

PREVENTING VIOLENCE IN SCHIZOPHRENIA

Olav Niessen

Clinical Research Unit for Anxiety and Depression, St Vincents Hospital, Sydney; University of New South Wales, Sydney, Australia

Abstract

Background. High rates of violence have been reported in clinical samples of patients with schizophrenia, especially of first episode psychosis, and there is an over-representation of people with schizophrenia among samples of violent offenders.

Method. A review of case linkage studies, studies of violence and stage of illness, studies of factors associated with violence in schizophrenia, and outcome studies, to identify strategies that might reduce the incidence of violence by people with schizophrenia.

Results. Case linkage studies show a peak in violent offending in the period before the diagnosis of schizophrenia. Studies of stage of illness and violence show that a large proportion of serious violence is committed prior to initial treatment for schizophrenia, often after long period of untreated psychosis. The main factors associated with violence in schizophrenia are comorbid substance abuse and delusional beliefs in which the patient believes they are in danger or have been seriously wronged. Outcome studies suggest that long term supervision of treatment after committing an act of violence reduces the incidence of further violent offences. There were no studies showing that the routine use of any form of risk assessment was able to reduce rates of violence among people with schizophrenia.

Conclusions. Interventions that might reduce the incidence of violence in schizophrenia include earlier and adequate treatment of the first episode of psychosis, improvement in methods of treating substance abuse in people with schizophrenia, including involuntary treatment for those who have committed offences associated with intoxication, assertive treatment of patients with alarming symptoms, and long term supervision of patients who have committed serious violent offences. The low base rates of serious violence and the absence of specific risk factors that might predict which patients might commit an act of violence means that the best way to reduce violence is not by attempting to predict which patients might commit an act of violence, and is instead by reducing barriers to care and by systems of care for the continued treatment for all patients, especially those with a history of violence

Key words: Violence, prevention, schizophrenia, first episode, substance use, risk assessment

Introduction

Most people diagnosed with schizophrenia will never commit an act of serious violence. However, people with schizophrenia are over-represented among samples of serious violent offenders, as although they comprise about 0.44% of the population ¹, they make up about 6.5% homicide offenders ², and around 10% of offenders charged with serious non-lethal violence such as assault causing significant harm and wounding ³. People diagnosed with schizophrenia are also over-represented in prison populations, with the proportion of samples of prisoners being diagnosed with schizophrenia ranging from 5% to 10% ^{4,5}. Hence

Correspondence

Olav Niessen
olavn@ozemail.com.au

there is no escaping the fact that a disproportionate amount of serious violence is committed by people with schizophrenia, and violence prevention strategies should consider how best to reduce violence by the mentally ill.

Stage of illness and violence

In recent years there has been an increasing interest in the phase of illness in which violent offending is likely to occur. Three studies linking criminal histories to medical records have shown a peak in conviction for violent offences in the years prior to diagnosis⁶⁻⁸, and in the case of the study from Denmark, nearly 75% of violent offences by the mentally ill were committed in the four years prior to initial treatment⁶. There have been similar findings for homicide. A meta-analysis of ten published studies of homicide in psychosis in which a treatment history was reported showed that 39% of psychotic homicide offenders had never been treated, suggesting a fifteen fold increase in the risk of homicide prior to treatment⁹. These studies confirm that the first episode of mental illness, and the period immediately prior to diagnosis and the initiation of treatment, is the period of greatest risk for violence.

The relationship between violence in schizophrenia and all violence

It was previously believed that homicide by people with schizophrenia was related to the epidemiology of the disorder and was unrelated to the total homicide rate. However, a recent meta-analysis has demonstrated that in fact, the rates of homicide by people with schizophrenia is strongly correlated with the overall rate of homicide², including in regions with very high rates of homicide¹⁰. However, the rate of homicide by people with schizophrenia was found to be about ten times higher than the rate for the general population, regardless of the total homicide rate, indicating that people with schizophrenia are especially vulnerable to the sociological factors that influence the total rate of homicide and serious violence in the community.

