, the result of focused discipline to reach the ultimate muscular shape, is often confounded by the concomitant use of anabolic-androgenic steroids (AAS). The purpose of the present study was to investigate how ergogenic aids, in particular AAS, are included within the culture of bodybuilding in relationship to aesthetics, body image, and health risks. Using qualitative data, generated during an ethnographic investigation of the male bodybuilding culture in the city of Recife, Brazil. Including interviews, documentation of events, and field notes. The interviewees consisted of 11 males from the gyms. In addition, narcissism, and the pattern of AAS use are noted, since they play a significant role in the bodybuilding culture.

Keywords: aesthetic doping, anabolic-androgenic steroids, toxicity, health risks, bodybuilding

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Abbreviations: AAS, anabolic-androgenic steroids; CEP, ethics committee, ISC, institute of collective health; UFBA, federal university of Bahia

Introduction

The use of anabolic-androgenic steroids (AAS) is commonly associated with bodybuilding. Often, Brazilian bodybuilding participants with muscular bodies are pejoratively called ‘bombados’ (‘pumped guys’). There is no doubt that AAS, as an ergogenic aid, are part of the culture of bodybuilding, but it is necessary to go beyond common sense (in other words, the ‘normal’ lifestyle) to understand better the preconceived ideas of the meanings associated with these substances and why and how they are part of this culture. It is also important to note that not all bodybuilders use AAS.

While extensive research, as well as widespread media coverage, has focused on the ‘ideal’ thin, female body type, a body type that has resulted in both body image and eating disorders,¹ there is research that has begun to examine the impact of media coverage on eating disorders and body dissatisfaction in males.¹ Media and society have helped set the model of a thin body for women and a lean, muscular, and symmetric body shape for men. Although today’s muscular body type is very popular as an aesthetic type, society has also promulgated a cultural type for men as well. This emphasis on muscular strength and mass has also been characterized in pop culture in a variety of ways. Much of the time the pursuit of the muscular ideal is not the primary reason why bodybuilders ‘live the bodybuilding culture’. These are the ‘serious’ ones, not those who do not live the bodybuilding culture. However, the serious bodybuilders, who have worked with discipline and to reach the ultimate muscular shape, often use AAS.

The purpose of the present investigation was to examine the pattern of AAS and ergogenic aids use that are frequently included in the culture of bodybuilding as well as their relationship to aesthetics,

body image, and health risks. Expressions of masculinity and narcissism, and toxicity of fake AAS were also noted because they play a significant role in the bodybuilding culture.

Methodology

The present study was guided by: 1) ethnographic research principles and 2) the specific approach chosen to explore the research question. Data were gathered by means of ‘observant participation’ as proposed by Lóic Wacquant.² It was possible to conduct the analysis by ‘living through it’, from the sociologic ‘lived through’. The impressions, observations, and descriptions were formed from ‘face-to-face’ relationships with study participants.

All observations included formal and informal interviews, documentation of events, and field notes, as registered in a field diary. Three gyms were selected following approval of the initial project and according to the different socio-economic standards of the individuals and the gyms. Fieldwork was conducted continuously in three gyms over nine months. Data collection was based upon obtaining approval from the gym managers and owners. One gym was in a suburban area, another was in a metropolitan area (and considered the ‘best gym in the area’), and the third gym was rated the top gym in the city of Recife, Brazil (Recife has a population of over 1.6 million inhabitants).³ Each gym was comprised of different types of members, from low to high socio-economic standing.

Ethical considerations

Our research followed the Bioethics Rules of Research and the Regulatory Rules of Research Involving Human Beings (Resolution no. 196, October 10, 1996) of the National Health Council (CNS). The present project was previously submitted and approved by the Ethics Committee (CEP) from the Institute of Collective Health (ISC) of the Federal University of Bahia (UFBA), under CEP number 019-12 / CEP - ISC.

