Recent Violence Among Persons Entering Short-Term Residential Mental Health and Substance Abuse Treatment

Barbara E. Havassy, PhD[†,1] and **Amy A. Mericle, PhD**[2]

[1]Department of Psychiatry, University of California, San Francisco, San Francisco, California, USA

[2]Treatment Research Institute, Philadelphia, Pennsylvania, USA

Abstract

Objective—Large-scale epidemiologic studies have consistently found that co-occurring mental and substance use disorders are associated with increased risk of involvement in violence. Individuals with co-occurring mental and substance use disorders can present either in mental health or substance abuse treatment systems, and both systems must be able to respond to their needs. This study examined the prevalence and correlates of recent violence (both perpetration and victimization) among adults (*N*=419) entering short-term residential mental health and substance abuse treatment.

Methods—Approximately 41% (*n*=171) of participants reported having any involvement in violence, and for the majority of them (*n*=144; 84%) that included victimization. For analytic purposes, we classified participants with involvement in violence as *any perpetration* (*n*=87) or *only victimization* (*n*=84), and conducted bivariate and multivariate logistic regression analyses examining potential correlates of these different types of violence.

Results—Homelessness (*AOR*= 1.6, 95% CI[1.0-2.4], *p*<.04), alcohol use disorder (*AOR*=1.8, 95% CI[1.1-2.9], *p*<.03), and the interaction of comorbidity and substance abuse treatment system (*AOR*=2.8, 95% CI[1.0-7.6], *p*<.05) were associated with an increased likelihood of any violence. Alcohol use disorder (*AOR*=1.8, 95% CI[1.0-3.3], *p*<.05) increased the likelihood of perpetration. Homelessness (*AOR*=1.9, 95% CI[1.1-3.2], *p*<.02) and the interaction of comorbidity and being recruited from substance abuse treatment (*AOR*=5.1, 95% CI[1.8-14.2], *p*<.003) increased the likelihood of involvement in only victimization.

Conclusions—Victimization was far more prevalent than perpetration. Comorbidity was not a significant predictor of violence, but comorbid individuals recruited from the substance abuse treatment system were more likely to be involved in violence.

Keywords

mental disorders; substance use disorders; co-occurring disorders; violence; victimization

---

Large-scale, epidemiologic studies conducted in the United States in the past three decades have consistently demonstrated an association between mental disorders and violence, an association that is more robust among persons with co-occurring mental and substance use

---

disorders (Corrigan & Watson, 2005; Elbogen & Johnson, 2009; Swanson et al.,1993; Van Dorn et al., 2012). Persons with co-occurring disorders have been found to be more likely to perpetrate violence than those with mental illness or substance use disorders alone and to report more episodes of victimization than those with either disorder alone (Hiday et al., 1999; Sells et al., 2003; Swanson et al., 1997). Unfortunately, few studies that have examined the prevalence of violence among persons with co-occurring disorders have examined both perpetration and victimization, information which might help those working with persons with co-occurring disorders prioritize their diverse and complex treatment needs.

Persons with co-occurring disorders can present in the mental health or substance abuse treatment systems. Despite guidelines and recommendations for integrated care, mental health and substance abuse systems are still largely separate, access to "dual diagnosis" services in these systems is still limited (McFarland & Gabriel, 2004), and the process of implementing integrated services is both complex and lengthy (Torrey et al., 2011). Studies comparing persons with co-occurring disorders entering either the mental health or the substance abuse treatment system are scarce. Those that have examined this have found few clinical differences among those entering one system versus the other (Havassy et al., 2004), but have found that persons with co-occurring disorders entering one system have a vastly different service use trajectory than those who enter the other despite similar diagnostic profiles (Havassy et al., 2009). Unfortunately, we could find no study that systematically examined differences in the prevalence and correlates of violence experienced by persons with co-occurring disorders entering the mental health versus the substance abuse treatment system, knowledge that could help guide the integration of these systems or shape the nature of care provided to persons in one system or the other.

