

ORIGINAL PAPER

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Delinquency and criminal offenses in former schizophrenic inpatients 7–12 years following discharge

Received: 25 June 2003 / Accepted: 16 January 2004

Abstract *Background* Previously, we reported a high prevalence of aggression in a large sample of schizophrenic patients treated between 1990–1995 in the psychiatric hospital of the University of Munich. *Aims* To assess the prevalence of criminal offences and delinquency in former schizophrenic inpatients following discharge. *Method* With permission of the German General Attorney we reviewed the national criminal register records of criminal offences of these patients for a 7–12 year period following discharge. *Results* 224 (13.1%) of the 1705 patients had been convicted in the 7–12 year post discharge period. Male patients (22.1%) outnumbered female patients (6.9%) 3:1 in this respect. The rate for violent offences was especially high: 45 (2.6%) of the sample were convicted for physical injury offences (68 cases). Five cases of attempted or completed manslaughter or murder were recorded. *Conclusions* These data indicate a significant rate of delinquency and serious physical injuries in former schizophrenic inpatients. Future research may try to identify risk factors for aggression and violence in schizophrenic patients.

Key words aggression · forensic psychiatry · schizophrenia · violence

Introduction

There is significant evidence for an increased risk for aggression and violence in schizophrenia (see review by [12, 25, 41]). Violent crime arrests have repeatedly been linked to schizophrenia and have received considerable public interest, especially with respect to threats against politicians (“White House Cases”, [28]). Different from suicidal tendencies violent thoughts are frequently overlooked in clinical practice [27]. We recently reported data from a well characterized sample of schizophrenic inpatients indicating a 14% prevalence rate of aggressive thoughts or acts at admission [30]. Similar results have been reported by Milton et al. [23] and others. While a number of studies have focused on the risk for violence and violent delinquency in schizophrenics before and during hospitalization, few studies have addressed the violence and delinquency risk after discharge [20, 33]. To determine the prevalence of criminal and aggressive acts post-discharge among our former patients, we reviewed the records in the German national criminal register (Bundeszentralregister).

Methods

From 1990–1995, 1705 patients who met the ICD-9 diagnosis of schizophrenia were treated in the psychiatric hospital of the University of Munich. Psychopathology and clinical history of patients was carefully assessed at admission and discharge using the AMDP system [2]. The General Attorney of Germany gave consent to review the records of these patients recorded in the national criminal register. In this register all convictions (but not charges) for criminal offences are recorded, including the sentence, records for diminished responsibility, and involuntary admissions to psychiatric hospitals.

Results

The initial sample consisted of 1705 (697 males and 1008 females) patients who had been treated at the university hospital for schizophrenia (ICD-10 criteria). The mean

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age of patients at the time of hospitalization was 32.8 years (males 31.1, females 34.3 years).

The records indicate a total of 702 convictions during the follow-up period. Of these 702 cases, a diminished responsibility was granted in 414 (58.9%). The mean number of convictions for these subjects was 3.1. A total of 224 (13.1%) patients in the entire sample had been convicted in the 7–12 year period following treatment, 21 (3%) were imprisoned, 55 (7.8%) were sentenced to prison with probation, while 20 (2.8%) patients were instead sent to a forensic mental hospital.

More male ($N = 154$, 22.1%) than female ($N = 70$, 6.95%) patients were later convicted ($\chi^2 = 15.75$, $p < 0.01$).

Details on the convictions are provided in Tables 1 and 2. The convictions covered a wide range of different offences, with theft being the most frequent. However, the number of aggressive and violent offences were striking: 45 patients (2.6% of the sample) were convicted for physical assault (68 cases). While the number of attempted/completed manslaughter and homicide cases was high (5 cases committed), rape ($N = 3$, 1 patient) and other sexual offences were rare (Tables 1 and 2).

In a very preliminary analysis the data on criminal convictions obtained for the schizophrenia inpatient sample were compared with data for the general population (age 25–65). The latter were taken from the annual reports on criminality (official policy crime register, published also in the internet). When comparing the number of convictions in both groups (Table 3) data indicate that the pattern of convictions was different in the schizophrenia sample compared to the general population (GP). While theft accounted for 23.35% ($N = 1485863$) of the convictions in the GP group, this was only the case in 12.68% ($N = 89$) of the schizophrenia group ($P > 0.01$). Other criminal offences like physical assault or (attempted) manslaughter were more frequent in the schizophrenia group.

