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THE FEASIBILITY OF SUICIDE RATES AS AN EVALUATION CRITERION IN COMMUNITY PSYCHIATRY: METHODOLOGICAL PROBLEMS

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Summary—Over the last 30–40 years the reform of psychiatric care in many countries has led to deinstitutionalization and treatment of many patients in community psychiatric services. There is an ongoing discussion on whether this process may lead to a higher suicide rate. There are only a few studies addressing this issue, and empirical data are scarce. Several methodological problems make it difficult to use suicide rates as an evaluation criterion for community psychiatry. These problems are briefly discussed.

It is well known that suicide rates in psychiatric patients are much higher than in the general population. Psychological autopsy studies have shown that well over 90% of people who kill themselves have suffered from mental disorders (Henriksson et al., 1993). About 15% of affective disorder patients (Guze & Robins, 1970) and about 5–10% of schizophrenic patients (Miles, 1977; Schmölder et al., 1991) are estimated to commit suicide. These figures illustrate that one of the primary goals of psychiatric care is to reduce the number of suicides in psychiatric patients. How well does psychiatric treatment achieve this goal? In the last 30–40 years, supported by the introduction of psychoactive drugs, a large reformation process of psychiatric services has gained momentum in many countries around the world, involving opening of psychiatric hospitals and deinstitutionalization of psychiatric patients (Bachrach, 1986; Minkoff, 1987; Sayce et al., 1991). More and more patients are now treated in community-based out-patient settings instead of receiving in-patient hospital treatment. At the same time suicide rates of several European countries have been shown to increase slowly (Diekstra, 1993). It has been argued that deinstitutionalization inhibits early recognition, control and effective treatment of evolving suicidality in a patient and therefore may lead to more suicides. Also, an out-patient setting as in community psychiatry puts more everyday-life demands on patients, generally tends to expect more of patients and could thus lead to overstimulation and the frustrating feeling of not being able to cope with all these demands. Community psychiatry's aim of psychosocial rehabilitation could in some patients result in what has been referred to as a

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“pressure to rehabilitation” that some severely ill patients find difficult to resist. These factors could contribute to suicidality in patients. Deinstitutionalization could then be one factor explaining rising suicide rates (Haugland et al., 1983; Williams et al., 1987; Mortensen & Juel, 1993).

It has been argued that if deinstitutionalization is accompanied by the installation of sufficient community psychiatric services suicide rates should decrease rather than increase. Community psychiatric services offer readily available help, try to establish intensive outpatient services, actively try to maintain contact with patients, and should therefore be able to prevent suicidal acts. Unlike suicide prevention programmes that address the general population, community psychiatric services focus on the high-risk group of psychiatric patients. If these services work effectively then suicide rates should decrease with increasing numbers of community psychiatric care systems.

Suicide prevention programmes in general have not been shown to be very successful (Möller, 1989), but some studies suggest that programmes for those who attempt suicide might be more effective when contact to patients is actively sought, and when patients are continually motivated to utilize treatment facilities (Kurz & Möller, 1982).

In some parts of the United Kingdom there was a public debate over the question of increased numbers of suicides of psychiatric patients in connection with the closure of mental hospitals and discharge of patients into the community (Morgan, 1992). However, there is only a small number of studies addressing the effects of community psychiatry on suicide rates or in general on mortality rates, and the empirical database is small (Stein & Test, 1978; Caton, 1981; Haugland et al., 1983; Tsuang & Simpson, 1985; Allebeck, 1989; Dencker & Dencker, 1994). Haugland et al. (1983), authors of one of the few studies reporting empirical data on suicide rates, arrive at the conclusion “of a substantially greater risk for suicide among deinstitutionalized young patients who might have been permanently hospitalized in earlier decades”.

One reason for this dearth of research is probably found in methodological problems (Hawton, 1994).

Two questions seem to be of major interest. (1) Does community psychiatry (deinstitutionalization) lead in itself to higher or lower suicide rates? (2) Do specific community care systems lead to higher or lower suicide rates compared to other specific systems including hospital treatment?

Answering the first question can be done in four ways: using an ecological correlation, comparisons of suicide rates of patients receiving no care at all, standard care, and hospital care with suicide rates of patients in community care.

