Original Article

Harm reduction among strength training practitioners who consume steroids

Redução de danos entre praticantes de musculação que consomem esteroides

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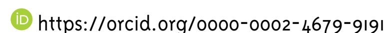
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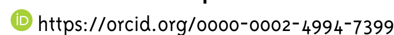
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Abstract

This research analyzes the critical processes for harm reduction among steroid consumers, in the context of gyms in the metropolitan region of Goiânia, Goiás. The study subjects were selected using Snowball sampling. Content analysis was carried out from the transcription of fifteen interviews, and the exploration of the produced material led to the construction of four categories a posteriori. Actions—such as individual risk management, by self-experimentation to assess the product's quality and self-medication in the form of post-cycle therapies, for example—were observed and, at the same time, processes that afford health protection, especially regarding the support networks and favorable socioeconomic position of this study's participants. Structuring proactive, continuous, and integrated harm reduction actions that respond to steroid consumers' health needs is considered important, as well as implementing strategies that overcome both the war on drugs approach and the merely pragmatic and individual approach to risk management.

Keywords: Steroids; Harm reduction; Strength training; Health education.

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Resumo

Esta pesquisa analisa os processos críticos para a redução de danos entre consumidores de esteroides, no contexto de academias de ginástica da região Metropolitana de Goiânia, Goiás, e os sujeitos do estudo foram selecionados por meio da técnica de Bola de Neve. Foi realizada análise de conteúdo a partir da transcrição de quinze entrevistas, e a exploração do material produzido levou à construção de quatro categorias a posteriori. Foram observadas ações – como o gerenciamento individual de riscos, a exemplo da autoexperimentação para avaliar a qualidade do produto e da automedicação na forma de terapias pós-ciclo – e, ao mesmo tempo, processos que conferem proteção à saúde, especialmente relativos às redes de apoio e à posição socioeconômica favorável dos participantes deste estudo. Considera-se importante estruturar ações proativas, contínuas e integradas de redução de danos que respondam às necessidades de saúde de quem consome esteroides, assim como implementar estratégias que superem tanto a abordagem de guerra às drogas quanto a abordagem apenas pragmática e individual do gerenciamento de riscos.

Palavras-chave: Esteroides; Redução de danos; Treinamento de força; Educação em saúde.

Introduction

The object of this study is harm reduction in steroid use. Anabolic Androgenic Steroids (AAS) are natural or synthetic hormones, usually derived from testosterone, and their consumption is perceived by the general population as associated with serious health risks, especially when used frequently (Bastos et al., 2017).

In this study, the term steroid consumer, rather than "user," was chosen to stress what is considered a drug in the current prohibitionist society and, also, because the literature in the area highlights the non-identification of this subject as a drug user, as well as because the term itself suggests continuous use (Ferreira, Cordeiro, Pasquim, 2020), which is not necessarily true (IHRA, 2020).

In Brazil, harm reduction is part of the National Mental Health Policy (Ordinance No. 1,028, of July 1, 2005) and is one of the possible responses to drug users' health needs, reducing the harm associated with substance use, including steroids, even if the policy does not directly name it.

Despite the empirical and scientific evidence pointing to the need and urgency of harm reduction policies and practices, the prohibitionist perspective is still hegemonic (Godlee, 2017). However, criminalization and record incarceration, generated by this prohibition, did not reduce consumption, nor do they seem to generate greater care.

It should be noted that, in 2022, the World Drug Report reinforced global concerns about the non-clinical use of drugs (UNODC, 2022) and, according to the National Association of Federal Criminal Experts, AAS are the most seized drugs and are among those most falsified or without declared origin (Neves, Ferreira, 2022).

Indeed, non-clinical steroid use and self-medication to reduce side effects are widespread in the context of strength training gyms (Samuel et al., 2022). However, clinical resources for health care, understanding of social and private barriers to cessation of use, and guidelines on harm reduction for AAS consumers remain scarce (Bonnecaze, O'Connor, Burns,

2021), especially in the Brazilian literature, which presents itself as an important gap for the promotion of evidence-based practice.

