The impact of depression on the physical health of family members

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SUMMARY

Background. *Depressive illness is common. Depression in one family member is associated with an increased incidence of psychopathology in other family members. There are no data on the physical well being of the families of depressed individuals.*

Aim. *To compare physical morbidity of family members of depressed patients with that of family members of comparison patients.*

Method. *A comparative follow-up study from case notes. Two hundred and one subjects from 88 families with an index family member diagnosed with depression ('depression families') were compared with 200 subjects from 88 families with a matched index subject without depression ('comparison families'), using the Duke University Illness Severity Scores (ISS) to assess burden of illness experienced by both groups.*

Results. *The cumulative incidence of depression over 11 months in depression families was 8.9% compared to 1.4% in the Family Practice Unit as a whole. Members of depression families had significantly greater ISS than members of comparison families (difference in means = 0.164; 95% confidence interval (CI) 0.113–0.215; P<0.001). Excluding family members with depression (in addition to the index subject), ISS of members of depression families remained significantly greater than the comparison group (difference in means = 0.136; 95% CI 0.083–0.189; P<0.001). Among depression families, mean ISS was significantly higher after presentation of depression in index subjects compared with before (difference in means = 0.155; 95% CI 0.115–0.194; P<0.0001). No significant difference was seen between ISS of depression and comparison families before presentation of depression (difference in means = 0.008; 95% CI -0.004–0.058; P = 0.74).*

Conclusion. *Depression in patients is associated with increased physical morbidity in their families.*

Keywords: depression, family members, physical morbidity.

Introduction

COMMUNITY studies indicate that the lifetime prevalence of depression may be as high as 26% for women and 12% for men.[1] The DSM-IV classification states that, in addition to a depressed state of mind, the patient must have associated symptoms such as weight loss, insomnia, decreased concentration, fatigue, and thoughts of death and suicide occurring over a period of at least two weeks. Although depression is common, doctors vary in their ability to detect depression, and many cases go undiagnosed.

The psychiatric morbidity and social handicaps of family members of depressed patients are well documented.[2,3] Spouses of depressed people are often psychiatrically impaired, and 40% of those living with a depressed person have been found to meet the criteria for psychological intervention.[2] Psychopathologies may also impair immune function, causing physical illness.[4,5]

There is a lack of data on the physical well-being of family members of depressed individuals. The aim of this study was to establish whether there is an increase in physical morbidity within families after one family member becomes depressed.

Method

This study was conducted at the University of Adelaide Family Practice Unit, a general practice serving over 8000 families in a middle-class socio-economic area. All adult patients with a first presentation of depression, as diagnosed by an experienced clinician, in an 11-month period from 1st of September 1991 to 31st of July 1992, for which a complete validated computer medical record database existed, were studied. In this time, 147 patients presented, of whom 58 who had no family were excluded. Where more than one patient in a family presented with depression, the first patient was used as the index depressed subject. Patients that presented for a non-psychiatric reason were used as a comparison group. They were closely matched to subjects by age-group, sex, family size, and date of presentation.

Depressed index subjects were matched to comparison index subjects by age-group, sex, and family size. Comparison index subjects were selected by matching the depressed index subject with the next patient (strictly chronologically) meeting the matching criteria and presenting to the Family Practice Unit with a non-psychiatric diagnosis.

Family members of the depressed index subjects were termed 'depression families' and family members of the comparison index subjects were termed 'comparison families'. Demographic data for depression and comparison family members are shown in Table 1.

Illness data were collected from the casenotes of the studied families for the study period between September 1991 and July 1992, following the presentation of depression. Illness data were also collected for the same period 12 months previously.

The burden of illness of each family member was calculated using the Duke University Illness Severity Score.[6] Designed for use with ambulatory patients, this scale is based solely on record data. It requires a judgement of each diagnosis on three parameters: treatability and prognosis, complications, and current symptoms. Ratings for each parameter of each diagnosis are used to calculate a standardized score (ranging from 0–1) that signifies the patient's 'burden of illness'. The formula for calculating scores gives the greatest weight to the diagnosis with the highest raw score (i.e. most severe); second, third, and fourth diagnoses add progressively smaller components to the standardized score.

Table 1. Demographic characteristics of 'depression families' and 'comparison families'.