An ecological correlation tries to establish a statistical relation between two variables, e.g. variation of suicide rates and variation of number of hospital beds in a country. This involves studying the deinstitutionalization process over a long period of time, and the method allows only limited interpretation as to a causal relationship.

To compare treated with non-treated patients is difficult, if not impossible. There are very few patients with a major psychiatric diagnosis who remain untreated for a very long time. It is almost impossible to identify, diagnose and keep track of patients who do not seek medical help, and these patients are certainly different in many respects to those patients in psychiatric care.

Data on patients in standard care seem to be more accessible. These patients are mainly treated in out-patient practices with more-or-less frequent treatment contacts. They are admitted to hospital when necessary and discharged from hospital when possible. Since suicide is a rare event, it would be necessary to study a number of treatment institutions to obtain sufficient patient numbers. The care given to the patients may therefore vary substantially depending not only on certain patient characteristics but also on different treatment settings. There may be geographical variations of suicide rates in the general population (for instance city vs country) accounting for different rates in different treatment institutions. A study of this kind should therefore be conducted in a defined geographical area and with definable general treatment characteristics.

These demands are largely met by comparing two institutions, each yielding sufficient patient numbers and serving roughly the same geographical area, e.g. hospital and community psychiatric care system. Community psychiatry regards itself partly as an alternative to hospital treatment. Such a comparison could then be used as an evaluation criterion for community treatment in general. A metaanalysis of a sufficient number of studies reporting detailed data description could be performed to assess a general effect, if enough studies were to be conducted.

There are three main ways to answer the second question regarding the effect of specific care systems or treatment strategies on suicide rates: comparison of different care systems, comparison over time, and studying relevant factors within one care system. The first two comparisons could reveal differences or changes of care that may be associated with higher or lower suicide rates. Such factors could be treatment aiming primarily at work rehabilitation, medication, staff-patient ratio, number of contacts per time, etc. Knowledge about these factors would be important for quality assurance. Other relevant factors may not be associated with treatment but with patient characteristics, such as previous suicide attempts or depression, which are referred to as risk factors for later suicide. A case-control study with age- and gender-matched groups can be used to determine these factors.

One question of major interest is to consider in what way community psychiatry in general affects suicide rates among treated patients. To answer this question a comparison of suicide rates of patients treated in a community care system with suicide rates of patients in hospital care seems appropriate. Several methodological problems are associated with such a study.

First, there is the problem of small numbers. Suicide as a statistical event is rather rare, although every psychiatrist is familiar with suicidal patients and frequently has to assess suicidality. Therefore, to arrive at statistically sound conclusions it is necessary to study large patient numbers and long observation periods. This means that sufficiently large databases have to be obtained, which are usually not readily available.

One major problem is that of comparability of the two treatment groups (i.e. hospital vs community care). An experimental study design tries to keep all independent variables evenly distributed in the two groups. This is usually achieved by randomization. In our case, to perform a prospective randomized study would be very time consuming and costly in terms of effort and finances, and may even be impossible. Therefore it seems largely inevitable that we would have to use existing data records. Then the two patient populations (hospital treatment vs community care) may have different age and gender distributions.

factors known to affect suicide rates. Therefore, without standardization, these factors could explain differing suicide rates in the two populations. In such a case a reference population with a known suicide rate and known age and gender distribution, e.g. the general population, may be used for comparison. Mortality tables of the general population allow calculation of the probability of dying from suicide for every person with a certain age and gender. These probabilities are calculated for individuals matching the patients in the study group for age and gender. Dividing the rate found in the study population by the sum of the calculated suicide probabilities in the general population is equivalent to the standardized mortality ratio (SMR). The SMRs of the two study populations can then be compared.

There are still some more problems to take into account. One is called secular trends. Suicide rates in the general population may not be stable over time but may vary. Figure 1 shows the variation of the suicide rate of the general population in a district of former West Berlin. In the 1970s there was a very high rate, of over 45/100,000. The value decreased slowly, and in the early 1990s dropped to a rate below half of what it had been 20 years previously. Obviously the probability of dying from suicide in 1973 is very different from that in 1992. Therefore, calculating suicide probabilities for a person of a certain age in the general population has to be done for every time point throughout the observation period of the study population, e.g. every year or half year.

