

Impact of Psychoactive Substances on Male Fertility: Mechanistic Insights

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Abstract

The use of psychoactive substances poses a significant concern for male fertility, yet the underlying mechanisms remain incompletely understood. This review explores the impact of psychoactive substances on male reproductive health, focusing on their effects and underlying mechanisms. We discuss how various psychoactive drugs, including cannabinoids, opioids, stimulants, and others, can disrupt the intricate processes involved in spermatogenesis, sperm function, and hormonal regulation. Furthermore, we delve into the mechanistic insights elucidating how these substances interfere with reproductive physiology, including alterations in hormone production, oxidative stress, DNA damage, and epigenetic modifications. Understanding the mechanisms by which psychoactive substances impair male fertility is crucial for developing targeted interventions to mitigate their adverse effects and promote reproductive health in affected individuals.

