Otago Women's Health Survey 30-month follow-up. II: Remission patterns of non-psychotic psychiatric disorder

SE Romans, VA Walton, B McNoe, GP Herbison and PE Mullen

The British Journal of Psychiatry 1993 163: 739-746
Access the most recent version at doi:10.1192/bjp.163.6.739
The follow-up phase of a random community sample of New Zealand women contrasted the social, demographic, and clinical characteristics of those women whose initial psychiatric disorder had remitted with those who continued to describe significant psychiatric morbidity, two-and-a-half years later. Of 272 women studied at baseline and reinterviewed, 57 had originally been psychiatric cases. Twenty-five of those women (44%) were still cases at follow-up. Using figures that statistically reconstructed the original population from the stratified sample, the remission rate in the parent population was 61% over the two-and-a-half years (an average of 24% per annum). Women less likely to experience remission of their psychiatric disorder were of mid-age (45–64 years), with poor finances and with poor social relationships at the initial assessment. Although the age finding replicates a previous report from an Epidemiological Catchment Area study, it is not clear whether it is a universal relationship, true for all cultures. The alterations in social roles faced by women after child-rearing is a possible explanation, at least for New Zealand.

There is increasing evidence from clinic-based studies of patients with depressive and anxiety disorders that a substantial proportion remain symptomatic or, after initial recovery, relapse (Akiskal et al., 1978; Kupfer & Spiker, 1981; Keller & Shapiro, 1981; Akiskal, 1982; Keller et al., 1982, 1984, 1986; Ceroni et al., 1984; Kiloh et al., 1988; Lee & Murray, 1988; Scott, 1988; Brugha et al., 1990; Frank et al., 1990). It is not known whether this also applies to the spectrum of psychiatric illness found in non-clinic populations. Many authors have addressed the question of whether the psychiatric disorders seen by clinicians are the same as those identified in random community sample research (Finlay-Jones et al., 1980; Wing et al., 1981a,b; Copeland, 1981; Bebbington et al., 1981; Goldberg, 1981; Brown & Harris, 1982; Sashidharan, 1985; Brown & Craig, 1986; Dohrenwend, 1990; Murphy, 1990; Costello, 1990). It has been suggested that referred illnesses are more severe and more chronic, less precipitated by social adversity or more likely to be at the peak symptom intensity (Costello, 1992). Others suggest that particular clinical characteristics such as suicidal ideation or failed treatment may activate the referral process (for a review, see Goldberg & Huxley, 1980). The chronicity of psychiatric disorder is a clinical factor which has significant public health and fiscal implications, and has been the focus of several recent studies, at three levels: clinic populations; primary care; and random samples from the community. Some key studies will be briefly reviewed.

The National Institutes of Mental Health Collaborative Study of the Psychobiology of Depression found 26% of their referred clinic samples had not recovered at one year and over 20% were still cases at two years (Keller et al., 1981, 1984). A four-month follow-up of depressed patients at the Maudsley Hospital, London, found only 64% had improved by two Index of Definition levels on the Present State Examination (PSE) (Brugha et al., 1990). Studies with longer follow-up periods include one with a 15-year follow-up where only 20% remained continuously well after initial recovery and 12% were incapacitated by their illness (Kiloh et al., 1988) and another study with an 18-year follow-up where less than a fifth remained well and over a third showed severe chronic distress, illness, or unnatural death (Lee & Murray, 1988). As these results come from in-patient units based at tertiary research centres, however, it might be expected that better outcomes could be found in primary care or random community cohorts.

There have been a small number of random community samples which have investigated recovery
rates over differing time periods. A study conducted in Camberwell, London, found a remission rate of 49% after a short follow-up of one month (Tennant et al, 1981b). In the Edinburgh community study of psychiatric morbidity, 79 women with psychiatric disorder were followed at 6 and 12 months (Surtees et al, 1986b). Nearly half (46%) were still ill at one year, either because they had not recovered or had relapsed after initial improvement. The Islington study carried out by the Bedford College group took a quasi-community group of working class women with at least one child living at home, selected from general practice registers (Brown et al, 1988). Of the 32 women who developed depression in the year before the first interview, a quarter had clinical conditions that lasted continuously for at least 12 months. The Stirling county study from Canada has published data from a 16-year follow-up which found that 92% of those depressed at the beginning of the study had a poor outcome, defined as chronic or recurrent psychiatric illness or premature mortality (Murphy, 1990). Finally, a recent report from the Epidemiological Catchment Area (ECA) project found a fifth of depressed subjects still met DSM-III criteria for depression after one year (Sargent et al, 1990). More women than men (25.4% vs. 17.1%) showed persistent depression at one year.