This research aims to analyze the critical processes (Breilh, 2021) for harm reduction among steroid consumers in the context of gyms in the metropolitan region of Goiânia, Goiás. The purpose is to provide elements for the formulation of actions and practices that respond to strength training practitioners' health needs.

Methodological procedures

This is a health study with a qualitative, exploratory approach, which had a semi-structured interview script (Gil, 2022). To report the research results we used the COREQ (Consolidated Criteria for Reporting Qualitative Research) guide, according to the validated version for Portuguese spoken in Brazil (Souza et al., 2021).

Emancipatory Harm Reduction (EHR) was taken as the theoretical framework for this study. The EHR perspective has been proposed as a strategy attentive to the forms of social reproduction of multidimensional wear and tear, as related to drug consumption in capitalist society (Oliveira et al., 2019; Pasquim, Campos, Soares, 2020), guiding the response to health needs, which include solidary practices and collectivization of consumers.

The study was composed of fifteen individuals (10 men; 5 women), aged from 21 to 40 years, who were strength training practitioners and used AAS in the last twelve months—period proposed by the National Survey on drug use by the Brazilian population (Bastos et al., 2017). The subjects were selected using Snowball sampling; therefore, the study's sample corpus was constituted by convenience. Each participant was limited to providing two references, to address sample bias, as practiced in another study on steroids (Van Hout, Kean, 2015).

Due to the new coronavirus pandemic, the interviews took place with the help of a video communication service, according to the participants' availability, between September 2020 and January 2021. After the interview, each participant was identified with the letter I (interviewee) and a sequential number, following the chronology of acceptance.

The main author of this investigation was responsible for conducting all the interviews, being alone with the interviewee at the location. The interviews lasted an average of 40 minutes. The sessions were recorded with participants' prior authorization and later transcribed.

In addition to personal experience with the substance, the proposing researcher is the author of a review article on the use of steroids (Ferreira, Cordeiro, Pasquim, 2020). We understand that, in this case, being a member of this community favored this research because the participants felt comfortable in sharing critical information with the researcher regarding consumption that was sometimes illegal or considered immoral. Simultaneously, to reduce the potential qualitative bias, the discussion and critical analysis were carried out jointly among all authors of this study, which has two specialists in public health.

The initial contact with the participants took place from the existing interaction with the proposing researcher. Contacts made and contact attempts were recorded in the Field Notebook, just to organize the eligibility process of potential interviewees. Nine individuals did not return or did not respond to the invitation for this research in at least two attempts.

The proposing author's previous research served as a reference for systematizing the semi-structured interview script used here, in particular the questions associated with critical processes for harm reduction among steroid consumers. The interview also contained specific questions about the AAS in use, which were not analyzed in this study.

The research was approved by the Research Ethics Committee, CAAE 38777920.4.0000.5083 and followed all ethical guidelines for studies with human beings. After acceptance, each participant signed an Informed Consent Form.

Table 1 – Script for the interviews.

1. Do you consider yourself a healthy person? Why? 2. Have you ever experienced side effects or adverse effects from steroid use? Have you ever used any substance to soften them? How was it? 3. Do you keep steroid use a secret from your family? Why? 4. Do you consume any other type of drug while using AAS? Is there an interrelation between these substances? 5. Do you consider the parallel steroid market to be reliable? Why? 6. Do you know and use any kind of drug checking or do self-experimentation to evaluate the quality of the product? 7. Have you ever shared or reused needles and syringes? 8. Where do you look for information about steroids? 9. What are the health needs of steroid users? 10. If there were health services that delivered free syringes and needles to steroid users, would you accept these supplies? 11. When was the last time you had a medical evaluation? Do you usually tell the health professional that you use steroids? 12. Do you trust health professionals and services as reliable sources of information? How could professionals, services, and the health system contribute to your health?

Source: Authors' preparation, 2023.

Results

It is understood, in this study, that the production of the sample corpus is the first result produced by the methodological procedures used. Out of 24 potential interviewees, selected by snowball sampling, 15 agreed to participate in the interview.

It can be seen (Table 2) that, among AAS consumers, most were men, white or mixed, and made recreational use of steroids (i.e. they are not bodybuilding athletes). The interviewees' level of education and income are noteworthy since they are above the Brazilian population's average.

