

Short-Term Clinical Outcomes in Early Psychosis with and without Recent Substance Use: The Role of Urine Drug Screening and Antipsychotics in an Urban Youth Cohort

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Submitter Chaden Nouredine

Affiliation Icahn School of Medicine At Mount Sinai

Participant(s) Chaden Nouredine (Presenter), Sean Lynch (Co-Author), Natalie Burlant (Co-Author), Caroline Wang (Co-Author), Timothy Rice (Co-Author)

SUBMISSION DETAILS

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Summary Background: Psychotic disorders and substance use disorders commonly co-occur in adolescents and young adults and are associated with worse clinical outcomes. The prognostic significance of recent substance use, as measured by urine drug screening (UDS), on short-term inpatient and post-discharge outcomes in early psychosis remains unclear. Methods: We conducted a retrospective chart review of 206 patients under age 25 hospitalized for early psychosis at an urban academic medical center between January 1, 2018 and December 31, 2022. Patients receiving oral or long-acting injectable antipsychotics were included and categorized as UDS-positive (UDS+) or UDS-negative (UDS-). Groups were compared on sociodemographic factors, inpatient management, medication prescribing, and post-discharge outcomes, including psychiatric readmission within one year. Results: Eighty-seven patients (42%) were UDS+. The UDS+ group was more likely to receive emergency intramuscular medication for agitation and to have histories of nicotine and alcohol use but did not differ in length of stay, antipsychotic selection, long-acting injectable use, or one-year readmission rates. UDS status was not associated with time to readmission. In adjusted analyses, valproic acid co-prescription was associated with shorter time to readmission, while transgender/non-binary identity was associated with longer time to readmission. Conclusions: Recent substance use, as measured by UDS, was not independently associated with short-term psychiatric readmission in youth hospitalized for early psychosis. These findings suggest that UDS status alone may have limited utility in predicting early outcomes and underscore the importance of broader clinical and psychosocial factors in treatment planning.

The questions following the above will ask you to breakdown your summary.

Background Psychotic disorders and substance use disorders frequently co-occur and are especially prevalent in settings where social instability, limited access to care, and high relapse rates complicate long-term treatment (Bahji, 2024). Both conditions carry substantial and lasting consequences for patients, including recurrent hospitalizations, impaired functioning, and elevated morbidity and mortality (Lähteenvuo et al., 2021). When they occur together in adults, outcomes are often worse, with significantly higher rates of treatment nonadherence, disengagement from outpatient care, and hospitalization (Lähteenvuo et al., 2021).

Among adolescents and young adults with early psychosis, substance use is highly prevalent and has been associated with poorer treatment outcomes, including delayed recovery and increased risk of relapse (Myers, 2025). Cannabis use, in particular, shows the strongest and most consistent association with psychosis risk (Hall & Degenhardt, 2008). Daily cannabis use has been found to increase the odds of developing a psychotic disorder by over threefold compared to never-users, with high-potency cannabis use further increasing this risk (van der Steur et al., 2020).

Pharmacologic treatment remains a cornerstone of early psychosis care, but medication adherence is a persistent challenge, especially among youth with comorbid substance use (Keramatian & Levit, 2023). Long-acting injectable (LAI) antipsychotics were first developed to increase medication adherence and decrease the frequency of medication dosing associated with oral APs (Greene et al 2018; Maestri et al 2018; Marcus et al 2015). Adherence to AP medication can be difficult in those with schizophrenia and bipolar spectrum illnesses due to psychiatric symptoms, lack of insight, and social barriers, resulting in relapses and repeat hospitalizations (Brissos et al 2014; Latorre et al 2020).

Few studies look at the effectiveness of LAIs and their safety profiles in children, adolescents, and young adults. To our knowledge, no LAI has been approved for use in the pediatric population. Urine drug screening (UDS) is a widely used, objective tool for detecting recent substance use. However, less attention has been paid to clinical and prognostic significance of a positive UDS in the context of early psychosis and clinically actionable outcomes, especially those relevant in acute, urban care settings. Outcomes such as inpatient agitation, use of injectable medications (including emergency intramuscular (IM) medications), and psychiatric readmission within the first year post-discharge may reflect both patient-level risk factors and system-level treatment decisions. Understanding how substance use influences these short-term outcomes could improve inpatient and transitional care strategies, particularly for high-risk youth in resource-constrained urban environments.

