From Handcuffs to Hallucinations: Prevalence and Psychosocial Correlates of Prior Incarcerations in an Urban, Predominantly African American Sample of Hospitalized Patients with First-Episode Psychosis

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Abstract

High rates of incarceration and criminal justice system recidivism among individuals with serious mental illnesses have long been topics of concern, but few studies have examined rates of prior incarceration at the point of first treatment contact. In a sample of 109 urban, low-income, predominantly African American patients hospitalized for first-episode psychosis, 57.8% reported a history of incarceration. Among those who reported having ever been incarcerated, 58.1% had more than one past incarceration, and the mean number of incarcerations was 2.9±3.4. Patients with a history of incarceration had completed fewer years of education, had poorer premorbid academic functioning, reported an earlier age at initiation of cannabis use, and were more likely to have cannabis and alcohol dependence or abuse. Incarceration was also associated with a greater number of psychosocial problems and more severe positive and general psychopathology symptoms. These findings of excessively high rates of past incarceration among urban, predominantly African American, first-episode psychosis patients—along with the associations between past incarceration and diverse adverse psychosocial and clinical characteristics—serve as a call to action for early psychosis researchers, program developers, policy makers, and clinical and forensic psychiatrists.

Keywords

Arrest; Criminalization; First-episode psychosis; Incarceration; Psychosis; Recidivism; Schizophrenia

INTRODUCTION

High rates of incarceration and criminal justice system recidivism among individuals with serious mental illnesses have long been topics of concern, but few studies have examined rates of incarceration prior to the first treatment for a serious mental illness. The United States Bureau of Justice Statistics recently reported that over half of all individuals incarcerated in jails and prisons have a mental health problem[1]. During the period of 1993–2001, approximately 23.6% of 6,624 individuals with serious mental illnesses randomly

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selected from an urban public mental health system had been arrested one or more times, mostly for non-violent crimes[2]. In that study, the mean number of arrests was 3.3, and only 3% of individuals with a mental illness were diverted by the justice system to community services in lieu of further court processing. Rates of incarceration are especially high among individuals with psychotic disorders such as schizophrenia. Among all incarcerated individuals, 10% of federal prisoners, 15% of state prisoners, and 24% of local jail inmates reported symptoms that met criteria for a psychotic disorder[1]. In a convenience sample of individuals with a known serious mental illness who had been incarcerated, some 87% had a schizophrenia-spectrum disorder[3]. Some reasons cited for the apparent criminalization of individuals with mental illnesses include deinstitutionalization (and subsequent "trans-institutionalization"), the advent of more restrictive civil commitment criteria, and lack of adequate community support[4].

Nationwide, recidivism in criminal justice settings is higher among individuals with a mental health problem than among other detainees, with nearly a quarter of the former and only a fifth of the latter having had three or more incarcerations[1]. In one sample, 70% of incarcerated individuals with a mental illness were charged for new crimes or supervision violations post-release, though only 10% committed felonies against new persons and only 2% committed very serious crimes[5]. Baillargeon and colleagues found that inmates with major psychiatric disorders had substantially increased risks of multiple incarcerations over a 6-year period[6]. A pattern of repeat incarcerations appears to be a common and unfortunate outcome of serious mental illnesses, and may be modifiable through effective prevention strategies or policy changes.

One critique of prior research on the outcomes of schizophrenia is that considerable bias is introduced by the over-inclusion of chronically ill patients[7]. Furthermore, much of the psychosocial disability associated with schizophrenia accumulates *before* the first treatment contact[8,9]. Surprisingly little research attention has been given to the occurrence and the consequences of arrest/incarceration among first-episode psychosis patients. Within one sample of first-episode patients in New York, USA, 14% had already been incarcerated upon admission[10]. Ethnic minority status, male gender, and a history of incarceration were predictors of legal involvement following the first episode, which was found in 9% of the sample over a 4.5 year follow-up period[10]. Further investigation is needed on the complex interplay between violence, incarceration and illness variables, including course, treatment accessibility, treatment response, and long-term symptomatic and psychosocial functioning. Research on incarceration and criminal justice system recidivism would be particularly informative in first-episode samples to clarify the trajectory of these psychosocial problems in relation to the initiation of treatment.