Profile of participants

The interviewees consisted of 11 males from the three gyms, who consented to provide in-depth interviews (Table 1). The youngest participant was 20years of age and the oldest, 52years of age. The mean age of the interviewees was 29.8yrs. Five participants were classified as “serious bodybuilders” (who seek bodybuilding as a lifestyle or the way they live their life), with a high degree of muscularity, more than 10years of training; the majority (81.8%) of whom had more than 6years of bodybuilding experience and used AAS. Only one participant reported that he had never used AAS and discouraged against using AAS. Another participant, in the same group of interviewees stated, during first contact, that he had never

used AAS. However, after training with him in the gym, he told us he had decided to use AAS and spoke of some of the details during our interview. Three of the participants had previously competed at the state and regional levels of weightlifting and bodybuilding. Six of the participants had not completed secondary school, three had attended college, one had completed college, and one held a doctoral degree. There was a wide range of occupations, including financial technician, bodybuilding instructor, police officer, student, security officer, and civil engineer. Among them, we focused more on participants with more bodybuilding experience. However, even with the differences between the participants, it was very important to understand what each thought about the construction of their body and how they planned their pursuit of the ideal body that each wanted to reach.

Table 1 Table of participants, occupation, level of education, age, years of training, years of use/non-use of AAS, and gym description (size and social class). Names have been changed to protect individual identities

Names		Occupation	Level Of Education	Age (Years)	Years Of Training	Used Aas	Size of Gym	Social Class of Gym
1.	Harley	Student	Incomplete Undergraduate	20	6	Yes	Small	Popular
2.	Diddy	Personal Trainer	Incomplete Undergraduate	39	21	Yes	Large	High
3.	Henderson	Planning	Technical/ Incomplete Undergraduate	24	6	Yes	Medium	Medium
4.	Neo	Civil Engineer	PhD in Engineering	30	6	Yes/No	Medium	Medium
5.	Mathew	Personal Trainer	Incomplete Undergraduate	35	17	Yes	Medium	Medium
6.	Hammer	Lecturer	Coordinator in Gym/ Supervisor	52	37	Yes	Large /Medium	Medium
7.	Nicholas	Student	Instructor Jiu Jitsu/ Incomplete Undergraduate	30	8	Yes	Medium	Medium
8.	Ethan	Police Officer	Undergraduate	28	4	No	Small	Popular
9.	Jake	Student	Incomplete Undergraduate	22	3	Yes	Medium	Medium
10.	Jason	Security Officer	College Graduate	26	10	Yes	Small	Popular
11.	Statham	Student	Incomplete Undergraduate	22	10	Yes	Small	Popular

We considered a “serious bodybuilder”, as not just another category, as it is how practitioners of the culture of bodybuilding, from our interviewees, consider themselves, and “pay the price” with pain, to be bigger with a “serious” workout, and a life of dedication and discipline. Pain enters into a wide range of issues in determining how the workout (training session) must be undertaken. The “tolerance of pain is normative” and it (pain) “separates the men from boys”, according to White, Young, & McTeer (1995). This is a “law” of the bodybuilding culture, where gyms, are referred to by most interviewers as the “anabolic temple”, or the “factory of monsters”. The “anabolic temple” is the main expression used by older bodybuilders to describe and label the gym. “Temple”, as a reference to the room for a workout, is analogous to the ascetical practices of “pumping up” the muscle mass and reaching a high level of anabolism. “Monster Factory” is

another analogy, resulting from a high level of anabolism. These are “huge guys” and “monster” is a good description of them, which is often times considered a compliment.

The field work approach

Of the three gyms selected for this study, two of the gyms can best be described as hard-core, bodybuilding gyms, i.e., they had superior resistance training equipment for creating the “perfect conditions” required to construct the “ideal body”. One gym was located in a middle-class section of a large metropolitan area and the other gym was located in an upper-class section of the city (known as a “top tier” gym). The third gym was a small gym in one of the suburbs of the same city, but without the equipment to produce the “best looking body”. The first author (AMS) adopted a routine of training Monday through

Saturday. Twice a week, during the morning, the first author (AMS) attended the small gym. Five days a week, during the afternoon, AMS attended the middle-class gym in the metropolitan area, and the top gym, two to three times per week during the evening. Certainly, the first author's schedule needed to be adapted to a proper program of hypertrophy (as this should be the goal of all bodybuilders, but in the present study it was not a category of interest) which subdivides the body into areas so that AMS could train twice each day. In addition, AMS always followed his training with several protein supplements during his recovery periods as well as very high caloric meals - even inside the gyms - as does every serious bodybuilder.

