Brief Report

Insight and Its Relationship to Violent Behavior in Patients With Schizophrenia

Peter F. Buckley, M.D.
Debra R. Hrouda, M.S.S.A.
Lee Friedman, Ph.D.
Stephen G. Noffsinger, M.D.
Philip J. Resnick, M.D.
Kelly Camlin-Shingler, M.S.S.A.

Objective: Lack of insight affects the management of schizophrenia. The interrelationship between lack of insight and illness attributes in patients with schizophrenia who commit violent acts is important and underresearched.

Method: One hundred fifteen violent patients with schizophrenia in a jail or court psychiatric clinic were evaluated on measures of symptoms, illness severity, insight into illness, and the legal consequences of their illness ("forensic insight"). A sample of nonviolent patients served as a comparison group.

Results: Compared with the nonviolent cohort, violent patients were more symptomatic, had poorer functioning, and had a more prominent lack of insight. Deficits of insight into illness coexisted with a lack of forensic insight, which was also associated with psychosis.

Conclusions: Patients with schizophrenia who commit violent acts have insight deficits, including lack of awareness of the legal implications of their behavior. Targeted interventions to improve insight and treatment compliance in this population are warranted.

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Insight has emerged as an important phenomenological construct and as a relevant outcome measure. It encompasses an awareness of having an illness, an attribution of recognizable symptoms of that illness, and an appreciation of the need for treatment. While these are to some extent conceptually interrelated, they are not overlapping, and patients can (and most often do) exist at different points on a continuum between "insight" and "no insight"(1).

Clinicians vary in their appreciation and, consequently, their management of patients with schizophrenia who are at risk of becoming violent. While the predicting risk of violence is complex, it appears that violence among patients with schizophrenia most often occurs during periods of active psychosis (2, 3). However, clinicians and legal experts go back and forth as to whether patients can be held accountable for such violent acts while they are actively psychotic; contentiously, many would attribute violence to the effects of active illness and the lack of awareness thereupon. Yet, surprisingly, the extent and pattern of insight deficits in patients with schizophrenia who are violent have been underresearched.

Method

The study was conducted at the Cuyahoga County Jail, the court psychiatric clinic, and two community mental health centers in Cleveland. The institutional review board at Case Western Reserve University approved this study. All patients provided written informed consent after the study procedures had been fully explained and before study participation. All patients were interviewed by qualified research personnel. Among 180 patients referred by jail staff and/or court psychiatric clinicians, 115 with a DSM-IV diagnosis of schizophrenia (N=77) or schizoaffective disorder (N=38) who had committed violent acts gave written informed consent to be interviewed by a trained social worker. Violence was defined as direct physical aggression against a person or property (and not merely the threat of violence) for which legal charges were incurred. A total of 111 patients with schizophrenia (N=80) or schizoaffective disorder (N=31) who were attendees at community mental health centers and were screened to exclude a history of violent behavior upon case manager referral gave written informed consent to a similar structured interview by the same social worker.

All patients were evaluated for current symptoms on the Positive and Negative Syndrome Scale (4), for cognitive functioning (with the Mini-Mental State Examination [5] and the Trail Making A and B tests [6]), and for psychosocial functioning (with the Heinrich-Carpenter Quality of Life Scale [7]). Insight into illness was assessed with the insight item of the Positive and Negative Syndrome Scale as well as four items (awareness of mental disorder, awareness of achieved effects of medication, awareness of social consequences of mental illness, and awareness of poor control of aggressive impulses) that were derived from the Scale to Assess Unawareness of Mental Disorder (1). Insight into legal complications of illness ("forensic insight") was assessed in the violent cohort on three items (concern about becoming ill, relationship of illness to crime, and acceptance of responsibility for crime) on the Eisner Scale, a scale developed to evaluate the discharge readiness of forensic patients (8). Additional data were collected from patient interviews and reviews of clinical records and forensic and collateral source documents.

