



“All the Anavar here, all of it is fking wrong!”: responding to the gendered risks of Australia’s steroid market through testing and community care**

**Timothy Piatkowski, Sonya Weith, Emma Kill, Cheneal Puljević, Jason Ferris,
Alison Hutton & Monica J. Barratt**

To cite this article: Timothy Piatkowski, Sonya Weith, Emma Kill, Cheneal Puljević, Jason Ferris, Alison Hutton & Monica J. Barratt (2026) “All the Anavar here, all of it is f**king wrong!”: responding to the gendered risks of Australia’s steroid market through testing and community care, *Journal of Substance Use*, 31:5, 735-741, DOI: [10.1080/14659891.2026.2627199](https://doi.org/10.1080/14659891.2026.2627199)

To link to this article: <https://doi.org/10.1080/14659891.2026.2627199>



© 2026 The Author(s). Published with
license by Taylor & Francis Group, LLC.



Published online: 27 Apr 2026.



Submit your article to this journal [↗](#)



Article views: 1666



View related articles [↗](#)



View Crossmark data [↗](#)

“All the Anavar here, all of it is f**king wrong!”: responding to the gendered risks of Australia’s steroid market through testing and community care

Timothy Piatkowski^{a,b,c,d}, Sonya Weith^b, Emma Kill^{a,b}, Cheneal Puljević^c, Jason Ferris^d, Alison Hutton^e, and Monica J. Barratt^{d,f,g*}

^aCentre for Health Services Research, The University of Queensland, Brisbane, QLD, Australia; ^bQueensland Injectors Voice for Advocacy and Action, Sunshine Coast, Queensland, Australia; ^cSchool of Public Health, The University of Queensland, Brisbane, QLD, Australia; ^dSchool of Applied Psychology and Griffith Centre for Mental Health, Griffith University, Australia; ^eSchool of Nursing and Midwifery, Western Sydney University, Liverpool, NSW, Australia; ^fSocial Equity Research Centre and Digital Ethnography Research Centre, RMIT University, Melbourne, Vic, Australia; ^gNational Drug and Alcohol Research Centre, UNSW Sydney, NSW, Australia

ABSTRACT

Objective: Anabolic-androgenic steroids (AAS) are widely used for performance enhancement and body modification, yet the risks associated with these substances, particularly for women, remain under-explored. This study aims to examine the gendered dynamics of AAS use in Australia, focusing on the misrepresentation and underdosing of oxandrolone (Anavar) and related compounds, and to explore how both men and women respond to these risks within the unregulated market.

Method: We conducted 41 interviews with AAS consumers regarding findings from a steroid testing trial. Using an iterative analytical approach, we foregrounded lived-experiences to identify key thematic categories. This provided insights into perceptions of substance quality, consumer decision-making, and the broader sociocultural dynamics shaping AAS use.

Results: Participants reported widespread misrepresentation and underdosing of oxandrolone, with women disproportionately affected. These inconsistencies contributed to adverse health outcomes, including rapid virilization and irreversible physiological changes in women. The data show women are using selective sourcing strategies as informal harm reduction measures.

Conclusions: The findings underscore the importance of gender-sensitive harm reduction strategies and steroid checking services to address the risks of misrepresented AAS. Peer support networks and community-driven initiatives play a crucial role in fostering safer AAS use, especially for women in the AAS market.

ARTICLE HISTORY

Received 24 April 2025
Accepted 2 February 2026

KEYWORDS

Anabolic-androgenic steroids; drug checking; gender; steroid checking; women

Introduction

In recent years, there has been a growing recognition of the need to shift away from treating anabolic-androgenic steroids (AAS) as a singular, homogeneous category (Piatkowski et al., 2023; Underwood, 2022). This shift reflects growing research attention to how consumers navigate the complexities of sourcing, using, and assessing the safety of specific AAS types (Lamb et al., 2024; Piatkowski, De Andrade, et al., 2024). While much of the discourse surrounding AAS use has focused on the high-profile drugs like trenbolone, attention is now turning to the less discussed, but equally important, substances used by both men and women. One such compound is oxandrolone (commonly known as Anavar), which is often regarded as a safer option for women (Piatkowski, Havnes, et al., 2024). Oxandrolone is a synthetic AAS derived from dihydrotestosterone (DHT) that is taken orally and boasts high absorption alongside anabolic effects with relatively reduced androgenicity (Orr & Singh, 2004). It was developed in the 1960s and has been used clinically to promote weight gain in patients recovering from surgery, trauma, or chronic infections, as well as to alleviate osteoporosis-related bone pain and aid recovery in severe burn cases (Li et al., 2016).

Oxandrolone is particularly favored in populations such as women and children because its lower androgenic properties reduce, but do not eliminate, the risk of virilizing (i.e., masculinizing) side effects, making careful dosing essential (Sas et al., 2014).