Participant observation was complemented with audio-recorded, in-depth interviews using a semi-structured questionnaire completely adapted to the vocabulary of the bodybuilding culture and enabling a "good chat". Additional informal interviews occurred during the field work by conversing with a few bodybuilders in the gyms. The interviews took approximately 1.5 hours, although on occasion, additional time or an additional day was required to complete the interview. Most of the interviews took place following the training session, permitting eating or drinking protein supplements in a quieter area of the gym. Sometimes, in the more "hardcore" gyms, interviews were conducted in the swimming pool area. This routine, and the activity inside the gym, gave interviews the "identity of the environment", enough so as not to be viewed as out of place.

Time was set aside to talk with "key keepers" from each of the gyms, and to inquire as to which bodybuilders would be available for an interview. However, some of the bodybuilders were already known, they had extensive bodybuilding experience, and were very popular in the bodybuilding culture of the city. Before beginning the study, we were advised - during an evaluation of the study - that the lead author (AMS) begin a basic power and resistance training program of his own, to be carried out for at least two months, so that he could adapt to the training program prior to the field work and participant observation that also included interviews with a few individuals who were not part of the bodybuilding culture. In other words, these individuals trained to obtain the "aesthetic style" rather than the "muscular style". A peculiarity of our interviewees concerned AAS use in that only one participant did not have experience with AAS, disagreeing with the use of AAS to improve appearance. Interestingly, another participant, during first contact and in an informal interview in the gym, stated he had never used AAS, but was very curious about how to use AAS, including what would be "the best options" and where could he purchase the "real thing". However, in general, the bodybuilders were males, eighteen years of age and older. A few subjects had extensive bodybuilding experience and outstanding muscular development.

Although another very significant difference in the present study was the fact that all the instructors, managers, and owners from the three gyms knew of the researcher's previous work and research with AAS and other ergogenic aids, and their use in sport and exercise. Therefore, discussing bodybuilding drugs and supplements was a very good way for the lead investigator to establish a good relationship and interaction in the gym, something seen as very acceptable and integral part of the bodybuilding culture.

With the investigator's "identification" as an experienced bodybuilder, there were certain methodological advantages that generated rapport and produced social access in a domain where other drug researchers have stumbled, particularly in academic research. Without question, there are some unique aspects to serious bodybuilding that remain taboo and fall outside the "normal" world.

Analysis

Data were recorded, transcribed verbatim, and analyzed with thematic, open, coding techniques. Various behaviours were reported regarding body image. Emerging themes showed a clear demarcation between the "experts" and the "intermediates" of bodybuilding. When asked about reasons and motivations for AAS use, younger subjects frequently cited muscular power, body image, and vanity, whereas, older subjects viewed bodybuilding as a lifestyle, a sport of discipline, and AAS use was viewed more as an accessory and supplement to obtaining the desired "ideal body" rather than for performance enhancement.

The analysis, followed two approaches to highlight "the code" by which the study participants elaborated on the meanings linked to their individual and collective behaviours:

1.) The perspective adopted by Caprara and Landim (2002) is based on producing in-depth data, understanding the socio-cultural factors, giving more importance to a deep analysis of phenomena rather than trying to identify generalities with case studies - through what Geertz calls "thick description", and 2.) Concern for the "discourse analysis" according to Gill (2006), where interest is in the material (interview) itself, seeking to uncover the meanings that the subjects themselves construct regarding their actions, guided by the sense that was adopted in this research that has built the actions of our respondents. We sought to interpret the discourses and the practices in the respondent's socio-cultural context.

2) This study accepts "discourse" as a term used "to refer to all forms of speech and text, as when it occurs naturally in the discussions, as when it is presented as interview material [...]" (Gill, 2006:247).

"Beyond the body": no limits to satisfaction

Background

A 2008 study by Blond⁴ suggests that a young man's body dissatisfaction increases when he sees images of other, attractive muscular men. The effect sizes indicate that exposure to images of idealized male bodies has a small, but statistically significant, negative impact on men's body dissatisfaction. The study suggests that young men, who are dissatisfied with their bodies, are at increased risk for negative self-evaluations when exposed to idealized images. Other studies^{4,5} suggest that men who are satisfied with their bodies may be protected against the negative impact from seeing such images. Idealized images are most likely related to perfectionism.

