

## ORIGINAL PAPER

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## Political change and course of schizophrenia in East Germany, 1984–1994

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**Abstract** *Background:* We tested the hypothesis that the political change occurring in East Germany after the fall of the Berlin Wall in November 1989 affected patients with long-term schizophrenia, resulting in more and longer hospitalisations. *Methods:* In two samples in East Germany (120 patients in East Berlin, 70 patients in Chemnitz) and in a control group from West Berlin (40 patients), hospitalisations for each month between November 1984 and October 1994 were assessed. Each sample included all schizophrenia patients who were in continuous treatment in the given community mental health centre throughout the full observation period. *Results:* Hospitalisation indices were not higher after November 1989 than before in any of the groups. *Conclusions:* There is no evidence that political change in East Germany negatively affected the course of long-term schizophrenia as assessed by hospitalisations. If consistent medical care is provided, characteristics of the political system may have less impact on the course of schizophrenia than is sometimes assumed.

### Introduction

On 9 November 1989, the Berlin Wall opened. This was the beginning of rapid and substantial changes for the population of East Germany. Within a year, the political, economic and social system changed. On 18 March 1990, the first free elections were held in East Germany; on 1 July 1990, the German Mark became the only currency in the whole of Germany; and on 3 October 1990, Germany was re-unified, and the former German Democratic Republic formally ceased to exist.

Until 1989 people in East Germany had been living in a totalitarian socialist system. They were not allowed to travel to Western countries, and many people were subject to political persecution and harassment (Amnesty International 1989). However, some social factors that might be regarded as having a negative influence on the course of schizophrenia were comparatively favourable: there was no homelessness, no formal unemployment, and illegal drugs were hardly available. This changed after reunification. From 1990 onwards, people were living in a politically free country, but there was substantial unemployment, wider availability of illegal drugs, and increasing homelessness.

Did those historical changes have an impact on the course of illness in patients with long-term schizophrenia? Schizophrenia patients may have been particularly upset by the frequency and dramatic nature of the political events, which were shared social life-events occurring independently of the patients' behaviour, the consequences of which were difficult to anticipate (Bohlken and Priebe 1991). Moreover, schizophrenia patients may have been affected by the above-mentioned stress factors and by sweeping changes in social and working conditions. They may have been particularly vulnerable to the lower degree of social security in the new political system, to which they had to adjust (Zubin and Spring 1977; Beels 1981; Dohrenwend and Egri 1981; Leff et al. 1983; Lukoff et al. 1984; Norman and Malla 1993; Bell et al. 1996).

We tested the hypothesis that the political change did affect patients with long-term schizophrenia, resulting in more and longer hospitalisations following November 1989. Therefore, we examined hospitalisations from November 1984 to October 1994 in two samples from East Germany and in a control group from West Berlin.

### Subjects and methods

Patient groups were investigated in three community mental health centres, each attached to a hospital and fulfilling the following criteria:

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1. A defined catchment area remaining identical over the 10-year period
2. Only one hospital to which patients from that area were admitted
3. A consistent number of hospital beds serving that area
4. A consistent staffing level and staff: patient ratio over the 10-year period; no significant turnover of staff, so that the same clinicians remained in charge of the patients within that time
5. A consistent therapeutic concept aiming at long-term care of patients with severe and chronic mental illnesses
6. Availability of objective and precise data on all hospitalisations of all patients over the full 10 years

The centres serve the Lichtenberg district in East Berlin, the industrial town Chemnitz in Saxony, and the Spandau district in West Berlin. All patients with a diagnosis of schizophrenia according to ICD-10 (World Health Organisation 1992) who were in treatment throughout the full 10 years were included. Diagnoses were made by the consultant psychiatrist in charge.

Hospitalisations were assessed by means of a hospitalisation index (HI): number of days of hospitalisation divided by the total number of days in the observation period. This index is based on similar indices developed by other authors (Lavik 1983; Tansella et al. 1986), and has, in a modified form, been used in previous studies for assessing hospitalisations in schizophrenia patients over longer periods of time (Steinhart and Priebe 1992; Priebe and Gruyters 1993, 1995; Priebe and Bröker 1999). The HI was analysed for each patient for each month from November 1984 to October 1994.

A total of 120 patients in Lichtenberg, 70 in Chemnitz, and 40 in Spandau met the inclusion criteria. Sixty-seven percent of each sample in East Berlin and Chemnitz, and 68% of the patients in West Berlin were female.

