

Ten year follow-up of depression after diagnosis in general practice

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SUMMARY

Background. Depression is a serious illness with a high recurrence rate, mortality, and suicide rate, and a substantial loss of quality of life. Long-term course of depression, in particular of patients not referred to specialist care, is not completely clear. We performed a study in which the course of depression in general practice was studied for 10 years after the first diagnosis.

Aim. To learn more about long-term course and outcome of patients with depressive illness for a full 10 years after diagnosis.

Method. A historic cohort study with 386 patients classified as depressive before January 1984, recruited from four general practices belonging to the Continuous Morbidity Registry of the University of Nijmegen in The Netherlands. This cohort was followed up for 10 years. Mortality was compared with a control group matched for age, sex, social class, and practice. Of 222 patients out of this cohort who could be followed up for a full 10 years after diagnosis, the case records were studied in detail.

Results. No statistically significant difference was found in mortality between the 386 patients and the control group. Recurrence of depressive episodes did not occur in about 60% of the 222 patients (confidence interval 54% to 67%). Of the depressive patients, 15% were referred to secondary care and 9% were admitted to hospital.

Conclusion. Mortality, suicide, and recurrence rate were lower than expected, taking into account what is known from depression studies in psychiatry. These results stress the importance of long-term prospective follow-up studies of all patients with depression because of the emphasis on case-finding and treatment without exact knowledge of long-term course and outcome of patients who were not referred.

Keywords: depression; mortality; recurrence; follow-up.

Introduction

DEPRESSION is a serious, potentially life-threatening illness with symptoms that can be severe and persistent and have a great impact on quality of life.^{1,2} Most studies on course and outcome of depression have been performed with selected patients referred to secondary care. This research indicates that patients with depressive illness have a poor prognosis. Depression tends

to recur, and this tendency increases as patients have more episodes. Mortality and suicide rate are high and the effectiveness of antidepressant drugs diminishes when the illness recurs more often.³⁻⁷ Currently, emphasis is very much on detection and treatment, even though course and outcome of depressive illness is not clear for all patients. To learn more about this long-term course and outcome we followed 222 patients with depressive illness for a full 10 years after diagnosis.

Method

The data were collected from the Continuous Morbidity Registry (CMR) of the department of General Practice and Social Medicine of the University of Nijmegen.^{8,9} It is a network of four practices in the Nijmegen region that records all morbidity on an ongoing basis since 1971. Together these practices constantly have a practice list of about 12 000 patients. In each practice, no more than one change of doctor has taken place in more than 25 years of CMR. Because, in the Dutch system, the general practitioner has a defined list of patients and is gate-keeper of access to specialist medical care, long-term data are available for nearly all patients, including diagnoses after referral. In the CMR, the following data are recorded: sex, age, social class, and diagnosis of all new episodes of illness (from 1967 to 1984 according to criteria for classification of the Dutch translation of the British E-list¹⁰ since 1984 according to ICHPPC-2 criteria¹¹). When a diagnosis is changed after referral, the code is corrected retrospectively. Additional information is available on the patient's records, which can be studied in detail in the practices in which the patient is or was registered.

All patients classified with a code for depressive illness (ICH-PPC-2 code for depressive disorder or affective psychosis) before 1 January 1984, were recruited from the CMR. If patients could not be followed up for 10 years we noted the reasons and the patients were excluded. From the standard registration, mortality and suicide rates were analysed. Patients were compared with a control group matched for age, sex, social class, and practice. To answer questions about recurrence, referral, admission to hospital, and suicide attempts, the case records were studied in detail in the practices. First, age, sex, and social class (based on the occupational index of the Institute for Applied Sociology⁹) at the time depressive illness was diagnosed for the first time, were collected from the standard CMR. Of the patients who, at the time of the case record review were still listed with the CMR practices (1995-1996), the following data were collected from the case records.

The number and length of each episode of depressive illness

The first or index episode started on the day a diagnosis of depressive illness was made for the first time. It ended on the day the end of the depression was written in the patient's case records. If this statement could not be found in the records as confirmation, the date was noted on which no depressive symptoms (sadness, loss of interest, indecisiveness, forgetfulness, loss of self confidence, feelings of excessive guilt, suicidal thoughts, psychomotor agitation or retardation, loss of energy and fatigue, insomnia or hypersomnia, poor or increased appetite with weight

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loss or gain, loss of libido) had been written in the case records for a full three months. A recurrent episode of depression was defined as an episode with a renewed code for, or description of, symptoms of depressive illness after at least three months without any description of such symptoms. The end of a new episode is defined in the same way as the end of the index episode.

The number and type of referral, admission to hospital, and the number of suicide attempts

These data were collected, as well as the time of all these events in the first 10 years after depression was first diagnosed. Patient confidentiality was guaranteed by anonymous processing of data: the standard CMR data were analysed on a patient unique number (only traceable in the practice), and the patient identification had been blinded for the review of the case records.

