

Research report

Early parental separation experiences among patients with bipolar disorder and major depression: a case–control study[☆]

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Abstract

Background: Although the association between childhood parental loss and later development of mood disorder has received much research interest in the past, the results obtained and conclusions drawn have been various, and inconsistent with each other. The present study aims to examine this old, yet unresolved, question among the Japanese. **Methods:** Patients with bipolar disorder ($n = 73$) and unipolar depression ($n = 570$) and community healthy controls ($n = 122$) were examined as to their psychopathology and childhood parental loss experiences with semi-structured interviews. **Results:** Stratified for sex and age, no statistically significant difference was observed in the incidence of paternal or maternal death or separation before age 16 between bipolar patients and healthy controls. Female patients with unipolar depression under the age of 54 experienced significantly more maternal loss than the corresponding controls. This excess in loss appeared to be largely due to the patients experiencing separation from their mothers. **Conclusion:** Our findings concerning bipolar disorder have replicated the previous two studies reported in the literature. Those concerning unipolar depression appear to be in line with several recent studies on the subject but, as stated, many discrepant findings can also be found in the literature. © 1999 Elsevier Science B.V. All rights reserved.

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1. Introduction

Childhood separation from parents, due to death,

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illness, divorce or otherwise, has been implicated as an antecedent to adult psychopathology including depression (Barnes and Prosen, 1985; Beck et al., 1963; Bifulco et al., 1987; Brown, 1961; Brown et al., 1986, 1977; Dennehy, 1966; Faravelli et al., 1986; Fergusson et al., 1994; Harris et al., 1986; Hill and Price, 1967; Hällström, 1987; Kendler et al., 1993, 1992; Kessler and Magee, 1993; Kitamura et

al., 1994; Kunugi et al., 1995; McLeod, 1991; Munro and Griffiths, 1969; Oakley-Browne et al., 1995b; Pfohl et al., 1983; Roy, 1981) and mania (Makanjuola, 1989). The literature is far from being unanimous or consistent, however, with many studies coming up with negative evidence for increased loss experiences among adults with depression (Birtchnell, 1970; Hopkinson and Reed, 1966; Munro, 1966; Oltman and Friedman, 1966; Oltman et al., 1962; Perris et al., 1986; Roy, 1983; Zahner and Murphy, 1989) or with bipolar disorder (Perris, 1966; Perris et al., 1986). Accordingly, reviews of the literature have not been harmonious with each other: Cook and Eliot (1980) and Tennant et al. (1980) concluded that parental death in childhood appears to have little effect on later development of depression, whereas Lloyd (1980) wrote 'it seems that the childhood loss of a parent by death generally increases depressive risk by a factor of about 2 or 3.' There is another review which limited the association to that between early death of mother and severe forms of depression (Finkelstein, 1988). More recent reviews tend to place emphasis on the adverse consequences of parental loss rather than parental loss itself and suggest that, although there is no evidence that parental death is a significant risk factor for depression, there is some evidence that separations, particularly those occurring in the context of family or parental discord, may contribute to adult depression (Brown et al., 1986; Parker, 1992; Quinton, 1989; Tennant, 1988).

Such discrepancies in the literature may be due to one or more of the following circumstances. Firstly, the variation in the definition of parental 'loss' is one factor contributing to the confusion in the findings. As Tennant (1988) emphasized, parental death and parental separation may have different implications and should therefore be distinguished. Brown et al. (1986) has also drawn attention to the crudity of many of the previous efforts to measure early loss: some studies relied on retrospective chart reviews and may therefore be subject to some unintended omissions. Secondly, the representativeness of the patient group is another issue leading to the confusion. When persons from particular socioeconomic groups or patient populations are used as subjects, the results can be subtly biased. In addition, most of the studies dealt with Caucasoid populations but the

role of parents and the consequences of parental loss are evidently under cultural influence and can therefore have differential impacts in different cultures (Kunugi et al., 1995; Makanjuola, 1989). The comparability of the control subjects is a third problem. As Birtchnell (1972) observed, there is wide variation in the frequencies of parental loss depending on the decade of the birth and we need to control for such demographic confounding variables in comparing the rates of parental loss between the cases and controls.