There are a number of possible explanations for this finding. The first is that although a proportion of homicide offences are committed in response to frightening symptoms of mental illness, which might not have occurred had the person received effective treatment, the presence of a high rate of violence in a community might also indicate less effective sys-

tems for treating people with severe mental illness. The second possible explanation is that people with schizophrenia, which is after all a disorder affecting the function of the frontal lobes of the brain, are particularly prone to substance use and more sensitive to patterns of substance use associated with violence, especially alcohol, cannabis and stimulant drugs. A third explanation is that the social conditions that produce a high rate of violence have a particularly severe effect on people with mental illness, who are often victims of violence¹¹ and who are more likely to live in more crowded and violent neighbourhoods because of the poverty and social disability associated with mental illness.

What makes people with schizophrenia violent?

Many studies have examined the factors associated with violence in schizophrenia. Studies based on the outcome of court cases have tended to concentrate on the pattern of acute symptoms that were present at the time of the violent act. For example, in one series of cases in which the inclusion criteria was the availability of the defence of mental illness, 96% of the subjects were reported to be motivated by a delusional belief, usually the belief that the victim posed a serious threat to the offender¹². Other types of delusions associated with violence include the delusion that the victim had committed a terrible wrong, delusions of jealousy, and misidentification delusions, for example, Capgras delusions¹³. However, recent reviews examining the diagnosis and offences, including offences committed throughout the course of illness, have noted the relationship between substance use, violence and the diagnosis of schizophrenia, even in people with the diagnosis who are receiving treatment and are generally free of acute symptoms^{14,15}. Substance use in particular is known to trigger symptoms, is associated with poor adherence to treatment¹⁶ and may have a disinhibiting effect in people who already have impairment in frontal lobe function.

Can treatment reduce the incidence of violence?

While there is no direct evidence from controlled trials that treatment reduces the incidence of violence, there is evidence that earlier treatment of first episode might reduce the incidence of major and minor violence¹⁷, and both serious¹⁸ and less serious

forms of self harm¹⁹. The proportion of homicides committed prior to treatment is directly correlated with the duration of untreated psychosis²⁰. About 16% of all patients have committed an act of actual physical violence prior to initial treatment¹⁷, 18% have self harmed¹⁹, and as many as half of the survivors of violent suicide attempts have been found to have an untreated psychotic illness¹⁸. A public health initiative in Norway designed to reduce the duration of untreated psychosis has had a measurable effect on the incidence of self harm²¹.

There is also some evidence that continued adherence to treatment can reduce the incidence of violence by people with schizophrenia. A study of serious non-lethal violence in psychotic illness found that of the 80% of offenders who were known to services, only 16% were currently receiving treatment³. However, the rate of re-offending by conditionally released forensic patients in New South Wales, Australia, nearly half of whom had committed homicide offences, was negligible, mainly because of the careful supervision of adherence to treatment²². Very low rates of homicide recidivism have been observed in most other jurisdictions with comprehensive community forensic services²³. By contrast, the rate of homicide recidivism in the Chuvash republic of the Russian Federation was nearly 10%, and nearly all recidivist homicides occurred in rural areas, where there was little in the way of services²⁴.

Can risk assessment assist us to reduce violence by people with schizophrenia?

Risk assessment will be of little or no value in identifying patients with schizophrenia who will go on to commit an act of serious violence (or commit suicide, for that matter) because the base rate of serious violence is too low, and the factors shown to be associated with violence are too common to discriminate high risk from low risk patients in a meaningful way²⁵. An example of the absurdity of risk assessment can be seen in the introduction of a requirement for a pre-discharge risk assessment for all patients, in the aftermath of an enquiry about the homicide of a stranger by a recently released psychiatric patient in the UK. The base rate of stranger homicide is about 1 in 140,000 patients with schizophrenia per annum²⁵, and even if it were possible to detain 30,000 patients for a year in order to prevent one homicide of a stranger, we would still miss the two thirds of such cases that are committed by mentally ill offenders who have not yet received treatment and are not known to services²⁶.

How should we treat substance use in psychosis?