	Family members of depressed subjects (n = 201)	Family members of comparison subjects (n = 200)
Sex		
Male	109 (54%)	109 (55%)
Female	92 (46%)	91 (45%)
Age (years): mean (SD)	29.7 (19.9)	32.7 (21.7)

Only chart-recorded diagnoses are included in the calculations. For the purposes of calculation of the illness severity score, each diagnosis was rated by two dedicated observers who were blind to the depression status of the family members.

The mean symptom score of family members of depressed subjects was compared with that of subjects from families of the comparison group by testing the coefficient of a group indicator variable in a linear model, of which the variance-covariance matrix was adjusted to account for the clustering of individuals within families. The adjustment is by Huber's method, which yields standard errors for estimated regression coefficients that are robust to violations of the linear model's assumption of independence of observations.[7] Nintey-five per cent confidence intervals and P-values resulting from two-tailed tests are reported. Stata statistical software was used for all analyses.[8]

Results

Eighty-eight families with a depressed index subject were matched with 88 families with a matched non-depressed family member. This gave 201 subjects from depression families and 200 subjects from the comparison group. There were no significant demographical differences between these groups (Table 1).

The incidence of depression in family members of depressed patients in the follow-up period was 8.9%, compared with 1.4% in all patients presenting at the practice and 2.3% within Australian general practice as a whole. [9]

Considering the period after the diagnosis of depression, the ISS of families of depressed patients (mean = 0.351; SD = 0.252) was significantly higher than that of comparison families (mean = 0.187; SD = 0.205): difference in means = 0.164; 95% CI = 0.113–0.215; $P<0.001$.

The mean ISS of members of depression families of 0.323 was still significantly higher than the mean ISS of comparison families of 0.187 (difference in means = 0.136; 95% CI = 0.083–0.189; $P<0.001$) when family members presenting with depression after the index subject was diagnosed were excluded from the analysis.

In family members of depressed patients for whom paired data were available, there was a significantly higher ISS in the period after the presentation of depression (mean = 0.349; SD = 0.251) than before (mean = 0.194; SD = 0.208): difference in means = 0.155; 95% CI = 0.115–0.194; $P<0.0001$).

There was no significant difference between the mean ISS of 0.195 of subjects from depression families prior to the presentation of depression and the mean ISS of 0.187 of subjects from comparison families after the presentation of depression (difference in means = 0.008; 95% CI = 0.004–0.058; $P = 0.74$).

Discussion

It is well established that depression in one family member causes serious family dysfunction.[2,3,10] It has not been shown before that depression in one family member is associated with increased physical illness in other family members.

Depressed patients communicate poorly with their families,

are more submissive and dependent, less affectionate, and experience more friction within their families.[11] These disturbances result in stress and loss of social support, triggering psychological illness in other vulnerable family members.[11] Our study confirmed the increase in the incidence of depression in family members of depressed patients. There was a greater incidence of depression in these families than others attending the Family Practice Unit or Australian general practice as a whole.[8] Common genetic or environmental factors may be responsible for this.

This study clearly shows that presentation of depression in one member of the family is associated with physical illness in other family members. Before the presentation of depression, subjects in families with a depressed member had no greater incidence of physical illness than those in comparison families, but their morbidity scores increased dramatically in the year following. This relationship holds true when family members, diagnosed with depression presenting after the index subject, are removed from the analysis.

Depression has been said to impair immune function, causing depressed individuals to become more ill. Stress, bereavement, and depression compromise specific components of the immune system producing higher rates of illness.[4,5] The degree of immunological impairment has been correlated with the intensity of depressive symptoms.

It is possible that family members of depressed patients might be somatizing and presenting their psychological morbidity as physical illnesses. If this is the case, it is unrecognized and patients are not being treated appropriately. The presentation with physical illness could also be a manifestation of 'carer stress'.

As this was an observational study, confounding factors, such as unemployment or economic stress, can not be excluded, and it is possible that environmental stressors may manifest as depression in some family members and physical illness in others. However, as comparison families were randomly matched with depressed families from the same general practice, there is no reason to believe that there should be any difference in the level of environmental stressors experienced by either family group.

Our findings suggest that family members of depressed patients should be considered to be an 'at risk' group for physical as well as psychological illness, and that treatment of depression should include the whole family and not merely the depressed patient. Furthermore, an unexplained excess of physical illness within a family should alert the family practitioner to the possibility of undiagnosed depression in a family member.

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