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Diagnostic Stability of Psychoses of Childhood and Adolescent Onset

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Abstract

The aim of the study was to address the issue of diagnostic stability across episodes, in childhood and adolescent onset psychosis. The study has a catch-up longitudinal design with systematic evaluation at in-take and at the end of 4 to 5 years after initial contact. The intake sample consisted of 50 subjects (24, male and 26, female) with diagnosis of psychosis whose mean age was 14.02 ± 1.49 years. The follow-up sample had 47 subjects, of which only 28 subjects were included for the study of diagnostic stability as the rest had recovered from their index episode with no relapses. The sample included 13 male and 15 female subjects with mean age of 18.25 ± 1.75 years. Subjects with diagnosis of affective disorder, especially bipolar disorder had maximum diagnostic stability (100%) whereas, the subjects with diagnosis of psychosis NOS had poor diagnostic stability (50%). In essence, 23 out of 28 subjects (82%) had stable diagnoses suggesting good diagnostic stability of childhood and adolescent onset psychoses.

Key words -
Diagnostic stability,
Psychoses,
Childhood,
Adolescence

One major purpose of psychiatric diagnosis is prognostication of the disorder [1], [2] for which it needs to have validity. Several approaches are employed by researchers to study the validity of psychiatric diagnoses. Temporal stability of diagnosis is one of them and is an essential validating feature of a disorder [3]. It provides a basis on which to predict course and outcome.

Diagnostic stability has been defined as within-episode or across-episode consistency in symptoms [4]. Diagnostic reliability is essential for the diagnosis to be stable. In addition, for a diagnosis to remain stable, the clinical presentation has to remain uniform across episodes. However, in children and adolescents clinical presentation may vary or change over the course of time due to the influences of normal developmental processes [5]. Hence, it is all the more important to question whether longitudinal follow-up can provide a predictable course and outcome about juvenile disorders, in the manner in which these approaches have been found fruitful with adults. Notwithstanding age dependent modulation of symptom expression, psychiatric diagnoses have to remain stable over a course of time for them to have diagnostic validity. If the instability is high, validity is questionable.

There are many studies in adults that have reported good diagnostic stability for schizophrenia and affective disorders [6], [7], [8], [9]. The existing knowledge about diagnostic stability in adolescence derives mainly from studies of disorders other than psychoses and affective disorders [3], [10], [11], [12], [13], [14]. Attempts to study the diagnostic stability of

childhood and adolescent onset psychoses are rare. However a few workers have made attempts to study the stability of juvenile onset psychoses [15], [16], [17], [18], [19], [20]. Most of them [15], [16], [17], [18], have reported poor diagnostic stability, barring two recent reports [19], [20] of high diagnostic stability.

Werry et al [15] using modern diagnostic criteria and longitudinal follow-up reported that only 57% of bipolar patients and 63% of schizophrenics were diagnosed accurately at first hospitalization. The same group of workers, in their cross-national study [16] of outcome of child and adolescent schizophrenia, reported high levels of diagnostic instability of the initial assessments. In the New Zealand group 39% of the subjects were rediagnosed as either bipolar or schizoaffective disorder. In the US group, of those who were diagnosed with mood disorder at outcome, one third had been diagnosed with schizophrenia initially and one-fifth with psychosis NOS.

Carlson and colleagues [17] studied both young (15-20 years) and adult (30-40 years) bipolar and schizophrenic patients from a country wide sample of first admissions for psychosis. They reported good stability for research diagnosis and poor stability for community facility discharge diagnosis. This discrepancy was mainly because the diagnosis of bipolar disorder was missed in the community facilities more than 50% of the time in the youth compared to adult onset patients.

This centre also reported high levels of diagnostic instability in a retrospective follow-up of a child guidance clinic population into adulthood [18]. The reactive psychoses and psychosis NOS groups received maximum number of diagnostic revisions. All the six subjects with diagnosis of reactive psychosis were diagnosed later as manic depressive psychosis. Out of the 19 cases of psychosis NOS, nine were rediagnosed as manic depressive psychosis, one as schizoaffective disorder and one as behavioural disorder related to brain damage.

Strober and colleagues [19] reported a five-year naturalistic prospective follow-up study of 54 adolescents with bipolar I disorder. All the 54 subjects in their study retained their original diagnosis of bipolar disorder at the end of five years. In another follow-up study, Cawthron and colleagues reported 90% diagnostic stability of adolescent onset psychoses [20].