Discussion

In the present study we studied delinquency and convictions in a group of 1705 schizophrenic patients by examining records in the national criminal register for a 7–12 year period following discharge. Our findings indicate a significant number of convictions for minor

Table 2 Distribution of different criminal offences in schizophrenic patients – referring to the total number of examined persons

	total of examined schizophrenic patients	
	total number	%
Total of examined patients	1705	100
Acquittal (cases)	414	24.28
Judgements (multiple items per offence are possible)	number of cases	%
Fine	187	10.97
Revoked driving license	52	3.05
Imprisonment	21	1.23
Imprisonment with probation	55	3.23
Psychiatric hospitalization	20	1.17
Others (expel, revoked fire certification ...)	11	0.65
Child neglect	19	1.11
Type of committed criminal offence multiple cases per person are possible	number of cases	% ¹
Theft	89	5.23
Physical assault	68	3.99
Conning	58	3.40
Verbal assault	36	2.11
Drug offences	31	1.82
Driving without license/insurance	29	1.7
Fraud	28	1.64
Damage to property	23	1.35
Driving while intoxicated	21	1.23
Unlawful entry	20	1.17
Reckless driving	19	1.11
Assault (without sexual assault)	16	0.94
Resisting arrest	13	0.76
Threatening	12	0.7
Refused identification, no identity card	5	0.29
(Attempted) man slaughter	4	0.23
False arrest	3	0.18
Arson	3	0.18
(Attempted) rape	3	0.18
Sexual abuse of a child	2	0.12
Accessory to murder, murder	1	0.06
Exhibitionism	1	0.06
Sexual assault	1	0.06
Other	38	2.23
No specification given about the type of criminal offences ¹	277	16.25

¹ percentages in column 3 refer to the number of counted offences, NOT including the cases without specification

Table 1 Total of examined persons, number of delinquent persons and the total of committed criminal offences in schizophrenic patients and general population (convictions for 2001)

	Schizophrenic patients		German population 25–65 years	
	Total number	%	Total number	%
Total of examined patients	1705	100	46531700	100
Delinquent persons	224	13.14	n. i.	n. i.
Total committed criminal offences	702		6363865	
Mean committed criminal offences per person	3.13 pro 1/224 0.41 pro 1/1705		0.137	

n. i. no information

Table 3 Relative distribution of different criminal offences in schizophrenic patients and the general population – referring to the total of committed offences, differences in the incidence of the several committed offences between the schizophrenic patients and the general population. Significance per χ^2 -Test – referring to the total of committed offences

	Total of examined schizophrenic patients		German population aged from 25 to 65 years		
	Total number	%	Total number	%	
Total committed criminal offences by patients	702		6363865		
Mean number of committed criminal offences per person	0.41		0.137		
Acquittal (cases)	414	58.97	n. i.	n. i.	
Judgements (multiple items per offence are possible)	number of cases	%	number of cases	%	
Fine	187	26.64	n. i.	n. i.	
Revoked driving license	52	7.41	n. i.	n. i.	
Imprisonment	21	3.0	n. i.	n. i.	
Imprisonment with probation	55	7.83	n. i.	n. i.	
Psychiatric hospitalization	20	2.85	n. i.	n. i.	
Others (expel, revoked fire certification ...)	11	1.57	n. i.	n. i.	
Child neglect	19	2.71	n. i.	n. i.	
Type of committed criminal offence	number of cases	% ¹	number of cases	% ¹	significance (χ^2 -test) p =
multiple cases per person are possible					
Theft	89	12.68	1485863	23.35	< 0.001
Physical assault	68	9.69	419186	6.59	< 0.001
Conning	58	8.26	158407	2.49	< 0.001
Verbal assault	36	5.13	161941	2.55	< 0.001
Drug offences	31	4.42	246518	3.87	n. s.
Driving without license/insurance	29	4.13	n. i.	n. i.	n. i.
Fraud	28	4.00	634996	9.98	< 0.001
Damage to property	23	3.28	719602	11.3	< 0.001
Driving while intoxicated	21	3.00	n. i.	n. i.	n. i.
Unlawful entry	20	2.85	49138	0.77	< 0.001
Reckless driving	19	2.71	n. i.	n. i.	n. i.
Assault (without sexual assault)	16	2.78	n. i.	n. i.	n. i.
Resisting arrest	13	1.85	21379	0.33	< 0.001
Threatening	12	1.71	n. i.	n. i.	n. i.
Refused identification, no identity card	5	0.71	n. i.	n. i.	n. i.
(Attempted) man slaughter	4	0.57	1781	0.02	< 0.001
False arrest	3	0.42	n. i.	n. i.	n. i.
Arson	3	0.42	26122	0.41	n. s.
(Attempted) rape	3	0.42	7891	0.12	n. s.
Sexual abuse of a child	2	0.28	15117	0.24	n. s.
Accessory to murder, murder	1	0.14	3577	0.056	n. s.
Exhibitionism	1	0.14	9780	0.15	n. s.
Sexual assault	1	0.14	5607	0.09	n. s.
Other	38	5.41	n. i.	n. i.	n. i.
No specification given about the type of criminal offences ¹	277	36.2	n. i.	n. i.	n. i.