Even now the two study populations are not necessarily comparable. Differing SMRs in the two study groups could be explained by one group being at a higher risk for suicide than the other. For instance, in the hospital group there may be some patients who have been referred to hospital because of suicidality. This could explain a higher suicide rate in this group. To test this hypothesis one could compare indicators of suicidality in the two populations. Previous suicide attempts are considered to be among the strongest predictors

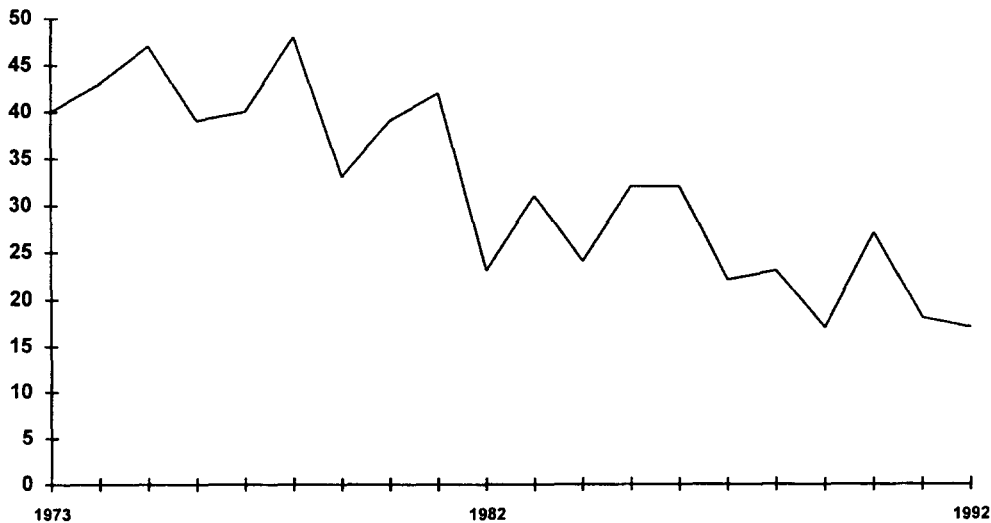


Figure 1. Suicides per 100,000 general population in Charlottenburg (a district in former West Berlin) from 1973 to 1992.

of later suicide and could be used as an indicator for suicidality. It is necessary to use age- and gender-adjusted rates, to test for differences of previous suicide attempts in the two populations. For each population specific suicide attempt rates are determined; i.e. number of suicide attempts in a certain age group per number of patients in this age group. Each age-specific rate of one population is then multiplied with the number of patients in the other population in this age group. The sum of these multiplications across all age groups is divided by the total number of patients of the other population. This adjusted rate now allows direct comparison of suicide attempt rates. The method described is therefore known as the direct method of rate standardization. There is probably no perfect way to make the two study populations in our example comparable in all relevant aspects concerning suicidality. Even referral to hospital because of acute suicidality may not always reflect a potentially dangerous situation, and the chronically suicidal patient who is not referred to hospital for various reasons may be at much greater risk. Although the results must therefore be interpreted cautiously, the methods described above seem to be a way to assess treatment effects on suicide rates. If studies will indeed find a greater suicide risk associated with deinstitutionalization, specific avoidable factors contributing to this risk should be determined and taken into account in therapeutic considerations. Goldacre et al. (1993), for instance, found that among patients with a short length of hospitalization the period of highest suicide risk was the first month after discharge. This calls for intensive community care, especially in this vulnerable time period. Other factors could be more dependent on patient characteristics and could raise the critical question of who should be discharged from hospital and how to organize aftercare.

So far suicide rates have not been used as an evaluation criterion for community psychiatric services; however, since suicide is the most important outcome of mental illness, community services should be informed about suicide rates among patients utilizing these services. As long as a reduced suicide rate is an important aim for the development of new treatment policies there will be a need to monitor and assess mortality and suicidality in psychiatric populations. Suicide rates are therefore a necessary routine criterion for quality assurance, and can be a statistically difficult but important evaluation criterion for psychiatric treatment. As we have pointed out above there are several methodological problems connected with such usage. Despite these problems, studies in this field would be very helpful to improve treatment strategies.

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