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# Delusions and Violent Behavior: A Short Review of the Recent Literature



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#### **Editorial**

#### Introduction

The literature supports an agreement that rates of violence are higher in people with a diagnosis of schizophrenia compared with the general population [1] and the above can be explained by the fact that individuals with serious mental illnesses such as schizophrenia, are over presented in the criminal justice system [2-4]. It is generally believed that the reason for the high prevalence rates of people with mental illness in prison is due to the fact that the prevalence of aggressive and violent acts are rather higher among people with mental illness [5,6]. To add to the above perception, the general public regards those with mental illness, as a group of people dangerous and violent, who worth to be avoided increasing the stigma and marginalization of the mentally ill [5].

There is an ongoing debate, on whether violence can be driven by symptoms of psychosis per se or not. Earlier studies suggest that violence can be associated with psychotic symptoms [7,8], and rates of violence are higher in people with a diagnosis of schizophrenia compared to the general population [1]. In addition to the above findings reanalysis of data from the National Epidemiologic Survey of Alcohol and Related Conditions (NESARC) revealed a statistically significant, yet modest relationship between major mental illness and violence [9]. Nevertheless, not every study has confirmed a higher risk of violence linked with the presence of psychosis or severe mental illness and a number of studies have shown that the key risk factors for violence are the same among psychotic patients and the general population [10,11].

Data from the MacArthur Violence Risk Assessment study showed that psychotic patients, recently discharged from the hospital, without alcohol or drug symptoms, were not significantly more violent than comparison group subjects without alcohol or drug symptoms (4.7 vs. 3.3%) [12]. A recent

analysis of 1000 psychiatric patients with repeated incidents of violence over a year (part of the MacArthurViolence Study) showed that psychosis preceded violence for 12% of violent incidents [13]. Since, the vast majority of the forensic literature supports an association between violence and severe mental illness, a number of studies [14,15] aimed to the identification of specific factors, such as psychotic symptoms, such as delusions and hallucinations, [16,17] substance misuse, personality traits etc. [18] that could be associated with violent behavior in persons with mental illness. Among the various risk factors, delusional thinking seems to be an important candidate that precipitates violence among people with psychotic disorders [17]. Persecutory delusions, delusions of control and delusions of reference, in which patients believe that people are seeking to harm them, talking in a negative way about them or that outside forces are controlling their minds, are amongst the core positive symptoms of schizophrenia [19] and are considered by many to be important causative factors for violent behavior [17].

Systematic studies from forensic and civil patient populations have confirmed that even though most violence perpetrated by psychotic persons is not motivated by delusional thinking [12,20,21], a substantial minority of their violent acts appears to stem from the type and content of the delusions. Delusions involving the possibility of a threat to the physical integrity have been implicated in the onset of violent behavior in psychotic patients. Thus schizophrenic individuals often incited by these delusions react violently in response to a real or imagined threat. Then the possible sense of threat acts as a catalyst in the event of violent behavior inspired by the delusional construction [21].

Earlier studies have suggested that delusional symptoms such as threat/control-override will lead to violence if they cause a person to perceive others as harmful (e.g. threat delusions) or when these symptoms intrude in such a way as to override internal controls (e.g. influence delusions) [22,23]. However,

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other studies have found that especially threat delusions (not control-override delusions) are also associated with violent behavior [24,25].

Findings from the Clinical Antipsychotic Trial of Intervention Effectiveness (CATIE) study, a naturalistic multicentre trial, showed that hallucinations accompanied by delusional interpretations, and delusional thinking associated with suspiciousness and feelings of persecution, were related to serious violence among patients with schizophrenia, more specifically among the 7 symptom ratings that compose the PANSS positive subscale, 5 specific symptoms (hostility, suspiciousness/persecution, hallucinatory behavior, grandiosity and excitement) were significantly associated with increased risk of serious violence among schizophrenia patients living in the community [26].

People with persecutory delusions have the conviction that others will cause them harm, currently or in the future [27], and that the harm will be intentional. Freeman and colleagues (2007) proposed that people with such experiences use safety behaviors, such as avoidance or aggression, to reduce the threat that they perceive [28]. Although avoidance behaviors appeared to be the most common of these, and aggression one of the least likely, there is a positive and significant association between persecutory delusions and aggression. A possible link in this relationship may be the presence of delusion-related distress [24].

Furthermore, it has been suggested that patients who have acted in any way violently were more likely to report that delusions made them angry. A study by Coid and colleagues based on an epidemiological survey of first episode psychosis, during a 2-year period, found a strong association between anger due to delusions and serious violence. A small number of uncommon delusional beliefs demonstrated direct pathways leading to minor violence. Three highly prevalent delusions demonstrated pathways to serious violence mediated by anger due to delusional beliefs: persecution, being spied on and conspiracy [17]. In a longitudinal community study of 1136 male and female psychiatric patients after discharge, delusions, affect due to delusions, and violence indicated association between specific delusions (being spied upon, being followed, being plotted against and having special gifts/powers with angry effect), supporting an indirect pathway towards violence and delusions [29].

It appears that angry affect is an important component in a causal model of mental illness and violence [30]. It is reasonable to hypothesize that frequent beliefs that others intend harm may contribute to the use of aggressive behavior to remove a perceived threat [24]. In a systematic review conducted by Darrell-Berry and colleagues examining paranoia and its relationship with aggression in the context of schizophrenia, a link between aggression and general paranoid delusions and

specific threat to self-delusions was reported [31] findings consistent with previous literature [32,33]. Interestingly, the above studies all come to the agreement that anger due to delusions leads to violent acts. Reactive aggression is considered the ultimate behavioral expression of anger in response to a threat and delusions of persecution, conspiracy, and being spied on, leading to serious violence [34], could constitute extreme threat to a psychotic patient [35].

In addition paranoid individuals may utilise aggression as safety behaviour in an effort to maintain their 'safety' and/or prevent threats [28]. Despite the fact that various studies are all consistent in finding that symptoms of mental illness only cause crime in a minority of cases (between 4% and 12%) the fact is that there is constant and robust evidence of an association between delusions and violence acts [26]. Perhaps the most important finding arising from this short review is that anger due to delusional thinking is a key factor that explains the relationship between violence and psychosis.

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