While oxandrolone is marketed as a relatively low-risk compound for women, the reality of its acquisition and use, particularly in the unregulated Australian market (Piatkowski, Coomber, et al., 2025, b), is far more complex. The AAS market, with its inconsistent supply chains and lack of quality control (Coomber et al., 2014; Magnolini et al., 2022), has led to widespread misrepresentation and adulteration of products. Oxandrolone, highly sought after by women, has been routinely misrepresented or underdosed, often being swapped with more potent substances which carry significantly greater risks (Piatkowski, Havnes, et al., 2024). In addition to the risks posed by misrepresentation, the broader context of AAS acquisition and use in the underground market adds layers of complexity to the experiences of women who use AAS (Havnes, Jørstad, & Bjørnebekk, 2021; Havnes, Jørstad, Innerdal, et al., 2021; Piatkowski & Dunn, 2024). Unlike their male counterparts, who may be more tolerant of variability in their AAS

CONTACT Timothy Piatkowski  t.piatkowski@griffith.edu.au  Centre for Health Services Research, Faculty of Health, Medicine, and Behavioural Sciences, University of Queensland, Brisbane, QLD 4006, Australia

*Present address: National Drug Research Institute, Curtin University, Melbourne, Victoria, Australia; Burnet Institute, Melbourne, Victoria, Australia

© 2026 The Author(s). Published with license by Taylor & Francis Group, LLC.

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

intake, women face distinct and often more severe consequences from these inaccuracies, including virilization effects and other irreversible physical changes such as infertility (Abraham et al., 2017; Börjesson et al., 2021; Ip et al., 2010; Piatkowski et al., 2023). The misrepresentation of oxandrolone highlights how women are disproportionately affected by the lack of regulation in this space.

This study explored how people who use AAS in Australia responded to findings from publicly available testing, which revealed widespread product misrepresentation. It aimed to examine how gender shapes perceptions of risk, decision-making, and harm reduction in the context of an unregulated AAS market.

Approach

This study is framed by the risk environment model first introduced by Tim Rhodes (Rhodes, 2002), which reconceptualizes drug-related harm as an emergent property of specific social and physical spaces. Rather than attributing risk solely to individual behavior, Rhodes' framework situates harm within an *environment* where a confluence of factors – physical, social, economic, and policy-related – increases or mitigates the likelihood of adverse outcomes. This model allows us to explore how macro-level forces (such as regulatory frameworks, economic instability, and shifts in policy) and micro-level influences (including local social norms, peer practices, and individual knowledge) interact to produce uneven distributions of harm among people who use AAS.

Building on Rhodes' foundational work, subsequent scholarship has further illuminated how these intersecting factors generate risk in specific contexts (McVeigh et al., 2017; Piatkowski & Dunn, 2024; Santos & Coomber, 2017). For instance, the inconsistencies in supply chains, the prevalence of adulterated products, and the variability in information provided by suppliers all contribute to a risk environment where harm is not evenly distributed. The risks associated with AAS use are not experienced uniformly across populations; rather, they are profoundly shaped by gendered practices, power differentials, and access to reliable harm reduction resources (Fomiatti et al., 2023; Piatkowski & Dunn, 2024). In this context, women often face unique physiological challenges and are disproportionately affected by product misrepresentation and dosing inconsistencies (Piatkowski, Havnes, et al., 2024). Drawing on this integrated framework, our approach considers how macro-level influences (such as market deregulation and economic pressures) intersect with micro-level factors (including peer networks, localized harm reduction practices, and individual decision-making) to shape the lived-

living experiences of AAS consumers in Australia. In doing so, we aim to illuminate the embodied nature of risk management practices among these consumers, revealing how distinct rituals, customs, and gendered practices inform their navigation of an unregulated market.

Methods

Sampling and recruitment

This study was exploratory and drew on a larger research project (Griffith University Ethics Approval: 2023/784) that investigated the use of AAS. Data were gathered from 26 people aged 18 or older who used AAS, selected via purposive sampling. Participants were recruited through a combination of the lead author's personal and professional networks, including social media promotion, word of mouth, and snowball sampling. All participants were recruited voluntarily through a larger AAS checking trial (Piatkowski, Coomber, et al., 2025), with participation in this study occurring as an optional component. Individuals received an invitation to participate alongside their steroid testing results and could opt in by contacting the lead author directly using the contact details provided. This recruitment strategy was informed by the lead author's longstanding experience as a peer researcher in the field (Piatkowski, Volpe, et al., 2025).

