

Prodromes, coping strategies, insight and social functioning in bipolar affective disorders

DOMINIC LAM¹ AND GRACE WONG

From the Department of Psychology, Institute of Psychiatry, London

ABSTRACT

Background. Patients suffering from bipolar affective disorders are generally reported to be able to detect prodromes. Insight is also said to be desirable for a good outcome. However, very little is known about the effect of insight and patients' spontaneous strategies for coping with prodromes on their social functioning.

Method. In a cross-sectional study 40 bipolar patients, who were not in an acute episode, were interviewed about their prodromes of depression and mania, their coping strategies for these prodromes, their levels of insight and their levels of social functioning.

Results. A quarter of subjects reported that they could not detect any early warnings of depression compared with only 7.5% of subjects who reported that they could not detect prodromes of mania. Subjects reported both spontaneous cognitive and behavioural strategies for coping with prodromes of depression but only behavioural strategies for prodromes of mania. Subjects' current levels of depression, how they coped with prodromes of mania and their ability to recognize early warnings for depression contributed significantly to their level of social functioning. Insight also had a weaker but significant contribution.

Conclusion. No causal link was made in this study. However, it did show that patients' level of social functioning was related to their level of insight, and to how well they coped with the prodromes of mania and whether they could detect prodromes of depression. The results suggest that it is worth exploring ways of teaching patients to monitor their moods and to promote insight and good strategies for coping with their prodromes.

INTRODUCTION

Bipolar affective disorder is known to be a severe form of mental illness with significant consequences. Scott (1995), in a review article, summarized that an adult developing bipolar disorder in his/her mid-20s effectively loses 9 years of life, 12 years of normal health and 14 years of working life. Drugs such as lithium have been hailed as an effective form of prophylaxis. However, the initial reports of efficacy of lithium seem to be over-optimistic. Dickson & Kendell (1986) and Symonds &

Williams (1981) reported increasing admission rates to British hospitals for mania, despite increased use of lithium. Solomon *et al.* (1995) pointed out that more recent studies of lithium as a prophylactic drug reported about 50% of bipolar patients relapse within 2 years compared with about 35% of relapse in the studies reported in the 1960s. Furthermore, Fava *et al.* (1984, 1987) reported that bipolar patients receiving lithium in fact showed more psychological distress and hostility and less well-being than normal control subjects.

In view of the above findings, the 1989 NIMH Workshop on Treatment of Bipolar Disorder (Prien & Potter, 1990) urged that more research should be directed both to alternative drug strategies and to the development of psycho-

¹ Address for correspondence: Dr Dominic Lam, Department of Psychology, Institute of Psychiatry, De Crespigny Park, London SE5 8AF.

therapies specific to this disorder. One obvious relevant area of clinical interest is to investigate whether bipolar patients who can recognize and do something constructive to cope with their prodromes may fare better than those who do not. The studies on prodromes in bipolar affective disorders were either retrospective studies in which subjects were asked about their past experience (Joyce, 1985; Molnar *et al.* 1988; Smith & Tarrier 1992) or longitudinal studies in which subjects were seen regularly for assessment (Altman *et al.* 1992). Prodrome was defined by Molnar *et al.* (1988) as the interval from the time that the first symptoms were recognized to the time when the symptoms reached maximum severity. Some studies used a predetermined list of prodromes. For example, Smith & Tarrier (1992) used a 40-item checklist and the British Psychiatric Rating Scale was used in Altman *et al.*'s (1992) study. Joyce (1985) rated patients' ability to describe in detail the sequence of development of their own symptoms and Molnar *et al.* (1988) asked bipolar patients to report prodromes spontaneously. The latter approach allowed subjects to report symptoms that were more prominent in their recall and could accommodate more individual differences. All these studies reported that bipolar patients were able to report prodromes.

The problem with studies of prodromes in manic depression is that it is difficult to define when the prodrome finishes and the full-blown illness begins. Some of these prodromes can be quantitatively but not qualitatively different from the symptoms experienced in a full episode. Fava & Kellner (1991) also pointed out the difficulties of distinguishing prodromes from residual symptoms. Molnar *et al.* (1987) reported that clinically stable bipolar patients still displayed mood swings or subclinical fluctuations that are unrelated to prodromes of a relapse. Using rating scales to study prodromes can ensure the exploration of a range of phenomena and comparability of findings. However, a predetermined list runs the risk of subjects endorsing items that are similar to a full-blown episode but are of less intensity and may lose some of the more idiosyncratic 'relapse signatures of prodromes' (Smith & Tarrier, 1992). In this study prodromes are defined as any reports of change in the cognitive, affective or behavioural aspects that make the patient

suspect they may be at an early stage of either mania or depression.