Violent and nonviolent groups were compared on measures of symptoms, cognition, functioning, and insight by using Mann-Whitney nonparametric tests. Relationships between Positive and Negative Syndrome Scale insight scores, Positive and Negative Syndrome Scale items, Scale to Assess Unawareness of Mental Disorder items, and Eisner Scale items were examined by using Spearman's correlations.

TABLE 1. Demographic and Clinical Characteristics of Patients With Schizophrenia With and Without a History of Violent Behavior

Variable	Violent Cohort (N=115)		Nonviolent Cohort (N=111)		Analysis		
	N	%	N	%	χ^2	df	p
Gender					1.24	1	0.27
Men	94	82	84	76			
Women	21	18	27	24			
Racial composition					1.77	2	0.41
African American	92	80	81	73			
Caucasian	18	16	25	23			
Other	5	4	5	5			
Homeless	25	22	1	1			
Violent offense committed							
Felonious assault	93	81					
Domestic violence	10	9					
Other	12	10					
	Mean	SD	Mean	SD	F	df	p
Age (years)	36.6	10.4	41.8	11.7	12.6	1, 224	<0.001
Duration of illness (years)	14.2	9.8	20.1	10.6	16.7	1, 195	<0.001
Positive and Negative Syndrome Scale score							
Positive subscale	21.2	8.1	15.9	6.0	30.3	1, 219	<0.001
Negative subscale	17.2	7.2	17.0	7.1	0.0	1, 219	0.87
General subscale	34.9	10.3	29.0	8.0	21.1	1, 219	<0.001
Mini-Mental State Examination rating	28.0	3.3	28.1	3.6	0.0	1, 206	0.99
Trail Making Test A (seconds)	50.1	31.3	52.6	28.5	0.3	1, 197	0.57
Trail Making Test B (seconds)	145.0	110.6	183.1	175.7	2.5	1, 143	0.12
Quality of Life Scale score	40.6	21.1	49.6	23.4	8.9	1, 216	0.003
Positive and Negative Syndrome Scale insight item	4.3	1.8	2.7	1.7	45.8	1, 219	<0.001
Scale to Assess Unawareness of Mental Disorder score							
Awareness of mental disorder	2.2	1.5	1.5	1.0	14.9	1, 219	<0.001
Awareness of achieved effect of medications	2.7	1.6	1.8	1.2	21.4	1, 219	<0.001
Awareness of social consequences of mental disorders	3.3	1.6	1.9	1.2	53.7	1, 219	<0.001

Results

The most common offense was felonious assault, with just over one-third of all offenses being committed against a law enforcement officer and one-half against a known person/relative (Table 1). The majority of violent patients (78%) also showed evidence of active psychotic symptoms, and 55% were abusing substances at the time of the violent incident.

In comparison with the nonviolent patients, the patients with schizophrenia who had committed violent acts were significantly (all p<0.001) more symptomatic on the Positive and Negative Syndrome Scale total score and the positive and general psychopathology (but not negative symptom) subscales, and they had significantly poorer psychosocial functioning (Table 1). Violent patients had marked deficits in insight (71% scoring 4 [moderate deficit] or more and 12.5% scoring 7 on the Positive and Negative Syndrome Scale insight item), with significantly greater deficits than nonviolent patients on both the Positive and Negative Syndrome Scale insight item and the Scale to Assess Unawareness of Mental Disorder items (Table 1). Insight deficits on the Scale to Assess Unawareness of Mental Disorder were strongly correlated with Positive and Negative Syndrome Scale insight scores for both groups; for example, lack of awareness of mental illness on the Scale to Assess Unawareness of Mental Disorder was associated with high scores on the Positive and Negative Syndrome Scale insight item (r_s=0.66, p<0.001) for violent patients. In examining any relationship between symptom severity and lack of insight, Positive and Negative Syndrome Scale total score and the Scale to Assess Unawareness of Mental Disorder lack of awareness were positively correlated in both violent (r=0.41, p<0.001, N=115) and nonviolent (r=0.38, p<0.001, N=109) patient groups.

