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Substance Use, Victimization, HIV/AIDS Risk, And Recidivism Among Females in A Therapeutic Justice Program

Abenaa Acheampong Jones¹, Catina Callahan O'Leary², Catherine W. Striley³, Travis Gerke⁴, Robert Crecelius⁵, James Sullivan⁶, and Linda B. Cottler³

¹Department of Mental Health, Johns Hopkins School of Public Health, Baltimore, MD, USA

²St. Louis Health Literacy Center, St. Louis, MO

³Department of Epidemiology, University of Florida, Gainesville, FL, US

⁴Moffitt Cancer Center, Tampa, FL, USA

⁵City of St. Louis, Department of Human Services, USA

⁶Circuit Judge, State of Missouri, USA

Abstract

This analysis examines the association between crack/cocaine use only and the SAVA syndemic ((any substance use, AND being exposed to violence, AND having HIV/AIDS risk behaviors) at baseline and any felony, misdemeanor, or municipal violations by an 8-month follow-up. Data comes from 317 women recruited from a Municipal Drug Court System in the Midwest. Among the sample, 45% of the women had at least one felony, misdemeanor, or a municipal violation at the 8-month follow-up (felony: 20%; misdemeanor or municipal violation 25%). Multinomial regression revealed that crack/cocaine use and SAVA at baseline were associated specifically with misdemeanors OR 2.21 (95% CI: 1.21, 4.04) and OR 3.60 (95% CI: 1.23, 10.56) respectively, no increases in odds of felonies were evident. Women with a higher number of lifetime arrests were also significantly more likely to have a greater number of offenses postbaseline, while black women were considerably less likely to be charged with misdemeanors. Recent crack/cocaine use with or without the mutually reinforcing issues of victimization, and HIV/AIDS risk behaviors significantly increased the odds of a misdemeanors/municipal violation. However, significant increases in odds of more severe offenses (felonies) were not evident. Interventions aimed to reduce offenses should offer additional support for crack/cocaine users.

Introduction

Substance Use Among Females in Criminal Justice System

The United States has the highest incarceration rate in the world with 707 per 100,000 residents incarcerated (Welyt et al., 2016; Meyer, Cepeda, Taxman, Altice, 2015; Konecky, Cellucci, Mochrie, 2016; Lichtenstein, & Malow, 2016). With over 3 million women

Correspondence should be sent to Abenaa Acheampong Jones, Johns Hopkins University, Bloomberg School of Public Health, Department of Mental Health, 624 North Broadway, 8th Floor, Baltimore MD 21205-1999, aacheam1@jhmi.edu).

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arrested in the US each year, women are the fastest growing prison population (Hall, Golder, Conley, & Sawning, 2013; Scott, Grella, Dennis, & Funk, 2014; Abram, Teplin, & McClelland, 2003; Greiner, Law, & Brown, 2014; Millay, Satyanarayana, O'Leary, Crecelius, & Cottler, 2009). Though substance use and other related problems are common among women in the criminal justice system, data regarding these issues is sparse (McGee, Baker, Davis, Muller, & Kelly, 2014; Abram et al., 2003).

The Emergence of Drug Courts

To address the problem of drug-related incarceration, therapeutic justice interventions like drug courts have emerged and are increasing in popularity (Konecky et al., 2016; Festinger, Dugosh, Kurth, & Metzger, 2016; Morse, Silverstein, Thomas, Bedel, & Cerulli, 2015; Liang, Knottnerus, & Long, 2016). Drug courts incorporate community-based substance use treatment services, along with social services to achieve sobriety and improve the social and economic well-being of participants (Festinger et al., 2016; Morse et al., 2015). In a drug court model, non-compliant participants are sanctioned with monitoring systems, short-term incarceration, and other legal consequences, while compliant participants are given incentives to elicit behavior change and compliance (Liang et al., 2016; Mitchell, Wilson, Eggers, & MacKenzie, 2012; Morse et al., 2015).

Recidivism

A primary goal of the criminal justice system is to reduce recidivism among offenders (Fulkerson, Keena, & O'Brien, 2013). Approximately one-third of female offenders return to prison within three years of release; 66% of incarcerated women are repeat offenders (Millay et al., 2009). Research recognizes the critical interplay of gender in criminal justice involvement (Greiner, Law, Brown, 2014; Millay et al., 2009; Fries, Fedock, & Kubiak, 2014). While the most common pathways into the criminal justice system for men stems from using violence as a mean to control and associating masculinity with illegal behaviors, the most common pathways for women stem from substance abuse and often comorbid factors such as risky sexual behaviors such as sex trading and victimization (Fries et al., 2014; Greiner et al., 2014; Scott et al., 2014). The often synergistic and mutually reinforcing factors of substance use, exposure to violence, and risky sexual behaviors that can lead to HIV/AIDS termed the SAVA syndemic, is also prevalent among women in the criminal justice system (Singer, 1996; Meyer, Springer, Altice, 2011). Because of the varying pathways to the criminal justice system for men and women, gender-specific interventions and services are needed (Fries et al., 2014). It is of particular importance that we address factors associated with women in the criminal justice system, as maternal incarceration has been shown to be the strongest predictor of future incarceration of children (Mufti, Bouffard, & Armstrong, 2015).