The objective of this report is two-fold, to: (1) provide a descriptive summary of incarceration in a well-characterized sample of patients hospitalized for the initial evaluation and treatment of a first episode of nonaffective psychosis, and (2) examine the ways in which incarceration is associated with a number of key sociodemographic, premorbid, substance use-related, and clinical variables. In doing so, it is hoped that the findings will provide initial descriptive data in an urban, low-income, predominantly African American sample, and draw attention to the critical problem of incarceration and associated psychosocial problems among individuals with first-episode psychosis even prior to first contact with psychiatric services and initiation of treatment.

METHODS

Setting and Sample

Participants took part in the cross-sectional portion of *The ACES Project* (Atlanta Cohort on the Early course of Schizophrenia), investigating predictors of treatment delay in first-episode psychosis within a socially disadvantaged, predominantly African American sample reliant on public-sector health services. All participants were hospitalized for a first-episode of a schizophrenia-spectrum disorder in an inpatient psychiatric unit of a large, university-affiliated, urban, public-sector hospital or an urban county psychiatric crisis center. Individuals between the ages of 18 and 40 years who were able to speak and read English were eligible for participation. Those with known mental retardation, a Mini-Mental State Examination[11, 12] score of <24, a significant medical condition that could compromise ability to participate, prior outpatient treatment for psychosis lasting longer than three months, prior hospitalization for psychosis more than three months before the index hospitalization, or inability to provide written informed consent were excluded.

The mean age of the participants (n=109) was 23.1±4.7 years (range: 18–39), and 83 (76.1%) were male. While the majority self-identified as Black/African American (98, 89.9%), others identified as White/Caucasian (7, 6.4%), Asian American (2, 1.8%), and African/Ethiopian (2, 1.8%). Some 44% of the sample had not completed high school, and the mean number of years of education completed was 11.6±2.4. Sixty-two (56.9%) met *Structured Clinical Interview for DSM-IV Axis I Disorders* (SCID)[13] criteria for schizophrenia (48 with paranoid type, 10 with disorganized type, two with residual type, and two with undifferentiated type), 22 (20.2%) for schizophreniform disorder, 12 (11.0%) for psychotic disorder not otherwise specified, eight (7.3%) for schizoaffective disorder (five with bipolar type and three with depressive type), four (3.7%) for brief psychotic disorder, and one (0.9%) for delusional disorder.

Procedures and Materials

Participants included in this analysis underwent a clinical research assessment during the baseline, cross-sectional portion of *The ACES Project.* All assessments were conducted during hospitalization, once acute psychosis was stabilized sufficiently so that written informed consent could be obtained after the study procedures were fully explained. The study protocol was approved by all relevant institutional review boards.

A number of sociodemographic variables were assessed. To solicit information about participants' legal history, two items were included in the demographics questionnaire: "Have you ever been arrested?" and "Have you ever been incarcerated?" If either item was endorsed, additional details were collected. Reported types of charges resulting in incarceration were later grouped by content area and counted for a total frequency.

The *Premorbid Adjustment Scale*[14] (PAS) was used to measure premorbid functioning. This instrument assesses the degree to which a person has attained developmental goals before the initial onset of psychotic or prodromal symptoms. Information was gathered by a semi-structured interview with the patient, and both academic and social functioning was assessed across three age periods—*childhood* (11 years), *early adolescence* (12–15 years), and *late adolescence* (16–18 years)—yielding six PAS scores. To conservatively safeguard against inadvertently assessing prodromal functioning during the rating of premorbid functioning, the PAS was not scored for any age period that would have included the year before the onset of prodromal symptoms. The PAS has been used widely in schizophrenia research, and reliability, validity, and predictive utility have been reported previously[14–16].

Patients' ages at first use of nicotine, alcohol, and cannabis were determined by three items: "How old were you the first time you ever used (cigarettes/alcohol/marijuana)?" Substance use disorder diagnoses were derived with the SCID[13]. The presence of Axis IV psychosocial problems (including problems in the following areas: primary support, the social environment, education, occupation, finances, housing, and access to health care) was determined after the entire research assessment (typically lasting about 3–4 hours, and including questions on the patient's income, housing situation, and educational attainment; extensive clinical interviewing; and a thorough review of the patient's medical chart) was complete.

The *Positive and Negative Syndrome Scale*[17] (PANSS) was used to rate positive, negative, and general psychopathology symptoms of schizophrenia. The PANSS is a 30-item, 7-point rating scale completed by clinically trained research staff at the conclusion of a chart review and an in-depth semi-structured interview. Based on findings that positive and negative syndromes in schizophrenia are partly distinct, the 30 items of the PANSS are typically grouped into three categories: positive symptoms (7 items), negative symptoms (7 items), and general psychopathology symptoms such as anxiety and depression (16 items). Inter-rater reliability is in the good to excellent range for most individual items and in the excellent range for the component scores[18]. Several studies of the PANSS have provided evidence of criterion-related validity with antecedent and concurrent measures, predictive validity, drug sensitivity, and utility for both typological and dimensional assessment[17].