Only one study reported how recognizing and coping with prodromes of bipolar affective illness can affect how patients fare. Joyce (1985) found that, in addition to non-compliance with medication, inability to recognize and respond to early symptoms of relapse were important factors in the management of bipolar illness. However, in Joyce's study, the rating of response to early symptoms focused mainly on 'able to seek treatment at an early stage of future relapse'. There was no investigation of patients' natural cognitive or behavioural ways of coping. Furthermore, the subscale on 'ability to recognize and to respond to early symptoms' had poor inter-rater reliability.

At present medication alone can only protect a proportion of bipolar patients. It has long been observed clinically that mania can fuel itself and that chaos can lead to more episodes. These observations suggest that promoting patients' ability to recognize prodromes and effective coping strategies for prodromes can also be important aspects of treatment. Other than relapses and hospitalizations, monitoring, detecting and coping with prodromes may have other significant impacts on bipolar patients: for example, on the patient's level of functioning in the area of work, interpersonal relationships, parenting abilities, social presentation, etc. Bipolar patients have different levels of social functioning and those who function well in spite of their illness may be the ones who have more adaptive coping strategies to deal with their prodromes. Moreover, accepting the illness and medication compliance were important factors in Joyce's (1985) study in determining whether patients were re-hospitalized. David (1990) proposed that insight is not an all-or-nothing construct but consists of three components: recognition that one has a mental illness; compliance with treatment; and the ability to relabel unusual mental events as pathological. David *et al.* (1992) suggested that good insight can lead to better management of the illness. Better insight may also have an impact on how well the person functions. The purposes of this study are three-fold: (1) to investigate bipolar patients' prodromes and their coping strategies; (2) to investigate whether recognizing prodromes and adaptive coping are related to good social

functioning; and (3) to investigate whether acceptance of the illness and medication compliance have a desirable effect on subjects' social functioning.

METHOD

Subjects

Subjects were 40 patients suffering from bipolar affective disorder recruited from the Maudsley and Bethlem Royal Hospitals' out-patients populations. They all had a clear clinical diagnosis of bipolar affective illness and fulfilled DSM-IV criteria of bipolar 1 (American Psychiatric Association, 1994) according to details of their medical case-notes. Patients with a clinical diagnosis of schizo-affective illness were excluded in order to obtain a 'pure' sample of subjects with bipolar affective disorders. A total of 52 subjects was approached and eight subjects refused to take part in the study. Four subjects were excluded as they did not fulfil DSM-IV criteria for manic depression. Forty subjects were interviewed.

Procedure

Both authors watched a training tape of the MRC Social Performance Schedule (SPS) and rated the three subjects' social functioning independently for training purposes. Any difficulties were discussed and the first author of the SPS was consulted over the telephone for further advice. The first ten subjects were seen together by both authors in order to obtain inter-rater reliability of subjects' level of social functioning and to ensure interviews were conducted in a similar fashion. After reliability was obtained, the subsequent 30 subjects were interviewed by one or the other of the two authors.

Subjects were approached by letter. Questionnaires were sent out and subjects were interviewed for prodromes of mania or depression and how they were dealt with; social functioning; insight and mental state rating. All interviews were audio-taped. Subjects' reports of prodromes of both mania and depression as well as their coping were transcribed verbatim. After rating guidelines were agreed, each author rated subjects' coping independently (see Appendix 1 for rating guidelines).

Instruments

1 *The MRC Social Performance Schedule (SPS – Hurry et al. 1983)*

This is an observer-rated scale based on a semi-structured interview that provides a quantitative assessment of social performance in the last month. The informant is the subject. The interview is directed towards actual behaviour (e.g. time off work, ability to provide advice and help) with probe questions used to elicit as much factual information as possible. Performance in each of the eight areas is then rated on a 4-point scale. Eight areas of social activity were covered: household management; employment; management of money; child care; intimate relationship with spouse or partner; non-intimate relationship with another adult; social presentation and coping with emergency. An overall score of social performance is obtained by summing the scores of the eight areas. In the original paper, the authors reported that the values of kappa of the eight areas based on a sample of 20 non-psychotic out-patients indicated a better than chance agreement.