Inside the bodybuilding culture, satisfaction, perfection, and narcissism are present. The ethnography within this culture likely brings with it a pragmatic explanation that, at the same time, brings forward the point of view of the serious bodybuilders.

AAS and body image disorders

With AAS use, adverse effects such as "roid rage" (slang for steroid-induced aggressive behaviour), depression upon steroid cessation, and body dysmorphia, may also occur among the bodybuilding population. Body image disturbance (BID) among men has only recently become a phenomenon of clinical significance, with noted heterogeneity in the behavioural consequences of these disturbances.⁶

Nevertheless, current discussions on the topic in journals and in academia are still scarce when compared with the number of cases of death from bulimia, anorexia nervosa, Body Dysmorphic Disorder (BDD), Obsessive Compulsive Disorder (OCD) and Muscle

Dysmorphia (MD) which are often found in the international scientific literature and popular media.^{7,8}

Keane⁹ has proposed two different frameworks to explain psychological disorders in men who use AAS. The first framework involves the use of steroids as a form of illicit drug use and establishes a steroid user as an anti-social subject and overly masculine. The second framework places the use of steroids in the field of body image disorder, resulting in a steroid user as a male and a female victim. Within the body image, the consumption of artificial and unrealistic images leads to psychopathology and the consumption of dangerous substances. Perhaps a living example of masculinity in crisis?

It is difficult to form a diagnosis of our interviewees, especially given various methodological concerns and because it was not the main objective of this investigation. Nevertheless, we observed in each of our interviews that there was a “very positive” thinking/feeling among our subjects about themselves and, very far removed from what is recognized by others⁸ as signs of muscle dysmorphia.

Klein, author of *The Big Little Man*,¹⁰ postulates that the more insignificant a male bodybuilder feels on the inside, the more significant the bodybuilder strives to appear on the outside. Klein assumes, that this sounds much like a cliché of the social psychology of male bodybuilders. Nevertheless, the problem with body image disturbance is not a priority of male bodybuilders in contemporary society, as reported in the research studies cited in this paper. Notwithstanding, the use of AAS is a reality in bodybuilding and there are problems and harmful effects with the use, but it would be a crude generalization to say a majority of serious bodybuilders entered into the bodybuilder culture and began using AAS just because they felt small.

Today, bodybuilding does not only represent masculinity, since there is now a series of other current aspects related to bodybuilding (e.g., improving self-esteem, “improving” body image, narcissism, asceticism, drug abuse, etc.) that can be explored. More recently documented in a Brazilian study the primary reason for AAS use among women was aesthetic.¹¹

Results

“Clearly, experienced steroid-using bodybuilders are unlikely to be dissuaded from their ‘hazardous’ practices by clinicians perceived to be less knowledgeable”.¹² In a very pragmatic way, this is a reality that happens within the bodybuilding culture.

The ethnography experience of the bodybuilding culture in this study, can best be described by how it works during a day of workouts in two of the gyms: first, in the peripheral metro area, a small gym with very amateurish, basic strength training machines; second, within the metropolitan area, a large gym with all of the machines and all of the free weights required/desired by a professional bodybuilder. Also, how the ethnography experience occurs during a typical day - the purchase and use of AAS, the dieting and, of course, comments from the study participants.

During a typical workout in the small gym, we decided to visit at different times of each day, so we could observe the different types of training and participants. One day, we stopped at the entrance and began speaking with the owner, a very kind lady who one often meets almost any day in the gym. This gym is a very small gym in the periphery area, with people that come from the lower to middle economic class. At any rate, this day was a special day because this owner is always “haunted” by constant inspections and was complaining about that to us. We always stopped to talk a little bit

with her, and she also worked as a “good informant”, sometimes she commented to the lead investigator about something concerning the gym routine. This fact is very special because the Regional Physical Education Council (CREF) usually appears for an inspection looking for irregularities in the resistance training machines, hygiene, security, professional staff registration (instructors must be registered with the CREF) and substance use (e.g., AAS and stimulants).

