Associations Between Waiting Time and Treatment Completion Among Treatment-Naive Pregnant Cannabis Users Admitted to Treatment Facilities in the United States

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OBJECTIVE

- Cannabis use during pregnancy has been associated with adverse perinatal outcomes, including low birth weight and developmental delays[1]
- A recent study using the National Survey on Drug Use and Health (NSDUH), concluded that the prevalence of self-reported cannabis use among pregnant women has more than doubled across all trimesters from 2002 to 2020[2]
- Many pregnant women entering treatment for cannabis use do not receive prompt admission, putting them at risk for fetal complications
- The purpose of this study was to examine associations between waiting time and sociodemographic factors that may influence treatment completion among pregnant women admitted to a treatment facility with cannabis as their primary use

METHODS

- This study included 2,719 treatment-naive pregnant women (18-49 years old) admitted for substance use treatment in the United States (US) who identified cannabis as their primary substance of use
- Treatment completion data was collected from the Treatment Episode Data Set (TEDS)-Discharge dataset from 2015 to 2022 and was re-coded as a binary outcome (treatment complete or treatment incomplete)
- The TEDS database is a compilation of substance abuse treatment data collected from publicly funded inpatient and outpatient treatment facilities which includes a range of sociodemographic information and substance abuse characteristics
- Completion of treatment was defined as any patient who was discharged from a treatment facility for the sole reason of completion of treatment documented by a healthcare professional
- Descriptive statistics, chi-squared tests, and multivariate logistic regression analyses were conducted using STATA statistical software version SE 16.1

CONCLUSION

- Immediate entry into a treatment facility was associated with higher treatment completion rates among pregnant women using cannabis
- Results emphasize the necessity to avoid delays in admission to improve clinical outcomes
- Targeted interventions are necessary to address disparities in access to care among pregnant women.

REFERENCES

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2. Hayes S, Delker E, Bandoli G. The prevalence of cannabis use reported among pregnant individuals in the United States is increasing, 2002-2020. J Perinatol. 2023;43(3):387-389. doi:10.1038/s41372-022-01550-y

RESULTS

Table 1: Demographic and Clinical Characteristics of Pregnant Women Admitted With Cannabis as Their Primary Substance of Use Stratified by Treatment Completion (n=2,719)

Characteristics	Total (n=2,719) n (%)	Completed Treatment (n=1,054) n (%)	Treatment Incomplete (n=1,665) n (%)	P-value
Admission wait time				< 0.0001
No wait	1,906 (70.1)	706 (67.0)	1,200 (72.1)	
Wait (≥ 1 day)	813 (29.9)	348 (33.0)	465 (27.9)	
Age				< 0.0001
18-29	2,254 (82.9)	843 (80.0)	1,411 (84.7)	
30-39	440 (16.2)	194 (18.4)	246 (14.8)	
40-49	25 (0.9)	17 (1.6)	8 (0.5)	
Race				< 0.0001
White	1,408 (51.8)	610 (57.9)	798 (47.9)	
Black	912 (33.5)	299 (28.4)	613 (36.8)	
Other	357 (13.1)	128 (12.1)	229 (13.8)	
Education				< 0.0001
No high school	889 (32.7)	298 (28.3)	591 (35.5)	
High school or GED	1,324 (48.7)	562 (53.3)	762 (45.8)	
College or more	462 (17.0)	178 (16.9)	284 (17.1)	
Employment				< 0.0001
Employed	677 (24.9)	327 (31.0)	350 (21.0)	
Unemployed	2,019 (74.3)	715 (67.8)	1,304 (78.3)	
Living Arrangements				< 0.0001
Independent	1,909 (70.2)	772 (73.2)	1,137 (68.3)	
Dependent	471 (17.3)	196 (18.6)	275 (16.5)	
Homeless	288 (10.6)	75 (7.1)	213 (12.8)	
Marital Status				< 0.0001
Married	165 (6.1)	89 (8.4)	76 (4.6)	
Never married	1,546 (56.9)	647 (61.4)	899 (54.0)	
Separated/Divorced	117 (4.3)	47 (4.5)	70 (4.2)	
Unknown	891 (32.8)	271 (25.7)	620 (37.2)	
Co-occuring Mental Illness*				< 0.0001
Yes	725 (26.7)	267 (25.3)	458 (27.5)	
No	1,724 (63.4)	633 (60.1)	1,091 (65.5)	
Referral Source				< 0.0001
Self-referral	493 (18.1)	134 (12.7)	359 (21.6)	
Court/criminal justice	740 (27.2)	371 (35.2)	369 (22.2)	
Other**	1,436 (52.8)	533 (50.6)	903 (54.2)	
Service Setting				< 0.0001
Inpatient/residential	239 (8.8)	78 (7.4)	161 (9.7)	
Ambulatory	2,445 (90.0)	958 (90.9)	1,487 (89.3)	
Detox	35 (1.3)	18 (1.7)	17 (1.0)	
Length of Stay				< 0.0001
1-30 days	589 (21.7)	125 (11.9)	464 (27.9)	
31-90 days	793 (29.2)	270 (25.6)	523 (31.4)	
>90 days	1,337 (49.2)	659 (62.5)	678 (40.7)	

