Review of: "Mortality Risk for Individuals With Cocaine Use Disorders: Clients and Non-Clients of Public Treatment Centres for Drug Addiction"

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Potential competing interests: No potential competing interests to declare.

Overall, the design and execution of this study are excellent. It is also important for public health. The updated text should, however, adequately address the following observations.

Major comments:

Introduction: This introduction provides crucial insights into the global and regional cocaine usage trends, emphasizing the rise in treatment demands and mortality risks associated with cocaine use. The statistics on prevalence and associated health risks underline the complexity of addiction and highlight the importance of targeted healthcare interventions in addressing substance abuse effectively. Consider incorporating more recent data and trends on cocaine use, treatment outcomes, and demographic factors. Additionally, expanding on the implications of findings for public health policy could enhance clarity and relevance.

To enhance the relevance of the introduction, consider including the following recent data sources and trends:

National Surveys on Drug Use: Utilize data from the National Institute on Drug Abuse (NIDA) or the National Survey on Drug Use and Health (NSDUH) for current statistics on substance use prevalence.

Substance Abuse and Mental Health Services Administration (SAMHSA) Reports: Reference SAMHSA's reports on treatment access and utilization trends, especially in relation to opioid use and other emerging substances.

CDC Opioid Overdose Data: Include recent statistics from the Centers for Disease Control and Prevention (CDC) regarding opioid-related overdoses, highlighting the current public health crisis.

Local Health Department Reports: Incorporate findings from local or state health departments that provide insights into regional substance use trends and specific populations affected.

Emerging Drug Trends: Discuss trends regarding synthetic drugs, such as fentanyl or new psychoactive substances (NPS), based on recent publications from agencies like the Drug Enforcement Administration (DEA).

Demographic Shifts: Reference demographic studies that show changing patterns in substance use across age, gender, and socioeconomic groups, highlighting any significant increases or decreases.

COVID-19 Impact Studies: Include research on how the COVID-19 pandemic has influenced substance use patterns and mental health, drawing on findings from academic journals or health organizations.

Public Health Policy Changes: Discuss any recent legislation or policy changes affecting substance use treatment, such as the expansion of telehealth services or harm reduction initiatives.

Peer-Reviewed Journals: Cite recent studies published in reputable journals that provide evidence of treatment efficacy, trends in relapse rates, or demographic factors influencing outcomes.

International Comparisons: If relevant, include data from global organizations like the World Health Organization (WHO) to provide a broader context for substance use trends.

Including these data sources and trends will provide a robust foundation for the study, illustrating the urgency and context of the research.

M&M: This section effectively outlines the methodology for studying cocaine use and dependence in Northern Italy. The comprehensive approach, including detailed data collection and analysis methods, strengthens the study's credibility. However, a brief discussion on the potential limitations of the data collection process could enhance transparency and rigor. Consider adding a section on potential limitations and biases in data collection. Including demographic diversity and contextual factors could also enhance the study's relevance and applicability to broader populations. To improve the study's applicability in the Methods and Materials (M&M) section, consider discussing the following factors:

Geographic Variation: Include details on the locations of participants and how regional factors might influence substance use and treatment access.

Socioeconomic Status: Assess the participants' income levels, employment status, and education, as these can impact health outcomes and access to services.

Cultural Background: Discuss cultural attitudes towards substance use and treatment, particularly for non-native participants.

Substance Use History: Include information on the duration and severity of substance use, including the age at first use.

Co-occurring Disorders: Address the prevalence of other mental health or physical health conditions among participants.

Treatment History: Provide context on previous treatments sought by participants, including the types of services accessed prior to the study.

Social Support Networks: Discuss the role of family, friends, or community support in influencing treatment outcomes.

Stigma and Perception: Address participants' perceptions of addiction treatment and the stigma surrounding substance use.

Access to Care: Explore barriers to accessing care, such as transportation, availability of services, and healthcare literacy.

Temporal Context: Discuss how historical events or trends (e.g., economic downturns, changes in drug availability) may impact the cohort's characteristics.

Incorporating these factors will provide a more comprehensive understanding of the participants' backgrounds and the contextual influences on their treatment and outcomes.

Results & Conclusion: This comprehensive study highlights the significant mortality risks associated with cocaine use disorder (CUD). The data clearly illustrate disparities in health outcomes between patients accessing PATS and those who do not. The findings underscore the urgent need for targeted interventions to improve access to treatment and support for at-risk populations, particularly non-native and female users. Addressing barriers to care and enhancing treatment retention could be crucial in reducing mortality rates in this vulnerable group. To enhance the study, consider including more detailed demographic data, assessing long-term treatment outcomes, exploring patient motivations for service access, and investigating the impact of socioeconomic factors on health outcomes.