Thus it appears that between a fifth and a third of non-psychotic psychiatric disorder identified in in-patient, out-patient, primary care, and community samples is still present one to three years later. As parochial factors determining the course of an illness may vary in different communities, each culture needs to document its illness characteristics and identify alleviating and aggravating factors.

Random community studies, preferably prospective, are needed for the accurate description of non-referred psychiatric disorders.

This report is one of two examining the psychiatric status, after 30 months, of a random community sample of New Zealand women living in the Otago province. It describes the illness outcome in those women originally identified as having a psychiatric disorder. The previous paper discussed the development of psychiatric disorder in women who were free from psychiatric disorder in the original survey.

Method

The Otago Women's Health Survey is a random community study of the psychosocial determinants of psychiatric morbidity in New Zealand women. The original cross-sectional study was in two phases, firstly a postal questionnaire and subsequently a home interview (Romans-Clarkson et al, 1988). The questionnaire sought information on a range of psychosocial variables relating to the various social roles occupied by women and included a screen for psychiatric disorder, the 28-item General Health Questionnaire (GHQ; Goldberg & Hillier, 1979). From the 2044 questionnaires posted, 1516 (74%) were returned. The questionnaire sample was grouped into three levels of psychiatric symptomatology, low (0–4), medium (5–11), and high (12+). The interview sample was randomly selected from each stratum: a sixth of those with low probability, a half of those with medium probability, and five-sixths of those with a high probability of psychiatric disorder. Some 314 of the 349 women (90%) thus selected were interviewed in 1985–86. The interview collected further psychosocial data, and included the 48-item short PSE, to determine psychiatric illness (Wing et al, 1974, 1977). The computer program, CATEGO, designed for use with the PSE generates an Index of Definition (ID), for each subject; this is the likelihood of the subject being found to have a psychiatric disorder if fully examined by a clinician (Wing et al, 1974). The main findings from the original study have been published previously (Romans-Clarkson et al, 1988, 1990).

Social interaction was assessed using the Interview Schedule for Social Interaction (ISSI) at the interview (Henderson et al, 1981). The ISSI generates scores for the availability and adequacy of two types of social interaction, that is, attachments (intimate, confiding relationships such as marriage), and social integration (more diffuse relationships with neighbours and work colleagues). Socio-economic status was assessed using the revised Elley – Irving scales based on education and income (Johnston, 1983).

Follow-up study

In 1988, 30 months after the initial study, those interviewed were approached for a further interview. Additional psychosocial information gathered included health service use, life events, and social support. The PSE was again used as the measure of psychiatric disorder. Information was sought on finances and security following substantial changes in Governmental fiscal policy.

Life events and recent experiences were assessed in two ways.

Women were interviewed using the List of Threatening Experiences (Brugha et al, 1985). This list enumerates 12 common life events with established long-term threat, and accounts for about three-quarters of the aetiologically significant events gathered by the detailed method of Brown and colleagues (Brugha et al, 1983). When compared with the Bedford College method, this schedule was found to omit information on rare experiences and those with low contextual threat.

Alternatively, women were asked in an open-ended manner about major social and psychological changes they had experienced in the 30 months since they were first interviewed, and their perception of how these changes had affected both them and their families. Their verbatim responses were recorded. This information was transcribed and given to two researchers, not directly involved with the study, who were blind to the woman's psychiatric status. They determined the occurrence of neutralising and fresh start events outlined by previous workers (Tennant et al,
At follow-up: non-case 239 (85.8%) 13 (4.8%) 252 (90.6%), case 18 (6.4%) 8 (3.0%) 26 (9.4%).

Table 1

<table>
<thead>
<tr>
<th>Original</th>
<th>Follow-up</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>non-case</td>
<td>239</td>
<td>85.8</td>
</tr>
<tr>
<td>case</td>
<td>18</td>
<td>6.4</td>
</tr>
</tbody>
</table>

The remission status from the reinterviewed subjects, weighted back to recompose the original random sample.