What happens with these inspections? We met with an instructor from that gym, another person who helped with recruiting a few participants for an interview, and he said that the CREF visited that gym three times in one year, unlike the other gym where he worked, where the CREF inspected only once in three years. The difference, clearly, was the “social class” of the gym! The inspections frequently are unannounced, surprise visits. So, if there is another gym nearby, and a person is suspicious of anything, an inspection might occur. In that gym, we met two bodybuilders who talked about their routines and how important bodybuilding was in their lives. The use of AAS was really taken for granted, but it was not their primary focus. They used the same “channel” (seller/dealer) to obtain their “products” (AAS). Their concern was about sleep, diet (food and supplements), work (they had different jobs and they were studying as well), in other words, their training was very serious. They planned their training season by the necessity of any part of the body that needed to be “improved”.

According to our interviewees, a pattern of “day-to-day” use of AAS actually does not exist. Our group of interviewees was comprised of a few non-bodybuilding competitors, although some of them had competed in the past. So, the use of AAS was part of the average participant’s program but it was not more important than diet or training. Participants often assume that the use of AAS is associated with a period needed to overcome “the plateau”. The variety of drugs, including AAS, used by participants, closely matched what is available elsewhere in Brazil, especially in Recife (a large metropolitan city in the northeast region of Brazil) where there are special and intense inspections for AAS (actually a case involving death following the use of stimulants provoked an intense series of inspections by the CREF and the National Agency for Sanitary Surveillance (ANVISA)).^{13,14}

Two of the bodybuilders in our study told us that together, during their training, they would usually complete two “cycles” (a period of using AAS, generally for 6-8 weeks). This is what is called “cycling” and it is the most basic form of AAS use in the “anabolic world”. The most common method used during “cycling” is stacking (however, this was not representative of the entire group of interviewees, as we could see during our study, because the subjects did not have a pattern, and one of the eleven had never used AAS). This technique consisted of using more than one AAS during a cycle, with “anabolic” and “androgenic” hormones.⁷ Sometimes bodybuilders “pyramid” as well. Pyramiding consists of starting with a low dose, increasing to a higher dose, and then tapering to a lower dose at the end of the period. Bodybuilders also use other products during the post training period (“PTP”), these are drugs like Proviron® (Mesterolona) used to stimulate the levels of natural testosterone during a cycle and the use of Silimarina (Legalon®), which is intended to protect the liver.

That same day, in the second gym, our partner (and a “key keeper”) said that “another source”, a drug representative, had secured 8 units of “Dura” (slang for Durateston®, also known as Sustanon® outside Brazil), a very desirable AAS product! We were waiting for another “source” to secure the “products” and we waited for four weeks. But it was definitely difficult because of the effect State surveillance had on drugstores and gyms, and retailers and shoppers, by frightening them with the threat of an inspection. But, despite this there was still the

black market and it is robust in Brazil! Despite being guarded by law (CNS, Resolution 196/96) and our desire to protect the identity of our sources, we attempted to learn how the black market works.

What happened next? The drug representative sold, without a prescription, a box of 8 “Dura” to our gym partner. Unfortunately, we discovered later that they were fakes. The question is, how do they do that? We discovered on “YouTube” how to detect fake/bogus steroids, and another bodybuilder and instructor as well, told us that there were forgers of Durateston® and Deca-Durabolin® in that State. Then, we were alerted and we could confirm a fake ampule. It was a good fake, but it was missing some very important details. One of our partners called and said: “Our product is a fake!” She saw a tutorial with “four tips” to find out and told us. The four tips to discover fakes included: Tip #1: The box has a Braille embossing; Tip #2: It is manufactured by Schering-Plough®, and today no more “Dura” is manufactured by Organon®; Tip #3: The ampule does not come with the name engraved, but is plastic; and Tip #4: When opening the ampule, a test on the tongue reveals that it tastes sweet in the beginning and bitter at the end.