Gaps in Knowledge

Though a few studies have shown substance use to strongly predict recidivism, more research in this area is needed (Stanton-Tindall, Harp, Winston, Webster, & Pangburn, 2015; Gallagher et al., 2015). Stanton-Hill and colleagues (2015) argue that substance use, as with other mental health disorders, has been traditionally under-represented in studies examining recidivism due to changes in use over time, difficulties in measurement, and the view of

individual substance use as inferior to public safety. Drug courts may provide an avenue to conduct much-needed research among populations at high risk for substance-related issues and comorbidities.

Because women involved in the criminal justice system who are recent crack/cocaine users have been shown to be less likely to change their high-risk behaviors than women who do not use crack/cocaine, it is essential to assess types of offenses correlated with crack/cocaine use, and explore factors that may lead to improved criminal justice outcomes. This analysis examines: 1) the association between crack/cocaine use at baseline (compared with no crack/cocaine use) and *type of offense* by an 8-month follow-up (at least one felony charge, at least one misdemeanor or municipal violation -but no felony charge, or no offense), 2) the association between crack/cocaine use at baseline (compared with no crack/cocaine use) and the *number* of felonies and misdemeanor/municipal violations at an 8-month follow-up, 3) the association between SAVA (any substance use, AND being exposed to violence, AND having HIV/AIDS risk behaviors) at baseline and *type of offense* at an 8-month follow-up (at least one felony charge, at least one misdemeanor or municipal violation charge-but no felony charge, or no offense), 4) the association between SAVA (compared with no SAVA) at baseline and the *number* of felonies and misdemeanor/municipal violations at an 8-month follow-up. Additionally, we aim to explore other structural and social factors that have been traditionally and distinctly linked with incarceration among women including intervention assignment, race, unstable housing, and socioeconomic status.

Methods

Outreach and Data Collection

The sample was derived from the Sisters Teaching Options for Prevention project (STOP) (N=319), a National Institute of Nursing Research (NINR) funded randomized field study (R01NR09180, PI: Cottler). STOP staff recruited women mainly from a Municipal Drug Court System in the Midwest between the years of 2005–2008. Women at least 18 years of age, present in court, with no cognitive disability, and interested were scheduled to be interviewed by research staff. Around 12% of the sample was recruited from community treatment centers and other judicial programs (e.g., half-way houses). All STOP participants received a standard intervention (SI) which consisted of the National Institute on Drug Abuse (NIDA) standard pre and post HIV test counseling; half of the women were randomized into a Peer Partnered Case Management Intervention (PPCMI), where they also received up to 40 hours of case management (Johnson et al., 2011). All participants were interviewed using the Washington University Risk Behavior Assessment (WU-RBA) (Shacham, & Cottler, 2010). The WU-RBA, adapted from NIDA's Risk Behavior Assessment, assessed crack/cocaine use, and socio-demographic information (Needle et al., 1995). This study was approved by the Washington University in St Louis Institutional Review Board.

Comprehensive Criminal Justice Records and Recidivism

Access to official criminal justice data was obtained through a partnership between the Presiding Judge of the St. Louis City Municipal Court, Judge James Sullivan, and the

Washington University investigators (Reingle et al., 2013). Comprehensive criminal justice records were garnered from three Criminal Justice Data Banks. Summons and arrest files on local municipal violations were derived from the *Regional Justice Information System (REJIS)*, which, in partnership with the Bureau of Justice Statistics, is a leading source of criminal justice data used for current criminal justice related analyses (Reingle et al., 2013; Frandsen, Naglich, Lauver, Lee). The REJIS Municipal Court files and manual files, maintained by the City of Saint Louis Probation Office, provided demographic identifiers used to associate arrest records and individuals. The *Missouri Uniform Law Enforcement System (MULES)* arrest file database was used to garner information regarding misdemeanor and felony arrests in Missouri. The *National Crime Information Center (NCIC) Interstate Identification Index (Triple I)* was used to extract data on arrests that occurred outside the state of Missouri.

To assess recidivism, a data abstraction form developed to ensure that offense data were separated correctly by follow-up time, was used to identify felonies, misdemeanors, or municipal violations in the period between baseline and 8-month follow-up. This analysis evaluates types of charges (felony, misdemeanors, municipal violations) and the number of charges. It is important to note that complete data on charges were unavailable for 2 participants who were deceased by the 8-month follow-up. Prior data on these women were excluded from the analyses, reducing the final sample size to 317 women.

Recent Use of Crack/Cocaine and Other Substances

To assess crack/cocaine drug use, participants were asked: “How many days have you used (crack/cocaine) in any way in the last 30-days?” Participants who used crack/cocaine at least one day were classified as crack/cocaine users. Recent use of any substance was defined as using any substance (crack/cocaine, marijuana, stimulants, and heroin) at least one time in the past 30 days.

Violence

Participants were considered having experienced violence if they answered “yes” to at least one of these questions: 1) “During the past 4 months, has anyone attacked you with a gun?”, 2) “During the past 4 months, has anyone pressured or forced you to participate in sexual acts against your will?”, 3) “During the past 4 months, has anyone abused you emotionally, that is, did or said things to make you feel very bad about your life?”, 4) “During the past 4 months, has anyone hurt you to the point that you had bruises, cuts, broken bones, or otherwise physically abused you?”, and 5) “During the past 4 months, has anyone attacked you with knife, stick, bottle, or other weapon?”.

HIV/AIDS Risk Behavior

Participants who reported having at least one at-risk partner (an injection drug user or has other partners simultaneously) or 2+ sex partners and 1+ reported unprotected sex act (any unprotected vaginal, anal, or oral sex) in the past 4 months were considered to meet the criteria for HIV/AIDS risk behaviors.