*Co-occuring mental illness defined as any patient who presented to a treatment facility with a documented and diagnosed mental and substance use disorder.
**Other referral source defined as a referral for treatment from an alcohol/drug use care provider, school (educational), employer/employee assistance program, healthcare provider, or other community referral.

Table 2: Impact of Wait Time on Odds of Treatment Completion Among Pregnant Women Admitted With Cannabis as Their Primary Substance of Use

Characteristics	Treatment Completion OR	95% Confidence Interval
Admission wait time		
Wait (≥ 1 day)	Reference	
No wait	1.41	(1.15, 1.74)
Age		
40-49	Reference	
30-39	2.67	(0.97, 7.39)
18-29	3.86	(1.42, 10.49)
Race		
White	Reference	
Black	1.53	(1.23, 1.90)
Other	0.97	(0.73, 1.30)
Education		
High school or GED	Reference	
No high school	1.38	(1.12, 1.71)
College or more	1.11	(0.86, 1.44)
Employment		
Employed	Reference	
Unemployed	1.6	(1.29, 1.98)
Living Arrangements		
Dependent	Reference	
Independent	1.15	(0.87, 1.51)
Homeless	1.6	(1.08, 2.39)
Marital Status		
Never married	Reference	
Married	0.68	(0.45, 1.03)
Separated/Divorced	1.19	(0.72, 1.96)
Unknown	1.37	(1.02, 1.85)
Co-occuring Mental Illness		
Yes	Reference	
No	0.76	(0.61, 0.95)
Referral Source		
Court/criminal justice	Reference	
Self-referral	2.19	(1.64, 2.94)
Other	1.91	(1.52, 2.40)
Service Setting		
Detox	Reference	
Inpatient/residential	4.65	(2.04, 10.58)
Ambulatory	6.42	(2.93, 14.04)
Length of Stay		
>90 days	Reference	
31-90 days	2.18	(1.75, 2.73)
1-30 days	4.91	(3.67, 6.57)

*Adjusted for age, race, education level, region, living arrangements, employment status, referral source, service setting, prior arrests, marital status, length of stay, and co-occuring mental illness

- Almost a third of women (29.9%) entering treatment had to wait at least one day before being admitted
- Among women who were self-admitted, only 27% of them were successful in treatment completion
- Among the women admitted, the majority were ages 18-29 (82.9%), unemployed (74.3%), and received treatment in an ambulatory care setting (90.0%)
- Additionally, the majority of women were white (51.8%), lived independently (70.2%), and were never married (56.9%)
- 26.7% of patients admitted had a co-occuring mental illness
- Approximately half (48.2%) of the women admitted had a length of stay > 90 days

- Women with less than a high school education level, experiencing homelessness, or African American ethnic groups had increased odds of treatment completion.
- In contrast, women aged 40-49, those discharged with dependent living arrangements, and those who were employed were less likely to complete treatment
- Women with a co-occuring mental illness were less likely to complete treatment when compared to those without a co-occuring mental illness
- From the unadjusted logistic regression analysis, women with no delay in treatment had 1.27 times the odds of completing treatment compared with those who experienced a delay
- After adjusting for sociodemographic and treatment characteristics, the odds of treatment completion increased and were statistically significant, demonstrating women without treatment delays have 1.41 times the odds of completing treatment

