

## Research Article

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## Alcohol and Drug Use in Pregnant and Post-Partum Women

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### Abstract

The Tennessee Residential Treatment Program for Pregnant and Postpartum Women addressed the problem of substance use and abuse among young adults ages 16 and over. The program was intended to expand the availability of comprehensive, residential substance abuse treatment, prevention, and recovery support services for pregnant and postpartum women and their minor children, including services for non-residential family members of both the women and children. The populations of focus were low-income (according to federal poverty guidelines) women, ages 16 and over, who were pregnant, postpartum (the period after childbirth up to 12 months), and their minor children, age 17 and under, who had limited access to quality health services. Through the expansion and enhancement of service capacity, addiction peer recovery support services were provided as part of a collaborative effort between the University of Tennessee College of Social Work and the Helen Ross McNabb Center, Incorporated, a Regional Mental Health System. Comprehensive services were provided to clients who were ineligible for, or unable to afford or to obtain, adequate services through public or commercial means. Over a three-year period, services were provided to 363 participants with 169 of those participants returning for a 6-month interview using the CSAT GPRA Client Outcome Measures for Discretionary Programs. Upon intake, 70% of participants reported using drugs and/or alcohol during the previous month. Frequency of various drug and alcohol use (measured in number of days used) during the 30-day period prior to intake implied a need for intervention services, and over the course of services provided, frequencies of drug and alcohol use declined.

### Introduction

In the United States, substance use among pregnant and postpartum women is a public health issue. Previous studies based on data from the National Survey on Drug Use and Health (NSDUH) have consistently shown that a substantial proportion of pregnant women, particularly those in the first trimester, were past month alcohol, cigarette, or illicit drug users [1-3] and that rates among recent mothers were much higher than those among pregnant women [2]. When compared with women in the third trimester of pregnancy, non-pregnant women with children under 3 months old in the household had much higher rates of past month alcohol use (6.2 vs. 31.9 percent), binge alcohol use (1.0 vs. 10.0 percent), cigarette use (13.9 vs. 20.4 percent), and marijuana use (1.4 vs. 3.8 percent), suggesting resumption of use among mothers in the 3 months after childbirth. The increase in rates of substance use among parenting women tended to level off as the age of the youngest child increased. For alcohol, past month use increased

from 31.9 percent for women with children under 3 months old to 43.9 percent for those with 3- to 5-month-olds and 52.1 percent for those with 9- to 11-month-olds; thereafter, the rate ranged from 49.4 to 54.9 percent, not significantly different from the rate among women with 9- to 11-month-olds. The rate of binge alcohol use was 15.5 percent among women whose youngest children were aged 3- to 5-months and 19.7 percent for those whose youngest children were aged 18 months or older. Cigarette use among parenting women increased to 30.3 percent for those whose youngest children were aged 18 months or older, but for marijuana, there was no significant increase in use among women who had children aged 3 months or older. These data provide indirect evidence of dramatic increases in the prevalence of substance use among mothers with babies under 3-months old based on cross-sectional reports from pregnant, parenting, and non-pregnant women. This increase implies a resumption of substance use following childbirth because new initiation of substance use among postpartum women is too rare to account for the observed differences [4].

## Method

The Tennessee Residential Treatment Program for Pregnant and Postpartum Women addressed the problem of drug and alcohol use and abuse among young adults, mainly mothers, ages 16 to 45 years. Evidence-based parenting and treatment models including trauma specific service in a trauma informed context were designed to:

- Decrease the use and/or abuse of prescription drugs, alcohol, tobacco, illicit and other harmful drugs (e.g., inhalants) among pregnant and postpartum women
- Increase safe and healthy pregnancies
- Improve birth outcomes
- Reduce perinatal and environmentally related effects of maternal and/or paternal drug abuse on infants and children
- Improve the mental and physical health of the women and children
- Prevent mental, emotional, and behavioral disorders among the children
- Improve parenting skills, family functioning, economic stability, and quality of life
- Decrease involvement in and exposure to crime, violence, and neglect
- Decrease physical, emotional, and sexual abuse for all family members

Staff members were trained regarding these strategies for improving outcomes for men and women with substance abuse disorders, and these specific services were offered for pregnant and post-partum women across a three-year period. During this timeframe, 363 participants applied for and were provided services for drug and alcohol use and abuse. Upon intake, each participant signed an informed consent and also filled out the CSAT GPRA Client Outcome. Measures for Discretionary Programs measure and self-reported demographic data along with frequencies of various types of drug and alcohol use. After receiving treatment and counseling for drug and alcohol use, the CSAT GPRA was again filled out at an average of 6 months later. Forty-seven percent (47%) of participants interviewed at intake were contacted and subsequently retained at the 6-month follow-up and again completed the CSAT GPRA measurement tool (169 of 363).

