# The link between mental health problems and violent behaviour

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**ABSTRACT** **Gregory, N. (2004) The link between mental health problems and violent behaviour. *Nursing Times*; 100: 14, 34–36.**

**Fear of violence in relation to people with mental illness is common and affects the way society views and treats such individuals. This article reviews literature on mental illness and violence with the aim of clarifying whether there is a link between the two. While higher rates of violence have been found among people with mental illness, most studies have flaws and their results should be viewed with caution. Further research is required particularly in connection with people with serious mental illness. We also need to develop preventative strategies by providing appropriate support for people with mental health problems.**

The relationship between mental illness and violent offending has long been a subject of debate. As early as the fifth century BC the Greek philosopher Socrates is reported to have stated that a low crime rate in Athens indicated a low rate of mental disorder in the city.

Recent public interest in the relationship between mental illness and violence has been fuelled by the Conservative government's policy in the 1980s of closing long-stay psychiatric institutions and widely publicised cases such as the murder committed by Christopher Clunis who had a diagnosis of schizophrenia (Ritchie et al, 1994). The debate resurfaced last year when media reports of three murders committed in London by a former psychiatric patient, included headlines such as 'Camden ripper jailed for life' (*The Guardian*, 2003).

Although advocates for people with mental illness consistently argue that the rate of violence associated with these individuals is no greater than in the general population, recent studies are reporting modest causal connections between mental disorder and violent behaviour. This article aims to clarify this issue by reviewing a selection of the main epidemiological studies.

## The evidence base

A search of databases such as Medline, CINAHL, and Psychinfo was undertaken for the period from 1980 to 2003 using the terms 'violence', 'schizophrenia', 'severe mental illness', 'major mental disorder', 'psychosis', 'dangerousness', and 'mentally disordered offender'.

The search revealed an extensive literature that drew upon three main sample groups.

The main sample groups included the following:

- Those known to mental health services;
- Individuals who were incarcerated within the criminal justice system;
- Case linkage and birth-cohort studies drawn from community-based populations.

## The mental health service

Four cross-sectional studies of psychiatric patients report a strong causal link between mental illness and violence prior to or during hospital admission. Humphreys et al (1993) found that 20 per cent of people with a diagnosis of first-episode schizophrenia had behaved violently prior to admission. Taylor et al (1998) identified even higher rates of assaults committed by people diagnosed with severe mental illness during hospitalisation.

Follow-up studies of discharged hospital patients have revealed comparable rates of violent offending ranging from 15 per cent to 27 per cent (Appelbaum et al, 2000; Link et al, 1992).

These studies seem to provide compelling evidence of a link between violent behaviour and mental disorder. However, there may be other explanations for the apparently high rates of violence in hospitals, which means these findings should be treated with caution. For example, both a legislative shift towards the process of deinstitutionalisation and incorporating violence as a key diagnostic feature within the International Classification of Diseases (World Health Organization, 1992) has created a dangerousness standard for psychiatric admission. In addition, violent behaviour can be a response to the contextual setting of a confined ward.

## The criminal justice system

Most research in this area involves prisoners and is usually cited to support the hypothesis that large numbers of mentally disordered individuals have been diverted from mental health care to the criminal justice system. Gunn et al (1991) reported that two per cent of prison inmates in Britain had a diagnosis of schizophrenia requiring transfer to a psychiatric hospital. Singleton et al (1998) reported an even higher prevalence ranging from 8–10 per cent in male prisoners and 14 per cent in female prisoners. In contrast, Fazel and Danesh (2002a), in a systematic review of 62 surveys from 12 countries, found a more modest prevalence rate of 3.7 per cent in men and four per cent in women.

Numerous studies have examined the prevalence of mental disorder among those who have committed homicide compared with the general population. Two warrant mentioning due to the completeness of their

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**KEYWORDS** ■ Mental health ■ Violence ■ Mental illness

## ESSENTIAL SUMMARY OF RESEARCH FINDINGS

- Research conducted over the last two decades has produced mounting evidence illustrating a link between mental illness and violence.
- Robust epidemiological studies indicate that people with diagnoses of serious mental illness are four to eight times more likely to be violent than the general public.
- Co-morbid substance misuse and personality disorder diagnoses are significant risk factors.

samples. In Iceland, Petersson and Gudjonsson (1981) reviewed all 52 homicides occurring between 1900 and 1979 and concluded that 28 per cent were committed by people with a diagnosis of mental illness.