2 *The Insight Questionnaire (David et al. 1992)*

This questionnaire has three components: treatment compliance (two questions); recognition of mental illness (three questions); and relabelling of psychotic phenomena (two questions). Each question is scored as: 0 = full insight; 1 = as much insight as social background and intelligence allow; 2 = agrees with nervous condition but does not really accept explanation in terms of nervous illness; 3 = denial. The authors also reported good construct validity in the validation paper.

3 *The Mania Scale (MAS – Bech et al. 1978)*

This scale consists of 11 items that map into the patient's motor activity, visual activity, flight of thoughts, voice/noise level, hostility/destructiveness, mood level (feeling of well-being), self-esteem, contact (intrusiveness), sleep (average of past three nights), sexual interest, and decreased work ability. Each item is rated on a 5-point scale (0 = not present; 1 = mild; 2 = moderate, 3 = marked, and 4 = severe or extreme). The total scores are interpreted as:

0–5 = no mania; 6–9 = hypomania (mild); 10–14 = probable mania; ≥ 15 = definite mania. The scale has good inter-rater reliability and construct validity.

4 *The Beck Depression Inventory (BDI – Beck et al. 1961)*

This is a 21-item self-report inventory of depression with good reliability and validity. Each item is rated on a 4-point scale ranging from 0 to 3. The general guidelines for cut-off are: 0–9 normal range or asymptomatic; 10–18 mild–moderate depression; 19–29 moderate–severe depression and scores of 30–63 extremely severe depression.

5 *The Coping with Prodromes Interview*

Subjects were asked from their experience of past episodes what were the early warnings (prodromes) of mania or depression for them; what made them think they were either going high or low and how these prodromes were different from a full-blown depression or mania. Furthermore, they were asked what they did when they had these prodromes. Subjects' reports of prodromes and the way they coped with prodromes for both depression and mania were audio-taped and transcribed verbatim. Both authors agreed on the rating guideline and rated subjects' coping independently on a 7-point scale (0 = poor; 3 = adequate and 6 = extremely well). Instead of general measures of day-to-day coping or social problem solving, open-ended questions were used to enquire about subjects' prodromes and coping in order to access subjects' more idiosyncratic prodromes and individuals' spontaneous coping. General measures will inherently lose individuals' idiosyncratic prodromes and spontaneity of coping.

Statistical analyses

All analyses were carried out using the SPSS Windows statistical package. Multiple regression analysis was carried out using the 'enter' procedure. Subjects' total scores on their level of social functioning were the dependent variable. Because subjects who could not detect prodromes had a rating of 8 in the coping ratings, two dummy variables were created for coping with prodromes of depression and coping with prodromes of mania respectively. In both coping ratings, a score of '8' was recoded as '1' and the

rest as '0' in the first dummy variable and in the second variable a rating of '9' (not applicable because no depressed episode) was recoded as '1' and the rest as '0'. The predictor variables were entered in the order of BDI score, the number of past hospitalizations due to depression, MAS score, the number of past hospitalizations due to mania, the four dummy variables, subjects' total score of Insight, subjects' coping with prodromes of depression (COPEP) and subjects coping with prodromes of mania (COPEM).

RESULTS

Seventeen of the subjects were male and 23 female. Their marital status was: married = 18, single = 15, separated/divorced = 6, widowed = 1. The sample had a mean age of 43.7 (s.d. 13.1). Four subjects were above age 65. Social class by occupation (Office of Population Censuses and Surveys, 1980) was: 10.0% (4/40) class 1; 5.0% (2/40) class 2; 35.0% (14/40) class 3; 25.0% (10/40) class 4 and 25.0% (10/40) class 5.

The mean number of hospitalizations due to mania was 3.87 (s.d. 5.19) and the mean number of hospitalizations due to depression was 0.92 (s.d. 1.58). One subject had only manic but no depressive episodes. The mean age of onset of the illness for the sample was 27.1 (s.d. 10.2). The distribution of subjects' current psychotropic medication was: 97% on lithium; 25% on antidepressant; 12.5% on carbamazepine; 27.5% on major tranquillizers and 12.5% on minor tranquillizers.

