Factors related to suicidal behavior in patients with bipolar disorder: The effect of mixed features on suicidality

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Objectives
The aim of the present study was to investigate various risk factors of suicidal behaviors, including the mixed features specifier, in patients with bipolar disorder.

Methods
We retrospectively reviewed medical charts from 2005 to 2014. A total of 334 patients diagnosed with bipolar disorder using the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision were enrolled. Subjects were categorized into two groups according to their history of suicidal behavior and the demographic and clinical characteristics of the groups were compared, including the mixed features specifier. We reevaluated the index episode using Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) criteria and classified subjects into an index episode with mixed features group and an index episode without mixed features group. Logistic regression was performed to evaluate significant risk factors associated with suicidal behavior.

Results
Suicidal behavior had an independent relationship to mixed features at the index episode using DSM-5 criteria [odds ratio (OR)=3.39; 95% confidence interval (CI): 1.57–7.34] and number of previous depressive episodes (OR=1.62; 95% CI: 1.34–1.95) in bipolar patients. The mixed feature specifier was the strongest risk factor for suicidal behavior in the present study.

Conclusions
This study may help clinicians understand potential risk factors and manage bipolar disorders with suicidal behaviors. Clinicians should carefully monitor patients with bipolar disorder who exhibit numerous depressive episodes or mixed features for suicidal behavior.

**Key words:** Bipolar disorder, Mixed feature, Risk factor, Suicide

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