The Group for Longitudinal Affective Disorders Study (GLADS) in Japan has been conducting a multicenter prospective follow-up study of a broad spectrum of affective disorders, including subthreshold minor depression, mixed anxiety-depression and adjustment disorder with depressed mood under the sponsorship of the Ministry of Health and Welfare (Furukawa et al., 1995). In the first stage of the collaborative study we collected data on early separation experiences among representative samples of psychiatric patients visiting the participating centers. We also conducted a separate general population study in a city in Japan and inquired about the inhabitants' experiences of early parental loss using the same interview format. The present paper aims to examine the old yet unresolved question of a relationship between early parental loss and later occurrence of mood disorder in a Japanese sample. The present study has the following strengths: we surveyed the psychopathology and childhood parental loss among the subjects through direct, semi-structured interviewing with explicit criteria; the patients were representative samples of various clinical settings all over Japan and the controls were from a probability community sample; the sample size was relatively large and allowed for stratification by demographic factors.

2. Subjects and methods

Out of 1963 subjects (938 men and 1025 women) who were representative samples of first-visit patients to the 23 hospitals and clinics participating in the GLADS Project, who were aged 16 or over, and for whom relevant information concerning early

separation experiences was available, 643 subjects (312 men and 331 women) were diagnosed with either major depression (single episode or recurrent) or bipolar disorder according to DSM-III-R by a psychiatrist using a semi-structured interview called the Psychiatric Initial Screening for Affective disorders (PISA) (Kitamura, 1992b). These 643 subjects constitute, therefore, the case group of the following analyses.

The twenty-three hospitals and clinics included psychiatric departments of eleven university hospitals, seven general hospitals, three mental hospitals and an outpatient clinic, and a psychosomatic department of a university hospital from all over Japan. Each hospital and clinic examined a representative subset of its first-visit patients according to the predetermined rules; in certain centers, a representative subset meant all the first-visit patients examined by the psychiatrist(s) participating in the GLADS Project; in others, it meant all the first-visit patients on a certain day of the week; in still some others, it meant only the first such patient to show up on a certain day of the week. The selection of these preset rules was left to the individual center as time and human resources varied in each hospital.

DSM-III-R diagnoses were given by psychiatrists who administered the PISA. The PISA lists 33 symptoms corresponding to diagnostic criteria of schizophrenia, mood disorders, anxiety disorders, somatoform disorders, dissociative disorders, organic mental disorders and substance use disorders, and the inter-rater reliability of these psychopathological variables has been reported to range between kappas of 0.71 and 1.00 (median = 0.85) (Furukawa et al., 1995). The PISA also contains a section inquiring after each parent's current age if alive, or each parent's age and the patient's age when the parent died, and whether and when the patient lived apart from each parent for a period longer than a month before the patient's 16th birthday. The reason for separation was also to be specified. In the event of more than one period of parental separation, regardless of the cause, only the first separation was considered.

Control subjects were taken from a separate epidemiological study in a small city in Japan (Aoki et al., 1994). A total of 218 inhabitants (95 men and 123 women) aged 18 or more were successfully

contacted by lay interviewers trained in the use of a semi-structured psychiatric interview called the Time-Ordered Stress and Health Interview (TOSHI) (Kitamura, 1992a). Seventy subjects were found to suffer from lifetime diagnoses of one or more DSM-III-R disorders and for further 26 subjects relevant information concerning early separation experiences were lacking; in the following, data for the remaining 122 healthy control subjects (52 men and 70 women) are therefore used. The inter-rater reliability (intra-class correlation) of the TOSHI, using case vignettes, was 0.75 for major depressive episode, 0.41 for dysthymia, 0.75 for manic episode, 0.60 for generalized anxiety disorder, 0.85 for panic disorder, 0.48 for phobic disorder and 0.64 for obsessive-compulsive disorder (Kawakami et al., 1996). The section of the TOSHI dealing with early separation experiences is identical to that of the PISA.