The sample had a mean BDI score of 11.35 (s.d. 9.94). The distribution of BDI scores was: 52.5% less than 10 (asymptomatic); 32.5% between 10 and 18 (mild–moderate depression); 7.5% between 19 and 29 (moderate–severe depression) and 7.5% more than 29 (extremely severe depression). The mean MAS score was 1.05 (s.d. 1.97). The distribution of MAS scores was: 92.5% subjects below 5 (no mania) and 7.5% between 6 and 9 (hypomania–mild).

Social functioning

The mean total score of the SPS was 3.3 (s.d. 3.7) with a median score of 2. There was 100% agreement between the ratings of the two raters on household management, employment, money

management, non-intimate relationship and coping with emergency. The value of weighted kappa for child care was 0.71 (standard error 0.11; Z statistic = 6.93; $P < 0.001$); for intimate relationship it was 0.91 (standard error = 0.06; Z statistic = 15.6; $P < 0.001$) and for social representation 0.62 (standard error 0.08; Z statistic = 8.04; $P < 0.001$). The proportion of subjects with significant problems most of the time or who could not cope at all was: household management 10%; employment 39.4% money management 2.6%; intimate relationship 20%; child care 10%; non-intimate relationship 12.5%; social presentation 20% and coping with emergency 12.5%.

Subjects' total SPS scores correlated significantly with both the BDI scores (Pearson's $r = 0.62$, $P < 0.000$ two-tail) and the MAS score (Pearson's $r = 0.35$, $P = 0.026$ two-tail). There was no statistical difference in the SPS total scores between male and female subjects. No demographic variables including age, age of onset, social class or number of hospitalization for mania or depression correlated with subjects' SPS total scores.

Insight

The sample had a mean score of 3.18 (s.d. 1.06) and a median of 4.0 for the Treatment Compliance subscale; and a mean score of 5.0 (s.d. 1.18) and a median of 5.0 for the Recognition of Illness subscale. The Relabelling of Psychotic Experience subscale was not applicable to this sample as none of the 40 subjects had any current delusion or hallucination. Subjects in this sample had a mean Insight total score of 8.18 (s.d. 1.93) and a median score of 9.0. The correlation between the Insight total score and the SPS total score was non-significant (Pearson's $r = -0.265$, $P = 0.099$ two-tail). None of the Insight scores correlated significantly with subjects' SPS total score.

Prodromes of mania and depression

Subjects had a mean of 2.9 (s.d. 1.1) of prodromes for mania and a mean of 2.2 (s.d. 1.0) of prodromes for depression. A quarter (10/40) of subjects could not report any prodromes of depression and only 7.5% (3/40) of subjects could not report any prodromes of mania. There was no significant difference between subjects who could and subjects who could not detect

Table 1. *Early warnings of mania in the good and poor coping group*

| Early warnings of mania | Good coping group ($N = 21$) % | Poor coping group ($N = 15$) % | Total ($N = 36$) % |
|--|--|--|----------------------------|
| Not interested in sleep or sleeping less | 71.4 | 40.0 | 58.3 |
| More goal-directed behaviour | 52.4 | 60.0 | 55.5 |
| Irritable | 14.3 | 26.7 | 25.0 |
| Increased sociability | 28.6 | 20.0 | 25.0 |
| Thoughts start to race | 23.8 | 13.3 | 19.4 |
| Increased optimism | 23.8 | 0 | 13.9 |
| Over excitable and restless | 19.0 | 6.7 | 13.9 |
| Spending too much | 9.5 | 20.0 | 13.9 |
| Increased self-esteem | 14.3 | 13.3 | 13.9 |
| Anxious | 14.3 | 6.7 | 11.1 |

prodromes of depression in terms of age, sex, BDI scores, or the numbers of past hospitalizations due to depression. Subjects who could not detect prodromes of depression had a lower total SPS score ($t = 2.42$; $df = 37$; $P = 0.02$).

BDI and MAS scores correlated with coping with prodromes of depression but just failed to reach statistical significance ($r = -0.36$, $P = 0.054$ two-tail for both). While BDI scores did not correlate significantly with coping with prodromes of mania, MAS scores correlated with coping with prodromes of mania ($r = -0.36$, $P = 0.03$ two-tail). Total Insight scores correlated significantly with coping with prodromes of hypomania ($r = 0.38$, $P = 0.02$ two-tail) but did not correlate significantly with coping with prodromes of depression ($r = 0.04$, $P = 0.80$ two-tail).