Current treatment guidelines in several countries recommend motivational interviewing, a technique drawing from cognitive behavioural principles to assist patients identify their patterns of substance use and devise their own treatment plans²⁷. However, apart from several studies of “integrated therapy”, which combines counselling and environmental interventions²⁸, there is surprisingly little evidence for the efficacy of any form of psychosocial intervention for comorbid substance use in psychosis²⁹. One reason for the poor results could be that nearly all studies are dealing with patients with more entrenched substance use, as about 50% of cannabis users give up cannabis in response to medical advice alone after the first episode of mental illness³⁰. There is also some evidence that conditional release is a strong incentive for abstinence from substance use, and continued monitoring for drug use may also reduce the incidence of substance use after offences²².

How then can we reduce violence by people with schizophrenia?

Firstly, we need to reduce the duration of untreated psychosis (DUP). Research has shown that mean DUP is six months shorter in regions with “need for treatment” mental health laws, rather than the requirement that the patient has to be shown to be dangerous to self or to others before they can receive involuntary treatment³¹. Reducing other barriers to diagnosis and treatment, including the awareness of the harms associated with untreated psychosis, and re-engineering first episode services to actively seek cases, rather than passively wait for referrals, could also reduce DUP³². Raising public awareness of early psychosis has also helped reduce DUP²¹.

The other main intervention that would be likely to reduce the incidence of violence would be any measure that ensures continuity of care, especially the care of people with a history of violence. A striking feature of many services is the poor use of data, including internal audits of treatment, and the way in which the mobility of patients results in loss of continuity of care. Measures that might improve care, especially for those with a history of violence, might be to link treatment to social security payments, and the use of forensic type conditional release orders to

ensure adherence to treatment and abstinence from substances associated with violence.

A further consideration is the effect of violence in the wider community. Any measure that reduces

violence, for example, better policing, better design of public housing and reduced availability of alcohol, is likely to have a far greater effect on violence by the mentally ill.