Data collection

Testing revealed significant inconsistencies in the composition and concentration of purported oxandrolone (Anavar) products (see Table 1). Of the three samples analyzed, two were identified as finished products, while one was a raw powder. Both finished products deviated from expected contents. One sample, labeled as Swiss Pharm oxandrolone (10 mg), contained stanozolol instead, and at a substantially lower dose (3.3 mg). Another sample, with no brand provided, was found to contain both oxandrolone (7 mg) and testosterone (1.6 mg), diverging from the expected 10 mg oxandrolone dose. In contrast, the raw powder sample, also labeled as oxandrolone, was confirmed to be pure (97%). These discrepancies suggest potential contamination, substitution, or dilution occurring between raw material sourcing and final product distribution, raising concerns about manufacturing integrity and supply chain reliability. These inconsistencies did not go unnoticed by the community, with participants actively discussing the implications of the testing results during interviews.

Informed consent was obtained verbally prior to conducting semi-structured interviews with participants about their experiences. A total of 41 interviews were conducted across the

Table 1. Oxandrolone testing summary.

Expected Compound/s	Expected Concentration	Brand	As Expected?	Detected Compound/s	Concentration as Expected?	Detected Concentration
Oxandrolone (Anavar)	10 mg	Swiss Pharm	No	Stanozolol	No – underdosed	3.3 mg
Oxandrolone (Anavar)	10 mg	Not Provided	No	Oxandrolone, Testosterone	No – underdosed	7 mg Oxandrolone, 1.6 mg Testosterone
Oxandrolone (Anavar) [Raw powder]	Pure	Not Provided	Yes	Oxandrolone	Yes	97% purity

study: all 26 participants completed an initial interview, and 15 of these participants also took part in a follow-up interview several months later. Interviews were conducted via Microsoft Teams, each lasting between 34 and 77 minutes (median = 54 minutes, $SD = 12$ minutes). The interviews included demographic questions and in-depth, open-ended questions related to their use of AAS, health-related outcomes, and the broader sociocultural context of their experiences. Example questions include: *Have you seen the recent results regarding steroids in circulation from Queensland? Do you believe you are at risk of experiencing negative health effects from using AAS? Why or why not?* The interviews were recorded, transcribed automatically, and reviewed for accuracy by the research team. Transcripts were then imported into NVivo (QSR, v12) for analysis.

Data analysis

The data were analyzed using an iterative analytic approach that foregrounded participants lived-living experiences with AAS. The initial phase involved line-by-line coding of the transcripts (Neale, 2016). This stage identified a range of concepts – including “Anavar” “fake” “barriers” “sides” and “gender” – that were central to participants’ accounts. As coding progressed, these concepts began to coalesce into three overarching theme-categories. After establishing these theme-categories, interpretative work was done to link the participants’ narratives to broader cultural discourses. Through this process, we integrated perspectives from risk environments (Rhodes, 2002) to explore how social and cultural norms, alongside market practices and product quality control, impact the lived-living experiences of AAS consumers, especially women who navigate compounded risks due to both biological sensitivity and socio-cultural marginalization. As peer-researchers with lived-living experience of AAS use, the positionalities of TP and SW shaped our analysis and interpretation of the data (Piatkowski & Cox, 2024). These AAS peer researchers engaged in continuous reflexivity with the research team, considering how their experiences, both as peers and as researchers, influenced their understanding of gendered risks and harm reduction practices for AAS-using communities. Regular discussions with the research team, including peer debriefing and feedback, helped balance these perspectives and ensured that the findings were grounded in the participants’ narratives as well as the lived-living expertise of the research team.

Results

A total of 41 interviews were conducted with 26 participants, 15 of whom completed a follow-up interview. Of those interviewed, 21 participants identified as male (*mean age* = 36 years old, $SD = 6.46$), and five identified as female (*mean age* = 39 years old, $SD = 7.62$).

Gendered challenges in acquisition

The process of acquiring oxandrolone on the unregulated market is fraught with uncertainty, cost barriers, and potential

risks stemming from product substitution and adulteration. Participants described oxandrolone as a commonly sought-after compound, particularly among women, yet also one of the most frequently misrepresented substances. Cheryl, who had used oxandrolone multiple times, described how even when sourcing from the same supplier, her experiences with the drug varied:

Cheryl [Female, 44]: I’ve tried Anavar in the past. This is the second time I’ve done it, and the side effects are different each time. It’s the same products from the same supplier. So last time the exhaustion was so bad. I’m tired. I’m grumpy. I’m not enjoying life as much as I should, and anxiety is a big one.

Oxandrolone’s role in the gendered nature of the AAS market is centered on its reputation as a *safer* first-choice compound for women. As a participant explained:

Callie [Female, 33]: So Anavar, that’s something most coaches will put a female on as the first and say it’s the safest. But if you were to just use like Anavar 24/7 year-round, you would get virilisation effects and you would start to turn into a guy.

