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# Diagnostic criteria for schizoaffective disorder

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### **Stephan Heckers**

Vanderbilt Psychiatric Hospital, 1601 23rd Avenue South, Room 3060, Nashville, TN 37212, USA Tel.: +1 615 322 2665 stephan.heckers @vanderbilt.edu

## "Schizoaffective disorder ... represents one of the most confusing and controversial concepts in psychiatric nosology."

Psychiatric diagnoses should help clinicians and researchers. Ideally, they predict the course and outcome of an illness and aid the discovery of causes and mechanisms. The current nosology of psychotic and mood disorders was shaped by Emil Kraepelin, who proposed a simple dichotomy: psychotic disorders (dementia praecox and schizophrenia) result in a poor outcome, whereas affective disorders (manic-depressive illness and bipolar disorder) fare better.

However, many patients present with psychotic and affective symptoms. Furthermore, course and outcome differ not only between schizophrenia and bipolar disorder, but also vary significantly between individuals given the same diagnosis. At the end of his career, Kraepelin expressed doubts that patients with an affective psychosis can be grouped easily into either schizophrenia or manic-depressive illness [1]. In 1938, Kasanin introduced the diagnosis acute schizoaffective psychoses to describe nine patients who achieved full recovery after several weeks of acute psychosis and affective symptoms [2]. Ever since, the diagnosis of schizoaffective disorder has enjoyed great popularity with clinicians (and patients, who prefer it over the more stigmatizing diagnosis of schizophrenia).

All editions of the DSM have included the term 'schizoaffective'. But it took until 1987 for the DSM-III-R to operationalize the diagnostic criteria for schizoaffective disorder. This statement from the DSM-III-R is still true today: "The term schizoaffective disorder has been used in many different ways since it was first introduced as a subtype of schizophrenia, and represents one of the most confusing and controversial concepts in psychiatric nosology" [3]. The approach taken by the DSM committee emphasized the temporal relationship of psychotic and mood symptoms. The authors did not include Kasanin's concepts of inter-episode recovery and good outcome as diagnostic criteria.

Consider the following scenario: a person has experienced psychotic and mood symptoms. When is schizoaffective disorder the appropriate diagnosis? Ideally, patients with the diagnosis of schizoaffective disorder are distinct from patients with schizophrenia and mood disorders in clinical presentation, course, outcome, mechanism and etiology. This would establish the validity of the diagnosis. However, none of these validators have been strong enough to serve as a diagnostic criterion. This left the DSM with the undesirable task of defining the diagnosis through four steps of eliminating other psychoses [4]. First, it excludes cases with mild and brief psychosis. Criterion A achieves this by requiring that a major mood episode occurs concurrent with psychotic symptoms that are severe enough to meet criteria A for schizophrenia (including a duration of at least 1 month).

Second, it excludes a primary mood disorder with psychotic symptoms. Criterion B operationalizes this by requiring a 2-week period of delusions and hallucinations without any mood symptoms. This defines the sequential type of schizoaffective disorder and provides a clear demarcation from psychotic depression or psychotic bipolar

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disorder (where psychotic and affective symptoms are present at the same time). Of interest, International Classification of Diseases-10 does not include this criterion and recognizes the concurrent type of schizoaffective disorder [5]. Third, it limits the diagnosis to cases with prominent mood symptoms. For example, a person with a 10-year history of schizophrenia who also has a 2-month history of depressive symptoms. Is this distinctly different from schizophrenia? The border between schizophrenia plus mood symptoms and schizoaffective disorder is arbitrary. Criterion C attempts such a distinction by requiring that mood symptoms are present for a substantial portion of the total duration of the active and residual periods of the illness. Fourth, the psychotic and mood symptoms cannot be simply due to the use of a substance or a general medical condition (criterion D).

### "...none of these validators have been strong enough to serve as a diagnostic criterion."

When applying these four criteria, schizoaffective disorder has a lifetime prevalence of 0.3% (compared with 0.9% for schizophrenia and 0.1% for psychotic bipolar disorder type 1) [6].

The approach taken by the DSM, to emphasize the temporal relationship of psychotic and mood symptoms, assumes that the diagnostician has access to longitudinal clinical data. This is different from most other DSM diagnoses, which are based on the evaluation of brief periods of time (e.g., 1 week for manic episode and 2 weeks for major depressive episode). To make the diagnosis of schizoaffective disorder, longitudinal data of mood and psychotic symptoms need to be reviewed for the temporal overlap (criterion B) and the relative proportion over time (criterion C). However, most clinicians do not observe patients for several weeks. The clinician has to rely then on the autobiographic memory of the patient, collateral information or access to medical and mental health records. But even with such data available, it is challenging to accurately gauge the relative prominence of psychotic and affective symptoms (especially after many years of illness).