3. Results

The incidence of death of or separation from either parent among the healthy controls and the patient groups is tabulated in Tables 1–3. The rates are reported separately for men and women, because we thought the meaning of paternal or maternal loss could be different for children of the same or the opposite sex. The rates are also reported separately for those under the age of 54 and those above 55, because we observed statistically significant differences in the rates of parental separation experiences between these two age groups (for example, paternal loss was experienced in 18.2% of those under 54 and 31.6% of those above 55; $\chi^2 = 17.5$, $df = 1$, $P = 0.00003$) and because the age constitution was significantly different between the patients and the controls (mean \pm S.D. = 44.3 ± 15.8 vs. 56.3 ± 15.8 , respectively; $t = 7.71$, $df = 763$, $P < 0.001$). The difference in the rates of childhood parental loss most probably depends on whether the subject was born before or after the end of World War II; the studies were conducted between 1992 and 1995, and those above the age of 55 were more likely to have experienced parental loss in childhood.

Table 2 shows the incidence of death or separation from parents among patients with bipolar

Table 1
Death of or separation from either parent among healthy controls

		Men (<i>n</i> = 52)		Women (<i>n</i> = 70)	
		18–54 (<i>n</i> = 18)	55– (<i>n</i> = 34)	18–54 (<i>n</i> = 28)	55– (<i>n</i> = 42)
Death of	Father	1 (5.6%)	3 (8.8%)	3 (10.7%)	6 (14.3%)
	Mother	2 (11.1%)	3 (8.8%)	0	7 (16.7%)
Separation from	Father	2 (11.1%)	10 (29.4%)	3 (10.7%)	7 (16.7%)
	Mother	3 (16.7%)	7 (20.6%)	0	6 (14.3%)
Any loss of	Father	3 (16.7%)	12 (35.3%)	5 (17.9%)	13 (31.0%)
	Mother	4 (22.2%)	9 (26.5%)	0	12 (28.6%)

Table 2
Death of or separation from either parent among patients with bipolar disorder

		Men (<i>n</i> = 42)		Women (<i>n</i> = 31)	
		16–54 (<i>n</i> = 33)	55– (<i>n</i> = 9)	16–54 (<i>n</i> = 24)	55– (<i>n</i> = 7)
Death of	Father	4 (12.1%)	1 (11.1%)	2 (8.3%)	1 (14.3%)
	Mother	0	1 (11.1%)	0	1 (14.3%)
Separation from	Father	7 (21.2%)	2 (22.2%)	5 (20.8%)	0
	Mother	4 (12.1%)	1 (11.1%)	2 (8.3%)	0
Any loss of	Father	10 (30.3%)	3 (33.3%)	5 (20.8%)	1 (14.3%)
	Mother	4 (12.1%)	2 (22.2%)	2 (8.3%)	1 (14.3%)

There was no statistically significant difference between the bipolar patients and the controls.

disorder (*n* = 73). No statistically significant difference was observed for any cell comparing the bipolar patients with the healthy controls for the rates of parental death or separation.

Table 3 shows the same among patients with unipolar depression (single episode or recurrent) (*n* = 570). Female patients under the age of 54 experienced significantly more maternal loss than the corresponding healthy controls. There were also trends for female patients under the age of 54 to have experienced more separation from the mother than

the controls, and for male patients under 54 to have experienced less maternal loss than the controls.