The misrepresentation of oxandrolone as methandienone was a recurring issue reported by participants. This was perceived to pose risk particularly for women, who may experience permanent physiological and psychological changes resulting from its use. Many participants emphasized the potential consequences:

Miles [Male, 29]: Anavar, which is commonly used by women faked as Dianabol [methandienone]. Now a woman using Dianabol, is going to run into a lot of problems because Dianabol is a testosterone derivative. They’re going to start to see some pretty serious issue[s].

Beyond the physical effects, participants noted the psychological and social impacts of using misrepresented compounds, particularly regarding bodily changes and their implications for more broadly:

Miles [Male, 29]: If a woman is taking Anavar, but it’s Dianabol [methandienone], there’s some effects there that aren’t reversible, and they can cause not only just physical changes, but mental changes.

The high cost of Anavar on the black market further contributes to the likelihood of adulteration. Many participants noted that its premium price makes it a target for substitution, requiring additional caution when purchasing:

Edric [Male, 27]: Drugs like Anavar, they get more expensive on the black market. I know it costs a lot more per gram. So what happens is people will obviously try and water it down, sprinkle in something else.

These findings highlight the structural challenges of accessing oxandrolone, particularly in the context of an unregulated market where substitution, dilution, and economic incentives shape product availability and quality.

Gendered risk management strategies

The Australian AAS market operates within a highly gendered landscape, where men and women navigate access, product authenticity, and risk in distinct ways. Women recounted

experiences in which they purchased oxandrolone based on male peers' assurances that the supplier was legitimate. However, the effects on their body were immediate and concerning:

Callie [Female, 33]: Guys don't care if they hold water, but if you're a skinny female, I remember one time I was sold what I was told was Anavar. It was just off an online person. A few people had used it and all their stuff, they were guys, but all their stuff was legit. They'd got it checked. I bought it off him. And within about three or four days, I looked kind of puffy. And I'm quite a lean person. I had an argument with the supplier and he's like, "no, I guarantee it's that." And I said no, it's not. I'm puffy within four days I put on 3 or 4 kilos. That's 10% of my body weight.

The assumption that a supplier's stock is safe or effective for all consumers disregards these gendered differences in drug effects and risk tolerance. Women also engage in different sourcing strategies to minimize harm, often relying on trusted networks or suppliers who engage in testing. Cheryl described her cautious approach:

Cheryl [Female, 44]: I, being female, don't use very much, so I'll probably use for an entire cycle maybe half of half a 10 mil vial of Primo [Primobolan; methenolone] and I get it from a local guy that I know and he uses testing kits to monitor batches that he gets.

Beyond verifying the legitimacy of compounds, some women strategically source different substances from multiple suppliers based on availability and trust. One woman explained how she navigated the market:

Thelma [Female, 45]: The other thing is not all of the places have what you need. So that particular supplier didn't have Anadrol [oxymetholone], so I went to my Australian based source for Anadrol and that another supplier does also not have Clenbuterol. So, I've been still using the other guy for that. And then I bought the Tren [trenbolone] off my friend who wasn't using it anymore. He had half a vial that he wasn't using anymore, and I knew who he had got it from originally, who I trust. So I was like, I'll buy it from you. I knew I only needed three weeks' worth, so I didn't need to go and buy a full vial of that too, right from scratch.

This demonstrates how some consumers manage risks by selectively purchasing different compounds from different sources. Trust, past experiences, and peer recommendations play a significant role in decision-making.

For men, product misrepresentation is often seen as less consequential, and one of the men in our cohort underscored this discrepancy:

Edric [Male, 27]: Certain drugs, like, Anavar, we really do need to be able to get tested because see, as a male, it's not as bad for me. If I get Anavar for some reason and they sprinkled in Dbol [Dianabol; methandienone] and Winstrol [stanazolol], it doesn't really matter. I'm still going to get bigger, stronger, more muscley. Whereas, say, a female's trying to use 5 milligrams for a very small performance boost in the sport. They will blow up within a month and start changing into a man.

This sentiment reinforces that access to drug checking is not just about purity but also about ensuring suitability for different consumers. The margin for error is significantly smaller for women, particularly younger women whose bodies may still be developing. As one participant noted:

Thelma [Female, 45]: A man can cope with a whole lot more [AAS] than a woman can in terms of virilisation and side effects. Especially a younger woman who has still got a developing body and hasn't had children yet.

While men often have a higher tolerance for product variability, women must navigate additional layers of caution, often relying on community knowledge, trusted suppliers, and drug testing to mitigate harm.