This conundrum leads to poor reliability and limited clinical utility of the diagnosis schizoaffective disorder. For example, Nurnberger *et al.* and Maj *et al.* reported very low reliability scores for the DSM diagnostic criteria, the lowest being 0.29 (Cohen's  $\kappa$ ) for criterion C [7,8].

The relative proportion of mood and psychotic symptoms can change over time, which leads to a low temporal stability of the schizoaffective disorder diagnosis. For example, when patients were followed for 2 years after a first hospitalization for a psychotic or mood disorder, the diagnoses were stable in 92% of schizophrenia, 83% of bipolar disorder and 74% of major depression cases, but only 36% of schizoaffective disorder cases [9]. When 500 first-episode psychotic disorder patients were followed for 2 years, the number of cases with schizoaffective disorder increased from 0.2 to 12.2% of all cases, primarily owing to the emergence of mood symptoms in cases initially diagnosed with a nonaffective psychosis (schizophrenia and schizophreniform disorder) [10]. To complicate matters even further, clinicians and researchers often use different thresholds when applying the diagnostic criteria for schizoaffective disorder [11]. Taken together, the diagnosis of schizoaffective disorder is a challenge, even for the most skilled diagnostician.

Several authors have reviewed options for a revision of the schizoaffective disorder criteria [12–14]. Some have suggested the removal of schizoaffective disorder, because of poor reliability and limited validity [15]. This is unlikely to happen, considering the strong preference of schizoaffective disorder over schizophrenia, by patients, as well as clinicians, mainly because of the overall better outcome [16,17]. Similarly, researchers have used the categorical approach to affective psychoses for the study of genetic risk factors [18,19]. Finally, there is substantial interest in the development of better pharmacological treatments for patients with prominent psychotic and mood symptoms [20].

The category schizoaffective disorder could be replaced by the parallel coding of mood and psychotic symptoms. For example, with the categories schizophrenia, bipolar disorder and major depression intact, the overlap of mood and psychotic symptoms could be captured with specifiers (using either categories or ordinal rating scales) [12,14]. This would create, in addition to the three pure categories, three mixed categories: schizophrenia plus affective symptoms, bipolar disorder plus psychotic symptoms and major depression plus psychotic symptoms. This would avoid the significant reliability problems of criterion C. Such a mixed use of categories and specifiers/dimensions would also make criterion B obsolete and harmonize the DSM and International Classification of Diseases classifications of schizoaffective disorder.

### "The category schizoaffective disorder could be replaced by the parallel coding of mood and psychotic symptoms."

Currently, the diagnosis is limited to one period of illness. If several such periods can be identified, then the same person could be given the diagnosis of schizoaffective disorder for some periods, but not others (by contrast, single mood episodes establish a lifetime diagnosis of major depressive disorder or bipolar disorder). This instability of the diagnosis of schizoaffective disorder could be addressed by making it a lifetime rather than episodebased diagnosis. But the challenge of collecting reliable historical information, further complicated by the confounding effect of treatment, remains.

At a minimum, criterion C should be revised. Reliability could be increased by including a quantitative threshold (e.g., 30% as is now implemented in the revised Diagnostic Interview for Genetic Studies criteria). An excessively increased threshold for criterion C will result in a significantly lower case rate (i.e., most patients would remain in the schizophrenia category) and could effect the validity of the schizoaffective disorder construct.

The problems of the schizoaffective disorder diagnosis outlined here reveal the limitations of our current categorical diagnostic system. Psychiatric nosology needs new knowledge to become more relevant for clinicians and patients alike. For example, a multidimensional assessment of mental states and behaviors (including the domains of perception, language, beliefs, psychomotor activity and affect) can avoid the forced assignment of an individual to diagnostic categories. These domains can be captured using ordinal scales, which provide cutoffs for treatment decisions. Ultimately, biological markers need to validate the psychiatric diagnoses, which will provide metrics for treatment response and should accelerate the study of etiology and disease mechanisms.

#### Financial & competing interests disclosure

S Heckers is a member of the DSM-V Work Group on Psychotic Disorders. The opinions expressed here do not necessarily reflect the consensus of the DSM-V Work Group or Task Force. The author has no other relevant affiliations or financial involvement with any organization or entity with a financial interest in or financial conflict with the subject matter or materials discussed in the manuscript apart from those disclosed.

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