4. Discussion

As far as we are aware, this study is the third to examine the influence of early parental loss among patients with bipolar disorder in comparison with healthy controls. Although clinical lore may hold that bipolar disorder is more biologically determined

Table 3
Death of or separation from either parent among patients with unipolar depression (single episode and recurrent)

		Men (<i>n</i> = 270)		Women (<i>n</i> = 300)	
		16–54 (<i>n</i> = 207)	55– (<i>n</i> = 63)	16–54 (<i>n</i> = 202)	55– (<i>n</i> = 98)
Death of	Father	17 (8.2%)	13 (20.6%)	9 (4.5%)	18 (18.4%)
	Mother	6 (2.9%)	8 (12.7%)	4 (2.0%)	9 (9.2%)
Separation from	Father	23 (11.1%)	11 (17.5%)	26 (12.9%)	17 (17.3%)
	Mother	12 (5.8%)	11 (17.5%)	22 (10.9%) ^a	15 (15.3%)
Any loss of	Father	39 (18.8%)	22 (34.9%)	31 (15.3%)	29 (29.6%)
	Mother	17 (8.2%) ^a	15 (23.8%)	26 (12.9%) ^b	20 (20.4%)

^a 0.05 < *P* < 0.10.

^b *P* < 0.05.

than unipolar depression, there is now evidence that psychosocial factors also play an important role in its pathogenesis (Ellicott et al., 1990; Scott, 1995). Theoretically speaking, childhood parental loss may very well figure as one of such factors and it is surprising that there have been so few studies on this theme.

Perris (1966) investigated parental loss in childhood of 145 bipolar and 150 unipolar patients, and compared the results with figures from the general population. Parental death appeared to be no more frequent in either of the patient groups. Perris et al. (1986) studied the incidence of parental death in a separate series of 73 bipolar depressives and in their healthy siblings at risk, and found no excess of parental death in the patients at any age before 15.

Our study compared the rates of parental death and separation between 73 bipolar patients and 122 normal controls, stratified by sex and age, and found no statistically significant difference between the two. Although some may argue that our failure to find a statistically significant difference is attributable to the low statistical power of our data, we would like to maintain that negative evidence merits to be reported in the literature in order to avoid the so-called 'files-in-the-drawer' phenomenon. Given the paucity of empirical studies on the role of childhood parental loss in bipolar disorder, our finding certainly needs and merits replication in future studies.

Our results concerning unipolar depression appear to be consistent with the conclusions arrived at by Tennant (1988) and by Parker (1992) in their reviews. There was no significant association between childhood parental death and adult depression. The association between parental separation and depression was weak; only that between maternal loss (death or separation) and depression among women under the age of 54 was statistically significant and this association appeared to be largely due to maternal separation. Some of the more recent studies have come up with similar findings. Hällström (1987) observed that the patients with major depression had experienced parental separation but not death before age 17 significantly more often than the controls. In a sample of 1018 pairs of female twins, Kendler et al. (1992) found that increased risk for major depression was associated with parental separation but not with parental death.

In a community sample of adult women, it was also found that prolonged separation from parents has a stronger association with depression than parental death (Oakley-Browne et al., 1995a). In a household survey of adult population in the USA, parental death was not, but early adversities such as parental divorce and marital problems were significantly associated with 12-month prevalence of major depression (Kessler and Magee, 1993). As suggested by the literature overview in Section 1, however, there are a number of studies that do not replicate these findings. It is indeed difficult to reconcile these various findings but we hope that this study of ours has provided a step forward in clarifying the issue.

Several caveats need be mentioned concerning our study design. Firstly, the cases and controls were drawn from two different protocols and this may have introduced some hidden biases that are hard to correct for, although we have addressed the more obvious demographic ones. Secondly, it must be noted that any consequences associated with parental loss may be due to parental illness per se and not be necessarily causal in a psychosocial sense. The third and the biggest limitation of our study in view of the recent studies in this field is our failure to measure the quality of parental care before and/or after parental separation. The group of researchers at Bedford College found that lack of adequate parental care following the loss accounted for the increase in depression in two separate epidemiological studies (Bifulco et al., 1987; Harris et al., 1986). Breier et al. (1988) studied 90 adults who had experienced parental loss and concluded that the quality of home life subsequent to early parental loss is critically related to the later development of adult psychopathology. We hope to be able to address these questions in future studies on the relationship between childhood parental loss and adult development of mood disorders.

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