After a training recovery day, we returned to training with a controlled workout. The lead investigator (AMS) met one of his interviewers in the locker room and he asked about his diet and his cycle. He knew that the lead investigator had authored a book on steroids, and now he sometimes called him “the doctor” in a humorous sense! That was a good thing and interesting, because it was a good opening to talk about the subject of steroids (AAS), one issue that is “forbidden” for many. The cycle with Sustanon® was four weeks. We did not know the exact dose, but certainly it was not small for the reason that the majority use a supraphysiologic dose. Moreover, this bodybuilder weighed over 100kg (220lbs). He had questions about his carbohydrates, especially potatoes. The majority in the bodybuilding culture include the sweet potato as the base of their diet during the “off” period (not competing and not “on” a cycle) or “pre” period (pre-contest or “on” cycle). However, not all, consume the “normal”, typical potato, even though both have good nutritional value.

One day, after I (AMS) arrived at the gym, we had to dress to train and, we had not taken our “supplements pack” for training (protein, vitamins, minerals, BCAA, caffeine in a pack). Without them, the workout gets ‘heavier’ (the effects of these supplement packs postpone the fatigue and ‘improve motivation’). I made several personal informal ‘tests’ in this regard (workout with supplement and workout without supplement, with little rest and with lots of rest, assuming there would be a significant difference). I went to the canteen (the canteen is the central meeting point for eating snacks, meals, chatting, and meeting everyone; it is a very cozy place in the gym) where two colleagues, instructors at the gym, and others can meet and I began chatting with the bodybuilders. Suddenly, I took out my “little pack” of supplements and very slowly and carefully put it in my mouth. The instructor saw me and immediately she said, “There’s a supplement”! Everyone laughed, because this is a very common practice, they knew, and really enjoyed it. Supplement use is taken for granted as well. “Quickly I knew by the plastic noise...”! (the plastic noise she referred to was me opening my pack of amino acids). This is the way things go. A generally normal practice that we had adopted, and it became part of our routine.

On another day, we met once again with one of the interviewees (N.E, 30yrs old and from the medium gym), who had left the gym because he also works as an instructor at another gym. He was fulfilling his mandatory work experience (as an instructor) for his graduation certification.

We had arrived at the gym and he was leaving the gym because he had completed his workout. He asked me (AMS), “What’s the strongest AAS...?” This was because he had asked me about Estigor® (an oil based substance/product used in animal husbandry and consisting of vitamins ADE and nandrolone, an AAS) and what I thought was best to gain strength. My question was: “Estigor to gain more strength ... that’s just a vitamin? ...”. To my surprise!

That question from him was strange because I thought he would **KNOW** the best “drugs” used for this purpose, since he had many years of bodybuilding experience. So, not all bodybuilders really read and know the effects and pharmacokinetics of each AAS, as we assumed.

But then he said, “It contains a hormone ...”. Yes, it has nandrolone, but it’s not considered a strong AAS. Many people misunderstand the use of Estigor® as a potent AAS administered to animals.

I (AMS) replied that it was very “weak” when compared with the other drugs used by bodybuilders; nothing compared with Dianabol® (methandrostenolone, the “old school hormone”)! We tried to explain that Hemogenin® and Anadrol® (Oximetalone) are stronger than Estigor. Well, he said he had met a guy from the Brazilian Federal Police who could get AAS and other drugs for him and he would check. But I told him these were some of the most toxic drugs available.

In the literature, it is possible to see that the “basic types” of drugs have remained the same for many years, but with a variation of brands, e.g. Nandrolone as Decadurabolin® or Deca-dobrol®, Oximetalone as Hemogenin® or Anadrol® (Santos, 2007). The pattern in this case, and others, actually doesn’t exist! These “drugs” are not available whenever you want and need them. Also, N.E, 30yrs, said during our first interview (we had many meetings during the year):

“Man, you know that AAS are not the most important thing... I just use them a few times a year, but protein and whey protein I never, ever miss...; the training and the diet are the most important parts”(sic).

Hammer, 52yrs, the most experienced bodybuilder in the present study, and considered by all in the state, as “The Master”, when we said I would like to “talk” with him, he replied:

“I’m not going to talk about anabolics...!”

People “outside” or “non-participants” in the “anabolic world”, always wonder how AAS work, how they are used, how much is used, and what the effects are, and if users (bodybuilders) know about the risks, etc. He was tired of hearing about researchers who only looked for “users” of AAS, or how they use. The ethnography research we conducted demonstrates an opposite view, that bodybuilding is not solely a culture of AAS users. Well, AAS use is very controversial according to the majority of our interviewees but is not the focus of the sport.

