

The Impact of Polysubstance Use on Opioid Route of Administration Among Females Initially Seeking Treatment

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INTRODUCTION

- There is an insufficient understanding of polysubstance use behaviors among females that use opioids. This gap in research necessitates further investigation because female’s substance use experiences have been understudied, making it critical to ensure harm reduction efforts are sensitive to gender-specific needs and diverse experiences.

Objective:

- To examine how the presence and patterns of polysubstance use influence the route of opioid administration among females seeking treatment for opioid use for the first time.

METHODS

- Study Design:** We conducted a cross-sectional analysis of administrative data from public and private substance use disorder treatment facilities in the United States using the Treatment Episodes Data Set-Admission 2021 (TEDS-A).
- Participants:** Participants were 27,716 females who reported opioids their primary substance and had no previous treatment history.
- Measures:**
 - Exposure:** Secondary Non-Opioid Substance of Use. Participants reported any secondary substance of use and were re-coded into six categories:
 - None
 - Alcohol
 - Stimulants
 - Cannabis/Hashish
 - Depressants
 - Other Drugs
 - Outcome:** Participants reported their primary route of opioid administration and were grouped into 5 categories
 - Oral (referent)
 - Inhalation
 - Smoking
 - Injection
 - Other
- Covariates:** Models were adjusted for age, race, ethnicity, employment status, and living arrangements.
- Data Analysis:**
 - Descriptive statistics were reported for participant sociodemographic characteristics.
 - Multivariate logistic regression was used to evaluate associations between the route of administration and each class of secondary substance reported.

Table 1: Sample Characteristics (Total Sample n = 27,716)	
Age at Admission	Total (%)
12 - 17 years	173 (0.62)
18 - 24 years	2,931 (10.58)
25 - 34 years	11,469 (41.38)
35 - 29 years	9,318 (33.62)
50+ years	3,825 (13.8)
Race	
Asian Pacific Islander or Native Hawaiian	246 (0.89)
Alaska Native or American Indian	544 (1.96)
Black	2,979 (10.75)
White	21,081 (76.06)
One Singe Race	2,041 (7.36)
Two or more Races	825 (2.98)
Ethnicity	
Non-Hispanic	24,080 (86.88)
Hispanic	3,636 (13.12)
Employment Status	
Full-Time	3,497 (12.62)
Part-Time	1,864 (6.73)
Unemployed	13,179 (47.55)
Not in Labor Force	9,176 (33.11)
Secondary Drug Class	
None	13,826 (49.88)
Alcohol	1,269 (4.58)
Stimulants	8,569 (30.92)
Cannabis	2,374 (8.57)
Depressants	1,196 (4.32)
Other Drugs	482 (1.74)
Route of Opioid Administration	
Oral	7,339 (26.48)
Smoking	3,825 (13.80)
Inhalation	6,683 (24.11)
Injection	9,143 (32.99)
Other	726 (2.62)

RESULTS

Reported Secondary Substance				
Reference: Oral	Smoking	Inhalation	Injection	Other
No Secondary Drug use	1.00 (Ref)	1.00 (Ref)	1.00 (Ref)	1.00 (Ref)
Alcohol	0.7 (0.55 - 0.86)*	0.98 (0.85 - 1.13)	0.66 (0.56 - 0.77)**	0.39 (0.24- 0.64)**
Stimulants	4.29 (3.85 - 4.79)**	2.08 (1.90 - 2.28)**	3.42 (3.15 - 3.72)**	1.13 (0.92 - 1.39)
Cannabis	0.83 (0.71 - 0.97)*	1.14 (1.02 - 1.28)*	0.64 (0.55 - 0.75)**	0.48 (0.35 - 0.66)**
Depressants	0.48 (0.38 - 0.61)**	0.86 (0.74 - 1.01)	0.81 (0.64 - 1.04)**	0.55 (0.38 - 0.81)*
Other Drugs	1.24 (0.92 - 1.68)	1.06 (0.84 - 1.35)	0.81 (0.64 - 1.04)	0.17 (0.05 - 0.53)*
Race				
Reference: Oral	Smoking	Inhalation	Injection	Other
White	1.0 (Ref)	1.0 (Ref)	1.0 (Ref)	1.0 (Ref)
Asian, Pacific Islander or Native Hawaiian	1.84 (1.23 - 2.74)*	1.20 (0.82 - 1.76)	1.01 (0.96 - 1.46)	0.54 (0.17 - 1.72)
Alaska Native, American Indian	1.66 (1.26 - 2.20)**	0.95 (0.71 - 1.26)	1.06 (0.83- 1.37)	0.24 (0.08 - 0.77)*
Black	0.44 (0.37 - 0.51)**	1.47 (1.34 - 1.61)**	0.27 (0.24 - 0.31)**	0.45 (0.33 - 0.60)**
Other Single Race	1.17 (0.99 - 1.39)	0.88 (0.75 - 1.03)	0.94 (0.81 - 1.09)	1.17 (0.82 - 1.66)
Two or More Races	1.01 (0.88 - 1.38)	0.89 (0.89 - 1.10)	0.85 (0.69 - 1.04)	0.65 (0.34 - 1.25)
Employment				
Reference: Oral	Smoking	Inhalation	Injection	Other
Full Time Employment	1.0 (Ref)	1.0 (Ref)	1.0 (Ref)	1.0 (Ref)
Part-Time Employment	1.19 (0.97 - 1.46)	0.96 (0.83 - 1.12)	1.37 (1.18 - 1.59)**	1.02 (0.71 - 1.48)
Unemployed	1.72 (1.51 - 1.98)**	1.31 (1.18 - 1.44)**	2.35 (2.12 - 2.61)**	1.76 (1.38 - 2.23)**
Not in Labor Force	1.95 (1.68 - 2.25)**	1.27 (1.15 - 1.42)**	1.83 (1.64-2.04)**	1.18 (0.91 - 1.54)
Living Arrangement				
Reference: Independent	Smoking	Inhalation	Injection	Other
Experiencing Homelessness	2.86 (2.51 - 3.27)**	1.4 (1.02 - 1.30)**	2.45 (2.21 - 2.78)**	1.50 (1.12 - 1.98)**
Dependent Living	1.91 (1.70 - 2.15)**	0.99 (0.89 - 1.11)	1.68 (1.52 - 1.85)**	1.85 (1.51 - 2.28)**

* p < .05 ** p < .0001 Additional covariates were included in the analysis but are not presented in this poster.

CONCLUSION

- Stimulant use was significantly more likely among females who take opioids via smoking, inhalation and injection compared to those who consume opioids orally.
- People who use opioids via other routes were significantly less likely to report secondary drug use.
- Black participants were significantly less likely to consume opioids via injection or smoking compared to white participants.
- Individuals who were unemployed or not in the labor force were significantly more likely to smoke, inhale, or inject opioids compared to oral use.
- Harm reduction services for opioid use should be tailored to account for polysubstance use – especially the co-use of stimulants.