To address these gaps in the literature, the objective of this investigation was to examine the prevalence and correlates of violence among persons with co-occurring disorders entering short-term residential treatment in public sector mental health and substance abuse treatment programs. In this study, violence broadly refers to acts ranging from throwing an object at someone to using a knife or gun to injure another person. We examined both the prevalence and correlates of the perpetration of violence, as well as the experience of violence in the form of victimization. By sampling individuals entering both mental health and substance abuse treatment systems, we were able to examine the association between treatment system and perpetration/experience of violence.

Methods

This study is part of a larger prospective study of service utilization by persons entering mental health and substance abuse treatment systems (see Havassy, Alivdrez, & Owen, 2004 for a full description of the larger study).

Participants and Procedures

Recruitment sites were seven public sector treatment facilities: three mental health crisis residential programs and four substance abuse residential detoxification programs. These programs represented all of the programs of these types in San Francisco during the recruitment period (1999-2001).

Clients who were 18 to 50 years of age, spoke English or Spanish, had public insurance or no health insurance, HIV-positive, had verifiable contact information to assist with follow-up, and were able to provide informed consent were eligible to participate. There was a complete discussion of the study with potential participants, and written informed consent was obtained after this discussion. A total of 1,484 patients were approached to participate

in the study: 537 (36%) were found to be ineligible, 377 (25%) refused to participate, and 570 (38%) provided informed consent. Of those providing informed consent, 419 provided viable diagnostic and violence data.

Clinical research assistants collected data from participants within 72 hours of admission (or as soon thereafter for clients needing more time for symptoms to stabilize or to complete acute detoxification). The study was conducted in accordance with the Declaration of Helsinki, and all procedures were approved by the University of California, San Francisco Institutional Review Board.

Measures

Recent Violence—Violence data were collected using the MacArthur Community Violence Inventory (MCVI; Monahan et al., 2001). The MCVI probes a range of eight acts on a continuum from least to most aggressive (e.g., from throwing something at someone to using a knife or gun on someone). Participants were asked whether they had perpetrated or been a victim of any of these acts *within the past 30 days*. We defined involvement in *any violence* as endorsement of any perpetration or any victimization. Because only a small fraction of participants reported only perpetrating violence, we predicted involvement in *any perpetration* (including perpetration and victimization). However, we had sufficient numbers to create an indicator of involvement in *victimization only*.

Demographic information—We examined age, gender, race/ethnicity (White— reference, Black, and Other) and homelessness in the 30 days prior to treatment entry.

Clinical information—Current psychiatric disorders were generated using the Diagnostic Interview Schedule IV (DIS-IV; Robins et al., 1995) and grouped into: (1) schizophrenia-spectrum disorders (schizophrenia, schizoaffective, and schizophreniform disorders); (2) bipolar disorders (bipolar I and II); (3) depressive disorders (major depression, dysthymia); and (4) anxiety disorders (specific phobia, social phobia, panic, generalized anxiety, obsessive-compulsive, posttraumatic stress disorder). Participants with more than one diagnosis were counted in each diagnostic category. We operationalized psychiatric severity as number of psychiatric diagnoses and number of lifetime psychiatric hospitalizations.

Variables were also created for current alcohol, cocaine, amphetamines, opiates, and marijuana disorders. As done in prior violence studies (Elbogen & Johnson, 2009), abuse and dependence diagnoses were collapsed into a single category. Participants with more than one drug disorder were counted in each category. We operationalized drug use severity as number of current substance abuse diagnoses and number of times in substance abuse treatment.

Persons were classified as having a co-occurring disorder if they had a current mental disorder and a current substance use disorder. A variable was created to indicate whether a client was recruited from the substance abuse treatment system. Because we were particularly interested in investigating the relationship between treatment system entered and violence among persons with co-occurring disorders, we created an interaction term to identify persons with co-occurring disorders recruited from the substance abuse treatment system and tested this regardless of the bivariate significance of the component terms.