Content analysis of the interviews was carried out with exhaustive exploration of the material, data treatment and critical interpretation, therefore, with the construction of categories *a posteriori*, consistent with the qualitative approach in health (Minayo, 2013).

Exploration of the material produced four categories, namely: (1) attention to one's own health; (2) private support network; (3) pragmatic care strategies; and (4) trust in health services.

Table 2 – Characteristics of study participants.

	Sex	Color/race	Age	Bodybuilding athlete	Family income	Education
I1	M	White	24	Yes	3-4 thousand reais	Incomplete Higher Education
I2	F	Mixed	23	No	3-5 thousand reais	Incomplete Higher Education
I3	M	Black	26	Yes	10 thousand reais	Complete Higher Education
I4	M	White	25	No	3-5 thousand reais	Complete Higher Education
I5	M	No declaration	22	No	3 thousand reais	Incomplete Higher Education
I6	M	Mixed	25	No	3 thousand reais	Incomplete Higher Education
I7	M	Mixed	24	Yes	7-8 thousand reais	Complete Higher Education
I8	M	Black	22	Yes	3-6 thousand reais	Incomplete Higher Education
I9	F	White	40	No	5 thousand reais	Complete Higher Education
I10	F	Mixed	28	No	5 thousand reais	Complete Higher Education

Continua...

	Sex	Color/race	Age	Bodybuilding athlete	Family income	Education
I11	M	Black	28	Yes	7 thousand reais	Complete Higher Education
I12	F	Mixed	31	No	4-5 thousand reais	Complete Higher Education
I13	M	White	33	No	7 thousand reais	Complete Higher Education
I14	M	White	21	Yes	10 thousand reais	Incomplete Higher Education
I15	F	White	38	No	3 thousand reais	Complete Secondary Education

Source: Authors' preparation, 2023.
Caption: M= male; F= female.

Attention to one's own health

Almost all respondents considered themselves healthy. The justifications for this were: absence of diseases, disciplined lifestyle, regular physical activity, good nutrition, and frequent medical examinations. Only one interviewee did not consider himself healthy. According to him, the excessive and prolonged use of steroids had damaged his kidney.

> *Not very* [healthy] *lately, because after the competition came this pandemic. Ah, I messed up a bit. I'm not on a diet, and these problems came along from the drugs* [steroids], *so I'm not that healthy, but I'm not worried about that either* (I1).

Despite most feeling healthy, all interviewees were able to report some health issues associated or not with the use of steroids, evidencing a non-dichotomous conception of health, although often biomedical.

> *I'm healthy indeed. Because football has always been part of my life, I've always had a good diet, I've never had a respiratory problem, serious health problem, nothing like that.* [...] *I felt a headache, a little dizzy, sometimes I felt useless, but it was really my routine: work and college* (I4).

> *Thank God I rarely get sick. I rarely have a sore throat, the flu, something like that, so I do consider myself a healthy person* [...] *depending on the drug you use, you get more nervous, sometimes it's a little difficult to sleep. I grow more hair on my face, for example* (I11).

> *I never had a health problem, thank God. During my pregnancy I underwent several tests and there was never any problem* [...] *deep voice, insomnia, stress, hair loss, body hair* [were the adverse effects felt with the steroid] (E12).

The interviewees did not associate the use of steroids and the consequent image improvement with health self-care. In this case, I1 states that "*I did it for aesthetics, not for health.*"

Private support network

Respondents stated that they usually seek information about health and steroids on the internet, with coaches, and with other users. The group described their community as not free of false or opportunistic information, but as being a nonjudgmental one, in which the steroid user can approach without undergoing moral scrutiny.

Nearly half of the survey participants keep their steroid use a secret from the family. According to the interviewees, they do this to avoid conflicts and reproaches. They do not understand that family members are a real possibility of support and acceptance, so they do not seem to identify in this behavior any risk of damage to their support network. "*Are you going to tell your father and mother that you use steroids?! It's not going to work.*

Unfortunately, my family is very close-minded, so I need to keep that private." (I1).