n. i. no information; n. s. not significant

¹ percentages in columns 3 and 4 refer to the number of counted offences, NOT including the cases without specification

delinquency, but also for serious crimes including physical assault and manslaughter/murder. The rate of serious assaults was higher than that reported in a preliminary analysis for a smaller subsample of predominantly older patients [32]. Sexual assaults and rape were rather rare. The rate of 5 cases for attempted/completed manslaughter and homicide/murder found per 1705 schizophrenics was five times higher than that predicted by Böker and Häfner (5/10000 [4]) on basis of their findings. They conducted the only larger German study on

this question over 30 years ago. Whether this result can be attributed to patient characteristics or is a reflection of an increase in violent and aggressive assaults by schizophrenics warrants further replication. Interestingly, the number of psychiatric, predominantly schizophrenic, patients in forensic mental hospitals has significantly risen in Germany over the years, contrary to the observed reduction of regular psychiatric admissions for other diagnoses [34]. The probable increasing rate of violence and aggression in schizophrenics can not be ex-

plained by an increasing risk at least of homicide violence in the general population: The number of cases for murder/manslaughter have decreased over the last decade in Germany und Bavaria, the catchment area for our study/(see Figs. 1 and 2).

Several studies of retrospective cohorts using case linkage and unselected birth cohort methods suggest an increased risk for violence among schizophrenic patients (for review see [41]). Studies estimating the prevalence of schizophrenia in individuals who have committed violent acts also point to a high rate of schizophrenia among prison inmates [10, 35, 36, 40]. Recent data from a meta-analysis of 62 studies, including 23,000 detainees, found that 3.7% of the males and 4% of the females suffered from psychosis, including schizophrenia [11].

While a number of studies have focused on assaultiveness and violence in schizophrenic patients before and during hospitalization [16, 18, 30, 38, 39], few mid- to long-term studies have examined the period following discharge. While Monahan and Applebaum [24] and others [13, 40] reported the rate of violence in schizophrenics to be lower than that for other diagnoses, Steadman et al. [33] and Link et al. [20] demonstrated an increased risk for violence among psychiatric (predominantly schizophrenic) patients following discharge. The former study also showed that the elevated risk declined over time. Unfortunately both studies failed to provide separate data for schizophrenia.

A number of limitations of our study must be addressed. First the study sample consists of only former inpatients and a selection bias could be present. Yet, it