Analyses

We first examined bivariate relationships between each potential correlate and each type of violence using logistic regression to produce unadjusted odds ratios. Using variables that were significantly associated with a particular type of violence at the bivariate level, we then

conducted simultaneous multivariate logistic regressions to produce odds ratios adjusted for the presence of all other variables significantly related to a particular type of violence. Statistical analyses were conducted with STATA SE version 9 (StataCorp, 2005).

Results

Of the 419 participants, there were 171 (41.0%) who reported any violence (as perpetrator, victim, or both). Most of these individuals reported some victimization ($n = 144$, 84%) independent of their perpetrator status, while 87 (51%) reported perpetration, independent of their victim status. Specifically, 27 (15.8%) reported perpetration only, 60 (35.1%) reported perpetration and victimization, and 84 (49.1%) reported victimization only. Additional characteristics of the participants who experienced any violence can be found in Table 1.

Predictors of Involvement in Any Violence

Table 2 provides the results of the bivariate and multivariate analyses examining the correlates of involvement in different types of violence.

As this Table displays, being homeless within the 30 days before treatment entry (AOR=1.6, 95% CI [1.0-2.4], p<0.04) and having an alcohol disorder (AOR= 1.8, 95% CI [1.1-2.9], p<0.03) were significantly associated with the increased likelihood of involvement in any violence. Persons with co-occurring disorders sampled from substance abuse treatment were more likely to report any violence (AOR=2.8, 95% CI[1.0, 7.6], p<0.05).

Predictors of Any Perpetration

Having an alcohol use disorder was significantly associated with an increased likelihood of perpetrating violence (AOR=1.8, 95% CI [1.0-3.3], p<0.05).

Predictors of Victimization

Being homeless in the 30 days before treatment entry (AOR= 1.9, 95% CI [1.1- 3.2], p<0.02) and coming from substance abuse treatment with a co-occurring disorder (AOR = 5.1,95% CI[1.8-14.2], p<0.003) were significantly associated with reporting victimization only.

Discussion

This study makes three important contributions to understanding violence among persons with psychiatric disorders. First, we found high rates of recent perpetration and victimization in our sample. However, similar to other studies examining both perpetration and victimization in treatment samples (Choe, Teplin, & Abram, 2008), victimization was far more prevalent. Second, our study lends additional support for the role that alcohol use disorder and homelessness may play in increasing risk for perpetration and victimization, respectively (Hiday et al., 1999; North, Smith, & Spitnagel, 1994; Swanson, 1993). Those with an alcohol use disorder were about twice as likely to report any violence and any perpetration, while those who were homeless were almost twice as likely to report any violence and about twice as likely to report victimization only. Finally, persons with co-occurring disorders as a group were no more likely than those with single disorders to report any type of violence at the bivariate level. However, persons with co-occurring disorders recruited from substance abuse treatment were almost three times more likely than all others to be involved in any violence and about five times more likely to be victims only. Although speculative, it may be that, among individuals with co-occurring disorders who are victimized, substance abuse is viewed as a more proximal cause of the victimization and treated first.

Recent events have renewed attention to gun violence and access to guns by individuals with mental disorders (Friedman, 2012). It is important to recall that we use the term "violence" in this study very broadly. However, prior analysis of the types of violence perpetrated by individuals in this sample found that acts of more serious violence like forced sex or threats/use of a weapon were less frequent than other types of violent perpetration (only 23.5% of the perpetration incidents involved forced sex or threats/use of a weapon) and that a greater proportion (36.3%) of victimization incidents involved forced sex/threats/use of a weapon (Mericle et al., 2008). It is hoped that current and future discussions about gun control are nuanced and informed by this study and the wealth of prior research on the topic of mental disorder and violence (both perpetration and victimization) to prevent inadvertently maligning or disenfranchising an already stigmatized population.