Figure 1: Number of Admissions by Year, Stratified by Wait Time
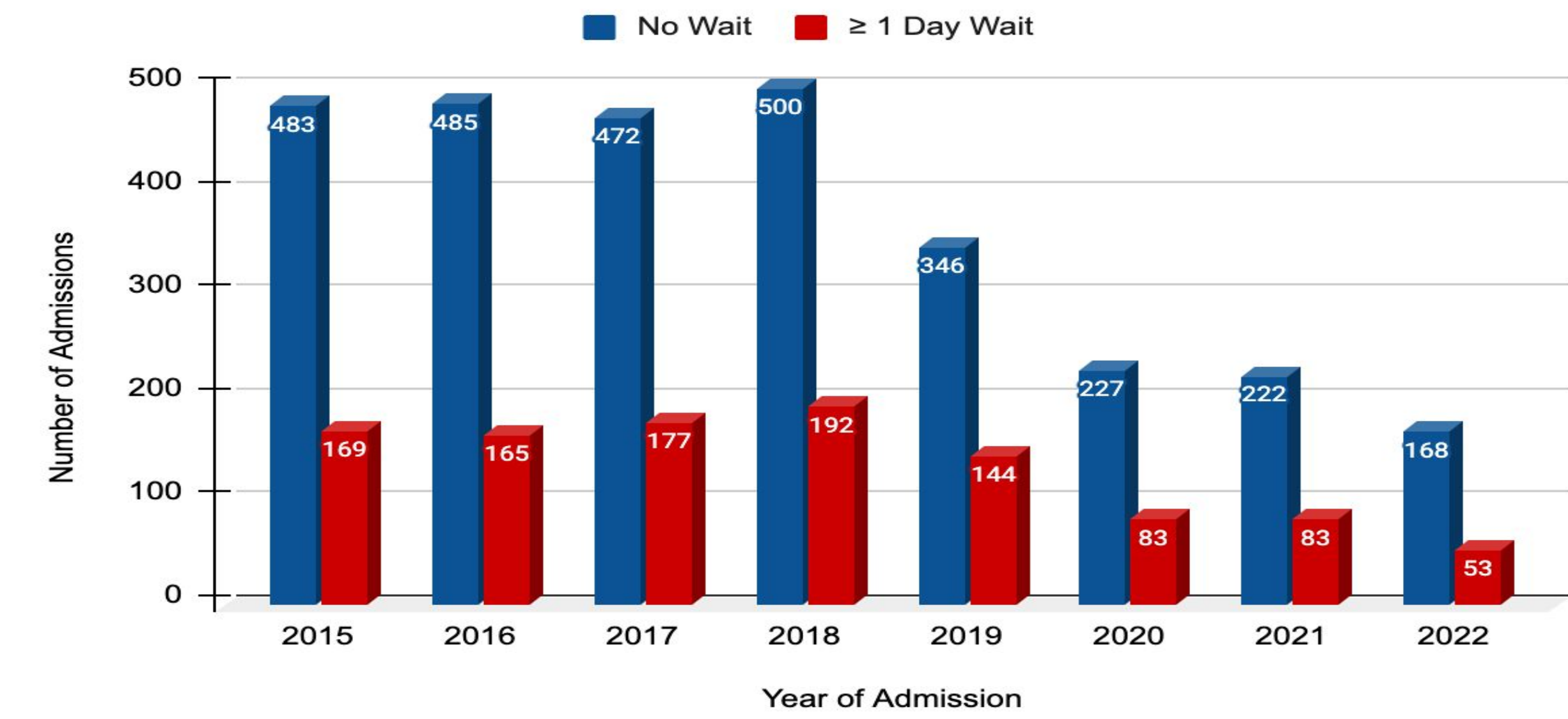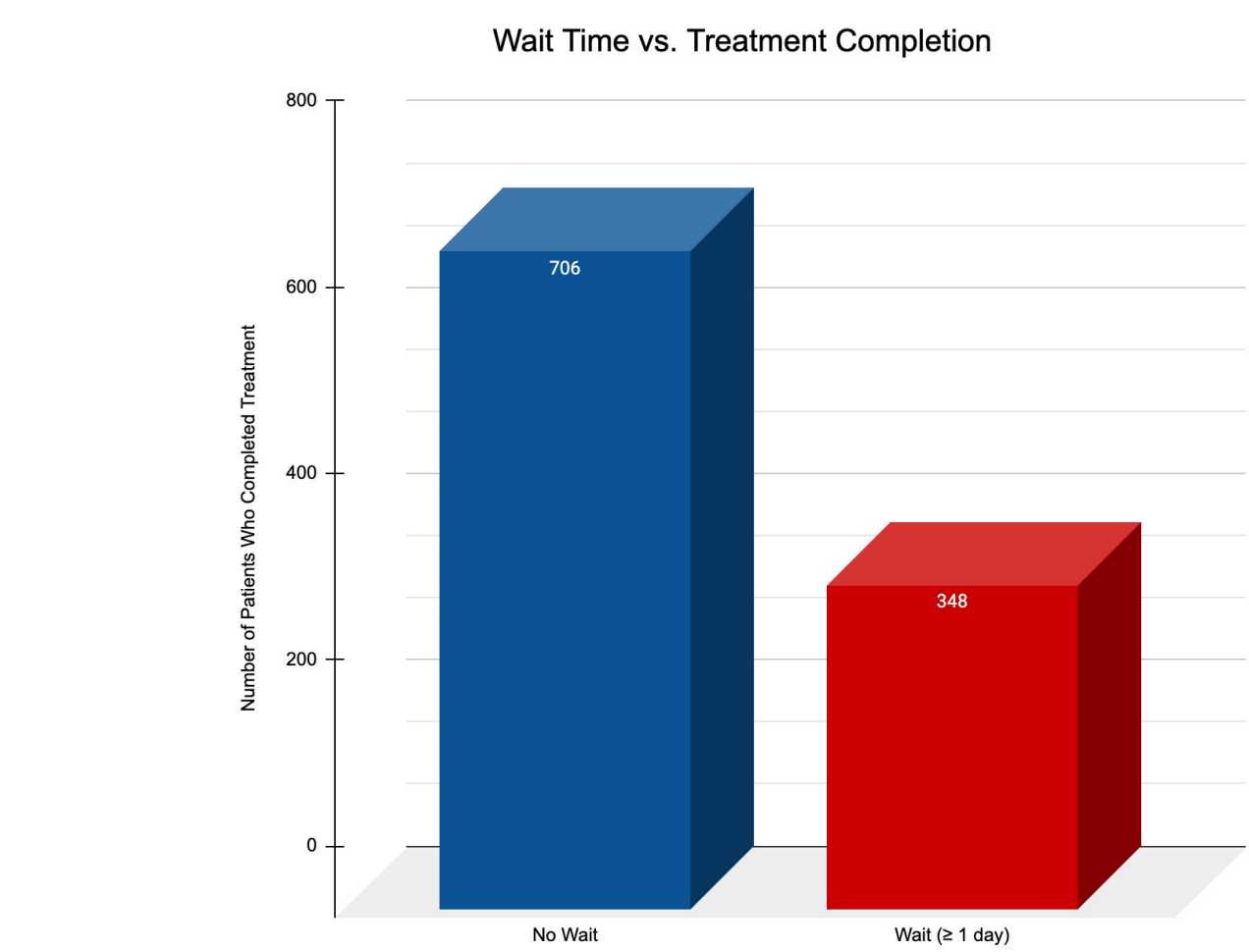

Figure 2: Wait Time Compared to Treatment Completion Among Pregnant Women (2015 to 2022)

- The overall number of admissions of pregnant women into a treatment facility has decreased since 2018
- From 2015 to 2022, the number of patients admitted with no wait time has declined by approximately three-fold (483 to 168)
- Additionally, the number of patients admitted who waited ≥ 1 day, also decreased by three-fold (169 to 53)
- Treatment completion rates among patients with no wait time were over two times higher than those with a wait time ≥ 1 day