## Results

The average participant age was 28.3 years (SD = 5.2 years). The youngest participant was 16 years at the time of intake and the oldest was 45 years. Participants were 88% white, 10% black, and 2% another race. Additionally, 11% of the participants were male,

because services were available to both the mother and/or the father. Less than 2% of the participants had served in the military at some point. Seventy-seven percent (77%) of participants had been living housed, either in their own home or that of someone else (40% of those housed), a shelter (28%), a dormitory (1%), halfway house (4%), or in a residential setting (4%), or refused to answer (23%). Four percent (4%) had been living in a shelter and one person (.3 percent of the sample) indicated that they were homeless at the time of intake.

While thirty percent (30%) of participants at intake reported that they had not used either drugs or alcohol in the past 30 days, those who did report using drugs or alcohol in the last 30 days said that their substance use was extremely stressful (56%), considerably stressful (12%), somewhat stressful (14%), or not all stressful (17%). Additionally, of the 70 percent of the sample having used drugs or alcohol in the last 30 days, sixty percent (60%) of them reported that this behavior caused considerable or often extreme emotional problems. Sixty-eight percent (68.5%) of participants reported less than a high school education, while thirteen percent (13%) reported having finished high school, and fifteen percent (15%) reported having gone to college, though only five percent (4.5%) had earned a higher degree of some type. Only seventeen (17%) of participants were employed at the time of intake. Total monthly income was self-reported using all possible sources including wages, public assistance, retirement, disability, illegal income, and money provided by family and/or friends. Eleven percent (11%) of participants reported having no income while ten percent (10%) reported income higher than \$1500 per month. Twenty percent (20%) who reported some type of income had less than \$500 per month. Thirty-one percent (31%) had income between \$500 and \$1500 per month.

Alcohol and drug use was measured via self-reported behaviors using the CSAT GPRA Client Outcome Measures for Discretionary Programs. (Table 1) shows the average number of days' use during the last 30 days for various types of substances. Three hundred sixty-three (363) CSAT GPRA's were completed at baseline and 169 of those participants returned at follow-up to complete another CSAT GPRA at the second wave. However, in order to conduct a fair and meaningful analysis of change across the two waves of data, (Table 1) includes only the 169 participants retained at wave 2 and were matched to the same 169 participants present at wave 1. This matching technique essentially controls for the possible bias of including the responses of participants who were not present at follow-up possibly because they were difficult to locate, causing their responses to not be missing at random. Baseline means were not affected by participant responses who were not present at follow-up. Table 1 clearly shows an across the board decline in substance use for alcohol, opiates, cocaine, meth, benzodiazepines, and other illegal drugs at the six-month follow-up.

Reported use in the last 30 days	Intake		6 Month Follow-up	
	Mean	SD	Mean	SD
Alcohol	0.88	3.55	0.35	1.78
Illegal Drugs	7.72	10.76	2.60	7.23
Crack Cocaine	0.52	2.48	0.21	1.86
Marijuana or Hash	2.25	6.06	1.14	4.53
Heroin	1.34	4.97	0.55	3.35
Morphine	0.59	3.20	0.19	2.17
Dilaudid	0.00	0.00	0.00	0.00
Percocet	0.70	3.90	0.01	0.08
Codeine	0.01	0.15	0.00	0.00
Oxycodone	2.14	6.49	0.44	3.30
Methadone	0.12	1.11	0.00	0.00
Methamphetamine	0.41	2.18	0.36	2.64
Benzodiazepines	0.94	3.78	0.40	2.48
Ketamine	0.00	0.00	0.00	0.00
Other Tranquilizers	0.08	1.05	0.07	0.92
Other Illegal Drugs	2.48	7.10	0.88	4.29
Injected Drugs	0.17	0.37	0.07	0.26

**Table 1:** Substance use at intake and follow-up for retained sample (N=169).

## Discussion

Previous research has shown that substance abuse by pregnant and post-partum women is a large and growing problem in many areas of the United States, especially in the southern region. There is a lack of mental health services specifically designed to confront this growing problem in this at-risk population. For pregnant and post-partum women, negative outcomes are not restricted to the user, but can also be far reaching to the lives of their children and families of those addicted. This population suffers from lack of social and family support. Adequate education and employment is lacking and ultimately results in a lack of income that might be used to provide necessities. The Tennessee Residential Treatment Program for Pregnant and Postpartum Women was designed to encourage and support positive outcomes in the lives of pregnant and post-partum women and their families and was effective as seen in a reduction of alcohol and drug use over a 6-month period. This project was limited by lack of a control group and also could have followed the participants for a longer period of time to ensure that the changes seen over the short term were sustained. Additionally, yearly follow-ups should be conducted to explore the sustainability of the program itself and to monitor the number of clients served in the future.

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