Subjects' spontaneous reports of their prodromes of mania are summarized in Table 1. The most commonly reported prodromes of mania were 'sleep disturbance' (58.3%) and 'more goal-directed behaviour' (55.5%). 'Increased sociability', 'racing thoughts' and 'irritability' were also reported by about 25% of subjects. Table 2 summarizes subjects' reports of their prodromes of depression. The most commonly reported prodrome for depression was 'loss of interest' (44.8%). About 20% of subjects also reported 'feeling sad and want to cry', 'not able to put aside worries or anxiety' and 'interrupted sleep'.

Using the median splits of SPS totals, the sample was divided into high and low social

Table 2. *Early warnings of depression in the good and poor coping group*

| Early warnings of depression | Good coping group (<i>N</i> = 17) % | Poor coping group (<i>N</i> = 12) % | Total (<i>N</i> = 29) % |
|--|--|--|--------------------------------|
| Loss of interest in activities or people | 41.2 | 50.0 | 44.8 |
| Not able to put worries or anxieties aside | 23.5 | 8.3 | 17.2 |
| Interrupted sleep | 17.6 | 16.7 | 17.2 |
| Feeling sad or want to cry | 23.5 | 16.7 | 20.7 |
| Low motivation and cannot get out of bed | 5.9 | 25.0 | 13.8 |
| Low self-esteem | 17.6 | 0 | 10.3 |
| Negative thinking | 11.8 | 8.3 | 10.3 |
| Feeling tired | 11.8 | 8.3 | 10.3 |
| Disinterest in food | 11.8 | 8.3 | 10.3 |
| Poor comprehension or concentration | 5.9 | 16.7 | 10.3 |

Table 3. *Subjects' coping with mania in the good and poor coping group*

| Coping strategies for early warnings of mania | Good coping group (<i>N</i> = 21) % | Poor coping group (<i>N</i> = 15) % |
|--|--|--|
| Modify excessive behaviour and restrain myself | 61.9 | 0 |
| Engage in calming activities | 47.6 | 13.3 |
| Take extra time to rest | 42.9 | 0 |
| See a doctor | 28.6 | 6.7 |
| Take extra medication as previously agreed with the doctor, e.g. major tranquillizer | 19.0 | 6.7 |
| Prioritize and reduce the number of tasks | 14.3 | 0 |
| Take time off work | 14.3 | 0 |
| Delay impulsive actions | 9.5 | 0 |
| Spend time on my own to avoid stimulation | 9.5 | 0 |
| Monitor my mood or action | 9.5 | 0 |
| Tell myself I am getting into dangerous situations | 9.5 | 0 |
| Talk to someone to bring some reality into my worries | 9.5 | 0 |
| Enjoy the feeling of high | 4.8 | 20.0 |
| Continue to move about and take on more tasks | 0 | 26.7 |
| Nothing special | 0 | 26.7 |
| Go out and spend money | 0 | 20.0 |
| Find more to do to fill out the extra minutes of the day | 0 | 20.0 |
| Drink to keep going | 0 | 13.3 |
| Lose my temper easily | 0 | 13.3 |

functioning groups. The sample was also split into a good coping group (coping score between 3 and 6 i.e. adequate to extremely well) and a

poor functioning group (coping score below adequate to poor) for coping with prodromes of depression and mania respectively. The good copers of mania had a mean age of 40, a mean MAS score of 0.5 and mean previous manic episodes of 4.3. The poor copers of mania had a mean age of 45, a mean MAS score of 1.9 and mean previous manic episodes of 8.9. The good copers of depression had a mean age of 43, a mean BDI score of 7.1 and mean previous depression episodes of 5.5. The poor copers of depression had a mean age of 44.6, a mean BDI score of 14.9 and mean previous depression episodes of 12.3. There were no significant differences between the good and poor coping groups for prodromes of either mania or depression in terms of subjects' age, length of illness or the number of past hospitalizations due to mania or depression. There were also no statistical differences between the good coping and poor coping groups in the frequency of the individual prodromes of either mania or depression. The only exception was that significantly more subjects in the good coping group reported 'increased optimism' as an early warning of mania ($\chi^2 = 4.5$; *df* = 1; *P* = 0.02).

Coping with prodromes

Table 3 summarizes subjects' reports of how they cope with prodromes of mania. The most common coping strategies for prodromes of mania employed by subjects in the good coping group were 'modifying high activities and restrain themselves', 'engage in calming activities', 'take extra time to rest or sleep' and 'seeing a doctor'. In the poor coping group, the most common coping strategies for early warning of mania were 'continue to move about and take on more tasks', 'enjoy the feeling of high', 'go out more and spend money', 'find more to fill out the extra minutes of the day' and 'doing nothing special'.