Response

A total of 314 women were initially interviewed. Of these, it proved possible to reinterview 272 women (87%) 30 months later; a further 10 women provided limited data through the mail (90%). Of those 32 women not re-contacted, six had died, 18 could not be located, one had become senile and seven refused. The proportion of women with psychiatric morbidity at first contact did not differ between the group reinterviewed and that lost to follow-up. The reinterviewed sample did not differ from the original sample in socio-economic status or employment status. Women lost to follow-up (13%) were younger, especially under 25 years (P = 0.003), and not married (P = 0.012), reflecting the more mobile nature of these demographic subgroups.

Remission

The remission data from the reinterviewed subjects, weighted back to recompose the original random sample, are shown in Table 1. Most women, 86%, were free of significant psychiatric symptomatology on both assessments. Psychiatric cases at follow-up were statistically much more likely to have been so originally (23.97, d.f. = 1, P = 0.0005). Of those who originally had had psychiatric disorders, and were followed up, over a third (39%) were still ill at follow-up. Two-thirds (61%) had had remission.

The proportion of the whole population showing psychiatric disorder was 8% in the original study and 9% in the follow-up phase, a non-significant difference. Three per cent of the total original population were cases at both assessments. The movement in and out of psychiatric disorder over two-and-a-half years was thus confined to a further 10–12% of the parent population.

The remaining results will be given using data from the actual interviews with the subjects in the follow-up study. It will be recalled that initially the postal questionnaire sample was systematically stratified to include more women likely to have a psychiatric disorder in the interviewed subsample.

Sociodemographic changes in the sample

Over the 30 months between the original and follow-up phases, the women had experienced few social and demographic changes. Four per cent of women living in the city moved to rural areas, and 8% of women in country areas came to live in the city. Over a quarter (26%) of women initially without paid employment moved into paid employment, whereas nearly three-quarters (73%) of those previously in paid employment still had paid work at follow-up. Most (25/35, 71%) unmarried women remained single; nearly all married women (172/180, 96%) were still married. Some widows (3/33, 9%) and separated/divorced women (5/24, 21%) became married, including de facto or common-law marriages. These infrequent changes occurred across a sample of adult women of all ages during a time of financial upheaval in New Zealand, and reflect the stable nature of the community under study.

Emotional support

Most women (73%) said that they received emotional support from some source. For a third of the sample (32%), this support came from their partner, for 17% from a friend, and smaller numbers received their support from a parent (7%) or a child (7%). Women were asked how they felt about being the main carer for their family; the question did not apply for 17%. Only a third felt positively (37%) or neutrally (36%), leaving a minority (8%) who felt negatively.

Factors associated with remission

Fifty-seven women identified as psychiatric cases in the initial interviews were reinterviewed 30 months later. Twenty-five (44%) were still ill; 32 (56%) had had remission.

Age

Women of middle age (45–64 years) were less likely to have recovered than younger (18–44 years) or elderly women (65 + years; Table 2). Women were less likely to have had remission if they reported poor physical health at the first interview. Fourteen of the 33 women with initial poor health (42%) had had remission, whereas this applied to three-quarters, 18/24, of those who reported good health when first studied (5.99, d.f. = 1, P = 0.014).

Social networks

Women who described more adequate attachment and social integration initially were more likely to have had remission. The mean perceived adequacy of attachment score for these was 7.34 (s.d. 2.9) in comparison with 5.56...
(s.d. 3.5) for those women who were still ill at follow-up ($P=0.039$). The mean adequacy of social integration score was 12.34 (s.d. 3.0) for women whose disorder improved, compared with 10.04 (s.d. 3.3) for those who were still ill ($P=0.008$). There were no differences in the mean scores for availability of attachment or social integration between those women who were, and were not, psychiatric cases at follow-up. Women who had recovered were more likely at follow-up to indicate overall satisfaction with their social relationships.

### Symptoms

There was no statistically significant difference between the initial total symptom scores of those women who had had remission and those who were still psychiatric cases at follow-up (total PSE score 16.0 v. 19.2, NS). The length of time that the women had been unwell at the initial interview did not predict remission either.

#### Diagnostic classification

The initial diagnostic classification of the woman's psychiatric illness was not related to outcome, although minor changes in classification occurred between the two assessments. Over half the women classified as depressed, 32/54 (59%), had recovered. Most of those who were still psychiatric cases continued to be classified as depressed (18/22, 82%). Two women who were originally depressed were reclassified as having mania/hypomania at follow-up and the remaining two as having a phobic disorder. Of the two cases of generalised anxiety, one had had remission. The second was diagnosed as having a phobic disorder at follow-up. Four of the original six women with a classification of phobic disorder had recovered: one was classified as depressed; the other as still suffering from phobic disorder.