SAVA Criteria

Participants who met all three criteria at baseline (any substance use in the past 30 days, any exposure to violence, and HIV/AIDS risk behaviors) were considered to have the SAVA syndemic. A 3-level variable was created: “0” (no SAVA component criterion met), “1” (one or two SAVA component criteria met), “2” (all three SAVA component criteria met).

Covariates

Covariates assessed in this analysis include: social support (having someone to talk to and ask for favors vs. not having anyone), child sexual abuse before the age of 15 (yes vs. no), arrest history (4+ lifetime arrests vs. 3 or fewer lifetime arrests), intervention group (PPCFMI vs. SI), family upbringing (separated 6+ months from parents in childhood vs. never separated that long). Socio-demographic variables included: age (18–29 vs. 30+), race (black vs. non-black), education (high school diploma+ vs. no high school diploma), unstable housing (living on the streets, with others, halfway house, etc. vs. living in own house or apartment).

Analyses

Chi-square analyses and multinomial logistic regression determined the association between crack/cocaine use only, SAVA, and type of offenses, while negative binomial regression assessed correlates of number of offenses. All analyses were conducted using SAS 9.4 (SAS Institute Inc).

Results

Recidivism

Approximately 45% of the participants (N=143) were charged with at least one municipal violation, misdemeanor, or felony 8-months post baseline (Figure 1). The three most common types of offenses were municipal violations alone (20%), felonies alone (11%), and felonies and misdemeanors combined (4%). Due to the varying patterns of offenses, a simplified offense variable that combined charges was created (Figure 2). In total, 174 participants (55%) had no offense 8-month post baseline, 25% had at least one misdemeanor or municipal violation, but no felony charge, and 20% of participants had at least one felony charge alone or in conjunction with a misdemeanor and/or municipal violation.

Socio-Demographic Characteristics

In our sample, 223 participants (70%) self-identified as black, nearly a third (28%) were 18–29 years of age, almost half (46%) had less than a high school diploma, and three-quarters (76%) reported unstable housing (Table 1). The majority (77%) of the women reported that they had someone to confide in and ask for favors. Half of the women (51%) reported child sexual abuse before the age of 15, while nearly three quarters (72%) reported that they had been separated for at least 6 months from at least one parent during their childhood. Recent crack/cocaine use was common, with one-third reporting past 30-day use of crack/cocaine. Nearly 20% of the women had all the SAVA criteria -- any substance, exposure to at least one act of violence in the last 4 months, and met the criteria for having HIV/AIDS risk

behaviors. The results of the chi-square analyses showed that race, number of arrests, unstable housing, SAVA, and recent crack/cocaine use was associated with offenses at the 8-month follow-up at the .05 significance level.

Adjusted Multinomial and Negative Binomial Regression Predicting Offenses 8-Months Postbaseline

We used two multinomial regressions predicting type of offenses (Table 2): 1) a model examining crack/cocaine use and type of offenses and 2) a model investigating SAVA and nature of offenses. The results of the adjusted multinomial regression model revealed that women who used crack/cocaine at baseline, compared to women who did not, had over two times the odds of having at least one misdemeanor/municipal violation (AOR 2.21, CI 1.21–4.04); but, crack/cocaine users did not have a significant difference in odds of having a felony compared with their non-using counterparts. Arrest history was the most robust correlate of misdemeanors/municipal violations (AOR 2.36, CI 1.15, 4.89); arrest history was not significantly associated with having a felony offense.

Though race was not significantly associated with a felony offense in the adjusted model, those who were black, compared to those who were non-black, were substantially less likely to have at least one misdemeanor/municipal violation (AOR 0.48, CI 0.26, 0.89). Age was the only significant correlate of having a felony charge, with women between the ages of 18–29, compared to older women, at increased odds of a felony offense (AOR 1.91, CI 1.03–3.62). In the second model that assessed SAVA and types of offenses, women who met the criteria for SAVA, compared to women who did not meet any component criterion, had nearly 4 times the odds of misdemeanors/municipal violations, however, they had reduced odds of felonies (AOR .31, 95% CI .10-.99). Women who met one or more component criteria for SAVA did not have significantly elevated odds of offenses compared to those who met none. Significant correlates of offenses were the same as those in the crack/cocaine model and similar in strength, with black race and arrest history predicting misdemeanors/municipal violations and younger age alone predicting felonies.

Next, we examined correlates of number of offenses among the women using negative binomial regressions (Table 3). Because descriptive statistics showed that the conditional mean of number of felonies was slightly different than the conditional variance, a negative binomial regression was used to model the number of felonies in the past 8-months. An overall goodness of fit chi-square analyses of model fit yielded a non-significant p value (1.00), further supporting the use of negative binomial regression. Results revealed no significant difference in incident rate ratio (IRR) of number of felonies among crack/cocaine users compared with those who did not use crack/cocaine. However, there was a trend (p value .07) for those categorized as having the SAVA syndrome to have substantially fewer felony charges than those who did not meet the criteria (IRR .39, CI .14, 1.08).

Because there was significant over-dispersion in the number of misdemeanors/municipal violations, a negative binomial regression was used to assess correlates of misdemeanors/municipal violations. An overall goodness of fit chi-square analysis of model fit yielded a non-significant p value (.99), supporting this analytical approach. Results show that prior arrest history was correlated with a higher number of misdemeanors/municipal violations,

while race was correlated with a reduced number of misdemeanors. Specifically, individuals with 4 or more lifetime arrests had nearly 5 times the incidence of misdemeanors/municipal violations compared to those who had fewer lifetime arrests (Model 1 IRR 4.76, CI 2.35, 9.63; Model 2 IRR 4.72, CI 2.37, 9.40).