The “consumption of bodies” is not the main purpose of the bodybuilding culture. The practice (“consumption of bodies”) has many points that are part of the everyday life of a bodybuilder. This culture also involves discipline and dedication and it is not possible to deduce, at least from our interviewees, that bodybuilding is only concerned with the “consumption of bodies”. This is an aspect that we could see as an example in the narrative of Mathew, 35 yrs, from one of the three gyms that we interviewed before a training session that assumed the importance of bodybuilding in his (Mathew’s) life. Mathew, an instructor and a personal trainer, was very strong in his affirmation when he said:

"Bodybuilding is my life! If you take this from me, I die!"

The use of AAS, as we could determine during our observation, is taken for granted, and it is not an issue that is part of all "chats" within the gym or outside the gym, and the most important part inside the bodybuilding culture. There is a silence surrounding this issue (it could be called a "code of silence" or a "pact of ignorance") but it is not a feeling of taboo, it is "just" another "agent" that is part of the culture. If necessary, AAS will be used (to improve bodybuilding when it is necessary to cross the "muscular plateau"). The use of AAS exists, but as we observed, that is not the same as the "bodybuilders" who use "just for aesthetics" (that means they don't care about a series of body construction aspects). For example, symmetry, body shape, and health care (doping control). This point is one of the controversies inside this culture, and very "hard to understand from the 'social desk'" (as the pioneers of social research would say). The irresponsible use of AAS is condemned by the "serious bodybuilders". Ones who use "oil" or AAS as a substitute for hard work, and the pain in the gym, does not have respect within the serious bodybuilding culture.

As we could testify following our ethnographic research, the use of AAS is not restricted to competition purposes among serious bodybuilders. AAS are also used by recreational bodybuilders. The fake steroids industry is also a reality, even with the availability of authentic steroids. Sometimes the steroids sold on the black market come from clandestine laboratories, which often use compounds of dubious origin and low quality. Several studies reveal that these substances do not contain performance-enhancing substances and have documented serious health risks.¹⁵⁻¹⁷ There is a toxicity to these illicit black market products, such as AAS and growth hormone and while they may not produce acute toxicity, they often result in severe long-term health consequences.^{18,19}

As our subjects reported, even with the use of AAS, they are concerned with their health status. It's a controversy, on one side AAS are used despite the serious harmful effects and, on the other, users concerned about their health often have "health check-ups". Evidently, an important point to be made with any prevention program is to consider the diversity of lifestyle among bodybuilders. The "real" life within the bodybuilding culture is complex and brings controversies that should be considered.

Discussion

Appearance among bodybuilders is extremely important and commands a great amount of attention. In addition, during the competition phase of bodybuilding, appearance is the main objective for serious bodybuilders, as during competitive bodybuilding contests, there are specific categories of examination that adhere to the rules of professional bodybuilding (e.g., symmetry, definition, shape, etc.). Although, non-competitive, serious bodybuilders still have the same discipline as the competitive bodybuilders, it is not as difficult because they do not diet as rigidly as the competitive bodybuilders because they do not compete. The phenomenon of the aesthetic style, with pressure on young boys and girls, was noted by us in the gyms where we trained and conducted our observations. The use of illicit substances, the addiction to other drugs, the obsession with body image, are all very clear, not only in the mirror, but also in the dialogue among bodybuilders.

One important point to call attention is a new concept for an old phenomenon, as we called "aesthetic doping". The desire to improve appearance among the serious recreational bodybuilders results in the use of prohibited substances, and those who consider doping for aesthetic purposes only. Further, we found the practice of injecting

AAS, in an oil base (e.g. Testosterone Enanthate) into muscles to be widespread, primarily to sculpt the muscles and enhance appearance and to "look big". It is not unusual to find the use of veterinary substances such as ADE (an emulsifiable injection containing vitamins A, D, and E used in animals), and Estigor, as cited by one of the bodybuilders.²⁰

The lifestyle of a bodybuilder presents a very important issue. A sociological analysis of this population could more deeply provide understanding of what this lifestyle of being a bodybuilder represents and truly means. Monaghan (2002) also agrees that a few sociological analyses do not adequately account for the illicit steroid use among non-competition athletes - as understood by the users themselves and their peers.