Fig. 1 Number of cases for manslaughter/murder in Germany

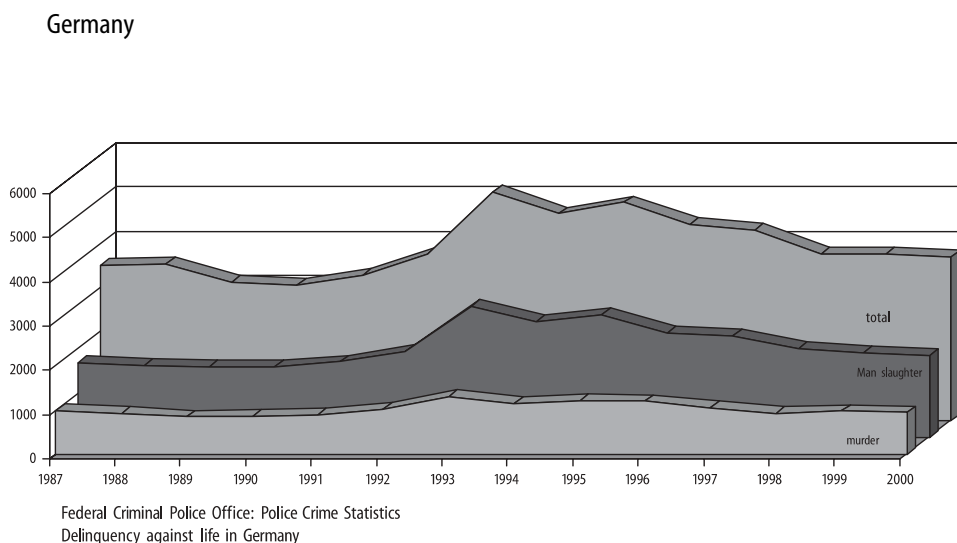
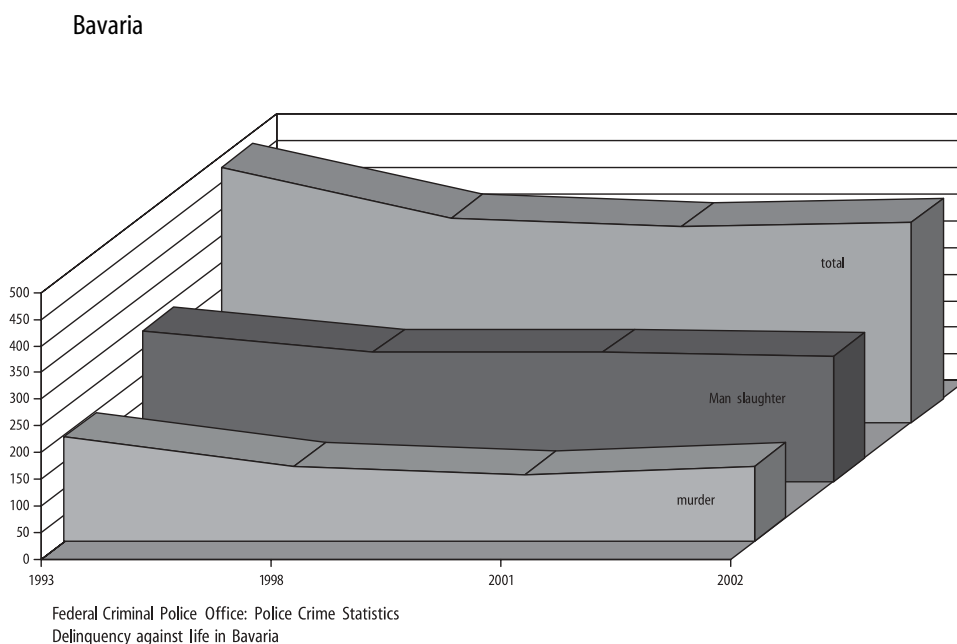


Fig. 2 Number of cases for manslaughter/murder in Bavaria



seems noteworthy that the study comprises patients from a university hospital. Patients with schizophrenia and violent or disruptive behavior are typically more likely to be admitted to a state mental hospital rather than a university hospital. Follow-up of state mental hospital patients may show even higher rates of later violent behavior. Second, the present analysis was based upon a retrospective record search and to date no control group has been examined. We are currently performing a similar study on former inpatients with affective disorder treated during the same time period who may serve as a comparison group. Third, the search for predictors of later violence is essential, but difficult [6, 26, 31]. Poor compliance and insight [1, 7, 19], impulsivity and paranoid-hallucinatory symptoms [1, 8, 17, 19], systematized delusions [17] and delusional misidentification [29], hostility [22], neurological soft signs [19] and comorbid substance use [31] may be among them. In a subsequent analysis of the sample we will use the psychopathological and clinical data obtained at the prior hospitalization to establish possible predictors for later delinquency.

In conclusion, our data support previous results from clinical and epidemiological studies indicating a high risk for delinquency and violent offenses among patients with schizophrenia [3, 5, 9, 10, 14, 15, 37].

Supported by DFG 257/9-1.

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