Statistical analysis

Survival curves were calculated with the product-limit method. Differences between survival curves were tested with the log-rank test. Differences between groups were tested with chi-squared statistics. Confidence intervals (all 95%) were calculated using the binomial distribution; for calculation of the confidence interval of the suicide attempts, the poisson distribution was used.

Results

Patient characteristics

The cohort of depressive patients consisted of 386 patients, 61% women and 39% men. Of these patients, 58% belong to the lower classes, 36% to the middle, and 6% to the high social class (total CMR population = 46% low, 41% middle, and 13% high social class). At the time of the review of case records, 107 of these 386 patients had left the practices; of whom, six patients were admitted to a psychiatric hospital or nursing home. Significantly fewer patients diagnosed with depression had left the practices compared to the total CMR population ($P < 0.001$). Forty-six patients had died, 41 of natural causes and five of unnatural causes, including two patients who had committed suicide (two suicides in over 6382 patient-years). For one patient, cause of death could not be traced. Comparison of this mortality with that in the control group, though a little higher, showed no statistically significant difference. Since 1971, in the entire CMR population, 13 suicides have been registered (13 suicides in 28 5008 patient-years).

There remained 233 patients. Of that group, 11 had to be excluded for administrative related reasons and not depression related ones, leaving 222 patients for the review of the case records.

There was no significant difference in sex and social class between the initial 386 and the 222 remaining patients. The distribution of age did show a statistically significant difference. As can be seen in Table 1, the percentage of patients aged over 65 years in the sample of 222 is seven, while in the original cohort this was 14%.

Recurrence rate of depressive episodes

In 134 (60%) patients, only one episode of depression had occurred in the 10 years of follow-up, while 12% had more than three episodes. Table 2 shows the distribution of the number of depressive episodes of these 222 patients. There was no significant difference between men and women and between the social classes. Mean duration of the first episode was 103 days (range = 14–1266 days). In 11 (5%) patients, this first episode lasted

Table 1. Distribution of age of 222 patients diagnosed with depressive illness in general practice.

Age	Number of patients	Percentage
0–<25	15	7
25–<45	96	43
45–<65	96	43
65–<75	11	5
75+	4	2

Table 2. Number of episodes with depressive illness (number of patients = 222).

Number of episodes	Percentage of patients
1	60
2	16
3	12
4	5
5	4
>6	3

Table 3. Length of first depressive episode in months (number of patients with depressive illness = 222).

Length in months	Number of patients	Percentage of patients
0–1	76	34
2–3	71	32
4–6	37	17
7–12	27	12
>12	11	5

longer than one year. The distribution of the length of the first episode can be seen in Table 3.

As can be seen in Figure 1, for half of the patients with more than one episode (88), the interval between first and second depressive episode was two years or less. The same interval was found between second and third episode.

Referrals, admission to hospital, and suicide attempts

Forty (18%) patients were referred during their first episode: 28 (12%) to secondary care (23 to a psychiatrist and five to a neurologist), and 15 (7%) patients within primary care (eight to a psychologist, four to a social worker, and three to the ambulatory psychiatric care); three patients being referred within primary care as well as to secondary care.

During following episodes of depression, another five (2%) patients who had not been referred in their first episode were referred to secondary care and 18 (8%) were referred within primary care. Overall, a referral for secondary care was found in 15% of the patients and for primary care this was also 15%. No statistically significant difference was found in referral rate during the first episode of depression of patients with only one episode compared with patients with two or more episodes of depression. Twelve (5%) patients (confidence interval 2.8%–9.3%) were admitted to hospital for their depression during their first episode, eight to a general hospital, and four to a psychiatric hospital. The mean length of the admission was 9.7 weeks (range 1–43 weeks). During further episodes, another eight patients were admitted to hospital who had not been admitted during their first episode.

Ten suicide attempts (confidence interval 4.8–18.4) were

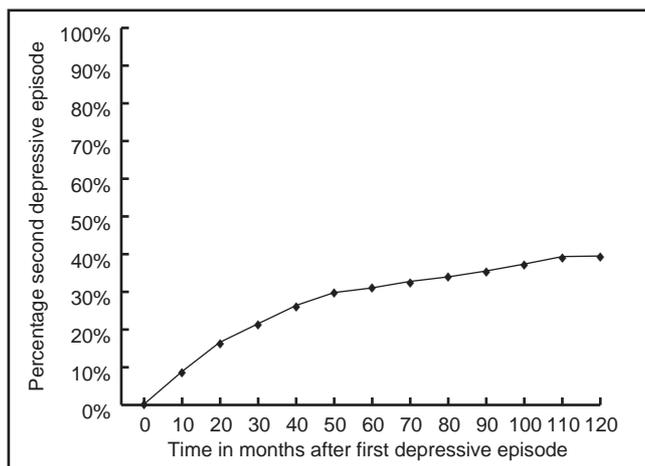


Figure 1. Second depressive episode related to time in months after first episode (total number of patients = 222).

recorded (in 2220 patient-years); six patients made a suicide attempt once and two patients twice. In the entire CMR population, during the whole registration-period (285 008 patient-years), another 118 suicide attempts have been registered.