Data Analysis

Basic descriptive statistics were calculated for rates of arrest and incarceration. Given that this was a descriptive/correlational analysis not meant to test causality/direction, bivariate tests were used. Independent samples Student's t-tests were used to test associations between a history of incarceration and age at hospitalization, years of education completed, PAS scores, ages at first use of substances, the number of Axis IV psychosocial problems present, and PANSS scores. Chi-square tests of independence were used to test for associations between a history of incarceration and gender, the presence of alcohol use disorder diagnoses, and the presence of cannabis use disorder diagnoses. All analyses were conducted with *SPSS 16.0*, using two-tailed tests and p .05 as the criterion for establishing statistical significance.

RESULTS

The rates of arrest and incarceration were very high in this sample of 109 patients with first-episode psychosis (70.6% and 57.8%, respectively). Because these variables were obviously highly associated ($\chi^2=62.04$, $df=1$, $p<.001$), all subsequent analyses were conducted pertaining to incarceration rather than arrest, as the former was considered a more seminal event in patients' lives. Among those who had ever been incarcerated, the mean number of incarcerations was 2.9±3.4. The types of 93 reported charges that resulted in the 85 incarcerations are listed in Table 1. Drug and alcohol-related charges were the most commonly reported reason for incarceration in this sample, comprising 23.7% of all stated charges. Theft-related charges and assault or battery/fighting were the second and third leading reasons for incarceration in this sample (14.0% and 11.8%, respectively).

As shown in Table 2, a history of incarceration was associated with a number of characteristics of first-episode patients. Patients with a history of incarceration had a lesser mean years of educational attainment (10.9±2.1) compared to those having never been incarcerated (12.6±2.4, $p<.001$). Consistent with this finding, mean scores on two of six PAS domains differed between the two groups. Specifically, patients with a history of incarceration had higher scores (indicating poorer premorbid adjustment) in early

adolescence academic functioning (p=.02) and late adolescence academic functioning (p=.007). No association was found between history of incarceration and premorbid academic functioning before the age of 12 years or social functioning during any premorbid period.

Also shown in Table 2, among the patients who reported having ever used cannabis (87, 79.8%), those who had been previously incarcerated had a mean age at first cannabis use of 15.2±4.1 years, which is 1.8 years younger than those who had not been incarcerated (17.0±3.6; p=.05). Additionally, patients with a history of incarceration were more likely to have an alcohol use disorder diagnosis (36.5% compared to 15.2%, p=.02) and were more likely to have a cannabis use disorder diagnosis (69.8% compared to 41.3%, p=.003). A history of incarceration was associated with a higher mean number of Axis IV psychosocial problems (4.8±1.9 compared to 3.7±1.6, p=.002). Incarceration was associated with higher PANSS positive symptom (p=.05) and general psychopathology symptom (p=.002) subscale scores.

DISCUSSION

Rates of arrest and incarceration were very high in this sample, representing an important problem that merits focused attention in both research and policy. Patients with a history of incarceration had completed fewer years of education and had poorer premorbid academic functioning than those who had not been incarcerated. In relation to substance use, patients who had been incarcerated reported an earlier age at initiation of cannabis use, and history of incarceration was significantly associated with the presence of alcohol and cannabis dependence or abuse at the time of initial hospitalization. Incarceration was also associated with a greater number of Axis IV psychosocial problems and a greater severity of PANSS positive and general psychopathology symptoms, both indicating poorer functioning among those having been previously incarcerated.

Although the rates of incarceration are very high in this particular first-episode sample, it should be noted that the present sample is comprised largely of young, African American males, many of whom had not completed high school, which places them at increased risk for incarceration. Indeed, one review found that more than 90 percent of prisoners are men, that prison inmates average less than 12 years of completed schooling, and that incarceration rates are about eight times higher for African Americans than for Caucasian Americans[19]. Whereas concerns have been raised about high rates of violence during the prodrome (i.e., the period of non-specific psychiatric symptoms that typically precedes psychosis) and duration of untreated psychosis[20], only 14.0% who were incarcerated in the present sample reported being charged with a violent crime (assault, domestic violence, child abuse). An additional 7.5% reported weapons charges, but these were primarily possession or concealment, not use, of a weapon. This indicates that any increased occurrences of violence in first-episode patients are not the main reason for the high rates of contact with the criminal justice system. This finding is consistent with that of Lovell and colleagues[5], who note that while repeat incarcerations are frequent, only 2% of these were for serious violent felonies.