Steroid testing as awareness, community care, and harm reduction

AAS testing and reporting have played a crucial role in raising awareness, fostering open discussions, and directly influencing decision-making around AAS use. For many, especially women, the results have underscored the risks of product misrepresentation and the potential for severe health consequences. One key outcome of women having access to AAS testing results has been the ability to create spaces for open conversation, particularly among women who use AAS. Historically, discussions about AAS use have been dominated by men (Andreasson & Henning, 2022; Henning & Andreasson, 2021), with women often experiencing stigma or reluctance in openly addressing their experiences. However, as many participants noted, testing results have helped shift this culture, encouraging more dialogue among female lifters:

Sadie [Female, 28]: I have conversations with a lot of girls about this. I do still find that there's a little bit of a culture of women not being as open as what men are, very open. I find a lot of the younger girls will come and have conversations with me about these things now.

For younger or less experienced consumers, having access to trusted people who openly discuss testing results helps bridge the knowledge gap and reduce potential harm. Beyond fostering conversations, the trial has revealed alarming trends in product misrepresentation, particularly with compounds like oxandrolone and methenolone. The results have exposed how frequently these drugs are adulterated or swapped for cheaper, more potent substances, posing significant health risks, especially for women. Participants recounted on their perceptions of oxandrolone which had tested positive for completely different substances:

Tyler [Male, 42]: Two examples of oxandrolone so Anavar came back. And I believe one of them came back as Winstrol. And again, when you look at the side effects of Winstrol versus Anavar and the doses, Winstrol is a lot harsher compound.

This substitution is particularly concerning given the stark differences between these compounds. Women using oxandrolone in low doses to enhance performance or physique could unknowingly be taking a masculinizing dose of testosterone, leading to changes that are difficult to reverse.

For some, the scale of the issue became apparent through the testing trial, revealing just how unreliable the underground market is.

Godfrey [Male, 39]: All the Anavar here, all of it is fucking wrong. I've just been looking at it, I haven't seen a single correct Anavar. One of them had testosterone. One of them was super underdosed.

This frustration reflects a broader reality; many consumers assume they are making informed choices based on supplier reputation or personal experience, only to discover through testing that their products are different from what they expected. The prevalence of underdosed or misrepresented substances means that even those trying to use AAS with a usage strategy in mind are at risk of unknowingly exposing themselves to different compounds and dosages.

Beyond oxandrolone, other compounds like methenolone were also frequently found to be swapped with testosterone due to cost and production challenges. Participants also noted the broader issues with this.

Jerome [Male, 32]: When they look at things like Anavar and Primobolan - the Primo is swapped out with testosterone [pointing to screen]. That's like, because of the nature of how expensive it is for labs to produce Primobolan, it is pretty common for them to swap that out for testosterone or to include that in the batches. So if a lady thinks she's taking 10 milligrams of Primobolan in a day, and it turns out she's taking 10 milligrams of testosterone - that's enough to start transgender therapy. Which again, you're looking at undesired side effects.

Without testing, consumers are left relying on word-of-mouth or supplier claims, which often fail to reflect the true composition of their substances.

Discussion

This study aimed to examine the gendered dynamics of AAS use in Australia by exploring how both men and women respond to the results of a steroid testing trial, with a focus on the misrepresentation and underdosing of oxandrolone and related compounds. Notably, women who use AAS are disproportionately affected by these inconsistencies, with reports of rapid virilization and irreversible physiological changes when exposed to misrepresented products. Building on the gendered risk environment perspective, our data illuminate how gender mediates risk; women, due to both biological sensitivity and socio-cultural marginalization, experience a compounded vulnerability in an unregulated market. This disparity underscores the need for gender-sensitive harm reduction strategies and targeted consumer education that specifically address the unique risks faced by women in the underground AAS market.

Beyond the central issue of product misrepresentation, our findings also highlight the variability in individual experiences, even among women sourcing from the same supplier, which speaks to the inherent unpredictability drug markets (Maghsoudi et al., 2022), including the AAS market (Coomber et al., 2014; Magnolini et al., 2022). Some consumers have adopted selective sourcing strategies, relying on trusted networks (Cox & Paoli, 2023) and peer recommendations (Turnock et al., 2023) as informal harm reduction measures. However, these micro-level strategies are insufficient to overcome the systemic risks engendered by inconsistent quality control and pervasive adulteration. AAS testing plays a pivotal role in altering consumer perceptions and practices by exposing the extent of product misrepresentation. Participants indicated that access to objective testing results fostered open dialogue, particularly among women who use AAS, and empowered them to reassess their usage practices.