This study aims to examine the relationship between recent substance use and short-term treatment outcomes in a cohort of adolescents and young adults hospitalized for early psychosis at an urban academic medical center. Specifically, we compare patients with a positive UDS (UDS+) to those with a negative UDS (UDS-) across a range of clinical indicators, including inpatient behavioral interventions, adverse reactions, medications coadministration upon discharge, and psychiatric readmission. By focusing on these proximal outcomes, this study seeks to clarify how comorbid substance use shapes early treatment decisions and clinical trajectories, with implications for optimizing care delivery in high-risk urban populations.

Educational Learning Objectives

Learning Objective 1 Evaluate the relationship between recent substance use (UDS status) and psychiatric readmission risk in adolescents and young adults with early psychosis.

Learning Objective 2 Identify clinical and treatment-related factors associated with time to readmission, including the role of co-prescribed medications such as valproic acid, antidepressants and benzodiazepines.

Learning Objective 3 Interpret the limitations of urine drug screening as a prognostic tool and apply a more comprehensive, individualized approach to substance use assessment in early psychosis.

Methods This IRB-approved retrospective chart review (Mount Sinai, Protocol #24-00098) analyzed adolescents and young adults (<25) hospitalized for psychosis between 2018 and 2022 who received antipsychotic treatment. Only first admissions were included; ED-only visits were excluded. The study focused on patients with urine drug screens (UDS), defining UDS+ as non-prescribed substances. Extracted variables included demographics, clinical history, hospitalization details, substance use, treatments, discharge medications, and outcomes such as adverse reactions, readmission, and follow-up adherence. Interrater reliability exceeded 95%. Analyses using SPSS included descriptive statistics, chi-square and t-tests with effect sizes, Kaplan-Meier survival analysis for time to readmission, and multivariable Cox regression to assess the impact of UDS status, with significance set at $p < 0.05$.

Results This study included 206 predominantly patients with a mean age of 19 and equal gender distribution. Patients averaged two prior hospitalizations; one-third had a history of violence. Most were admitted for psychosis, with an average length of stay of 15 days; over half received long-acting injectables, and two-thirds were discharged on risperidone or paliperidone. Within one year, 28% were readmitted. Among patients, 87 were UDS+ (mostly cannabis). UDS+ patients had higher rates of tobacco and alcohol use and were more likely to require IM medications for agitation, but otherwise showed similar baseline and treatment characteristics. UDS status was not associated with readmission risk or timing. In adjusted analysis, valproic acid use predicted faster readmission, while transgender/non-binary status predicted longer time to readmission.

Conclusion While UDS+ patients with early psychosis demonstrated certain differences in inpatient behavior and treatment, substance use as captured by drug screening was not associated with worse post-discharge outcomes. These findings suggest that effective management of early psychosis should consider a broader array of clinical and psychosocial factors beyond acute toxicology results; these results may also suggest that early intervention through the course of inpatient treatment may correct for positive UDS in outcomes. Careful discharge planning, attention to polypharmacy, and support for marginalized populations remain critical for improving outcomes in this vulnerable group.

Scientific Significance This study found that urine drug screen (UDS) status did not predict psychiatric readmission in youth with early psychosis, challenging assumptions that substance use drives short-term outcomes. The findings suggest UDS provides limited prognostic value, highlighting the need for comprehensive substance use assessments beyond binary screening.

Notably, valproic acid co-prescription emerged as a marker for shorter time to readmission, potentially indicating greater illness severity or affective dysregulation. The retrospective design and UDS limitations (single timepoint, missing substances like alcohol) constrain causal inference. These results emphasize that substance use in early psychosis requires nuanced clinical formulation rather than UDS-driven risk stratification, with mood stabilizer prescribing patterns potentially serving as more robust indicators of relapse risk.

Will your paper cite external research? Yes

Please cite all references here in AMA format. Bahji A. Navigating the complex intersection of substance use and psychiatric disorders: a comprehensive review. *J Clin Med*. 2024;13(4):999. doi:10.3390/jcm13040999

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