

'Bipolarity' in bipolar disorder: distribution of manic and depressive symptoms in a treated population

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Summary Cross-sectional analysis of 441 individuals with bipolar disorder treated at a US health maintenance organisation investigated the distribution of manic and depressive symptoms in that illness. Clinically significant depressive symptoms occurred in 94.1% of those with (hypo)mania, while 70.1% in a depressive episode had clinically significant manic symptoms. DSM-unrecognised depression-plus-hypomania was over twice as prevalent as DSM-recognised mixed episodes. Depressive symptoms were unimodally distributed in (hypo)mania. Depressive and manic symptoms were positively, not inversely, correlated, and their co-occurrence was associated with worse quality of life. Implications for the DSM and ICD nosological systems are discussed.

Declaration of interest None. Funding detailed in Acknowledgements.

First *et al* (2004) recently proposed that diagnostic classification systems should have not only validity and reliability but also clinical utility. Systems such as DSM-IV (American Psychiatric Association, 2000) presume in their conceptualisation of (and name for) bipolar disorder that mania and depression are polar opposites, implying that their co-occurrence is atypical. However, their co-occurrence is common (e.g. Akiskal *et al*, 2000), although most such research derives from samples from in-patient units, tertiary care clinics or private practice, identified on the basis of current episode. Therefore we investigated the distribution and co-occurrence of manic and depressive symptoms in a large, out-patient health maintenance organisation sample treated

for bipolar disorder, assessed without regard to current episode status.

METHOD

Participants were assessed at intake for a randomised controlled trial of a care management system for bipolar disorder (Simon *et al*, 2005). Importantly, the entire population of adults in treatment for bipolar disorder was sampled, yielding a *treated*, but not necessarily currently *treatment-seeking*, sample. Of 450 eligible patients, 441 (98%) enrolled. Participants and non-participants did not differ in age and gender, or in psychiatric hospitalisation and emergency room use in the previous year. The sample was 68% female, 88% Caucasian and 76% had bipolar I disorder.

As in other studies (e.g. Judd *et al*, 2002), severity of mania and depressive symptoms at intake were separately characterised as: remission or minimal symptoms (0–1 definite DSM symptom); sub-threshold symptoms (≥ 2 definite DSM symptoms, but not meeting DSM criteria for mood episode); or full episode (meets DSM criteria for depressive or hypomanic/manic episode). 'Clinically significant' symptoms were defined *a priori* as ≥ 2 symptoms.

For depressive symptom counts during (hypo)mania, we excluded symptoms that could be 'double-counted' for mania as well as depression (e.g. insomnia, distractibility), as in earlier work (Bauer *et al*, 1994). Quality of life was assessed using the Short Form-36 (SF-36; Stewart *et al*, 1988).

A χ^2 -test was used to compare categorical variables and analysis of variance to compare interval data.

RESULTS

Distribution of clinical states

Clinically significant symptoms were present in 77.7% (343/441); 41.5% (183/441)

were in DSM-defined mood episodes: depression (32.2%, 142/441), mania (2.9%, 13/441), hypomania (3.6%, 16/441), or mixed (mania-plus-depression, 2.7%, 12/441); 6.1% (27/441) met criteria for DSM-unrecognised hypomania-plus-depression. Overall, 15.4% (68/441) met criteria for mania or hypomania.

Of these 68 individuals, the vast majority (94.1%, 64/68) had clinically significant depressive symptoms. Conversely, 70.1% (108/154) of those in a major depressive episode had clinically significant manic symptoms. Of the 68, 17.6% (12/68) met criteria for DSM-recognised mixed episode, but 39.7% (27/68) met criteria for DSM-unrecognised hypomania-plus-depression.

Co-distribution of depressive and manic symptoms

Depressive symptoms among these 68 participants were unimodally, not bimodally, distributed (Fig. 1). There was a strong positive relationship between clinically significant depressive and manic symptoms: χ^2 -test of linear association (2)=75; $P < 0.001$. Moreover, those with clinically significant manic symptoms who had more depressive symptoms also had progressively worse SF-36 mental ($F(2)=35.5$, $P=0.001$) and physical ($F(2)=5.8$, $P=0.003$) quality of life.

DISCUSSION

Limitations and strengths

This sample of individuals with treated bipolar disorder was assessed cross-sectionally as part of a clinical trial. None

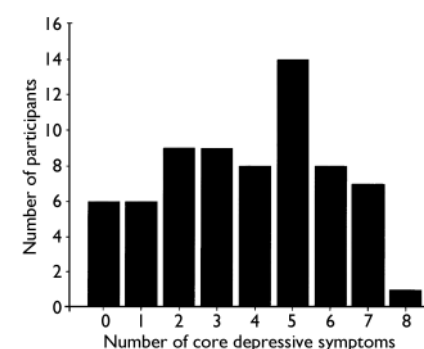


Fig. 1 Frequency distribution showing the number of participants with mania or hypomania who reported the given number of depressive symptoms. No evidence is seen for a bimodal distribution of participants between those who do and do not have depressive symptoms.

the less, it is informative for several reasons. This population is hitherto unrepresented in bipolar nosological studies. However, the data reflect clinical state without regard to patient or clinician decision to initiate clinical contact, and the assessment method allowed the identification of all combinations of symptoms.

Impact on nosology

Of the participants, 77.7% experienced clinically significant manic or depressive symptoms, and 41.5% were in a full mood episode – similar to a prior study of veterans (Bauer *et al*, 2001). Thus, bipolar disorder is associated with substantial symptom load even in this insured, treated population.

A substantial gap appears in DSM–IV: those with DSM-unrecognised hypomanic-plus-depressive episodes are more than twice as common than those with DSM-defined mixed episodes. Moreover, 70.1% of those in depressive episodes experience clinically significant manic symptoms.

Three findings provide strong evidence that this disorder is not, as a rule, truly ‘bipolar’. First, clinically significant depressive symptoms occurred in 91.4% of those with (hypo)mania. Conversely, 70.1% of those with depressive episodes had clinically significant manic symptoms. Second, depressive symptoms during (hypo)mania are unimodally, not bimodally, distributed. Third, the additive impact of manic and depressive symptoms on quality of life indicates that manic and depressive symptoms in this disorder are typically additive burdens, not alternative states.

Thus bipolar disorder is characterised less by swings between opposite ‘poles’ of symptoms than by varying admixtures of manic and depressive symptoms, the combination of which is associated with greater dysfunction.

Finally, the co-occurrence of all degrees of depressive and manic symptoms suggests that a dimensional conceptualisation of mood state in this disorder is more valid than the categorical conceptualisation presumed by both the DSM and ICD (Bauer, 2003). Accordingly, any categorical

CLINICAL IMPLICATIONS

- DSM-unrecognised mixed hypomania-plus-depression was twice as common as DSM-recognised mania-plus-depression (official mixed episodes), while admixtures of depressive and manic symptoms are the rule and not the exception.
- Bipolar disorder does not appear to be truly ‘bipolar’ since manic and depressive symptoms are positively, rather than inversely, correlated.
- Manic and depressive symptoms in bipolar disorder appear to represent dimensions of symptomatology rather than discrete categories.

LIMITATIONS

- American out-patient health maintenance organisation sample.
- Cross-sectional analysis.
- No comparison with unipolar depression was included.

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classification will be to some degree arbitrary and inaccurate. To apply Kendell’s (1982) metaphor: ‘Here, Nature has no joints to cleave’.

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