In 1984, the mean age of the patients in East Berlin was 39.4 ( $\pm 9.9$ ) years, in Chemnitz it was 39.0 ( $\pm 7.7$ ) years, and in West Berlin 44.6 ( $\pm 10.2$ ) years. The mean duration of illness was 8.7 ( $\pm 6.6$ ) years in East Berlin, 10.8 ( $\pm 7.9$ ) years in Chemnitz, and 14.4 ( $\pm 9.3$ ) years in West Berlin. Sixty-five percent of the patients in East Berlin, 73% in Chemnitz, and 8% in West Berlin were in full and regular employment. The remaining patients in East Germany were retired, and in West Berlin retired (33%) or unemployed (59%). Within the observation period 48% of the patients in East Berlin, 40% in Chemnitz, and 23% in West Berlin prematurely retired because they were considered permanently unfit for competitive employment. Differences in age ( $t = 3.3$ ,  $P = 0.001$ ), duration of illness ( $t = 3.2$ ,  $P < 0.01$ ), employment

status in 1984 ( $\chi^2 = 49.3$ ,  $P < 0.001$ ), and retirement within the observation period ( $\chi^2 = 10.8$ ,  $P < 0.001$ ) between the West Berlin patients and the East German samples were statistically significant, differences between the two East German groups were not.

No patient in any centre became homeless within the 10-year observation period. All patients with the exception of one patient in East Berlin and one in Chemnitz received neuroleptic medication during the periods before and after 1989.

## Results

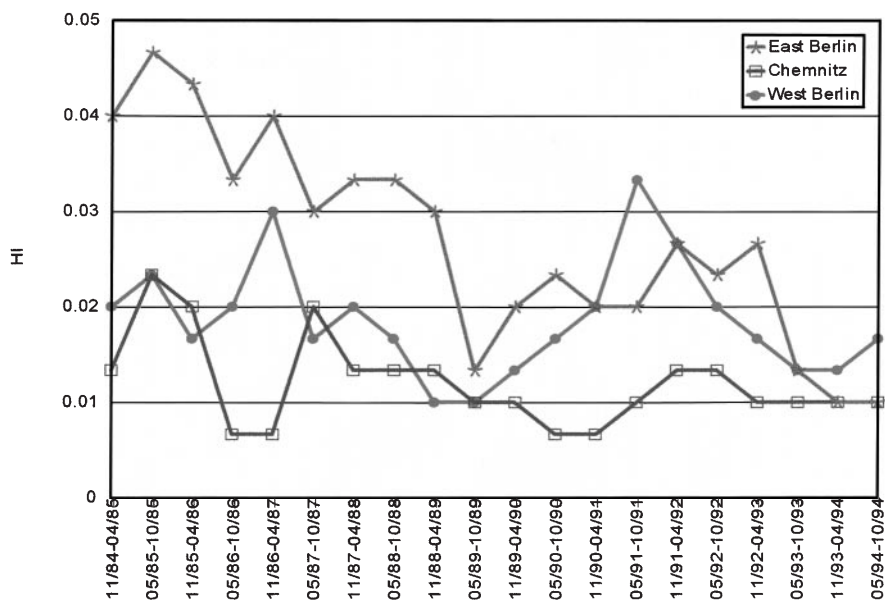
HI for the observation period for each sample are shown in Fig. 1. For a clearer presentation, means for 6-month periods are shown.

The mean HI following November 1989 was not significantly higher than in the 5 years before in any of the three groups. In the West Berlin control group, the HI temporarily increased after November 1989. It decreased in the two East German groups. In East Berlin the mean HI after 1989 ( $0.02 \pm 0.03$ ) was significantly lower than within the 5 years before ( $0.03 \pm 0.05$ ,  $t = 3.4$ ,  $P < 0.001$ ). In the other two groups, differences in HI before and after November 1989 failed to reach statistical significance.

For testing whether changes of HI over time were different in the three groups, we conducted a repeated measures analysis of variance, with mean HIs before and after November 1989 as dependent variables. Because the three groups significantly differed in age, we controlled for the influence of age by entering it as a covariate.

There was a significant effect of the factor 'time', indicating that HIs after 1989 overall were significantly lower than before ( $F = 8.92$ ,  $P < 0.01$ ). The interaction 'time' by age also was significant ( $F = 7.88$ ,  $P < 0.01$ ), showing that the reduction of HI was greater in younger patients. However, the interaction 'time' by

**Fig. 1** Hospitalisation indices (HI) for the groups in East Berlin ( $n = 120$ ), Chemnitz ( $n = 70$ ) and West Berlin ( $n = 40$ ) from November 1984 to October 1994. Scores represent means for 6-month periods (November to April, and May to October, respectively)



group was not significant, i.e. HI changes after 1989 did not significantly differ between the three groups.