Discussion

This study examined the association of recent crack/cocaine use, having the SAVA syndemic, and specific types of offenses among women with criminal justice system involvement. Results show that by 8-months post-baseline, 45% of women were charged with at least one felony, misdemeanor, or municipal violation. Though details on specific crimes committed by participants were unavailable, commentary from a high-ranking drug court official indicated that many of these offenses stemmed from the reinstatement of original offenses, a consequence for failing to comply with drug court requirements. Increased number of offenses may be attributed to companion cases -- multiple charges resulting from one incident.

Notably, felony charges usually stemmed from drug possession and small sales of drugs, while misdemeanor charges typically stemmed from prostitution-related offenses. Municipal violations, however, arose from small local infractions, which have been specifically labeled by the Department of Justice in its investigation of the criminal justice system in the city of Ferguson (a city in the Greater St. Louis Metropolitan Area), as excessively punitive and discriminatory against marginalized populations (United States Department of Justice Civil Rights Division, 2015).

In this study, crack/cocaine use alone and SAVA was associated with increased misdemeanors/municipal violations and not more severe types of offenses. This suggests that the Municipal Drug Court system is capturing the intended population of substance users, non-violent drug offenders for these kinds of justice interventions.

Our study aimed to explore intervention group and other structural and social factors linked with incarceration among women (Fries et al., 2014; Krebs, Lindquist, Koetse, & Lattimore, 2007). The results showed that intervention was not significantly associated with offenses. The lack of a significant association may be a consequence of the sub-optimal uptake of the PPCMI. Though women could utilize up to 40 hours of the case management intervention, most women utilized less than 20 hours. It is thought that the rigorous demands of drug courts and maintaining sobriety may have reduced women's capacity to engage in additional intervention.

In our sample of mainly women in drug court, black women were significantly less likely to have an offense 8-months post-baseline compared to non-black women. This corroborates with a previous analysis on this sample which found substantially fewer self-reported arrests for black women compared to non-black women between baseline and 4-month follow-up (Johnson et al., 2011). Other studies have found that those who were black tended to have poorer outcomes in therapeutic justice programs (Krebs, Lindquist, Koetse, & Lattimore, 2007; Gallagher, 2013). Some have found no racial disparities (Gallagher et al., 2015). A

possible explanation may lie in the fact that blacks have been shown to have worse drug court outcomes in drug courts where minorities are underrepresented, while no racial disparities have been found in drug courts with relatively equal numbers of minorities and non-minorities (Gallagher, 2013; Gallagher et al., 2015). In our study, blacks comprised 70% of the sample; since under-representation in drug court has been shown to be linked with poorer outcome, this may explain why non-blacks were significantly more likely to have an offense by the 8-month follow-up. This racial discrepancy may also be attributed to a female only sample, which may suggest that there may be gender differences between black males and females and drug court outcomes. This may especially be profound as black males are significantly more likely to be involved in the criminal justice system than black females.

It was surprising that having an unstable parent/child relationship, unstable housing, lower education, and child sexual abuse were not significantly associated with offenses as these factors have been shown to be associated with initial and continual involvement in the criminal justice system (Fulkerson et al., 2013; Degenhardt, & Hall, 2012). The lack of association in these variables may in part be attributed to the high prevalence of these factors in this sample, leaving little room for variation. Also, proximal factors may have a stronger effect on present behavior than distal factors.

Other significant correlates included arrest history and age. In our sample, women who had 4 or more arrests were significantly more likely to have future misdemeanor/municipal violations, while women who were younger were significantly more likely to have future felony charges. These results are expected as both arrest history and younger age are linked with deviant behaviors and have been linked with poorer outcomes in therapeutic justice programs (Gallagher et al., 2015; Fulkerson et al., 2013).^{15,21} Arrest history was not associated with future felonies, suggesting that women with a greater number of arrests were low-level offenders. This may be an important finding as it indicates that those with lengthy arrest histories in drug court may not be violent.

Limitations and Strengths

The main limitation in this study centers on the fact that the sample of female offenders was not randomly chosen – a necessary ethical condition of this type of criminal justice situated intervention opportunity; thus, the findings may not be generalizable to all females in drug court. Additionally, data on crack/cocaine use and other sensitive topics such as child sexual abuse and current risky sexual behaviors was self-reported – again, a necessary condition for these types of exposures. While women are trusted to recall that sensitive activities occurred, social desirability bias is a risk.

The study is strengthened by the inclusion of official and complete criminal justice records to examine offenses. The sample size is respectable and reliable, and valid standardized instruments were used to assess factors necessary to analyze the association between crack/cocaine and other important correlates and offenses among an understudied and marginalized population of women.

Conclusion

In this sample of women enrolled in a therapeutic justice program, crack/cocaine use and the SAVA syndemic was a significant predictor of future misdemeanors/municipal violations. Interventions to reduce offenses in a similar population should consider the periodic assessment of substance use, especially crack/cocaine use and offer support for those who screen positive. Although women who recently used crack/cocaine or had the SAVA syndemic were more likely to reoffend than women who did not, they were not at higher odds of engaging in more serious offenses. This may be a positive outcome associated with participation in a therapeutic justice program. This study provides further support for the development of gender-based substance use interventions to improve health and social outcomes of high-risk women (Blankenship, Reinhard, Sherman, & El-Bassel, 2015; Binswanger et al., 2010; Messina, Grella, Cartier, Torres, 2010). Such interventions should be trauma-informed and include HIV/AIDS prevention practices.