Table 4 summarizes subjects' reports of how they cope with prodromes of depression. The most common ones employed by subjects in the good coping group were 'get myself organized and keep busy', 'get social support and meet people', 'distract from negative thoughts by doing more', 'recognize realistic thoughts and evaluate if things are worth worrying about'. In the poor coping group, subjects' most common coping strategies were to 'stay in bed and hope

Table 4. *Subjects' coping with depression in the good and poor coping group*

| Coping strategies for early warnings of depression | Good coping group (<i>N</i> = 17) % | Poor coping group (<i>N</i> = 12) % |
|--|--|--|
| Get myself organized and keep busy | 52.9 | 0 |
| Get social support and meet people | 29.4 | 0 |
| Distract myself from negative thoughts by doing things | 23.5 | 8.3 |
| Recognize unrealistic thoughts and evaluate if things are worth worrying about | 23.5 | 0 |
| Maintain a routine | 17.6 | 0 |
| Exercise or keep fit | 17.6 | 0 |
| See a doctor | 11.8 | 0 |
| Stay in bed and hope it will go away | 5.9 | 58.3 |
| Take extra medication without prescription, e.g. sleeping pills or lithium | 5.9 | 16.7 |
| Do nothing | 0 | 25.0 |

it would go away', 'do nothing' and 'take extra medication such as lithium or sleeping pills'.

The value of weighted kappa with one or the other rater totally blind to 30 subjects' level of functioning was 0.77 (standard error 0.03; *Z* statistic 30.16; $P < 0.001$) for coping with prodromes of mania and 0.63 (standard error 0.03; *Z* statistic 18.64; $P < 0.001$) for coping with prodromes of depression. The value of weighted kappa increased to 0.80 for coping with prodromes of mania and 0.82 for coping with prodromes of depression if the whole sample was used for inter-rater reliability. The sample had a mean score for coping with prodromes of mania of 2.97 (s.d. 2.10) with a median of 3.00 and a mean score for coping with prodromes of depression of 2.83 (s.d. 1.90) with a median score of 3.00.

The correlation between coping with prodromes of depression and coping with prodromes of mania was significant (Pearson's $r = 0.51$, $P = 0.001$ two-tail). Both subjects' coping with prodromes of depression and mania correlated significantly with subjects' SPS total scores (Pearson's $r = -0.45$, $P < 0.02$ two-tail for depression; and Pearson's $r = -0.56$, $P < 0.00$ two-tail for mania). The correlation is in the negative direction because higher SPS ratings indicate worse social functioning. Further analyses were done on the number of high and

low functioning subjects in the good coping groups. For coping with prodromes of mania 73.3% (11/15) of poor copers and 19.0% (4/21) of good copers fell into the low functioning group. The difference was highly significant ($\chi^2 = 10.61$; *df* = 1; $P < 0.001$). For coping with prodromes of depression 63.6% (7/11) of poor copers compared with 27.78% (5/18) of good copers fell into the low functioning group. The difference is statistically non-significant ($\chi^2 = 3.62$, *df* = 1, $P = 0.057$).

Regression analysis

In the multiple regression analysis, there were significant contributions from subjects' current Beck Depression Inventory scores ($B = 0.18$, s.e. = 0.05, $P = 0.0003$), subjects' coping with prodromes of mania ($B = -0.67$, s.e. = 0.20, $P = 0.0017$) and the dummy variable created when coping with prodromes of depression score of '8' recoded as '1' and the rest of the scores recoded as '0' ($B = 2.59$, s.e. = 0.96, $P = 0.011$). These three variables had an R^2 of 0.598. Subjects' scores on the Mania Scale at the time of assessment and their number of past hospitalizations for either manic or depressive episodes did not made any significant contribution to subjects' level of social functioning. However, subjects' total scores on the Insight Questionnaire had a *t* value of -1.915 ($P = 0.06$). Tabachnick & Fidell (1989) recommended that $P < 0.1$ should be reported for conservative multiple regression techniques. Following this recommendation, the effect of Insight was also significant. The values for both 'Coping with prodromes of mania' and 'Insight' were in the negative direction because higher scores of SPS represent worse functioning.