Furthermore, the search for health was not mediated only by social reproaches, but also by personal ones. There were those who verbalized a certain moral discomfort with the use of steroids, referring to themselves as "*dirty*" (I9) when in use, or as someone who conceals their AAS consumption in order not to lose their health role model in the family, the one who "*gives advice*" on healthy behavior (I10).

All interviewees reported having already bought steroids in illegal laboratories, the so-called parallel or black market. At the time of the interview, participants who had exchanged the illegal substance for a pharmacy-bought product revealed that, when they did so, the negative side effects were less aggressive. In another sense, the reasons that lead most consumers, according to themselves, to continue buying in the parallel market is the illegality for non-clinical consumption, as well as the ease of purchase from illegal laboratories.

Although they still purchase in the parallel market, some individuals said they did not trust these products. The other interviewees claim to trust the origin of the drug, as they were recommended by friends, coaches, and/or because they always buy from the same supplier.

> *I consider my sources reliable, not just the internet, you know, because the internet has a lot of flaws, but the people who make a living from it* [...] *like athletes, doctors, and coaches* (I1).

> *The sites I look at are reliable sites, and several have a lot of experience from other people, you know, many good examples, without any damage, so I believe, I trust, right* (I15).

Pragmatic care strategies

Some interviewees stated that, when noticing one or more unwanted effects, they consciously lowered the doses. According to their report, when there was a reduction, the harmful effects were also reduced.

Others mentioned the use of so-called post-cycle therapies (PCT), medications between steroid cycles. Only a minority said they had never used any medication to resolve side effects. It is worth mentioning that this use is made without a medical prescription, according to the interviewees.

> *I did* [use medication to reduce side effects] *right after the cycle. I used some drugs for the famous PCT, post-cycle therapy, tamoxifen, clomiphene... I have already used them. Some natural remedies, like herbs too, to help combat the side effects* (I4).

> [I] *would take some compounded medicines, but I don't remember their names. I had about three different compounded medicines* [...] *that was to make the skin cleaner, to avoid acne due to oiliness, there was one which said that it was to make the woman less virilized, to soften this effect, but I don' believe in the effectiveness, but at that time I followed all the guidelines* (I2).

Self-administration was common among interviewed users. Others were helped by friends or family, without technical instruments. In general, participating steroid users did not identify self-injection as an increased risk of injury.

Steroid users in this study have never shared syringes with another user, nor do they know anyone who has. However, there were interviewees who have already reused syringes in different administrations for economic reasons, in addition to those who know people who have reused syringes, despite knowing that the practice is not recommended.

The use of steroids in a continuous and uninterrupted cycle (known as blast and cruise), a practice considered usual in the steroid users community, has been advocated by some as a safe and effective strategy to reduce risks and damage. However, there were those who claimed the opposite, that is, the need for cycles to help control damage, claiming that the body needs a break from steroids to recover. Just one individual stated that the side effects do not depend on the use in cycles or uninterruptedly. For him, what matters is the drug's quality.

It is noteworthy that few users knew about the possibility of checking the steroid substance. In this sense, instead of using the drug checking strategy, they do self-experimentation to evaluate the product's quality. Confidence in this method does not seem to be shaken despite reports of damage accumulation.

> *If the body responded, it's because it's good* [laughs], *if the leg hasn't grown, it's because it's bad* (I2).

> *I just really trusted, I took in what I was given, right* (I9).

> *I consider* [self-experimentation reliable], *because every time I've taken it there's never been a problem* (E12).

Some interviewees report using other psychoactive substances during AAS consumption, such as alcohol, nicotine, cocaine, ecstasy, and marijuana, especially in the context of night parties. Some of them associated some effects on insomnia and stress as potential interrelationships between the substances.

Trust in health services

All interviewees underwent some medical evaluation in the last two years, which is indeed very significant, especially since a large part of the sample *corpus* was made up of young men, a group with little adherence to health services. It is noteworthy that the majority warned the doctor that they were using steroids, but did not always receive some guidance on the subject.