In summary, it is evident that systematic attempts to study the diagnostic stability of childhood and adolescent onset psychoses are few. Hence, this study addresses the issue of diagnostic stability across episodes in childhood and adolescent onset psychoses. The detailed longitudinal course, and clinical and psychosocial outcome will be reported in the forthcoming paper.

Material and Methods

The study has a catch-up longitudinal design with systematic evaluation at the intake and at the end of 4 to 5 years after initial contact.

Initial assessment

The sample for the study consisted of all the 50 consecutive new psychotic subjects who presented to the Child and Adolescent Psychiatry clinic (CAP) of the National Institute of Mental Health & Neuro Sciences (NIMHANS), Bangalore, India, between February 1990 and January 1991 (1 year). All the subjects between the ages 5 and 16 years were included in the study. Subjects with pervasive developmental disorders, mental retardation, organic brain syndromes, neurological disorders and/or recurrent seizures were excluded from the study. Systematic evaluation of all the subjects was carried out using Interview Schedule for Children and Adolescents (ISCA) [21] and the intake Sheet for Adolescents : Cross Cultural Study (ISACC) [22] as part of a comparative study of classification of psychosis of childhood and adolescent onset [23].

The ISCA is a modified version of the Interview Schedule for Children (ISC) [24]. It is a semistructured symptom-oriented psychiatric interview suitable for youngsters aged 8 to 17 years. The ISC was modified by Kovacs and staff of the Child and Adolescent Psychiatry clinic, NIMHANS to

suit the Indian setting. Using the ISCA, parent interview ratings and child interview ratings are obtained separately and the clinician records overall summary ratings for each symptom based on the data that were provided by the foregoing informants. A cut-off point of 2 is defined as clinically significant and pertinent towards diagnosis. The ISACC covers sociodemographic data, developmental history, temperamental traits, past psychiatric history, physical health information, and history of major life events.

Diagnoses were made according to the ICD-9 [25], ICD-10DCR [26] and DM-IIIR [27], by combining data from both child and parent interviews. For the present study only DSM-IIIR [27] diagnoses are used.

Follow-up assessment

The original cohort of 50 subjects were traced in the following ways:

1. All subjects and their parents were requested through letters to participate in the study.
2. For all those subjects who did not respond to letters, home visits were made by the research worker and they were persuaded to come to the hospital for follow-up assessment.
3. Those who could not come to the hospital for assessment were evaluated in their homes by the research worker using a structured proforma (described below)

Instruments used for follow-up assessment

1. Follow-up sheet for adolescents. Cross-cultural study (FUSACC) [28]**.**

The FUSACC covers demographic data, parents marriage, social data, mental health treatment details, psychotropic prescriptions since previous contract, criminal history, other behavioural problems, physical health information, menstrual history, employment status, marital data, and history of major life events since last contact.

2. Follow-up Interview Schedule for Young Adults (FISA) [29]

The FISA is the adult version of Interview Schedule for Children (ISC) [24], a semistructured, symptom oriented psychiatric interview schedule meant for subjects aged above 17 years. The FISA covers major psychopathological symptoms, mental status examination, signs of psychopathology observed while interviewing, highest levels of adaptive functioning and global severity rating.

All the items were quantified for a period of one month prior to assessment and were rated on a 5-point scale from 0 to 9. The clinician records his or her own over-all summary rating for each symptom based on collateral interview (usually parents) and subject interview ratings. A cut-off point of 2 is defined as clinically significant and therefore pertinent towards a diagnosis.

3. The interview Schedule for Children and Adolescents (ISCA) [21] was used wherever the subjects were aged 17 years or less. The details of the instrument have been given in the earlier part of this section.
4. The interval history and longitudinal course of subjects with affective disorder were graphically depi [30]. For life charting the information was gathered from several sources. viz. FISA/ISCA, clinical history given by informants and patients, NIMHANS hospital charts, and other physicians and hospital records. For subjects with non-effective psychosis also, similar life charting was done.
5. The investigators (YCJR & SS) developed a structured proforma for the research worker to assess the children at their homes wherever home assessments were made. This proforma covered demographic data, social functioning, academic and occupational functioning, personal care, major

psychopathological symptoms essential for diagnosis of affective and psychotic disorders and treatment details. The information was collected for both the interval period and for one month preceding the assessment. The research worker recorded the information verbatim obtained during home visits.