#### Life events

The total mean life event score for those women whose disorder improved, did not differ from that of those women who continued to be psychiatric cases. Of the 12 individual life events listed, only one, 'having a major financial difficulty', was associated with remission. The 25 women with no financial crisis, 18 (72%) had recovered, in contrast with the 32 women who described a financial crisis, 14 (43.8%) of whom had had remission ($P=0.03$). Further confirmation of this link between finances and psychiatric status was found with a question asking the women to describe their general financial situation; 22 (69%) of the 32 women who had had remission, had a sound financial situation in contrast with only 9 of the 25 women (36%) with continuing disorder.

Women who had recovered were significantly more likely to have experienced a neutralising or 'fresh start' event than were the chronic cases (Table 3).

#### Treatments

The proportion of women with original psychiatric disorder who received treatment was low. Antidepressants were prescribed for only 9 of the 57 original cases (16%), with 4/32 (12%) of those who had recovered receiving them. None of the women took major tranquillisers. Three of the 57 cases said they took minor tranquillisers (5%); two of these had had remission, the other still had a disorder. Eight of the 57 had seen a psychiatrist (14%), two had seen a psychotherapist (3%) and eight a counsellor (14%).

#### Negative findings

Several potentially important variables did not predict a recovery. These included marital status, socio-economic status, employment, the number and age of children, the number of visits the subject had made to her family physician in the previous six months, and contact with hospital services. The presence of a confidant at the original or follow-up phase, changed social support, paid hours worked, difficulties with alcohol, or the number of social roles a woman had were also not significant.

### Mathematical model

The results of the logistic regression confirmed the independent effects on remissions of middle age, poor finances, and low adequacy of social integration on the persistence of psychiatric disorder. There were no interaction terms. Poor physical health, adequacy of attachment,
and marital status (this latter was entered into the model because of its theoretical importance in published reports) failed to have any significant effect on the remission outcome. A high proportion of the variance in remission status was explained by these factors; the variance of the final model was 47.5 (d.f. = 46).

Discussion
A substantial proportion of women with psychiatric disorder in this random community research sample were still ill after 30 months. Few had received appropriate treatment for their disorder. The remission findings are strikingly similar to studies of chronicity in out-patient and in-patient clinic cohorts. The research setting does not seem to matter. Studies with follow-up periods of 4–12 months are essentially studying remission rates, while studies over 10 years focus on relapse and natural history patterns. The women who still had psychiatric disorders in this study at 30 months will include women whose initial disorder was continuous throughout the follow-up period, and those who had clearly recovered and then relapsed into a new episode. In keeping with the PSE tradition of only studying symptoms present in the previous one month which can be clearly recalled, the Otago study did not attempt to distinguish between these two subgroups. The problems with life-time prevalence data have been documented for review periods as short as two years (Fendrich et al., 1990). Such problems are usually attributed to selective recall and differing mortality and follow-up rates (Parker, 1987). The random community nature of this study means that the full range of psychiatric disorder found outside institutions was captured. Its limitations are the inability to track each woman’s symptom level over the 30 months, the different time frame for the life-events questionnaire and PSE, that the follow-up data was not chronologically linked to remission, and the modest number of psychiatric cases that could be followed. Some negative findings may be type II errors, and greater weight should be given to the positive findings. In addition, attrition occurred at three points. With the exception of the original postal questionnaire phase, these losses have not been large. They include 26% at the postal questionnaire stage, 10% at the first interview and 11% (278/314) at the follow-up interview. There was no systematic bias towards follow-up among one or other of the original groups with psychiatric disorder. It was not surprising that the more transient, young, unmarried subjects proved to be more difficult to trace.