A minority of interviewees reported not trusting health professionals. According to them, because they believe that their demands and needs would not be met. Despite this smaller proportion, most interviewees would agree to seek advice and supplies for the use of steroids – syringes and needles – free of charge in specialized services.

The position of one of the interviewees is noteworthy, for whom the supplies distribution policy would not be "very smart", as this would encourage people to do "the wrong thing." An opinion that exposes his own negative concept about steroid consumption, showing that in addition to social reproaches external to the peer group, AAS consumers themselves can carry their own conservative moral judgments.

Interviewees mentioned other needs that could be accommodated by health services, such as the possibility of interprofessional and specialized care, the construction of rooms for drug administration, access to reliable drugs, and checking.

> *I think a comprehensive service, right, both in terms of a psychologist and also in terms of guidance on the administration* (I5).

> *Ah… constantly undergoing tests to find out how your health is, how your body is doing. Having an open dialogue to know everything. Of course, it would be perfect* (I11).

In addition to care actions, one interviewee mentioned the need to fight against the population's prejudice regarding the use of steroids. In addition, all responded that health service professionals could help with broad and realistic information about drugs.

> *I think the contribution that can be made would be in the case of prejudice against those who use it* (I14).

> *It's… teaching how to apply, which substances can be mixed or not, aqueous with oily. It's… but that's it, on the administration, providing guidance support. Since you want to use it, use this and that, do this and that, to not have so much damage* (I1).

> *Having this guidance of care, of hygiene, right. This issue of not sharing syringes. The correct way to administer and so on, and this issue of tests, of doing a periodic evaluation of how your body is doing, if it is harming you in any way* (I2).

Discussion

Taking emancipatory harm reduction (EHR) as a theoretical framework, drug consumption in contemporary times responds to the social needs

of today's capitalism, whether they are marked by modern hedonism and/or related to living in a society that overvalues social competition. In this sense, beyond the intention of body adaptation to a socially valued beauty standard, having a muscular body is a body capital of professional quality, as demonstrated by several studies (Abrahin, Souza, 2013; Abrahin et al., 2011; Palma, Assis, 2005).

It is also important to note that the sociability that shapes the motivation for steroid use and private support networks are embedded in a society that, in turn, becomes a space for valuing social practices. In this case, the hypertrophy of capitalist industry and the commodification of life determine the social value of the steroid commodity, when sold together with the practice of strength training and a series of products and services (consultancies, supplements, etc.).

Therefore, it is important to resume, right away, an assumption of critical studies on steroid consumption, which advocates that use is not directly related to marginality or deviation (Machado, Fraga, 2020; Silva, Ferreira, 2020; Sabino, 2017), an assumption consistent with the EHR perspective.

Participants in this study have a higher level of education than the average for the country's population (IBGE Educa, 2022). In addition, they had a family income of class C, therefore higher than the Brazilian average in 2021. This association of steroid consumption with people with higher income and education was reported in other studies (Oliveira, Cavalcante Neto, 2018) and shows that the use of this substance is not directly related to human degradation, as the prohibitionist perspective advocates.

The interviewees have protective social conditions, which gives them a support network, whether made up of a peer group, coaches, and/or health professionals. However, these networks are sewn in a deinstitutionalized way, based on singular experience, and always deviating from moral judgments that condemn steroids consumption.

AAS consumers demonstrated empirical knowledge of part of the potential wear related to use. In fact, there is no lack of consistent studies that have negatively associated steroid use with health. Indeed, prolonged use of steroids has been correlated with neuropsychiatric disorders, emotional and cognitive dysfunctions (Bertozzi et al., 2019; Bjørnebekk et al., 2017), as well as cardiovascular, metabolic, endocrine, neurological, infectious, hepatic, renal, and musculoskeletal disorders (Pope et al., 2014).

In this investigation, steroid consumers do not understand that AAS use is part of self-care in health. Even so, the prohibitionist discourse that linearly associates substance use with an aggression to the body seems incapable of generating reflection, empathy, or better health care.

