Temporal, sex and age trends in concordance of self-reported drug use and urine drug screens amongst patients receiving treatment for opioid use disorder

Category: Poster Presentation (in person)

Abstract Body

Background: We continue to face an opioid epidemic, with an increasing trend of opioid-related deaths in Canada. Medication Assisted Treatments (MATs), administering controlled amounts of long-lasting opioid agonistics or antagonists, are prescribed to reduce opioid related harm. However, individuals continue to use substances, including opioids, even while receiving treatment. Urine drug screens (UDS) are often used as the primary measure of monitoring ongoing drug use, however, UDS are not without their caveats including high cost and may pose barriers for patients. The objective of this study was to describe the temporal and demographic trends through a sensitivity and specificity analysis for three observational cohort studies examining patients treated for OUD.

Methods: Data were collected in three prospective cohort studies conducted in Ontario, Canada; the GENetics of Opioid Addiction (GENOA) pilot study (2011), the GENOA study (2012-2017) and the Pharmacogenetics of Opioid Substitution Treatment response (POST) study (2018-2022). We measured the sensitivity and specificity of self-reported substance use data for opioids, benzodiazepines, stimulants, and cocaine, using urine drug results as the reference standard. We compared the sensitivity and specificity between: (i) different drugs; (ii) by patient sex, and (iii) patient age grouping.

Results: We found that specificity was consistently higher in the GENOA (2012-2017) and POST (2018-2022) studies when compared to the pilot study (2011), suggesting that overtime there is a trend in increased accuracy of true negatives. Sensitivity and specificity were highest for cocaine (Cohort: Sensitivity [95% confidence interval (CI)], Specificity [95 % CI]; pilot: 61% [53, 69], 86% [77, 92]; GENOA: 49% [40, 52], 97% [96, 98]; POST: 45% [42, 47], 99% [98, 99]) and lowest for benzodiazepines, suggesting more accurate reporting for cocaine and less accurate for benzodiazepines. We found no specific trend by sex. Lastly, we found a higher sensitivity for opioids and stimulants in younger adults than middle-aged and older adults.

Conclusion: Our study highlights the importance of UDS for individuals receiving MAT. However, it is

important to conduct further research on the accuracy of self-reported substance use for MAT patients to ensure similar trends are found.

Key Words

- Opiate Agonist Therapy
- Opioids/Opiates

Learning Objective # 1
By the end of this presentations learners should be able to understand the sensitivity and specificity trends of self reported substance use for opioid users within Ontario

Learning Objective # 2
By the end of this presentation learners should be able to describe the temporal and demographic trends found in self-reported substance use

Reference # 1
Schuler MS, Lechner W V, Carter RE, Malcolm R. Temporal and gender trends in concordance of urine drug screens and self-reported use in cocaine treatment studies. J Addict Med. 2009;3(4):211.

Reference # 2
Strike C, Rufo C. Embarrassing, degrading, or beneficial: patient and staff perspectives on urine drug testing in methadone maintenance treatment. J Subst Use. 2010;15(5):303–12.

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