A previous incarceration in our sample is a marker for a poorer prognosis at the time that treatment is initiated, resulting from higher rates of comorbid substance use disorders, greater severity in positive and general psychopathology symptoms, and more psychosocial problems. Furthermore, a legal record represents a significant barrier to recovery given that these young patients typically have not yet established gainful employment. Employers are much more averse to hiring ex-offenders (even misdemeanants) than most other groups[21]. The stigma associated with a history of incarceration, combined with that related to serious mental illnesses like schizophrenia-spectrum disorders, may compound other barriers for

this population (e.g., less schooling) to make employment very difficult to obtain. Additionally, under federal regulations, individuals with a criminal record are not eligible for public assistance programs such as Section 8 housing nor are their family members eligible for Section 8 housing if they reside together[22]. In short, first-episode patients who have been detained face enormous barriers to establishing independent lives.

In a literature review, Nielssen and colleagues found that individuals are most likely to commit violence towards themselves or others during the early course of a psychotic disorder, and that this risk is reduced after receiving treatment[20]. They made a case for taking symptoms into account when trying cases of violence and even appealing convictions of individuals who committed crimes during their prodrome, if the emerging disorder was a factor in their actions. They argue that this would reduce the long-term negative consequences of early convictions on individuals who, once stabilized, may pose little or no further risk for violence. A similar 'fresh start' may be warranted for other charges, and would clearly reduce the long-term barriers to recovery for individuals with an emerging psychotic disorder.

The high incidence of recidivism among individuals with serious mental illnesses, termed a "revolving prison door" by Baillargeon and colleagues, began very early in the present sample[6]. Indeed, 58.1% of those who had been incarcerated in this sample reported more than one incarceration. This indicates that effective prevention efforts for incarceration and recidivism among individuals with a psychotic disorder cannot rely alone on preventing these at the time of or after the initiation of treatment. The incarcerations reported by this sample occurred either before the onset of any indications of a psychotic disorder, during the prodrome, or after symptoms emerged but before treatment was initiated. Institutionalization in prisons or jails may divert some patients from receiving adequate treatment for prodromal or psychotic symptoms in a timely manner. Indeed, in one incarceration setting, some 34% of adolescent males had a positive screen for psychotic symptoms in the Diagnostic Interview Schedule for Children[23] and in another, more than 25% of youths had a positive screen for psychosis, though the investigators reported that a more conservative approach indicated that half of these were likely to have a psychotic disorder[24]. Delays in treatment are considered critical in determining the longer-term course of the illness; meta-analyses of numerous published studies have found that a longer duration of untreated psychosis predicts poorer response to treatment when it is initiated[25] and poorer short-term outcomes[26]. For all of these reasons, early detection of psychotic disorders in criminal justice settings is critical, and resources are available to facilitate jail and prison policies on screening and treatment initiation[27,28]. Additionally, diversion of individuals with psychotic disorders to a treatment facility may be more appropriate in some cases.

Diversion from the judicial system is a widely supported and disseminated policy approach to reducing recidivism and stigma, especially for juveniles[29,30]. Such programs have drawn criticism in the past for poorly defined goals and failing to demonstrate improved outcomes in some of their more methodologically rigorous studies[29,31]. Recent studies have begun addressing this gap and, in a few, diversion into community-based treatment programs has been shown to reduce recidivism among youths with a DSM-IV diagnosis[32,33]. An effective diversion program may be warranted for young adults with putatively prodromal symptoms, and could serve as a linkage to prevention and early treatment programs.

The present analysis has several limitations. First, only cross-sectional/retrospective data were collected, which precludes any ability to temporally map incarcerations onto the development of the emerging psychotic disorder or to make causal inferences about reported associations. However, given the dearth of research on this topic among first-episode patients, cross-sectional studies represent an important first approach to understanding a

complex problem. More detailed measurement of incarceration would be beneficial, especially an assessment of the timing of incarceration in relation to the onset of premorbid functional decline, prodromal symptomatology, and evolving psychotic experiences. Second, the data collected were based on self-report, both for past incarcerations and some other variables, such as past substance use. Objective verification could validate the findings and provide further information about the number, date, and reason for prior arrests and incarcerations. However, self-report is widely used and research supports the utility of self-report measurement of substance use and criminal history, despite known limitations[34–37]. Third, the sample represents a relatively demographically homogenous group of patients in an urban, public-sector hospital, and is largely comprised of African Americans. The relative homogeneity of the sample limits generalizability of the findings to other populations of first-episode patients. Yet, studying these issues among predominantly low-income, socially disadvantaged, urban African Americans is an important research goal given the lack of previous studies from the United States and the under-involvement of such populations in psychiatric research in general. The current data provide a compelling argument for further research into these intricate problems.