Recovery from and episode of psychosis was defined as:

1. the absence of relevant DSM-IIIR [27] symptoms pertinent for diagnosis, and
2. the maintenance of the foregoing state for a minimum of a 2-month interval.

If the subject recovered from an episode, but become symptomatic again in 2-months or less, the subject was designated as still in previous episode of psychosis. The requirement of a 2-months symptom-free interval subsequent to the recovery of an episode was waived only when a given disorder or episode 'changed' (turned) into another diagnosis. 'Relapse' was defined as a new episode of illness satisfying the DSM-IIIR criteria [27] for the disorder. The definitions of relapse and recovery were modifications of the definitions adapted in the study by Kovacs and Pollock [31].

The clinical outcome was measured by the symptomatic state of the subject at the end of 4-5 years of follow-up. The subject was considered to be 'asymptomatic' if he no longer had any characteristic DSM-IIIR symptoms pertinent for diagnosis of the disorder and 'symptomatic' if he fulfilled criteria for the disorder.

In this study, diagnostic stability is defined as across-episode consistency in syndromes. That is, the measure of the degree to which psychiatric diagnoses remain unchanged at subsequent psychiatric assessments. Hence, those subjects who recovered from their index episode of illness and did not relapse subsequently were excluded from the analysis. Only those subjects who had relapses, those who remained continuously ill throughout the follow-up period without recovery, and those who changed their diagnosis during the course of illness were included for assessment of diagnostic stability.

Assessment procedures

. All the subjects who reached the hospital for the purpose of assessment (n = 35) were systematically e [23] of all the 50 subjects. Based on the information obtained from FISA/ISCA, clinical history, and life charts, a best estimate consensus diagnosis was reached by two investigators (YCJR & SS) according to DSM-IIIR criteria [27].

Those subjects who could not come to the hospital (n = 12), were interviewed by the research worker at their homes and the information was gathered in the proforma developed for the purpose. The research worker was a qualified social worker holding a masters degree in social work. He was specially trained for two months to use the proforma by the investigators (YCJR & SS) prior to beginning the study. The research worker recorded all the information verbatim. The information gathered was reviewed by two investigators (YCJR & SS) along with the proband's available clinical records and consensus opinions were drawn regarding the diagnostic status and relapses in the interval period.

Results

The original sample consisted of 50 subjects (24 male and 26 female) with a mean age of 14.02 ± 1.49

years (range, 10-16 years). Only one subject was married. Both parents were alive in 46 of the subjects. The diagnostic break-up at the initial evaluation was as follows schizophrenia, 9; major depression, 11; bipolar disorder - mania, 21; bipolar disorder-depression, 2; bipolar disorder-mixed, 2; and atypical psychosis (psychosis NOS); 5.

At the end of 4-5 years after the initial contact, three subjects were lost for follow-up, reducing the follow-up sample to 47 subjects. The follow-up sample underwent detailed re-evaluation as described in the methodology section. Of these, 32 (68%) were asymptomatic and 13 (27%) were symptomatic cross-sectionally. One subject with bipolar disorder committed suicide and the other subject with same diagnosis escaped during a manic relapse and could not be traced. After re-evaluation, only 28 out of 47 (59.6%) subjects were included for assessment of diagnostic stability as the rest had recovered from index episodes with no relapses. These 28 subjects had either relapsed, or remained continuously ill, or changed their diagnosis during the course of illness. The sample included 13 male and 15 female subjects with mean age of 18.25 ± 1.75 years (range 14 - 20 years). The initial diagnoses of these 28 probands were, 14 subjects with bipolar disorder, 4 with major depressive disorder, 6 with schizophrenia and 4 with atypical psychosis. The diagnostic stability of the sample is given in Table I.

Table I - Diagnostic stability of the sample

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BPD = Bipolar disorder, MDD = Major depressive disorder, SCHIZ = Schizophrenia, PSY-NOS = Psychosis NOS

All the 14 subjects with initial diagnosis of bipolar disorder, retained their diagnosis of bipolar disorder (100%). Of the four subjects with initial diagnosis of depression, three relapsed and one remained continuously ill. Three subjects who relapsed retained diagnosis of affective disorder (75%). Of these three, two changed to bipolar disorder and one retained diagnosis of unipolar depression. However, the subjects who changed to bipolar disorder were considered to have retained their original diagnosis of affective disorder. The other subject who remained continuously ill was rediagnosed as having schizophrenia. Of the six subjects with initial diagnosis of schizophrenia, four remained continuously ill with no diagnostic change (67%), one changed to bipolar disorder and the other to obsessive compulsive disorder. Of the four subjects with atypical psychosis, two remained continuously ill with no diagnostic change (50%) and two changed to bipolar disorder. In essence, 23 out of 28 subjects (82%) had stable diagnoses.