Although our work represents the only study that we could find examining perpetration and victimization from individuals sampled from both mental health and substance abuse treatment, it is not without limitations. Only 419 of the 570 clients who provided consent to participate were included in this study. Prior analysis of the excluded clients showed that they did not differ from participants in terms of age, gender, ethnicity, or education but were more likely to have been recruited from the mental health system, which could affect group comparisons (Havassy et al., 2004). Our data were also collected in one city between 1999-2001. San Francisco, however, is not an uncommon example of a densely populated urban area with separate mental health and treatment systems. Further, despite encouraging progress, systems integration and the implementation of integrated care within treatment systems is still ongoing. Additionally, although some data support the accuracy of self-reported violence (Goodman et al., 1999; Maxfield, Weiler, & Widom, 2000), we lack corroboration from collaterals or official records. Finally, we had a small number of participants who were involved in only perpetration and examined any perpetration instead, which could have biased our findings about perpetration. To ensure that it did not, we conducted sensitivity analyses with the perpetration only group. The only difference we found was that alcohol was no longer significant, even though the ORs were identical.

Conclusions

Assessment and treatment of recent victimization among persons entering mental health and substance abuse treatment is critical. Our findings confirm the role that alcohol disorders and homelessness play in increasing the risk of violence among those with psychiatric disorders but raise important questions about the role of co-occurring disorders, particularly for those seeking care in the substance abuse treatment system. Further research is needed examining perpetration and victimization in mental health and substance abuse treatment systems as well as in "integrated" systems of care. These studies should also examine the characteristics of violence (e.g., who is involved and where it takes place) to better inform the development of targeted strategies to reduce the likelihood of violence while individuals are receiving care.

Acknowledgments

References

Choe JY, Teplin LA, Abram KM. Perpetration of violence, violent victimization, and severe mental illness: Balancing public health concerns. Psychiatric Services. 2008; 59(2):153–164.10.1176/appi.ps.59.2.153 [PubMed: 18245157]

Corrigan PW, Watson AC. Findings from the National Comorbidity Survey on the frequency of violent behavior in individuals with psychiatric disorders. Psychiatry Research. 2005; 136(2-3): 153–162.10.1016/j.psychres.2005.06.005 [PubMed: 16125786]

Elbogen EB, Johnson SC. The intricate link between violence and mental disorder: Results from the National Epidemiologic Survey on Alcohol and Related Conditions. Archives of General Psychiatry. 2009; 66(2):152–161.10.1001/archgenpsychiatry.2008.537 [PubMed: 19188537]

Friedman RA. In gun debate, a misguided focus on mental illness. New York Times. 2012 Dec 18.:D5.

Goodman LA, Thompson KM, Weinfurt K, Corl S, Acker P, Mueser KT, Rosenberg SD. Reliability of reports of violent victimization and posttraumatic stress disorder among men and women with serious mental illness. Journal of Traumatic Stress. 1999; 12(4):587–599. [PubMed: 10646178]

Havassy BE, Alvidrez JA, Owen KK. Comparison of patients with comorbid psychiatric and substance use disorders: Implications for treatment and service delivery. American Journal of Psychiatry. 2004; 161(1):139–145.10.1176/appi.ajp.161.1.139 [PubMed: 14702262]

Havassy BE, Alvidrez J, Mericle AA. Disparities in use of mental health and substance abuse services by persons with co-occuring disorders. Psychiatric Services. 2009; 60(2):217–223.10.1176/appi.ps. 60.2.217 [PubMed: 19176416]

Hiday VA, Swartz MS, Swanson JW, Borum R, Wagner HR. Criminal victimization of persons with severe mental illness. Psychiatric Services. 1999; 50(1):62–68. [PubMed: 9890581]

Maxfield MG, Weiler BL, Widom CS. Comparing self-reports and official records of arrests. Journal of Quantitative Criminology. 2000; 16(1):87–110.10.1023/a:1007577512038

McFarland BH, Gabriel RM. Datapoints: Service availability for persons with co-occurring conditions. Psychiatric Services. 2004; 55(9):978.10.1176/appi.ps.55.9.978 [PubMed: 15345756]

Mericle AA, Havassy BE. Characteristics of recent violence among entrants to acute mental health and substance abuse services. Social Psychiatry and Psychiatric Epidemiology. 2008; 43(5):392–402.10.1007/s00127-008-0322-4 [PubMed: 18297223]

Monahan, J.; Steadman, HJ.; Silver, E.; Appelbaum, PS.; Robbins, PC.; Mulvey, EP.; Banks, S. Violence among patients in the community. In: Steadman, HJ.; Monahan, J.; Silver, E.; Appelbaum, PS.; Robbins, PC.; Mulvey, EP.; Roth, LH.; Grisso, T.; Banks, S., editors. Rethinking risk assessment: The MacArthur study of mental disorder and violence. New York, NY: Oxford University Press; 2001. p. 15-35.

