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Regional update

Homicide and mental disorder in a region with a high homicide rate

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ABSTRACT

There are few studies of the relationship between mental disorder and homicide offences from regions with high rates of homicide. We examined the characteristics and psychiatric diagnoses of homicide offenders from the Chuvash Republic of the Russian Federation, a region of Russia with a high total homicide rate. In the 30 years between 1981 and 2010, 3414 homicide offenders were the subjected to pre-trial evaluations by experienced psychiatrists, almost half of whom (1596, 46.7%) met the international classification of diseases (ICD) 10 criteria for at least one mental disorder. The six most common individual diagnoses were alcohol dependence (15.9%), acquired organic mental disorder (7.3%), personality disorder (7.1%), schizophrenia (4.4%) and intellectual disability (3.6%). More than one disorder was found in 7.4% of offenders and alcohol dependence was the most frequently diagnosed co-morbid disorder. One in ten offenders were found to be not criminally responsible for their actions. Few homicides involved the use of substances other than alcohol, and firearms were used in 1.6% of homicides. The finding that people with mental disorders other than psychosis committed a high proportion of homicides in a region with a high rate of homicide, suggests that people with mental disorders are vulnerable to similar sociological factors to those that contribute to homicide offences by people who do not have mental disorder.

There is a well-recognized association between schizophrenia and homicide, and rates of homicide by people with schizophrenia are both significantly higher than the wider community (Fazel et al., 2009) and strongly correlated with the overall rate of homicide (Large et al., 2009). There is also a known association between substance use and homicide, particularly between the use of alcohol and homicide (Bye, 2008; Parker et al., 2011). Less is known about the relationship between homicide and other mental disorders, including conditions such as mood disorders, personality disorders, organic mental disorders and intellectual disability.

Previous studies have reported wide variation in the rates of substance use and diagnosed substance use disorders among homicide offenders. A case linkage study from Sweden found that 20% of homicide offenders had been diagnosed with a substance use disorder at prior contact with mental health services (Fazel and Grann, 2004), whereas a study conducted in Australia using similar methods found that 5% of homicide offenders had previously been diagnosed with a substance use disorder (Wallace et al., 1998). Studies based on the psychiatric evaluations of homicide offenders after the offence also vary in the proportion of offenders found to have a substance use disorder, with studies from the United States (Martone et al., 2013), Finland (Eronen et al., 1996), Austria (Schanda et al., 2004) and New Zealand (Simpson et al., 2004) reporting rates of substance use to be 47%, 12%, 1.4% and 0.7% respectively.

There is a similarly wide variation in the results of studies reporting on mood disorder among homicide offenders. Case linkage studies from Australia (Wallace et al., 1998) and Sweden (Fazel and Grann, 2004) both reported that about 2% of homicide offenders had been treated for depression prior to the offence, whereas studies relying on the clinical examination of offenders after the offence have generally reported higher rates of depression. Studies from Singapore (Koh et al., 2006) and the United States (Martone et al., 2013) both reported that 9% of homicide offenders had a diagnosis of depression, while studies from other regions have reported lower rates, including 5% in Finland (Eronen et al., 1996), 4% in England and Wales (Appleby and Shaw, 2006), 1.4% in Austria (Schanda et al., 2004) and 1% in New Zealand (Simpson et al., 2004).

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There is an obvious association between antisocial personality disorder and violent crime, in part because a pattern of impulsive behavior and criminal conduct is part of the definition of the condition. However, few population-based studies of the psychiatric diagnoses of homicide offenders have specifically reported the proportion of offenders with the diagnosis of personality disorder. The exceptions are the Swedish case linkage study, which found that almost 30% of homicide offenders had been diagnosed with personality disorder prior to the homicide (Fazel and Grann, 2004) and a recent study from the United States, which found that 23% of homicide offenders met the criteria for the diagnosis of at least one personality disorder (Martone et al., 2013). The reported rates of organic mental disorders and epilepsy or brain damage among homicide offenders also vary. The Swedish study reported no cases of organic mental disorder (Fazel and Grann, 2004), whereas the case linkage study from Australia reported that 7% of homicide offenders had a pre-existing organic mental disorder, most commonly a history of traumatic brain injury (Wallace et al., 1998). The reported rates of intellectual disability among homicide offenders range from 2% in Finland (Eronen et al., 1996) and the USA (Martone et al., 2013), to under 1% in New Zealand (Simpson et al., 2004) and Sweden (Fazel and Grann, 2004).