Women of middle age (45–64 years) were less likely to remit than younger or older women. This age factor has been reported previously by an Epidemiological Catchment Area study which found low rates of remission for women over 30 years but not for men (Sargeant et al., 1990). No substantial explanation has yet been advanced for the mechanisms involved; any hypothesis will need to explain the gender difference, as men do not show this phenomenon. What is it about the lives of mature, adult women that results in their depression and anxiety being more persistent than other gender age groups living in the same culture? The factors involved are unlikely to be biological (Ballinger, 1990). Neither can it be explained by these women having poorer finances, as there were no age differences for either of the financial variables in this study. The main life-cycle changes that mark this stage of development have been described by Erikson as requiring an acceptance that one will never achieve some of the goals once held (Erikson, 1963). It is possible that there is a tendency for those who have been frustrated in their life goals so far to have difficulty accepting that their opportunities will be increasingly limited. Women of middle age who have completed their child-rearing responsibilities are confronted with the difficulties, often the impossibility, of establishing a new and emotionally gratifying work role for themselves. We have previously commented that the child-bearing and child-rearing role is valued and supported in New Zealand (Romans-Clarkson et al., 1988). It may not be easily replaced. The options for mature women may be further limited by strong community expectations that they will provide unpaid care for elderly relatives, a task that often lasts longer than child-rearing. The women with the low remission rates may be those whose valued child-rearing responsibilities are over but who have little chance of finding rewarding and valued employment. This is a parochial explanation, plausible for the New Zealand context, but it will require further work to find whether all Western cultures show low remission rates from psychiatric morbidity for middle-aged women, and the best explanation(s) for the phenomenon.

Women with poor finances had lower remission rates, as did women who had undergone a major financial crisis, the only one of 12 life events to be statistically linked to outcome of psychiatric disorder. One British study had clearly linked financial security to resolution of psychiatric disorder (Huxley & Goldberg, 1975; Huxley et al., 1979). The Psychology of Depression project mentioned low family income as a factor in a chronic outcome to major depression (Keller et al., 1986). Poverty and catastrophic financial loss have been linked with the onset of mental disorders in two recent papers (Ganzini...
In general, one is left with an impression after consulting published reports on remission patterns, that money is unable to be discretely linked to finances as "material circumstances", Sims as "poor material management" (Sims, 1975).

Women experience less financial security than men for a number of reasons; they earn less when employed, more frequently are engaged in unpaid child care and domestic and community work, and may have less control over financial decisions within families than their male partners. The data from this follow-up study is consistent with access to disposable income explaining the greater prevalence of psychiatric morbidity in women when compared with men. It is time that researchers took courage in their hands and investigated the role of money in psychiatric disorder. To do so may prove less difficult than is feared, and may explain much of the effect of social class on health.

The mathematical model surprisingly dropped poor physical health from the list of statistically significant variables. This has been linked with psychiatric morbidity and chronicity in a number of cross-sectional studies (Eastwood & Treluyan, 1972; Cadoret et al., 1980; Mann et al., 1981; Akiskal, 1982; Romans-Clarkson et al., 1988). The results of the logistic regression suggest that the effect of poor physical health may be mediated through an association with poor finances or poor social relationships.

The importance of non-intimate relationships in the genesis and maintenance of psychiatric disorder requires further investigation (Miller et al., 1976; Surtees, 1980; Brown et al., 1988). The failure of the variable, perceived adequacy of attachment, to predict remission, is curious. There are many published reports linking the presence of a confiding relationship with psychiatric morbidity (Brown & Harris, 1978; Parker et al., 1985; Brown et al., 1986a). The important characteristic of reciprocity in close relationships is not fully covered by the ISSI (Surtees, 1980). Neither was the ability of the woman's attachment figure to provide actual support and help in a crisis evaluated (Brown et al., 1986a; Brown, 1987). The relatively small numbers in this remission study, although similar to previous work, may have produced a type II error. In addition, the presence of psychiatric symptoms in the original phase of this study may have produced a bias in the way some women evaluated their social networks. Suffice to say that the data from this study shows that the adequacy of a woman's general social relationships are more important in determining remission than the adequacy of her attachments or intimate relationships.

The rate of psychiatric morbidity did not differ statistically over the 30 months. A drop in psychopathology scores on a second assessment has frequently been reported in projects with follow-up periods of 12 months or less (Henderson et al., 1981; Tennant et al., 1981b; Surtees et al., 1986b; Jorm et al., 1989). Whatever the explanation for this re-test artefact, it would seem not to occur in prospective studies using a longer time interval between the first and second assessments.

The findings reported here, that good social relationships and financial security produce better mental health confirm what common sense suggests. The significance of these results lies in the prospective design of the study, which allows the conclusion that these social factors are etiological and not consequent upon the psychiatric illness.

References


*Correspondence

(First received February 1992, final revision January 1993, accepted February 1993)