Practically, our findings emphasize the urgent need for widespread, robust AAS checking services partnered with community-based harm reduction initiatives, which currently occurs with other drugs (Hill et al., 2024; Kennedy et al., 2018, 2019). These services should be embedded within trusted, low-threshold environments (Kennedy et al., 2019), such as needle and syringe programs, where people who use AAS already access health advice and support (Bates et al., 2021). By providing timely, reliable, and accessible testing results alongside peer-delivered education, these interventions could empower consumers to make informed decisions, identify harmful products in circulation, and reduce adverse health outcomes. Peer-led harm reduction stands as a key avenue for addressing the gaps in both service provision and individual harm management (Iryawan et al., 2022; Lennox et al., 2021; Silano et al., 2022). Peer workers, who share lived-living experiences, are well positioned to establish trust and facilitate effective communication within the AAS-using community. Practical community care, driven by peer-led initiatives, can be realized through harm reduction models that not only focus on education but also on creating safe spaces for sharing information, offering support, and cultivating a sense of collective responsibility. We recommend the establishment of AAS safer use initiatives that specifically target women. These initiatives would focus on educating women about the potential risks of misrepresented or underdosed products, the signs and symptoms of virilization, and how to safely navigate the underground AAS market. These initiatives could be delivered as workshops or digital resources that could be co-created by women who use AAS, ensuring that the content is relevant, accessible, and grounded in lived-living experience.

Limitations

Several limitations of this study warrant consideration. First, the geographic scope of the trial was limited to the Queensland context, and the dynamics observed may not fully represent those in other states and territories, or global markets. Second, as an ongoing trial, the study currently offers snapshots of a longitudinal perspective through “waves”; consumers must continuously monitor testing reports, a process that remains challenging and places ongoing risk at the forefront. The evidence highlights that while AAS testing can catalyze open dialogue and foster community accountability, it is not a panacea; the responsibility to monitor and verify substance quality ultimately falls on consumers, perpetuating vulnerabilities, especially among women. Critically, there is an urgent need to understand how these dynamics impact women nationwide, particularly younger women who may begin AAS use without full awareness of severe, irreversible health risks such as permanent infertility.

Conclusions

Our findings call for urgent, integrated harm reduction strategies to reduce unexpected harms from using AAS that combine robust testing services with proactive and targeted interventions which focus on peer-led and community care. Policymakers, harm reduction practitioners, and community

organizations must collaborate to create a safer environment for AAS consumers, ensuring that the tools and resources needed to mitigate risk are accessible to all, with a particular focus on protecting those most at risk.

Disclosure statement

TP is Vice Chair of QuIVAA, EK is CEO of QuIVAA, and SW is the peer steroid educator for QuIVAA. QuIVAA is a non-for-profit 'drug-user' organisation that advocates for the health and human rights of people who use drugs.

Funding

TP is supported by a National Health and Medical Research Centre Investigator Grant (2041822). MJB National Health and Medical Research Centre Investigator Grant (2042605).

ORCID

Timothy Piatkowski  <http://orcid.org/0000-0002-6177-0266>

Cheneal Puljević  <http://orcid.org/0000-0002-3658-9772>

Jason Ferris  <http://orcid.org/0000-0001-7474-0173>

Data availability statement

Data available from corresponding author on reasonable request.