Acknowledgements:

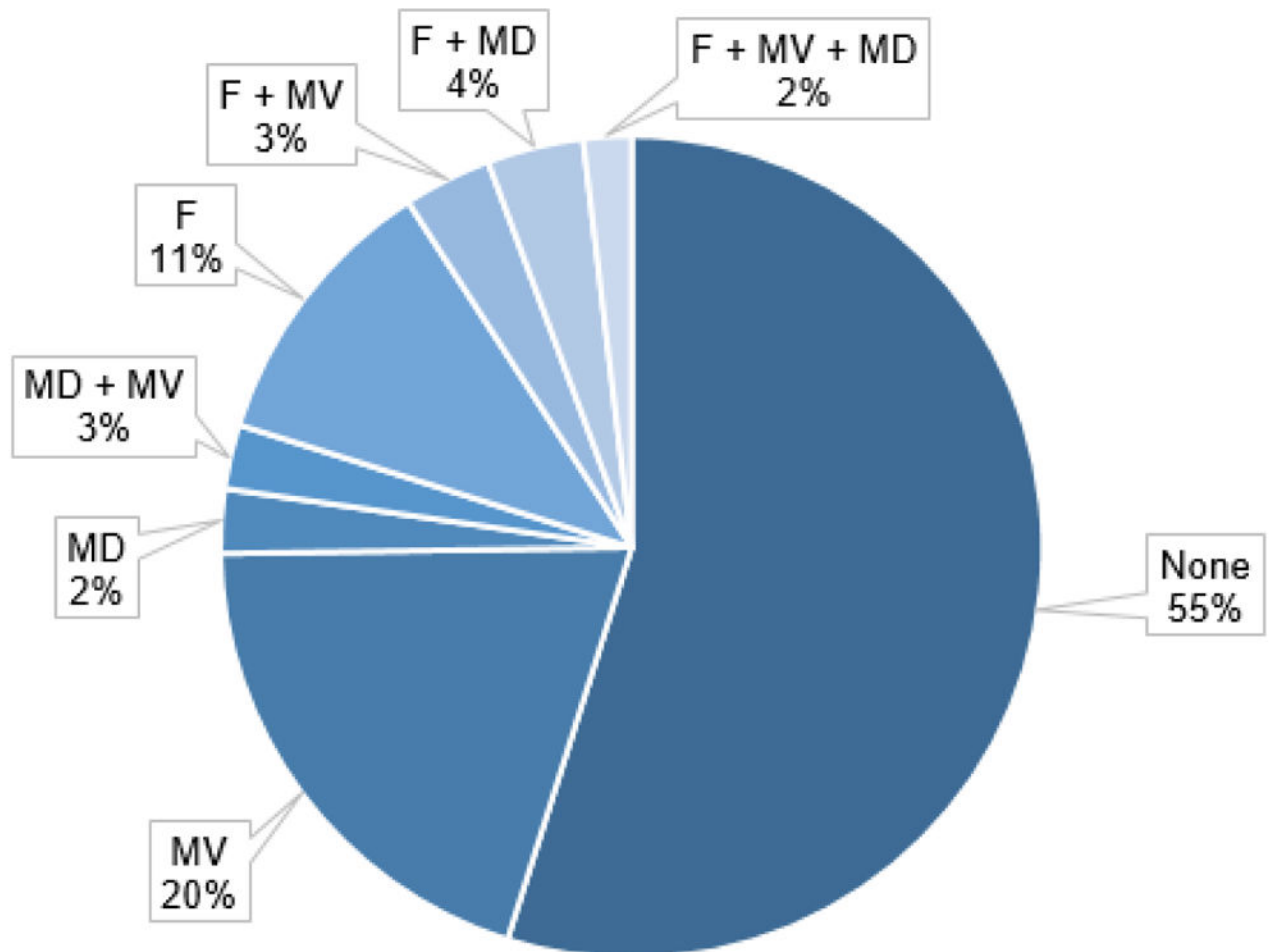
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References