Lack of insight into illness among violent patients was also strongly correlated with lack of forensic insight. Poor scores on the Positive and Negative Syndrome Scale insight item were associated with failure to accept responsibility for crime (r_s=0.58, p<0.001) and inability to appreciate the relationship of illness to crime (r=0.57, p<0.001). There was an association between lack of forensic insight and symptom severity. Inability to appreciate the relationship of illness to crime was moderately correlated (r=0.32, p=0.001) with Positive and Negative Syndrome Scale total score.

Discussion

Available evidence suggests that from a societal perspective, the overall proportion of violent crimes committed by people suffering from schizophrenia is small and that most incidents are of low lethality (2, 3, 9). The results of the present study concur with these epidemiological observations and also affirm that the risk to the general public from violent schizophrenia patients is not random since the overwhelming majority of incidents in this study were

committed against relatives/acquaintances or law enforcement officers. One reason that a discrepancy exists between public perception and actual research findings on violence and schizophrenia is that this is an inherently difficult area in which to conduct methodologically rigorous research (9). The issues of gaining access to the appropriate patient population, of acquiring informed consent, and of generating structured research data from such a patient sample all pose major challenges that, collectively, often deter researchers from addressing this important topic. The present study exemplifies these issues. The study was conducted following a thorough review by the institutional review board after extensive discussions with the jail warden and municipal judges and by a research-trained social worker who overcame many logistical barriers to gain access to and interview patients while they were in jail.

Deficits in insight are so common in patients with schizophrenia that the predictive value of insight measures for violence is likely to be low. In an acutely ill group of hospitalized patients with schizophrenia, lack of insight at the time of hospitalization was of greater predictive value for violence than other symptom variables (10). Although violent patients in the present study were more symptomatic and had greater insight deficits than nonviolent patients, the relationship between symptom severity (as measured by the Positive and Negative Syndrome Scale total score) and lack of insight was similar between both groups. These observations might suggest that it is the extent and severity of symptoms—and of lack of insight rather than the quality of these symptoms—that pertain to violence in this patient population. Indeed, in spite of many carefully conducted studies of phenomenology in patients with schizophrenia who are violent, the relationships between distinct symptoms and violence remain largely inconsistent (2, 3, 9). The current study extends the examination of the relationship of illness insight and violence by evaluating the extent to which poor illness insight is associated with impaired forensic insight. This is an important consideration since legal decisions regarding competency are based on the extent to which illness-related variables may or may not have impinged upon the understanding of the crimes committed by mentally ill patients. Violent patients here showed poor forensic insight, 68% and 59% of patients scoring 5 (no insight) on the Eisner Scale items of appreciation of the relationship between illness and crime, and of acceptance of responsibility for crime, respectively. On the other hand, the patient's acceptance of responsibility is separate from the legal determination of criminal responsibility. Among the violent patient group, diminished insight into illness was strongly associated with a lack of forensic insight, as evidenced by significant and strong correlations ($r \geq 0.57$, $p<0.001$) between the Positive and Negative Syndrome Scale insight item and Eisner Scale items. This relationship between illness insight and forensic insight was more pronounced than the relationship between illness severity and forensic insight in that inability to appreciate the relationship of illness to crime was moderately correlated ($r=0.32$, $p<0.001$) with the Positive and Negative Syndrome Scale total score for the violent patient group.

In conclusion, the present study complements a relatively sparse literature suggesting that insight deficits may be more pronounced in patients with schizophrenia who commit violent acts. To date, long-acting intramuscular antipsychotic medications, with or without extant outpatient commitment procedures, are the mainstay of the community treatment of patients with schizophrenia who lack insight and are noncompliant with treatment and who exhibit violent behavior. There are also nonpharmacological strategies based upon cognitive behavior therapy that enhance insight and compliance among patients with schizophrenia without a history of violence. It would seem heuristic to apply such strategies to enhance insight into illness and its legal consequences among the subgroup of patients with schizophrenia who commit violent acts.

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