In a sample of 693 Finnish homicides, Eronen et al (1996) discovered that a diagnosis of schizophrenia was eight times more prevalent in male offenders and 6.5 times more prevalent in female offenders compared with the general population.

These studies appear to support a causal link between mental illness and violent behaviour but again caution should be exercised. Selection bias is a universal problem in prison samples as these may already be more prone to violence than the general population.

Although the homicide studies minimised selection bias by including all offenders, the phenomenon of 'Berkson's fallacy' still occurs, whereby the results of any association are overestimated (Berkson, 1946). Nevertheless, Hodgins (1998) argues that all samples are biased and research with differing sample selection criteria still confirms a link between mental illness and violence. Rothman (1996) suggests that studies that identify mental illness in violent prisoners are unrepresentative of the mentally ill population as a whole and therefore cannot be used to draw aetiological inferences about the link between mental illness and violence. In addition people with a diagnosis of mental illness may have a disproportionate arrest rate because they may be less skilful at crime, more easily caught, and more likely to plead guilty compared with other offenders.

### Case linkage studies

Three retrospective cohort case linkage studies also appear to provide persuasive evidence of an increased risk of violence in people diagnosed with mental illness.

In a study carried out in Stockholm, 644 patients with a diagnosis of schizophrenia on a police register were followed up over 15 years and were found to be four times more violent than the general population (Lindqvist and Allbeck, 1990).

Similarly, a study of 538 incident cases of men who had a diagnosis of schizophrenia reported that these men were 3.9 times more likely to have a violent conviction compared with a matched control group (Wessely et al, 1994).

An Australian paper compared two groups of people with a diagnosis of schizophrenia both in 1975 prior to deinstitutionalisation and in 1985 when community care was the norm (Mullen et al, 2000). Although significant levels of violence were discovered in a sample with mental illness compared with the general population, this was not attributable to the closure of the asylums.

It is difficult to draw firm conclusions from these studies as they are either unclear about or fail to control for a range of possible confounding factors such as age, sex, socioeconomic status, or prior arrests. This is partly due to the causal pathway between mental illness and violence being unclear, although social disorganisation, poverty, and substance abuse have been identified as important factors (Hiday, 1997). When these variables are considered within robust studies using comparable study groups, the relationship between mental illness and violence often disappears.

### Birth cohort studies

Data from four Scandinavian longitudinal prospective studies of unselected birth cohorts reveals comparable findings to case linkage research. Hodgins (1992) examined the criminal careers of a Swedish cohort over 30 years, finding that males with diagnoses of major mental disorders had a fourfold increased risk of committing violent offences. Methodologically similar Danish and Finnish studies replicated these results, suggesting that males with a diagnosis of schizophrenia were between two and four times more likely to be violent (Rasanen et al, 1998; Hodgins et al, 1996).

A further Finnish study found levels of violence in such men to be seven times higher than those of controls with no diagnosis of mental illness (Tiihonen et al, 1997). In all four studies substance misuse, particularly alcohol, was reported as a major co-variable in an increased level of violence in the people with diagnoses of serious mental disorder.

Stueve and Link (1997) suggest that the evidence within these studies supports a causal relationship as consistencies across findings overshadow any inherent methodological weaknesses within research design. Nevertheless, all four contained information errors as they were biased in time and place and could only attribute an increased risk of violence to those born since the 1940s, when the studies took place.

A further reliance upon incomplete institutional files arguably produced underestimated or exaggerated prevalence rates. Steadman et al (1998) argue that to provide accurate empirical data, institutional records should not be used in isolation but in conjunction with other sources of collateral information.

### General population studies

Data from unselected and representative samples drawn from the general population may provide the strongest argument supporting a causal inference between mental illness and violence. To date, the most important study is a US project (Swanson et al, 1990) that examined the

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relationship between violence and psychiatric disorder of 10,059 adult residents from epidemiological catchment-area study sites. The results indicated that eight per cent of people with a diagnosis of schizophrenia were violent compared with two per cent of those without mental illness. When their conditions were complicated by substance misuse the rate increased to 30 per cent. A further study in New Zealand of 94 per cent of a total city cohort followed for a period of 21 years supported these results, finding that 10 per cent of people with a diagnosis of schizophrenia were violent (Arseneault et al, 2000).