DISCUSSION

Most subjects in this study were able to report prodromes of mania. Compared with other recent studies, there was strong agreement about prodromes of mania. Five of the top six early warnings of mania reported spontaneously by this sample were also among the top six most frequently reported prodromal symptoms by Molnar *et al.* (1988). Four of the top five most common prodromes in our study were also reported by 80 to 87% of subjects in Smith & Tarrier's (1992) study. Irritability, the other most

commonly reported prodrome in this study, was reported spontaneously by 33% of Smith & Tarrrier's sample. Hence, across studies prodromes of mania are fairly well recognized by bipolar patients. The most reported prodrome for mania is 'not interested in sleep' or 'sleeping less'. This points to the importance of monitoring sleep as an early warning and supports Wehr *et al.*'s (1987) proposition that sleep reduction is a final common pathway in the genesis of mania.

Fewer subjects were able to report spontaneously prodromes of depression. Subjects' reports of their prodromes of depression in this study, though agreeing less with Molnar *et al.*'s and Smith & Tarrrier's studies, were quite similar. The top four most common prodromes reported spontaneously by the subjects in this study were reported by 71 to 82% of subjects in Smith & Tarrrier's study. Three of the top four most common prodromes in this study were in the top six most commonly reported prodromal symptoms in Molnar *et al.*'s study. However, taken as a whole, there seems to be more diversity of prodromes of depression.

Subjects in this study reported an average of three prodromes for mania and two prodromes for depression. In Smith & Tarrrier's (1992) study using a 40-item checklist, 15 symptoms were reported to be strongly present in at least 60% of their subjects as prodromes of mania and 11 symptoms were reported by more than half of their subjects as prodromes of depression. This is likely to be due to subjects' inclination to endorse symptoms as prodromes if a checklist is used. In a pilot phase, we sent out a 56-item checklist of prodromes for mania and most subjects endorsed at least half of the checklist as prodromes but could only spontaneously recall two to four symptoms as prodromes of mania. The checklist was not used in this study as we were interested in how subjects cope with the more prominent symptoms that they could recall spontaneously. In Molnar *et al.*'s (1988) study, eight symptoms (including elevated or depressed mood) were identified as prodromes of mania and six symptoms were identified as prodromes of depression by at least half of their subjects. The lower number of prodromes in our sample was because we decided not to count elevated or depressed mood as an early warning. We did not count elated or depressed mood as a prodrome

because we regard them as tautological answers to the question 'what makes subjects think they are going high or low?'

Subjects in this study used mostly behavioural techniques as coping strategies for prodromes of mania in the good coping group. With regard to prodromes of depression, subjects tended to use a mix of behavioural and cognitive techniques in the good coping group. On the whole, how well subjects coped with prodromes of depression did not seem to contribute to their level of functioning once subjects' current level of depression and coping with prodromes of mania were in the regression equation. In this study about a quarter of subjects said they had no prodromes of depression. Some subjects even went as far as saying that depression is like a virus that creeps up on you and that they could wake up with it. However, subjects who reported that they could not detect prodromes of depression functioned at a significantly lower level. Subjects' demographic variables, number of past hospitalizations due to depression and their current level of depression did not account for their ability to detect depression prodromes. The prodromes of depression reported were mostly subjective intra-psychoic experiences. Perhaps intra-psychoic phenomena are harder to discriminate spontaneously as early warnings.

Insight correlates with how subjects cope with prodromes of mania and also has an impact on subjects' social functioning. The effect is not as large as subjects' coping with prodromes of mania or whether subjects can detect prodromes of depression. Insight also correlated with coping with prodromes of mania. Some subjects reported spontaneously that coping with the disorder implies both recognition of the state and dealing with the symptoms of manic depressive disorders. Realizing that they have a serious mental illness and that they need to take medication is a first step. The discrete surveillance of mood and efforts to deal with early prodromes allows them to assume a measure of control and hence develop a sense of security against the possible social and professional consequences of undetected illness. A hypothesis worth testing is that those who could not detect depression may feel less in control and this may affect their level of functioning. This warrants further investigation.