References

- Abraham, O., Félix Souza, N. S., de Sousa, E. C., Santos, A. M., & Bahrke, M. S. (2017). Anabolic-androgenic steroid use among Brazilian women: An exploratory investigation. *Journal of Substance Use*, 22(3), 246–252. <https://doi.org/10.1080/14659891.2016.1179806>
- Andreasson, J., & Henning, A. (2022). "Falling down the rabbit fuck hole": Spectacular masculinities, hypersexuality, and the real in an online doping community. *Journal of Bodies, Sexualities, and Masculinities*, 3(2), 76–97. <https://doi.org/10.3167/jbsm.2022.030205>
- Bates, G., McVeigh, J., & Leavey, C. (2021). Looking beyond the provision of injecting equipment to people who use anabolic androgenic steroids: Harm reduction and behavior change goals for UK policy. *Contemporary Drug Problems*, 48(2), 135–150. <https://doi.org/10.1177/0091450921998701>
- Börjesson, A., Ekebergh, M., Dahl, M.-L., Ekström, L., Lehtihet, M., & Vicente, V. (2021). Women's experiences of using anabolic androgenic steroids. *Frontiers in Sports and Active Living*, 3, 656413. <https://doi.org/10.3389/fspor.2021.656413>
- Coomber, R., Pavlidis, A., Santos, G. H., Wilde, M., Schmidt, W., & Redshaw, C. (2014). The supply of steroids and other performance and image enhancing drugs (PIEDs) in one English city: Fakes, counterfeits, supplier trust, common beliefs and access. *Performance Enhancement & Health*, 3(3–4), 135–144. <https://doi.org/10.1016/j.peh.2015.10.004>
- Cox, L. T. J., & Paoli, L. (2023). Social media influencers, YouTube & performance and image enhancing drugs: A narrative-typology. *Performance Enhancement & Health*, 11(4), 100266. <https://doi.org/10.1016/j.peh.2023.100266>
- Fomiatti, R., Toffoletti, K., & Pienaar, K. (2023). Rethinking women's "performance and image-enhancing drug consumption": An agenda for ontopolitically-oriented research. *Contemporary Drug Problems*, 50(2), 217–231. <https://doi.org/10.1177/00914509231154938>
- Havnes, I. A., Jørstad, M. L., & Bjørnebekk, A. (2021). Double trouble? A mixed methods study exploring experiences with combined use of anabolic-androgenic steroids and psychoactive substances among women. *Performance Enhancement & Health*, 9(3–4), 100198. <https://doi.org/10.1016/j.peh.2021.100198>
- Havnes, I. A., Jørstad, M. L., Innerdal, I., & Bjørnebekk, A. (2021). Anabolic-androgenic steroid use among women—a qualitative study on experiences of masculinizing, gonadal and sexual effects. *International Journal of Drug Policy*, 95, 102876. <https://doi.org/10.1016/j.drugpo.2020.102876>
- Henning, A., & Andreasson, J. (2021). "Yay, another lady starting a log!": Women's fitness doping and the gendered space of an online doping forum. *Communication & Sport*, 9(6), 988–1007. <https://doi.org/10.1177/2167479519896326>
- Hill, K., Dunham, K., Brokos, Z., Butner, J. L., Hull, I., Sue, K. L., Li, L., & Thakrar, K. (2024). In support of community drug checking programs: Position statement of AMERSA, Inc.(Association for multi-disciplinary education and research in substance use and addiction). *Substance Use & Addiction Journal*, 45(1), 4–9. <https://doi.org/10.1177/29767342231212787>
- Ip, E. J., Barnett, M. J., Tenerowicz, M. J., Kim, J. A., Wei, H., & Perry, P. J. (2010). Women and anabolic steroids: An analysis of a dozen users. *Clinical Journal of Sport Medicine*, 20(6), 475–481. <https://doi.org/10.1097/JSM.0b013e3181fb5370>
- Iryawan, A. R., Stoicescu, C., Sjahrial, F., Nio, K., & Dominich, A. (2022). The impact of peer support on testing, linkage to and engagement in HIV care for people who inject drugs in Indonesia: Qualitative perspectives from a community-led study. *Harm Reduction Journal*, 19(1), 16. <https://doi.org/10.1186/s12954-022-00595-8>
- Kennedy, M. C., Boyd, J., Mayer, S., Collins, A., Kerr, T., & McNeil, R. (2019). Peer worker involvement in low-threshold supervised consumption facilities in the context of an overdose epidemic in Vancouver, Canada. *Social Science & Medicine*, 225, 60–68. <https://doi.org/10.1016/j.socscimed.2019.02.014>
- Kennedy, M. C., Scheim, A., Rachlis, B., Mitra, S., Bardwell, G., Rourke, S., & Kerr, T. (2018). Willingness to use drug checking within future supervised injection services among people who inject drugs in a mid-sized Canadian city. *Drug and Alcohol Dependence*, 185, 248–252. <https://doi.org/10.1016/j.drugalcdep.2017.12.026>
- Lamb, H., Dunn, M., Havnes, I. A., & Piatkowski, T. (2024). "I go back to it every f**king time": Norming problematic trenbolone use in online anabolic-androgenic steroid communities. *Addiction Research & Theory*, 33(2), 1–9. <https://doi.org/10.1080/16066359.2024.2352092>
- Lennox, R., Lamarche, L., & O'Shea, T. (2021). Peer support workers as a bridge: A qualitative study exploring the role of peer support workers in the care of people who use drugs during and after hospitalization. *Harm Reduction Journal*, 18(1), 1–9. <https://doi.org/10.1186/s12954-021-00467-7>
- Li, H., Guo, Y., Yang, Z., Roy, M., & Guo, Q. (2016). The efficacy and safety of oxandrolone treatment for patients with severe burns: A systematic review and meta-analysis. *Burns*, 42(4), 717–727. <https://doi.org/10.1016/j.burns.2015.08.023>
- Maghsoudi, N., Tanguay, J., Scarfone, K., Rammohan, I., Ziegler, C., Werb, D., & Scheim, A. I. (2022). Drug checking services for people who use drugs: A systematic review. *Addiction*, 117(3), 532–544. <https://doi.org/10.1111/add.15734>
- Magnolini, R., Falcato, L., Cremonesi, A., Schori, D., & Bruggmann, P. (2022). Fake anabolic androgenic steroids on the black market—a systematic review and meta-analysis on qualitative and quantitative analytical results found within the literature. *BMC Public Health*, 22(1), 1–15. <https://doi.org/10.1186/s12889-022-13734-4>
- McVeigh, J., Germain, J., & Van Hout, M. C. (2017). 2, 4-dinitrophenol, the inferno drug: A netnographic study of user experiences in the quest for leanness. *Journal of Substance Use*, 22(2), 131–138. <https://doi.org/10.3109/14659891.2016.1149238>
- Neale, J. (2016). Iterative categorization (IC): A systematic technique for analysing qualitative data. *Addiction*, 111(6), 1096–1106. <https://doi.org/10.1111/add.13314>
- Orr, R., & Singh, M. F. (2004). The anabolic androgenic steroid oxandrolone in the treatment of wasting and catabolic disorders: Review of efficacy and safety. *Drugs*, 64(7), 725–750. <https://doi.org/10.2165/00003495-200464070-00004>
- Piatkowski, T., Coomber, R., Francis, C., Kill, E., Davey, G., Cresswell, S., White, A., Harding, M., Blakey, K., & Reeve, S. (2025). The world's first anabolic-androgenic steroid testing trial: A two-phase pilot combining