1. Welty LJ, Harrison AJ, Abram KM, Olson ND, Aaby DA, McCoy KP, Washburn JJ, & Teplin LA (2016). Health disparities in drug-and alcohol-use disorders: A 12-year longitudinal study of youths after detention. *American Journal of Public Health, 106*(5), 872–880 [PubMed: 26985602]
2. Meyer JP, Cepeda J, Taxman FS, & Altice FL (2015). Sex-related disparities in criminal justice and HIV treatment outcomes: a retrospective cohort study of HIV-infected inmates. *American Journal of Public Health, 105*(9), 1901–1910. [PubMed: 26180958]
3. Konecky B, Cellucci T, & Mochrie K (2016). Predictors of program failure in a juvenile drug court program. *Addictive Behaviors, 59*, 80–83. [PubMed: 27077963]
4. Lichtenstein B, & Malow R (2010). A critical review of HIV-related interventions for women prisoners in the United States. *Journal of the Association of Nurses in AIDS Care, 21*(5), 380–394. [PubMed: 20350816]
5. Hall MT, Golder S, Conley CL, & Sawning S (2013). Designing programming and interventions for women in the criminal justice system. *American Journal of Criminal Justice, 38*(1), 27–50.
6. Scott CK, Grella CE, Dennis ML, & Funk RR (2014). Predictors of recidivism over 3 years among substance-using women released from jail. *Criminal Justice and Behavior, 0093854814546894*.
7. Abram KM, Teplin LA, & McClelland GM (2003). Comorbidity of severe psychiatric disorders and substance use disorders among women in jail. *American Journal of Psychiatry, 160*(5), 1007–1010. [PubMed: 12727711]
8. Greiner LE, Law MA, & Brown SL (2014). Using dynamic factors to predict recidivism among women a four-wave prospective study. *Criminal Justice and Behavior, 0093854814553222*.
9. Millay TA, Satyanarayana VA, O’Leary CC, Crecelius R, & Cottler LB (2009). Risky Business: Focus-status analysis of sexual behaviors, drug use and victimization among incarcerated women in St. Louis. *Journal of Urban Health, 86*(5), 810–817. [PubMed: 19533363]
10. McGee ZT, Baker SR, Davis BL, Muller DJ, & Kelly AB (2014). Examining risk factors for recidivism and disparities in treatment among female probationers. *Journal of Sociology, 2*(2), 219–232.
11. Festinger DS, Dugosh KL, Kurth AE, & Metzger DS (2016). Examining the efficacy of a computer facilitated HIV prevention tool in drug court. *Drug and Alcohol Dependence, 162*, 44–50. [PubMed: 26971228]

12. Morse DS, Silverstein J, Thomas K, Bedel P, & Cerulli C (2015). Finding the loopholes: A cross-sectional qualitative study of systemic barriers to treatment access for women drug court participants. *Health & Justice*, 3(1), 1–9.
13. Liang B, Knottnerus JD, & Long MA (2016). A Theoretical Model of Drug/DUI Courts: An Application of Structural Ritualization Theory. *American Journal of Criminal Justice*, 41(1), 31–46.
14. Mitchell O, Wilson DB, Eggers A, & MacKenzie DL (2012). Assessing the effectiveness of drug courts on recidivism: A meta-analytic review of traditional and non-traditional drug courts. *Journal of Criminal Justice*, 40(1), 60–71.
15. Fulkerson A, Keena LD, & O'Brien E (2013). Understanding success and nonsuccess in the drug court. *International Journal of Offender Therapy & Comparative Criminology*, 57(10), 1297–1316. [PubMed: 22641858]
16. Fries L, Fedock G, & Kubiak SP (2014). Role of gender, substance use, and serious mental illness in anticipated postjail homelessness. *Social Work Research*, 38(2), 107–116
17. Singer M. (1996). A dose of drugs, a touch of violence, a case of AIDS: conceptualizing the SAVA syndemic. *Free Inquiry in Creative Sociology*, 24(2), 99–110.
18. Meyer JP, Springer SA, & Altice FL (2011). Substance abuse, violence, and HIV in women: A literature review of the syndemic. *Journal of Women's Health* 20(7).
19. Mufti LR, Bouffard LA, & Armstrong GS (2015). Impact of maternal incarceration on the criminal justice involvement of adult offspring a research note. *Journal of Research in Crime and Delinquency*, 0022427815593988.
20. Staton-Tindall M, Harp KL, Winston E, Webster JM, & Pangburn K (2015). Factors associated with recidivism among corrections-based treatment participants in rural and urban areas. *Journal of Substance Abuse Treatment*, 56, 16–22. [PubMed: 25858761]
21. Gallagher JR, Nordberg A, Deranek MS, Ivory E, Carlton J, & Miller JW (2015). Predicting termination from drug court and comparing recidivism patterns: Treating substance use disorders in criminal justice settings. *Alcoholism Treatment Quarterly*, 33(1), 28–43.
22. Johnson JE, O'Leary CC, Striley CW, Abdallah AB, Bradford S, & Cottler LB (2011). effects of major depression on crack use and arrests among women in drug court. *Addiction*, 106(7), 1279–1286. [PubMed: 21306595]
23. Shacham E, & Cottler L (2010). Sexual behaviors among club drug users: Prevalence and reliability. *Archives of Sexual Behavior*, 39(6), 1331–1341. [PubMed: 19757011]
24. Needle R, Fisher DG, Weatherby N, Chitwood D, Brown B, Cesari H, Booth R, Williams ML, Watters J, Andersen M and Braunstein M (1995). Reliability of self-reported HIV risk behaviors of drug users. *Psychology of Addictive Behaviors*, 9(4), p.242.
25. Reingle JM, Striley CW, Small E, Crecelius R, O'Leary CC, & Cottler LB (2013). Can courtroom behavior predict recidivism? An assessment of the courtroom behavior check list for women presenting in drug court. *American Journal of Criminal Justice*, 38(4), 520–534.
26. Frandsen RJ, Naglich D, Lauver GA, Lee AD, Regional Justice Information Service (REJIS), & United States of America. (2013). Background Checks for Firearm Transfers, 2010-Statistical Tables. *National Criminal Justice*, 238226.
27. SAS 9.4. SAS Institute Inc., Cary, NC, USA
28. United States Department of Justice Civil Rights Division. (2015). Investigation of the Ferguson Police Department. https://www.justice.gov/sites/default/files/opa/press-releases/attachments/2015/03/04/ferguson_police_department_report.pdf
29. Krebs CP, Lindquist CH, Koetse W, & Lattimore PK (2007). Assessing the long-term impact of drug court participation on recidivism with generalized estimating equations. *Drug and Alcohol Dependence*, 91(1), 57–68. [PubMed: 17604918]
30. Gallagher JR (2013). Drug court graduation rates: Implications for policy advocacy and future research. *Alcoholism Treatment Quarterly*, 31(2), 241–253.
31. Degenhardt L, & Hall W (2012). Extent of illicit drug use and dependence, and their contribution to the global burden of disease. *The Lancet*, 379(9810), 55–70.