Most of the interviewees considered themselves to be in good health. Seeking to maintain it, frequent access to care services and carrying out examinations were first-order needs. A portion of the consulted consumers also reports the use of steroids to health professionals, considers the use of risk management strategies, and would use exchange services for inputs and advice if these were offered to them by specialized services and without an *a priori* goal of abstinence, as it happens in some countries in Europe (Smit, Ronde, 2018). That is, they are not indifferent to the potential harm related to steroid consumption.

There is no consensus among the interviewees about which would be the least harmful practices in the use of steroids, even if they recognize that some forms are more problematic than others. However, there is evidence and scientific studies that offer practical advice, such as contraindications for unsupervised use by a physician; use in extreme doses (far above the supraphysiological level); purchase on the parallel market; joint use of psychoactive substances; uninterrupted use for several years; and replacing adequate diet, sleep, and training with AAS (Câmara, 2018).

As a practice considered socially illegal and immoral, the greatest trust is still placed in the empiricism of people who make a living from the use of steroids, which calls into question the individual capacity to manage this risk. Furthermore, the confidence of some in AAS from the parallel market expresses a risky bet. After all, studies show that, in this market, it is common to find smaller proportions than advertised, lower quality substances or even drugs without any anabolic steroids (Magnolini et al., 2022).

In addition to the pragmatic care already carried out in a singular and private context,

the interviewees were able to mention steroid consumers' social health needs, which shows that the currently invisible group could be invited to actively participate in the formulation of specialized actions and policies.

The findings confirm the need for policies and practices that highlight the steroid consumer who takes care of their health, not an uninformed deviant, who needs plastered recommendations—often exaggerated—and that only emphasize the substances' negative effects on the body. In fact, some AAS consumers are aware of the adverse effects of using it and are willing to continue using it (Haluch, 2020). In this circumstance, the health system should present harm reduction strategies.

It became clear that there is, in addition to a dimension of collective socialization, an individualization in the consumption relationship. Therefore, it is fundamental to understand who the steroid consumers are, so that actions for awareness, identification of health needs and harm reduction per se can be designed. Current drug control policy is inconsistent with advances in the field of human rights and scientific evidence (Hart, 2021). In this context, public health approaches have still played a very limited role, and the projection of these findings for formulating social policies is fundamental.

It is worth mentioning as a limitation of this study that the practice of strength training does not contain a single reality. There are strength training gyms of different sizes, types, public, location and price, as well as AAS consumers with living and working conditions that accumulate greater or lesser wear and tear. It is also understood that, although this study does not differentiate the social groups that practice strength training, bodybuilding athletes are involved with a bioascetic routine and body practice, which can greatly influence the consumption and the level of understanding about harm reduction in steroids. Even so, the study has the power to highlight a content little observed until today, namely: harm reduction in steroids.

Final considerations

This research analyzed the critical processes for harm reduction among steroid users who practice strength training in the Metropolitan region of Goiânia, Goiás. Four categories were produced *a posteriori*: attention to one's own health; private support network; pragmatic care strategies; and confidence in health services.

There were findings on individual risk management, such as self-experimentation to assess the product's quality, as well as self-medication in the form of post-cycle therapies, and, at the same time, processes that afford health protection, especially the support networks and favorable socioeconomic position of this study's participants.

In this sense, there are specificities that deserve attention from policy makers and health professionals, including: the fact that there are support networks made up of peer groups, family members, coaches, and/or health professionals; steroid consumers recognize their own social health needs; and, in general, they trust health professionals.

The participants in this investigation are not indifferent to health-enhancing strategies, which goes against the grain of practices aimed only at abstinence and which seek to transmit information to a deviant and uninformed subject. It is noteworthy that the identified self-care strategies were mediated by the unavailability of public health policies and by social disapproval. In addition, AAS consumers carry their own conservative moral judgments, which can hinder their collectivization, the search for the right to health and access to harm reduction strategies.

Finally, we considered important to structure proactive, continuous, and integrated harm reduction actions, which respond to steroid consumers' health needs, as well as to implement, within the SUS, strategies that overcome both the war on drugs and the merely pragmatic and individual approach to risk management.

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All authors were responsible for reviewing and writing the article. Ferreira and Pasquim contributed to the creation of the initial idea. Ferreira and Palma carried out the analysis of the results. Ferreira dedicated himself to data collection.

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