Subjects' coping with prodromes of mania

appeared to be an important factor in determining their level of social functioning whereas coping with prodromes of depression did not. One explanation is that being in a stage of early mania is much more public whereas the early stage of depression can be more private. For those who are less able to cope with their prodromes of mania, the effect on their social functioning can be more detrimental. Molnar *et al.* (1988) reported that bipolar patients had considerable inter-individual variability but very little intra-individual variability of prodromes, an issue which is not systematically addressed in our study. Joyce (1985) reported that most readmissions within a year were due to mania. Clinical experience suggests that early mania symptoms can fuel themselves into a full-blown episode. Coupled with our finding that coping with prodromes of mania is an important determinant of subjects' level of functioning, it is important to teach bipolar affective disorder patients to tackle prodromes of mania. This approach was suggested by Jacobson (1965), who worked with patients and their families to detect early hypomanic signs for prompt intermittent lithium treatment.

Scott (1995) in her review article of the scanty evidence on psychotherapy with bipolar patients suggested that psycho-social intervention may have significant benefits for bipolar sufferers and their families. Our study supports the notion that bipolar patients' ability to detect prodromes and cope adaptively with them can have a beneficial effect. Asking for spontaneous reports of prodromes has the advantage of personalizing the prodromes in the individual's context. For example, a minority of patients were able to report some idiosyncratic prodromes such as 'people scheming to get rid of me', 'feel more capable and wanting to get involved in other people's problems' as clear prodromes of mania. Another patient was able to report 'getting irritated with her husband' and 'not enjoying reading to my children' as prodromes of depression. Targeting prodromes that can be recalled spontaneously and putting them in the personal context may make more sense to patients when working with them constructively about their prodromes. Furthermore, the good copers in our studies used spontaneous cognitive behavioural techniques as coping strategies.

Lastly, our study could be criticized in that

the social functioning measure as the main outcome variable for coping with bipolar prodromes is based on subjects' own reports. This may explain how subjects' level of depression accounted for a significantly larger variance in their level of social functioning. However, the SPS ratings are based on subjects' reported behaviour and the raters were trained to probe for objective evidence, rather than feelings. Weissman (1975) in a review of techniques of assessing social adjustment commented that non-psychotic depressives were reasonably reliable informants. Furthermore, the subjects in this study were not in an acute phase. According to the MAS, none of the subjects in this study had any significant hypomanic symptoms and only three subjects fell into the severe depression range of the BDI. Hence, very few subjects were in an acute episode and the recollection of prodromes in this sample as a whole can be taken as unimpaired. However, our study is only a cross-sectional study and we have not tested whether bipolar patients can be taught to cope with their idiosyncratic prodromes leading to a beneficial outcome. Both Birchwood *et al.* (1989) and Tarrier *et al.* (1993) have reported successful cognitive behavioural methods in dealing with early signs in schizophrenic patients. It is timely to explore psychological techniques as an important aspect of treatment of bipolar affective illness.

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APPENDIX 1 RATING INSTRUCTIONS FOR RATING OF COPING WITH PRODROMES IN MANIC DEPRESSION

Instructions

The scale is a 7-point scale, as shown below.

| | | | | | | | |
|--|------|---|----------|---|---|-----------|---|
| | | | | | | | |
| | poor | | adequate | | | extremely | |
| | | | | | | well | |
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 |

Please rate in the boxes provided on each sheet how well you judge the subject is coping with prodromes. Rate subject's coping of prodromes of depression or mania separately.

Take subjects's coping with prodromes of depression or mania as a whole. Subjects do not have to cope well with each of their prodromes in order to have a high rating. If subjects fail to detect prodromes, rate it as (8). The assumption is that subjects have to detect prodromes in order to cope. They cannot be rated as 'poor'.

Rating of how subjects cope with their prodromes is based on:

1 The cognitive behavioural model of how thought, mood and behaviour affect each other – it is a bad idea to stay in bed, avoid social contacts and dwell on negative thoughts during the prodromal phase of depression. Likewise, it is not advisable to seek more excitement, engage in more indulgent behaviour such as drinking or take on more goal-directed tasks during the prodromal phase of mania. Conversely subjects who cope by being active, engaging in problem-solving and prioritizing, distracting themselves from and reality-testing their negative thoughts, and meeting people for support during the prodromal phase of depression should receive a high rating of coping. Similarly, subjects who modify their excessive behaviour, avoid impulsive actions or stimulations and engage in calming activities during the prodromal phase of mania should score a high rating.

2 Diathesis-stress model – as there is a biological vulnerability in bipolar affective illness, seeking medical advice early and taking extra and appropriate medication as previously agreed with the doctor should be seen as good coping. Efforts to avoid further stress during the prodromal phase should also be seen as good coping.

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