Discussion

More than 60% of the 222 patients with recognized depression followed up in general practice for as long as 10 years did not have any recurrence of depressive episodes during this period of time. If patients had more than one episode, recurrence occurred relatively shortly after diagnosis. From research published by Angst in 1992,¹³ it can be concluded that only 20% of all patients with depression have no recurrence at all.

Available general practice studies show a broad variation in outcome, but are difficult to compare because of differences in method (in particular, of recruitment of patients), definition of 'caseness' and length of follow-up.¹⁴⁻¹⁸ It is difficult to predict outcome of depression in general practice with any amount of certainty. One of the reasons is that outcome depends largely on the initial diagnosis, particularly on validity and severity of this diagnosis.¹⁹

The following arguments support our results on outcome, even though, in a study design like ours, the diagnosis can not be assessed retrospectively.

- Though general practitioners possibly miss a large proportion of cases of depression found with screening instruments, they rarely make false positive diagnoses.²⁰
- Criteria for diagnosis were used consistently in the CMR practices (E-list, ICHPPC-2) at a time when DSM criteria were not introduced yet. All general practitioners belonging to the CMR practices are trained in the use of the classification list and application of criteria, and monthly meetings are held to discuss coding problems and to monitor the application of diagnostic criteria.
- The chance of detection increases with a longer follow-up and, in the CMR, patients are followed continuously for a very long time. This reduces the chance of a missed diagnosis to a very great extent. If a patient is finally diagnosed with depressive illness, that has gone undetected for a period of time, the previous codes are corrected retrospectively.
- A high validity of morbidity recording in the CMR could be demonstrated in other cases.⁹

Our results on recurrence refer to recognized cases of depres-

sion in general practice. They show that the course of illness over the first 10 years after the diagnosis is milder than of selected patients studied in psychiatry.

At the start of the study, the decision was made to include only patients of whom the case records could be studied for the full 10 years. This selection could have introduced a bias. Reasons for this bias could be differences in mortality, suicide rate, and admission to psychiatric hospital between the original (386 patients) and the study population (222 patients). A higher recurrence rate in the age group aged over 65 could also have introduced a bias because of the lower percentage of the older patients in the case record study.

Mortality and suicide rate were studied in the entire cohort. Though mortality of the patients with depressive illness was a little higher than in a matched control group, no statistically significant difference was found between the two groups. Two suicides were recorded in the entire cohort of 386 patients in a follow-up of 6382 patient-years (for this calculation, not only the 10-year follow-up after diagnosis was taken into account, but also the longest possible follow-up period of these patients). This suicide-rate, though higher than in the total CMR population, is still much lower than the 7% to 20% of depressive patients reported in psychiatric literature.^{5,13}

The six patients admitted to a psychiatric hospital or nursing home could not have been responsible for a significant higher recurrence rate.

Recurrence rate was not related to age, so the lower percentage of older patients in our case record study cannot cause any bias.

The difference between patients from general practice and patients in (psychiatric) specialist care are usually explained by the fact that only the most 'severe' cases registered by the general practitioner are referred to a psychiatrist, and therefore it is no surprise that their prognosis is poorer than in non-referred cases. In our cohort, 15% of the depressive patients have been referred to secondary care, and only a small percentage were ever admitted to hospital for their depression.

The referral rate we found during the first episode of patients with only one depressive episode was the same as the referral rate in patients with more episodes, which does not support the hypothesis that only the more severe cases are referred.

The suicide (attempt) rate, which is lower than in psychiatric studies but higher than in the general population, also points to the potential severity of the condition of our patients. Is the severity by itself the most important reason for referral, and does it determine the course of the illness, or is it the combination of severity with other characteristics? Personality, coping behaviour, and (a lack of) social support, for example, are probably also important in this respect.

Conclusion

From these study results, it can be concluded that in general practice many patients with depressive illness do not have any recurrence of depressive episodes in 10 years follow-up. Mortality and suicide risk are lower than in patients receiving psychiatric care. Since, in this study, 60% of all patients did not have any recurrence in the follow-up, it seems justified to conclude that many of the patients diagnosed as depressive can be helped very well by their general practitioner within primary care, without the need for referral to secondary care. If conclusions about (necessity of) treatment are based largely on studies performed with referred patients, these should not automatically be generalized to patients who have not been referred.

More research is needed of the factors that determine the long-term outcome of depression.

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