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## Discussion

The findings were not consistent with the hypothesis. HI mean scores did not increase in the East German groups following the political change in 1989/90. HIs remained fluctuating, but there was neither a dramatic increase immediately after November 1989 nor a delayed consistent increase during the 1989–1994 period.

Overall, HIs decreased, and the decrease was greater in younger patients. Both findings are consistent with the literature on the long-term course of schizophrenia (e.g. Bleuler 1978; Ciompi 1984; Hegarty et al. 1994). The decrease, however, did not significantly differ between the East German groups and the control group in West Berlin when the influence of age was controlled for. Patients in West Berlin were older and, consequently, showed less improvement in HI over time.

There was a particularly marked – and statistically significant – drop in the HI in the East Berlin patients. However, the drop occurred within 1989, i.e. before and not after the political change. The political climate within East Germany, which clearly changed from summer 1989 on, when the Hungarian and Czechoslovakian borders opened, may have influenced the hospitalisation rates during the time prior to the eventual fall of the Wall. However, this appears unlikely given that the internal political system and living conditions remained largely unchanged during that period of time. Moreover, a comparison with the other two groups suggests that the difference over time in the East Berlin group is rather due to an unusually high baseline HI than to the HI achieved after 1989. Thus, we do not assume that the relatively lower HI in the East Berlin group after 1989 is a result of the political change.

It may be noted that the two East German groups and the West Berlin one significantly differed in some respects. The higher number of patients in consistent long-term care of community mental health centres serving similarly sized catchment areas and their younger mean age in East Germany may be partly attributed to differences between the West German and the East German health care system before 1989. A state run public health care system was the sole provider of health care in East Germany. In West Germany – and in East Germany after 1989 – the health care system has been more fragmented, with different and partly competing providers in the same area. Approximately two-thirds of the patients in each group were female. In the light of the often reported more positive social outcome of schizophrenia in female patients, they may be more likely to continuously stay in treatment with the same service for 10 years. They may also be less vulnerable to social stress and therefore less likely to respond to political change with more hospitalisations.

The higher number of patients in full employment at baseline in East Germany is likely to reflect features of the former political system. Subsequently, the political change led to a comparatively high number of East German patients getting premature retirement within the observation period.

The findings do not rule out the possibility that the political change had a significant effect on the course of illness in individual patients in East Germany or that positive and negative effects were balanced, so that HI changes over time did not significantly differ before and after 1989 on a group level. Equally, hospitalisations may be an inadequate indicator of those changes in the course of schizophrenia, that may have been caused by changes of the political system. The most likely explanation for the findings, however, is that the change of the political system, although dramatic and significant, did not have a substantial and uniform impact on the course of long-term schizophrenia. The criteria for selecting the community mental health centres for this study make it improbable that potential effects were compensated and masked by a change of clinical practice, e.g. regarding admission criteria. Circumstances such as number of accessible beds and clinical staff did not change in any of the centres throughout the 10 years. Longer observation periods would have been desirable. However, they would have led to smaller numbers of continuously treated patients in each centre, and – most importantly – service delivery was not consistent for longer periods of time.

The study has been done in an historically unique situation. It cannot be replicated, and it remains unclear to what extent the findings can be generalised to other situations of political change. It should be taken into account that there is a good social welfare system and a guarantee of medical treatment for everyone in the Federal Republic of Germany, although social security is lower than in former East Germany. Medical care is practically free of charge to schizophrenia patients, as it had been in East Germany before 1989. Thus, although the change was dramatic and substantial, differences in the political and health care systems in East Germany before and after 1989 may not be severe or specific enough to affect the course of schizophrenia. The availability of illegal drugs did not have an obvious negative influence either, despite some evidence that drug abuse does affect hospitalisation rates in schizophrenia (Turner and Tsuang 1990; Gupta et al. 1996; Dixon 1999). In 1989, patients in East Germany already had a mean age of 44 years and no history of drug abuse. Their risk for accessing and using illegal drugs was probably much lower than for patients who grew up in western societies and may have developed an affinity for drugs at an earlier age.

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## Conclusions

It may be concluded that the influence of significant historical events and of a change of the political system is not

sufficiently stressful to schizophrenia patients to lead to more and longer hospitalisations. For international comparisons, the impact of the political system – as long as medical care and social welfare are provided – appears to be less relevant than often assumed. Existing differences in outcome between different countries (Jablensky et al. 1992; Sartorius et al. 1996; Craig et al. 1997) may be due rather to cultural factors and to care and treatment characteristics than to features of the political and economic systems.

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