North CS, Smith EM, Spitznagel EL. Violence and the homeless: An epidemiologic study of victimization and aggression. Journal of Traumatic Stress. 1994; 7(1):95–110. [PubMed: 8044446]

Robins, L.; Cottler, L.; Bucholz, K.; Compton, W. Diagnostic Interview Schedule for DSM-IV (DIS-IV). St Louis, MO: Washington University School of Medicine; 1995.

Sells DJ, Rowe M, Fisk D, Davidson L. Violent victimization of persons with co-occurring psychiatric and substance use disorders. Psychiatric Services. 2003; 54(9):1253–1257.10.1176/appi.ps. 54.9.1253 [PubMed: 12954942]

StataCorp. Stata statistical software: Release 9. College Station, TX: Stata Corp LP; 2005.

Swanson J, Estroff S, Swartz M, Borum R, Lachicotte W, Zimmer C, Wager R. Violence and severe mental disorder in clinical and community populations: The effects of psychotic symptoms, comorbidity, and lack of treatment. Psychiatry. 1997; 60(1):1–22. [PubMed: 9130311]

Swanson JW. Alcohol abuse, mental disorder, and violent behavior: An epidemiologic inquiry. Alcohol Health and Research World. 1993; 17(2):123–132.

Torrey WC, Drake RE, Cohen M, Fox LB, Lynde D, Gorman P, Wyzik P. The challenge of implementing and sustaining integrated dual disorders treatment programs. Community Mental Health Journal. 2002; 38(6):507–521.10.1023/A:1020888403586 [PubMed: 12474938]

Table 1

Characteristics of Participants Involved in Any Violence (*n* = 171)

Characteristic	*n* (%) or *M*(*SD*)
Gender	
Male	106 (62.0%)
Female	65 (38.0%)
Age	35.7 (7.5)
Race	
White	65 (38.0%)
Black	60 (35.1%)
Other	46 (26.9%)
Homeless (past 30 days)	88 (51.5%)
Involvement in violence	
Perpetration only	27 (15.8%)
Perpetration and victimization	60 (35.1%)
Victimization only	84 (49.1%)
Mental disorders	
Schizophrenia spectrum	47 (27.5%)
Bipolar	33 (19.3%)
Any anxiety	83 (48.5%)
Major depressive	41 (24.0%)
Number of disorders	1.2 (1.0)
Number of hospitalizations	12.3 (32.4)
Substance use disorders	
Alcohol	103 (60.2%)
Cocaine	101 (59.1%)
Opiate	33 (19.3%)
Number of disorders	1.9 (1.5)
Number of times in treatment	11.4 (22.4)
Any co-occurring disorder	98 (57.3%)
Treatment system	
Mental health	61 (35.7%)
Substance abuse	110 (64.3%)