32. Blankenship KM, Reinhard E, Sherman SG, & El-Bassel N (2015). Structural interventions for HIV prevention among women who use drugs: A global perspective. *Journal of Acquired Immune Deficiency Syndromes*, 69, S140–S145. [PubMed: 25978480]
33. Binswanger IA, Merrill JO, Krueger PM, White MC, Booth RE, & Elmore JG (2010). Gender differences in chronic medical, psychiatric, and substance-dependence disorders among jail inmates. *American Journal of Public Health*, 100(3), 476–482. [PubMed: 19696388]
34. Messina N, Grella CE, Cartier J, & Torres S (2010). A randomized experimental study of gender-responsive substance abuse treatment for women in prison. *Journal of Substance Abuse Treatment*, 38(2), 97–107. [PubMed: 20015605]



Municipal Violation (MV) Misdemeanor (MD) Felony (F)

■ None ■ MV ■ MD ■ MD + MV ■ F ■ F + MV ■ F + MD ■ F + MV + MD

Figure 1.
Patterns of Offenses 8-months Post Baseline (N=317)

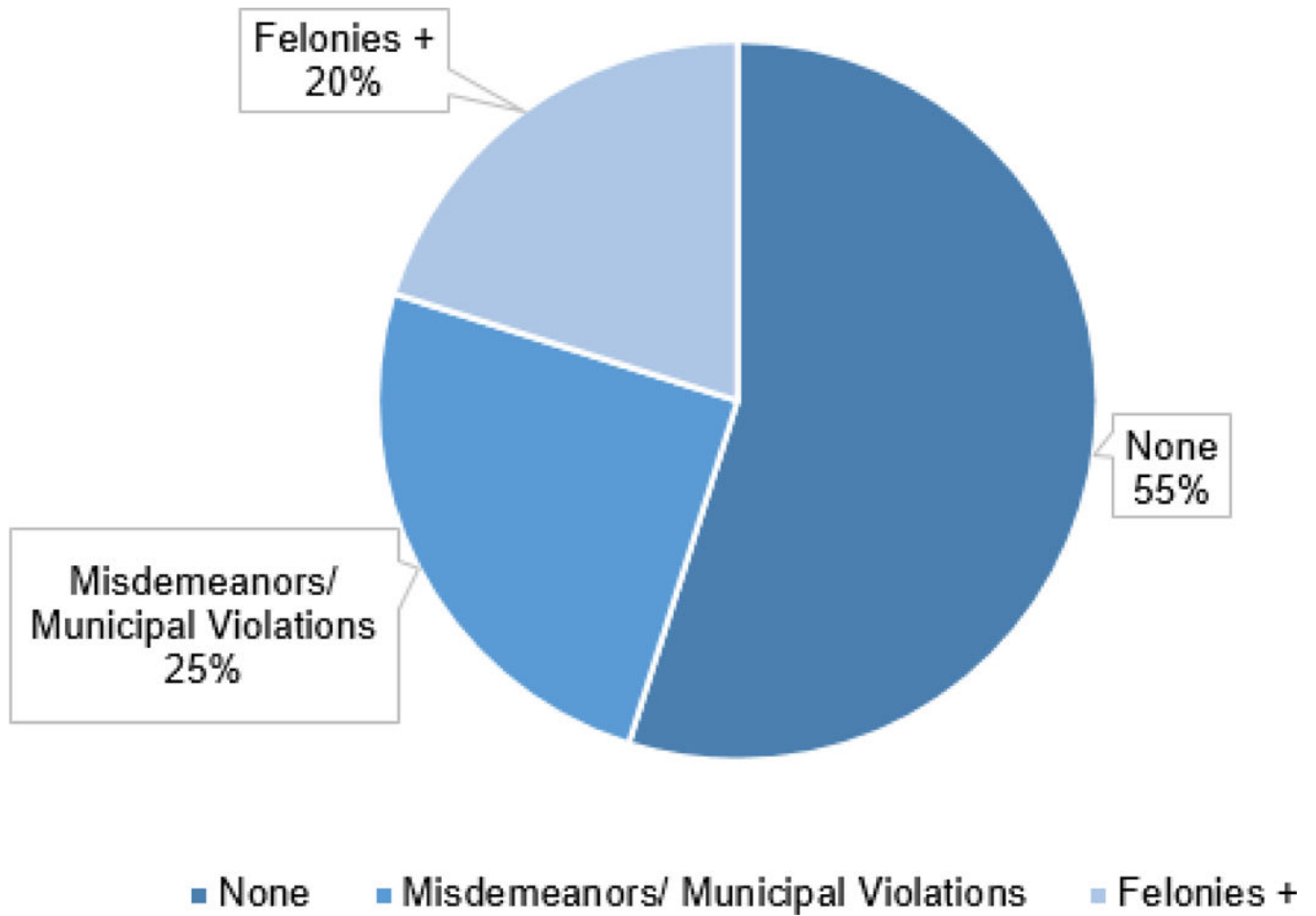


Figure 2.
Types of Offenses 8-months Post Baseline (N=317)