Klein,²¹ affirms that bodybuilding is the study of masculinity. Accordingly, what we see within the bodybuilding culture from the present study, this is not exclusively the way that this universe works. Based on our experiences in the gym, there is another contradiction, this time about women, who have pursued a body with defined muscles and a slim body. By this point the current bodybuilding culture is not an exclusive "study of masculinity"! Alas, there is a very popular adage among bodybuilders: "If a muscular woman 'looks like a man', a non-muscular man 'looks like a woman?'"

From this ethnographic experience, neither is bodybuilding a study of pain, the "culture of pain" or, a study of AAS use or abuse as discussed by Monaghan.²² Moreover, pain is embraced within the bodybuilding culture. It is not the cause of "masculinity-in-crisis", as proposed by Klein²¹

Several findings of our research are in agreement with what Monaghan^{12,22} reported in his study of bodybuilding, drugs and associated risks, in the United Kingdom and must be highlighted. First, bodybuilding is not separate from gender considerations, although "masculinity-in-crisis" is not sufficient to explain the "culture of male body construction" or performance-enhancing substance (PES) use. Second, "It should be added that qualitative research of illicit drug use and voluntarily risk-taking in general, may also be of practical value".²³⁻²⁶

There is a quote from all of the interviews we conducted that perhaps best describes the feeling of a bodybuilder living in the bodybuilding culture and defines what bodybuilding is. Although it sounds like something easy to say, it really represents so much of the narrative. The 'excerpt' from what we consider in this research to be a "serious bodybuilder" summarizes best what they feel,

"Bodybuilding is not fashion, it is life!" (Hammer, 52 yrs).

This field is open to research, but definitely it is not "open" to all researchers. To investigate this population and to understand it deeply, it must be recognized by the field and by the bodybuilding culture. The gaps will continue because qualitative researchers like us who conduct this research are still sparse.

Conclusion

From the interviewees investigated, it is rare for clinicians to be able to have any success in talking to male bodybuilders who have taken part in 'hazardous' practices, as they do not belong to the bodybuilding culture. All of the serious bodybuilders, who were interviewed were very aware of the use of AAS and other substances. The use of PES seems to be minimized/minimal amongst bodybuilders compared with people who use 'pain killers' without prescription or who freely use aspirin, as both have risks to health and side effects. However, this is not our opinion concerning the use of AAS for aesthetic achievement.

From our experience in the field and from the interviews that were conducted, there is no simple pattern of use of AAS. Administration of AAS is a very personal experience practiced by those pursuing the ideal body and their own goals. The use of AAS is not the focus of this sport. The use of AAS alone is not enough for bodybuilders to increase their size. That is because we found the term “aesthetic doping” more appropriate to refer to this practice.

A few research limitations imposed by the reality of this sport can happen with non-participatory researchers in the bodybuilding culture and can show deviant data far removed from the reality of the bodybuilding lifestyle. After decades of studies concerning numerous aspects of the use of AAS and its impact on health and social life, Brazil has not developed a national survey regarding their use in sport and exercise by taking into account gender, age, and region of use, among many other factors. We did detect a few, isolated attempts by researchers working on the prevalence of AAS use in Brazil, however, these surveys are generally not representative. Although we have seen research on the prevalence of AAS use, the incidence of harmful use and death caused by AAS are well documented by the media. While many countries are working on national programs, providing information and educational programs, a few publications have reviewed the effectiveness of intervention programs (e.g., the Journal Substance Use & Misuse, launched a Special Issue on Substance Use (r) Intervention Failures, which explored a range of substance use intervention failures (Substance Use & Misuse, 47:1366-1372, 2012). In addition, a special issue of SUM has addressed the topic of drugs and doping in sport and exercise from the Brazilian perspective (Substance Use and Misuse, 49:1095-1231, 2014). Brazil is disadvantaged without the necessary information of AAS and PES use in the population. Public policy projects concerning these shortcomings should be provided.

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Conflicts of interest

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