Discussion

The main finding of this study is that the childhood and adolescent onset psychoses have good diagnostic stability (82%). The highlights of this study are :

(i) the subjects were assessed systematically using semistructured interview schedules both at the intake and follow-up, and

(ii) for the assessment of diagnostic stability, longitudinal course was also assessed using life charting method.

It may be recollected here that, despite age dependent modulation of symptoms, psychiatric diagnoses have to remain stable over a course of time to have diagnostic validity. In our sample, there is an

overall good diagnostic stability (82% retained their original diagnosis). Excellent stability is seen (100%) in those subjects with initial diagnosis of bipolar disorder. Subjects with depression and schizophrenia also have good stability (75% and 67% respectively). These findings are in accordance with the studies of diagnostic stability of adult onset psychoses [6], [7], [8], [9], but not with some of the studies of childhood and adolescent onset psychoses [15], [16], [18], Studies in adults [6], [7], [8], [9] have reported reasonable stabilities (67%-74%) for adult onset affective disorders and schizophrenia. In contrast, some of the studies of childhood and adolescent onset psychoses [15], [16], [18], have reported poor diagnostic stability. Werry and colleagues [15] found that only 57% of bipolar subjects and 63% of schizophrenics were diagnosed accurately at initial evaluation. The same group of workers [16], in their cross-national study (United States and New Zealand), reported high levels of diagnostic instability of the initial assessments. This diagnostic instability was attributed mainly to misdiagnosis of mood disorders as schizophrenia. In comparison, the diagnostic stability of our sample is good. Discrepancy in the rates of stability across two studies is perhaps due to different methods of diagnosis at the initial assessment. Werry and colleagues [15] in their re-evaluation of the original sample used modern diagnostic criteria and longitudinal follow-up, whereas, the original sample [32] was diagnosed using Bleulerian/Schneiderian criteria and subsequently reclassified using DSM-III criteria. Moreover, no structured/semistructured interview schedules were used to arrive at a diagnosis. This probably led to a large number of bipolar patients getting misdiagnosed as schizophrenia. In our study, we have used semistructured interview schedules (ISCA/FISA) and diagnostic criteria (DSM-IIIR) for diagnosis both during the initial evaluation and follow-up. In addition, interval psychiatric history is collected using life chart method. This perhaps underlines the role of systematic evaluation in studies of diagnostic stability which derives further significance by the findings of two other recent studies [17], [19]. Carlson and colleagues [17] reported moderate to excellent stability for research diagnosis and poor stability for community facility discharge diagnosis. Research diagnoses were made using structured interviews and consensus method of diagnosis, whereas, community facility discharge diagnoses were essentially clinical with no attempts at systematic evaluation. Strober and colleagues [19] also used structured clinical evaluations for the diagnosis of bipolar disorder and at the end of five years all the 54 subjects had retained the original diagnosis of bipolar disorder.

High level of diagnostic instability was reported from our centre also [18]. However, the study design was retrospective and did not include systematic evaluation. More over, the poor diagnostic stability was especially associated with ICD-9 diagnoses of reactive psychoses and psychosis NOS. In our study also, despite systematic evaluation the stability of atypical psychosis (Psychosis NOS) was poor (50%) compared to that of other diagnostic categories. Poor stability of atypical psychosis is perhaps due to the heterogeneous nature of the diagnostic category itself, as the diagnosis is generally made only when the clinical picture does not fit the descriptions of other functional psychoses. However, subjects with the initial diagnosis of atypical psychosis were few (n = 5) and hence findings have to be taken with caution.

The major implications of this study are:

1. the high diagnostic stability reported in our study drives home the point that the stability of psychoses in children and adolescents is as good as that reported in adults;
2. the current classificatory systems [26], [27] do not have special criteria for juvenile-onset psychotic disorders and despite the use of the same adult criteria, the diagnostic stability of sample was good, and;

3. diagnostic stability appears to be much higher when rigorous systematic approaches for elicitation of psychopathology and classification are applied for child and adolescent onset psychotic disorders.

The issue of diagnostic stability needs to be further examined in a larger sample, prospectively followed-up with periodic systematic assessments.

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