Table 1. Socio-Demographic Characteristics of the Sample by Charges 8-Months Post Baseline (N=317)

Demographic Characteristics	Felony Charge N=64 (20%)	Misdemeanor or Municipal Violation N=79 (25%)	No Charge N=174 (55%)	Total N=317 (100%)	p value
Black	41 (64%)	48 (61%)	134 (77%)	223 (70%)	.02
18-29 yrs. of age	25 (39%)	18 (23%)	45 (26%)	88 (28%)	.07
Has social support	25 (86%)	62 (77%)	130 (75%)	247 (77%)	.18
Less than high school diploma	31 (48%)	44 (56%)	72 (41%)	147 (46%)	.10
Child Sexual Abuse (before age 15)	31 (48%)	43 (54%)	88 (51%)	162 (51%)	.74
Separated from parents 6+mos (before age 15)	52 (81%)	54 (69%)	122 (70%)	228 (72%)	.19
4+ Arrests	45 (70%)	67 (85%)	110 (63%)	222 (70%)	<.01
Unstable Housing	43 (67%)	68 (86%)	131 (75%)	242 (76%)	.03
PPCMI Intervention	36 (56%)	43 (54%)	83 (48%)	162 (51%)	.40
All SAVA Criteria Met	5 (8%)	22 (28%)	27 (16%)	54 (17%)	.01
1 or 2 SAVA Criteria Met	42 (66%)	51 (65%)	113 (65%)	206 (65%)	
Recruited from Community	7 (11%)	3 (4%)	27 (16%)	37 (12%)	.03
Crack/Cocaine use	17 (27%)	39 (49%)	51 (29%)	107 (34%)	<.01

Table 2. Adjusted Multinomial Regressions Predicting Offense Patterns by 8-months (N=317)

	Felonies OR (95% CI)	Misdemeanors/ Municipal Violations OR (95% CI)	Felonies OR (95% CI)	Misdemeanors/ Municipal Violations OR (95% CI)
Crack/Cocaine Use				
Yes	1.02 (0.51, 2.05)	2.21 (1.21, 4.04)	----	----
No	1.0	1.0	----	----
SAVA				
All 3 Criteria Met	----	----	0.31 (0.10, .99)	3.60 (1.23, 10.56)
1 or 2 Criterion Met	----	----	0.65 (0.32, 1.33)	2.24 (0.86, 5.83)
No Criterion Met	----	----	1.0	1.0
Race				
Black	0.58 (0.30, 1.09)	0.48 (0.26, 0.89)	0.61 (0.32, 1.15)	0.51 (0.28, 0.92)
All Other Races	1.0	1.0	1.0	1.0
Arrest History				
Arrest 4+	1.32 (0.68, 2.54)	2.36 (1.15, 4.89)	1.43 (0.74, 2.77)	2.30 (1.12, 4.73)
3 or Less	1.0	1.0	1.0	1.0
Recruitment Site				
Community	.73 (.29, 1.81)	.29 (.08, 1.03)	.75 (.30, 1.86)	.29 (.08, .99)
Municipal Drug Court System	1.0	1.0	1.0	1.0
Age				
18-29 yrs. of age	1.91 (1.03, 3.62)	1.15 (0.58, 2.28)	1.97 (1.05, 3.67)	0.90 (0.46, 1.75)
30+	1.0	1.0	1.0	1.0

Table 3. Correlates of Number of Felonies and Misdemeanors/Municipal Violations by 8-months (N=317)

	Felonies			Misdemeanors/Municipal Violations		
	Model 1 (SAVA) IRR (95% CI)	Model 2 (Crack/Cocaine) IRR (95% CI)	Model 1 (SAVA) IRR (95% CI)	Model 2 (Crack/Cocaine) IRR (95% CI)	Model 1 (SAVA) IRR (95% CI)	Model 2 (Crack/Cocaine) IRR (95% CI)
Crack/Cocaine Use						
Yes	---	1.16 (.64, 2.13)	---	---	---	.76 (.42, 1.37)
No	---	1.0	---	---	---	1.0
SAVA						
All 3 Criteria Met	.39 (.14, 1.08)	---	.69 (.26, 1.80)	---	---	---
1 or 2 Criteria Met	.89 (.44, 1.75)	---	.83 (.38, 1.80)	---	---	---
No Criterion Met	1.0	---	1.0	---	---	---
Race						
Black	.90 (.50, 1.62)	0.90 (.50, 1.62)	0.51 (.27, .96)	.54 (.29, 1.00)	---	---
All Other Races	1.0	1.0	1.0	1.0	---	1.0
Recruitment Site						
Community	.54 (.20, 1.40)	.55 (.21, 1.44)	.11 (.03, .38)	.11 (.03, .38)	---	---
Municipal Drug Court System	1.0	1.0	1.0	1.0	---	1.0
Arrest History						
Arrest 4+	.92 (.51, 1.68)	0.87 (.48-1.57)	4.76 (2.35, 9.63)	4.72 (2.37, 9.40)	---	---
3 or Less	1.0	1.0	1.0	1.0	---	1.0
Age						
18-29 yrs. of age	1.60 (.91, 2.82)	1.72 (.95, 3.12)	1.35 (.72, 2.55)	1.26 (.67, 2.35)	---	---
30+	1.0	1.0	1.0	1.0	---	1.0