The reasons for the observed differences in the rates of the various disorders are not known. However, the proportion of homicide offenders diagnosed with any mental disorder is likely to vary according to the methods used to ascertain cases, for example, the rates of diagnoses made by past health care utilization are likely to differ from those found in cross-sectional studies. Moreover, within cross-sectional studies those using a clinical diagnosis might differ from studies using structured or semi structured interviews (Nielssen and Misrachi, 2005). Most studies of homicide offenders rely on clinical diagnoses, and among these studies, rates of diagnosed mental disorder can vary because of different thresholds for psychiatric diagnosis. Threshold effects might be due to local clinical practices or vary according to the diagnosis system used. For example, the proportion of homicide offenders in Russia who were diagnosed with a mental disorder increased after the introduction of ICD 10 (Golenkov and Tsymbalova, 2013).

Another factor that might influence the proportion of homicide offenders with a mental disorder is the total homicide rate. It has been suggested that the rate of homicides that can be defined as “mentally abnormal” is closely linked to the epidemiology of severe mental disorders and is not associated with the overall rate of homicide (Taylor and Gunn, 1999). If this were true, only a small proportion of homicide offenders in regions with high rates of homicide would be found to have a mental disorder (Coid, 1983; Coid, 2009). The assumption is that total homicide rates are associated with the factors associated with violence in the general community, such as the availability of weapons (Hemenway and Miller, 2000) and levels of drug or gang related activity (Blumstein et al., 2000), while homicides committed by people with mental disorder are linked to the symptoms of their illness. This hypothesis has rarely been tested because most of the research about homicide and mental disorder has been conducted in advanced countries with low rates of homicide, typically below 3 per 100,000 per annum (Golenkov et al., 2011b; Large et al., 2009). It is now recognized that the rate of homicide by people with schizophrenia is not fixed and is strongly associated with the total homicide rate (Golenkov et al., 2011b; Large et al., 2009). It may be that rates of homicide associated other mental disorders are also correlated with total homicide rates (Large et al., 2008).

In a previous study we examined homicides by offenders diagnosed with schizophrenia from the Chuvash Republic of the Russian Federation, a region which, like other parts of Russia has a high total homicide rate of more than 10 per 100,000 population (Golenkov et al., 2011a). In the present study, we aimed to establish the proportion of homicide offenders who had been diagnosed with any mental disorder, and to describe the characteristics of homicide offenders with alcohol dependence, personality disorders, organic mental disorders and intellectual disability.

1. Method

1.1. Sample

The background to the study is described in previous publications (Golenkov et al., 2013; Golenkov et al., 2011a), and the operation of Section 21 of the Russian Penal Code in the inquisitorial legal procedure followed in Russian courts has also been described elsewhere (Bukhanovsky and Gleyzer, 2001). Because of the seriousness of the offence, early all people charged with homicide have at least one evaluation by a qualified psychiatrist experienced in preparing opinions for judicial proceedings, and if a psychiatric disorder is suspected, by all three members of a commission of senior psychiatrists appointed for that purpose. This study is derived from an examination of the files of all those subjected to a judicial psychiatric examination in the Chuvash Republic of the Russian Federation as a result of homicides committed between January 1981 and December 2010.

1.2. Case identification and data extraction

Data were extracted from the documents in the patients’ files, which included the judicial psychiatric report, hospital records, outpatient notes and legal documents. About one-third of the offenders had been personally examined by either AG or AT and the remaining cases had been examined by similarly qualified and experienced forensic psychiatrists. Demographic data (age, sex, occupation, marital status, years of education), clinical data (diagnosis, age of onset, previous treatment, pattern of symptoms, history of brain injury, substance abuse) and criminological data (previous convictions, method of homicide, judicial outcome) were collected systematically. The psychiatric diagnoses made in the course of judicial examination in Chuvashia were made using the version of the International Classification of Diseases (ICD) that was current at the time of the examination (ICD versions 9 and 10). For the purpose of this study the psychiatric diagnoses in each case was made by retrospective chart review using ICD-10 criteria (WHO, 2014). Sample size for each of the major diagnostic groups was calculated using Cochran’s method of determining sampling size in population surveys. We assumed that the determined proportions of variables in each diagnostic group should not exceeds a margin of error of +/− 5% more than 5% of the time (alpha of 0.05) (Cochran, 1977). Cases were sampled by selecting alternate cases, and when the estimated required sample size exceeded half of the total number of cases for each diagnostic group, the residual cases were re-sampled again using alternate cases.

1.3. Statistical analysis

The data were analyzed using SPSS Version 10.0 (SPSS Inc. Chicago, IL, USA). The descriptive statistical data are given in mean values and standard deviations (SD) and in percentages. Continuous data were compared with an independent sample *t*-test, and categorical variables with Pearson chi-square (χ^2). When one or several cells contained 5 subjects or less, a Fisher’s Exact test was used. All tests were performed in a two-tailed form.