Future investigations should extend this field of inquiry into other populations, to elucidate the interaction between socioeconomic disadvantages, membership in different racial and ethnic groups, and the emergence of symptoms. Future studies should clarify the temporal association between contacts with the criminal justice system and the emergence of symptoms in these young adults. Additionally, research into the role of poor academic performance as an antecedent of both incarceration and prodromal symptoms would be beneficial. This could be a critical point for effective prevention strategies to take place. Along these same lines, the societal benefits of efforts to prevent substance abuse initiation and abstinence are indisputable[38]. Studies of the longer term outcomes of incarceration among individuals with a mental illness is also warranted, as are interventions to detect and treat individuals with a psychotic disorder upon contact with the criminal justice system/ during incarceration. Finally, more research into the role of policy in driving or preventing high rates of incarceration among individuals with a psychotic disorder is critical.

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Table 1

Types of 93 Reported Charges that Resulted in 85 Past Incarcerations among 109 Patients with First-Episode Psychosis [*]

Reported Types of Charges	n (%)
Drug-and alcohol-related charges (including DUI)	22 (23.7)
Theft-related charges	13 (14.0)
Assault or battery/fighting	11 (11.8)
Traffic violations (excluding DUI)	8 (8.6)
Disorderly conduct, loitering, and not carrying an ID	8 (8.6)
Weapons-related charges	7 (7.5)
Resisting (e.g., running away, obstructing justice, violating parole)	6 (6.5)
Trespassing	5 (5.4)
Domestic violence/child abuse	2 (2.2)
Miscellaneous	5 (5.4)
Unknown	6 (6.5)

[*] Some incarcerations were for multiple charges.

DUI=driving under the influence

Table 2

Associations between History of Incarceration and Sociodemographic, Premorbid, Substance Use-Related, and Clinical Variables in 109 Hospitalized First-Episode Patients

	Never Incarcerated (*n*=46)	History of Incarceration (*n*=63)	Test statistic, *df*, *p*
Age at hospitalization	22.8±3.8	23.3±5.3	ns
Years of education completed	12.6±2.4	10.9±2.1	*t*=3.9 *df*=107, *p*<.001
Gender, male	32 (69.6%)	51 (81.0%)	ns
PAS premorbid functioning scores*			
Childhood academic	1.51±0.89	1.72±0.91	ns
Early adolescence academic	1.69±0.92	2.10±0.84	*t*=2.36, *df*=102, *p*=.02
Late adolescence academic	2.37±1.45	3.42±1.59	*t*=2.81, *df*=65, *p*=.007
Childhood social	1.14±1.18	1.29±1.08	ns
Early adolescence social	1.52±1.12	1.51±1.15	ns
Late adolescence social	1.39±0.90	1.61±1.10	ns
Age at first use of substances			
Nicotine	16.4±4.0	15.0±4.0	ns
Alcohol	15.7±2.9	15.0±4.0	ns
Cannabis	17.0±3.6	15.2±4.1	*t*=2.03, *df*=85, *p*=.05
SCID substance use disorder diagnoses			
Alcohol dependence or abuse	7 (15.2%)	23 (36.5%)	χ^2=6.28, *df*=1, *p*=.01
Cannabis dependence or abuse	19 (41.3%)	44 (69.8%)	χ^2=9.48, *df*=1, *p*=.003
Number of Axis IV psychosocial problems	3.7±1.6	4.8±1.9	*t*=3.14, *df*=100, *p*=.002
PANSS symptom scores			
Positive symptoms	23.1±5.1	25.0±4.8	*t*=1.98, *df*=107, *p*=.05
Negative symptoms	20.6±6.8	22.0±6.7	ns
General psychopathology symptoms	39.3±8.1	44.6±8.9	*t*=3.17, *df*=107, *p*=.002

df=degrees of freedom, ns=not statistically significant

*
A higher score indicates poorer premorbid functioning.