References

- 1 Saha S, Chant D, Welham J, et al. *A systematic review of the prevalence of schizophrenia*. PLoS Med 2005;2:e141.
- 2 Large M, Smith G, NielsSEN O. *The relationship between rates of homicide by those with schizophrenia and the overall homicide rate: a systematic review and meta-analysis*. Schizophr Res 2009;112:123-9.
- 3 Yee NL, Large M, Kemp R, et al. *Severe non-lethal violence during psychotic illness*. Aust N Z J Psychiatry 2011;45:466-72
- 4 NielsSEN O, Misrachi S. *The prevalence of psychotic illness in NSW prisons*. Aust N Z J Psychiatry 2005; 39: 212-218
- 5 Teplin LA. *The prevalence of severe mental disorder among male urban jail detainees: comparison with the Epidemiologic Catchment Area Program*. Am J Public Health 1990;80:663-9.
- 6 Munkner R, Haastrup S, Joergensen T, et al. *The temporal relationship between schizophrenia and crime*. Soc Psychiatry Psychiatr Epidemiol 2003;38:347-53.
- 7 Wallace C, Mullen PE, Burgess P. *Criminal offending in schizophrenia over a 25-year period marked by deinstitutionalization and increasing prevalence of comorbid substance use disorders*. Am J Psychiatry 2004;161:716-27.
- 8 Wessely SC, Castle D, Douglas AJ, et al. *The criminal careers of incident cases of schizophrenia*. Psychol Med 1994;24:483-502.
- 9 NielsSEN O, Large M. *Rates of homicide during the first episode of psychotic illness and after treatment: a systematic review and meta-analysis*. Schizophr Bull 2010;36:702-12.
- 10 Golenkov A, Tsymbalova A, Large M, et al. *An international perspective on homicide and schizophrenia: a study from Chuvashia*. Schizophr Res 2011;133:232-7.
- 11 Dolan M, Castle D, McGregor K. *Criminally violent victimisation in schizophrenia spectrum disorders: the relationship to symptoms and substance abuse*. BMC Public Health 2012;12:445.
- 12 NielsSEN OB, Yee NL, Millard MM, et al. *Comparison of first-episode and previously treated persons with psychosis found NGMI for a violent offense*. Psychiatr Serv 2011;62:759-64.
- 13 NielsSEN O, Westmore B, Large M et al. *Homicide during psychotic illness in New South Wales between 1993 and 2002*. Med J Aust 2007;186:301-4.
- 14 Fazel S, Gulati G, Linsell L, et al. *Schizophrenia and violence: systematic review and meta-analysis*. PLoS Med 2009;6:e1000120.
- 15 Swanson JW, Swartz MS, Van Dorn RA, et al. *A national study of violent behavior in persons with schizophrenia*. Arch Gen Psychiatry 2006;63:490-9.
- 16 Mullin K, Gupta P, Compton MT, et al. *Does giving up substance use work for patients with psychosis? A systematic meta-analysis*. Aust NZJ Psychiatry 2012;46:826-39.
- 17 Large M, NielsSEN O. *Violence in first episode psychosis: a systematic review and meta-analysis*. Schizophr Res 2011;125:209-20.
- 18 NielsSEN O, Large M. *Untreated psychotic illness in the survivors of serious suicide attempts*. Early Interv Psychiatry 2009;3:116-22.
- 19 Challis S, NielsSEN O, Harris A et al. *Systematic meta-analysis of the risk factors for deliberate self-harm before and after treatment for first-episode psychosis*. Acta Psychiatrica Scandinavica 2013;127:442-54.
- 20 Large M, NielsSEN O. *The relationship between the duration of untreated psychosis and homicide in the first episode of psychosis*. Soc Psychiatry Psychiatr Epidemiol 2008;43:37-42.
- 21 Melle I, Johannesen JO, Friis S, et al. *Early detection of the first episode of schizophrenia and suicidal behaviour*. Am J Psychiatry. 2006;163:768-70.
- 22 Hayes H, Kemp RI, Large MM et al. *A 21-year retrospective outcome study of New South Wales forensic patients granted conditional and unconditional release*. Aust N Z J Psychiatry. 2013 Oct 18.
- 23 Large M, Golenkov A, NielsSEN O. *Fear of the (almost) unknown*. Crim Behav Ment Health 2014;24:1-4.
- 24 Golenkov A, NielsSEN O, Large M. *Systematic review and meta-analysis of homicide recidivism and schizophrenia*. BMC Psychiatry 2014;14:46.
- 25 Large M, Ryan C, Singh S, et al. *The predictive value of risk categorisation in schizophrenia*. Harv Rev Psychiatry 2011;19:25-33
- 26 NielsSEN O, Bourget D, Laajasalo T, et al. *Homicide of strangers by people with psychotic illness*. Schizophr Bull 2011;37:572-9.
- 27 Baker A, Lewin T, Reichler H, et al. *Motivational interviewing among psychiatric in-patients with substance use disorders*. Acta Psychiatr Scand 2002;106:233-40.
- 28 Barrowclough C, Haddock G, Wykes T, et al. *Integrated motivational interviewing and cognitive behavioural therapy for people with psychosis and comorbid substance misuse: randomised controlled trial*. Acta Psychiatr Scand 2002;106:233-40.
- 29 De Witte NA, Crunelle CL, Sabbe B, et al. *Treatment for out-patients with comorbid schizophrenia and substance use disorders: a review*. Eur Addict Res 2014;20:105-14.
- 30 Wisdom JP, Manuel JI, Drake RE. *Substance use disorder among people with first-episode psychosis: A systematic review of course and treatment*. Psychiatr Serv 2011;62:1007-12.
- 31 Large M, NielsSEN O, Ryan C, et al. *Mental health laws that require dangerousness for involuntary treatment may delay the initial treatment of schizophrenia*. Soc Psychiatry Psychiatr Epidemiol 2008;43:251-6.
- 32 NielsSEN OB, Large MM, Dean K. *The truth, the whole truth and nothing but the truth about early intervention*. Aust N Z J Psychiatry 2012;46:1004-5.