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Experiences of men who use anabolic androgenic steroids and/or IPEDs in sports and physical activity settings: a qualitative systematic review

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ADMINISTRATIVE INFORMATION

Support - Ministry of Science, Humanities, Technology, and Innovation (SECIHTI), México.

Review Stage at time of this submission - Formal screening of search results against eligibility criteria.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 27 April 2026 and was last updated on 27 April 2026.

INTRODUCTION

Review question / Objective To synthesize the available knowledge regarding the experiences of men who use anabolic androgenic steroids and/or IPEDs (image and performance enhancing drugs) in sports settings and gyms through a systematic review. The research question was formulated using the PECO acronym (Population, Experience, Context, Outcome) as a variant of the PICO question for qualitative study reviews, where: P = men aged 18 to 59 years, regardless of their gender-sexual orientation; E = use of anabolic androgenic steroids and/or IPEDs; C = sports settings and gyms; O = experiences, meanings, practices, motivations, and needs.

Rationale Historically, gender studies have focused on the experiences and lives of women — specifically, in the health field, regarding their needs and barriers to healthcare accessibility and

the full exercise of their rights. However, the Pan American Health Organization (PAHO) highlights the need to integrate men's health into the public health agenda. The same organization describes that there is a harmful health gap affecting men globally, among which several epidemiological aspects stand out: premature mortality due to a shorter life expectancy compared with women, an increase in noncommunicable diseases, and an elevated risk of mortality from violence [1].

Currently, there is a growing expansion of the recognized benefits associated with sports practice and strength and resistance exercise, which undeniably have a positive impact on health.

Narrative and systematized literature reviews describe the benefits of strength training on general and musculoskeletal health, concluding that it is a fundamental protective factor against premature mortality [2,3].

However, both sports settings and those where strength training is performed are permeated by largely invisible practices that may pose health risks, including the use of IPEDs, which encompass anabolic androgenic steroids.

The rationale for this systematic review lies in the need to understand the experiences of individuals who use these substances and to synthesize the available qualitative evidence in order to ascertain their meanings, practices, motivations, and needs.

Condition being studied Understanding the experiences related to the use of anabolic steroids and/or IPEDs is highly relevant given the various effects that put users' health at risk. Evidence exists for the different repercussions arising from the indiscriminate use of these substances. Although they have therapeutic applications (e.g., osteoporosis, sarcopenia), their abuse can become a public health problem. Such repercussions are explained by toxicity mechanisms derived from oxidative stress (disruption of the mitochondrial respiratory chain), apoptosis (in critical tissues such as the hippocampus and cardiovascular system), and the disruption of homeostasis (through interference with the renin-angiotensin-aldosterone system). Additionally, effects on various systems are notable: (i) cardiovascular system: left ventricular hypertrophy, hypertension, potentially lethal arrhythmias, premature myocardial infarction, and sudden death; AAS also promotes atherogenesis by lowering HDL cholesterol and raising LDL; (ii) neuropsychiatric system: neurotoxicity affecting memory and cognitive functions, as well as heightened aggression ('roid rage'), anxiety, depression, and substance dependence; (iii) reproductive and sexual system: negative feedback on the hypothalamic-pituitary axis, resulting in testicular atrophy, erectile dysfunction, gynecomastia, and persistent hypogonadism upon discontinuation; (iv) renal and hepatic alterations: renal fibrosis and glomerular damage; association with hepatotoxicity, including cholestasis and an increased risk of hepatocellular adenomas and carcinomas; and (v) musculoskeletal system: accelerated muscle hypertrophy with risk of tendon rupture due to altered collagen synthesis and disproportion between muscle strength and tendon resistance [4-6].

METHODS

Search strategy A search was conducted following PRISMA-2020 guidelines [7], up to April 10, 2026, in databases concentrating relevant scientific literature: PubMed, Web of Science,

Scopus, SciELO, and LILACS. For PubMed, the following strategy was used: (((anabolic androgenic steroids[Title/Abstract]) OR (ipeds[Title/Abstract])) AND (qualitative[Title/Abstract])) NOT (review[Title/Abstract]); this strategy was adapted to the other databases listed above. A grey literature search was also conducted to identify unpublished studies that could potentially be included in the review. Titles and abstracts retrieved through the search strategy will be independently assessed by two reviewers. Once titles and abstracts meeting the selection criteria are identified, the full texts of potentially relevant articles will be obtained for the review.

Participant or population Men aged 18 to 59 years, regardless of their gender-sexual orientation.

Intervention There is no 'intervention' but rather an 'experience/exposure' to be studied: the use of anabolic androgenic steroids and/or IPEDs.

Comparator There is no 'comparator' but rather a specific 'context' of the study population: sports and physical activity settings.

Study designs to be included Qualitative studies across various designs (phenomenological, ethnographic, grounded theory, among others) that contribute to the understanding of experiences, meanings, practices, motivations, and needs.

Eligibility criteria Those established in the PECO question, covering the population, experience, context, and outcomes described above.

Information sources An exhaustive search will be conducted in the following electronic databases: PubMed/MEDLINE, Scopus, Web of Science, SciELO, and LILACS. In addition, grey literature will be searched in TESIUNAM.

Main outcome(s) Description, analysis, and categorization of experiences, meanings, practices, motivations, needs, and other aspects related to the use of anabolic androgenic steroids or IPEDs.

Additional outcome(s) None.

Data management Thematic Analysis: recurring patterns or 'themes' across studies meeting the eligibility criteria will be identified and subsequently organized into categories that address the review objective.

Quality assessment / Risk of bias analysis Full-text studies selected will be reviewed in detail to exclude those that do not meet the eligibility criteria. To assess methodological quality, the JBI (Joanna Briggs Institute) Critical Appraisal Checklist for Qualitative Research will be applied [8].

Strategy of data synthesis The analysis will follow this structure to ensure rigor: (i) data extraction, collecting data from the selected articles; (ii) coding, assigning labels to data and findings for categorization and recategorization; (iii) theme development, grouping codes or labels into broader themes; and (iv) integration and synthesis, developing a summary of current evidence and the possible development of a conceptual model.

Subgroup analysis Not applicable; this is a review of qualitative studies.

Sensitivity analysis Not applicable to qualitative studies; however, the analysis and categorization will meet conditions of transferability by considering the possibility of similar findings in similar groups.

Language restriction Spanish, English, Portuguese.

Country(ies) involved Mexico.

Other relevant information Special acknowledgment to Dr. Victor Manuel Mendoza Nunez for his support in the development of this protocol.

Keywords anabolic androgenic steroids; IPEDs; qualitative.

Dissemination plans Results will be published in an international peer-reviewed journal.

Contributions of each author

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