- chemical analysis, results dissemination and community feedback. *Addiction*, 120(7), 1366–1377. <https://doi.org/10.1111/add.70009>
- Piatkowski, T., & Cox, L. (2024). “Insulin is super dangerous if you don’t know what you’re doing”: Situating the risks of insulin within the image and performance enhancing drug community. *Drug and Alcohol Review*, 43(7), 1976–1984. <https://doi.org/10.1111/dar.13857>
- Piatkowski, T., De Andrade, D., Neumann, D., Tisdale, C., & Dunn, M. (2024). Examining the association between trenbolone, psychological distress, and aggression among males who use anabolic-androgenic steroids. *International Journal of Drug Policy*, 134, 104636. <https://doi.org/10.1016/j.drugpo.2024.104636>
- Piatkowski, T., & Dunn, M. (2024). Navigating risks and reducing harm: A gendered analysis of anabolic-androgenic steroid users within the risk environment framework. *Contemporary Drug Problems*, 51(2), 111–128. <https://doi.org/10.1177/00914509241249292>
- Piatkowski, T., Havnes, I. A., Kill, E., & Barratt, M. J. (2024). “The compounds for females are really commonly faked!”: Women’s challenges in anabolic steroid acquisition and the place of drug checking interventions. *Drug and Alcohol Review*, 43(7), 1962–1966. <https://doi.org/10.1111/dar.13931>
- Piatkowski, T. M., Neumann, D. L., & Dunn, M. (2023). ‘My mind pretty much went to mush’: A qualitative exploration of trenbolone in the performance and image enhancing drug community. *Drug and Alcohol Review*, 42(6), 1566–1576. <https://doi.org/10.1111/dar.13656>
- Piatkowski, T., Volpe, I., Brien, R., Coomber, R., Barratt, M., Kill, E., Davey, G., Francis, C., Cresswell, S., White, A., Harding, M., Blakey, K., Reeve, S., Walters, B., Ferris, J., & Puljević, C. (2025). Development, dissemination and community response towards the first community notice regarding misrepresented illicit anabolic-androgenic steroids in circulation in Australia. *Drug and Alcohol Review*, 44(3), 735–741. <https://doi.org/10.1111/dar.14015>
- Rhodes, T. (2002). The ‘risk environment’: A framework for understanding and reducing drug-related harm. *International Journal of Drug Policy*, 13(2), 85–94. [https://doi.org/10.1016/S0955-3959\(02\)00007-5](https://doi.org/10.1016/S0955-3959(02)00007-5)
- Santos, G. H., & Coomber, R. (2017). The risk environment of anabolic-androgenic steroid users in the UK: Examining motivations, practices and accounts of use. *International Journal of Drug Policy*, 40, 35–43. <https://doi.org/10.1016/j.drugpo.2016.11.005>
- Sas, T., Gault, E., Zeger Bardsley, M., Menke, L., Freriks, K., Perry, R., Otten, B., de Muinck Keizer-Schrama, S., Timmers, H., & Wit, J. (2014). Safety and efficacy of oxandrolone in growth hormone-treated girls with Turner syndrome: Evidence from recent studies and recommendations for use. *Hormone Research in Paediatrics*, 81(5), 289–297. <https://doi.org/10.1159/000358195>
- Silano, J. A., Treloar, C., Leadbeater, K., Davidson, S., & Doidge, J. (2022). Peer-facilitated treatment access for hepatitis C: The Live Hep C Free project. *Harm Reduction Journal*, 19(1), 40. <https://doi.org/10.1186/s12954-022-00619-3>
- Turnock, L., Gibbs, N., Cox, L., & Piatkowski, T. (2023). Big business: The private sector market for image and performance enhancing drug harm reduction in the UK. *International Journal of Drug Policy*, 122, 104254. <https://doi.org/10.1016/j.drugpo.2023.104254>
- Underwood, M. (2022). Taking ‘the god of all steroids’ and ‘making a pact with the devil’: Online bodybuilding communities and the negotiation of trenbolone risk. In J. Andreasson & A. Henning (Eds.), *Doping in sport and fitness* (pp. 111–136). Emerald Publishing Limited.