Neither the state-of-the-art epidemiological study by Swanson et al (1990) nor the work of Arseneault et al (2000) could infer causality. Research findings must be certain about the chronological ordering of events – does a diagnosis of mental illness precede violence or vice versa? Due to the cross-sectional nature of both surveys the chronological ordering of factors could not be established and so causality could not be inferred.

Both studies concluded that there are grounds for the general public's fear of people with a diagnosis of schizophrenia but that the level of fear is probably much higher than the actual risk warrants. They also concluded that the risk of assault increases greatly when those who have a diagnosis of schizophrenia are abusing substances.

## Discussion

All the studies reviewed appear to demonstrate that people diagnosed with mental illness, whether in hospital, prison, or the community, exhibit higher levels of violence than the general population. Nevertheless, this association should probably be seen as loose due to the inability of studies to provide reliable and valid data.

For example, confounding by definition is very often a design failure within the literature as it is virtually impossible to define violence independently of a diagnosis of mental disorder since it has become a key diagnostic feature (World Health Organization, 1992). Therefore, current studies supporting a statistical association are unreliable as the technique of defining and measuring these conditions has changed.

Caution must also be exercised in generalising results from US or Scandinavia, for example, and then applying them to the UK. The US health care and criminal justice systems are significantly different from those in the UK and Scandinavian countries have relatively homogenous populations, high rates of alcoholism, and low overall crime rates compared with the UK.

The context of any relationship between mental illness and violence must also be considered – that is, whether people with a diagnosis of mental illness pose a significant risk in society. Even if there is a correlation between mental illness and violence, the overall risk is low, so the general fear is exaggerated. The literature indicates that the number of homicides has doubled since the 1960s in England and Wales, with 1,048 reported in 2002–2003. Of these 50 were committed by people diagnosed with mental illness – a figure that has remained constant during the same period (Hill, 2003), while 3,500 people died in road traffic accidents and 50 were killed by police cars. It should also be pointed out that individuals have a greater chance of being killed by lightning than by a stranger with mental illness (Hill, 2003). It is further estimated that 99.8 per cent of people with a diagnosis of schizophrenia are not convicted of serious violence in a given year, and that the general public is at greater risk from heavy drinkers than those with a serious mental illness (Taylor and Gunn, 1999).

Bonta (1998) identified a number of key statistical relationships following meta-analyses of the literature. Studies indicate that the strongest predictor of future violence is past violent behaviour and where violence occurs it is almost always directed towards family members. The risk of violent behaviour is greatest where acute psychotic symptoms are present or the individual is non-concordant with medication. Conversely, inpatients receiving medication are at low risk although hospital violence is on the increase, with a small minority of patients responsible for the majority of incidents.

Within prisons, despite low detection rates the prevalence of mental illness remains high, although it is uncertain whether this is because of the criminalisation of mentally disordered behaviour, 'psychiatrisation' of criminal behaviour or the pathogenic nature of prisons. However, it is clear that in all community, hospitalised, and offender populations, substance abuse and diagnoses of personality disorder are significant risk factors for violence (Moran et al, 2003).

## Conclusion

The shortcomings in global research make it difficult to draw valid causal judgements. Independent measures of mental illness and violence need to be developed as current classifications have limited application. Studies must also move away from institutions to explore this relationship in unselected or representative community samples. Longitudinal follow-up studies are also needed that permit clear chronological ordering of events and treatment of confounding problems. Importantly, studies that incorporate the perspective of people with serious mental illness would significantly contribute to the examination of violence in community and institutional settings.

Investigation of the link between mental illness and violence is important but it could be argued that up until now it has dominated our thinking too much, which has led to the neglect of other important considerations. It is as valuable to identify and evaluate effective treatment models such as cognitive behaviour therapy and assertive community treatment in order to relieve suffering and prevent future violent behaviour in this vulnerable group.

Finally, we are all surrounded by hazards in our daily life yet there remains intense media and government attention upon the danger of violence posed by people with a diagnosis of mental illness. This creates a vicious cycle in which the public becomes fearful thereby increasing social exclusion and stigma of those who are already suffering greatly from their mental illness. ■

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