Table 2

Bivariate and Multivariate Predictors of Violence by Type of Violence

| | Any violence (n = 171) | | | | | | Any perpetration (n = 87) | | | | | | Victimization only (n = 84) | | | | | |
| | Bivariate | | | Multivariate[b] | | | Bivariate | | | Multivariate[b] | | | Bivariate | | | Multivariate[b] | | |
	OR	95% CI	p	AOR	95% CI	p	OR	95% CI	p	AOR	95% CI	p	OR	95% CI	p	AOR	95% CI	p
Demographic characteristics																		
Female	1.1	[0.7–1.6]	.658				1.4	[0.8–2.2]	.210				0.8	[0.5–1.4]	.467			
Race/Ethnicity[a]			.208						.117						.179			
White (reference)																		
Black	1.2	[0.8–1.9]					1.8	[1.0–3.1]					0.7	[0.4–1.3]				
Other	1.6	[0.9–2.6]					1.4	[0.8–2.6]					1.4	[0.8–2.4]				
Age	1.0	[1.0–1.0]	.128				1.0	[0.9–1.0]	.076				1.0	[1.0–1.0]	.942			
Homeless	1.7	[1.2–2.6]	.006	1.6	[1.0–2.4]	.039	1.2	[0.7–1.9]	.436				1.9	[1.2–3.0]	.010	1.9	[1.1–3.2]	.015
Mental disorders																		
Schizophrenia spectrum	0.9	[0.6–1.4]	.664				1.1	[0.6–1.8]	.773				0.8	[0.5–1.4]	.410			
Bipolar	1.2	[0.7–2.0]	.401				1.6	[0.9–2.8]	.126				0.8	[0.4–1.6]	.599			
Any anxiety	1.6	[1.1–2.3]	.025	1.6	[1.0–2.7]	.057	1.5	[0.9–2.3]	.116				1.3	[0.8–2.1]	.244			
Major depressive	0.9	[0.6–1.5]	.740				0.5	[0.3–1.0]	.037	0.5	[0.3–1.0]	.054	1.6	[0.9–2.7]	.084			
Number of disorders	1.1	[0.9–1.4]	.254				1.1	[0.8–1.4]	.507				1.1	[0.8–1.4]	.465			
Number of hospitalizations	1.0	[1.0–1.0]	.920				1.0	[1.0–1.0]	.459				1.0	[1.0–1.0]	.523			
Substance use disorders																		
Alcohol	2.0	[1.3–3.0]	.001	1.8	[1.1–2.9]	.024	2.1	[1.3–3.4]	.003	1.8	[1.0–3.3]	.043	1.3	[0.8–2.2]	.233			
Cocaine	1.3	[0.9–1.9]	.237				1.7	[1.0–2.7]	.038	1.4	[0.8–2.5]	.287	0.8	[0.5–1.4]	.506			
Opiate	0.9	[0.5–1.5]	.676				1.2	[0.7–2.2]	.482				0.7	[0.3–1.3]	.222			
Number of disorders	1.2	[1.1–1.4]	.004	1.2	[1.0–1.4]	.104	1.3	[1.1–1.5]	.005	1.1	[0.8–1.3]	.568	1.1	[0.9–1.2]	.538			
Number of times in treatment	1.0	[1.0–1.0]	.128				1.0	[1.0–1.0]	.126				1.0	[1.0–1.0]	.735			
Any COD	1.3	[0.9–1.9]	.219	0.4	[0.2–0.9]	.037	1.2	[0.7–1.9]	.428				1.2	[0.7–1.9]	.479	0.4	[0.2–1.0]	.043
Substance abuse treatment system	1.5	[1.0–2.3]	.036	0.7	[0.3–1.6]	.395	1.3	[0.8–2.1]	.290				1.5	[0.9–2.4]	.134	0.5	[0.2–1.1]	.078
Interaction: COD × SA Treatment System	1.9	[1.2–2.9]	.004	2.8	[1.0–7.6]	.046	1.2	[0.7–1.9]	.579				2.1	[1.3–3.5]	.004	5.1	[1.8–14.2]	.002

Note. OR = odds ratio; AOR= adjusted odds ratio; CI=confidence interval; COD = Co-occurring mental and Substance use disorder; SA=substance abuse.

[a] We combined racial/ethnic categories with fewer numbers into an "Other" race/ethnicity category. Included in this category were 45 Latinos, 15 Asian/Pacific Islanders, 15 Native Americans, 15 of mixed racial/ethnic groups, and 7 who did not fit into any of these categories. Tests of significance assess the overall effect of race.

[b] The final multivariate model included predictors that were significant at the bivariate level. When the interaction term was significant at the bivariate level, component terms (regardless of bivariate significance) were included in the multivariate model but not reported as significant due to the presence of the interaction term in the model.