Chapter 8
Acute and Transient Psychosis: An Overview

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1 Introduction

The acute and brief psychotic states present with florid psychotic symptoms of a sudden or acute onset. However, once the acute episode has remitted, the premorbid level of functioning is reached again, and the personality reappears basically intact. Thus, these disorders seem to contradict the traditional notion of severe mental disorder as a systematically progressive disease that frequently ends in the weakening or destruction of mental faculties (Ackerknecht 1968). This apparent paradox has made brief and acute psychoses a controversial, but highly stimulating area in the study of functional psychoses for more than 150 years.

The International Classification of Mental and Behavioural Disorders, tenth revision (ICD-10) in 1992, has brought together several clinical concepts such as the bouffée délirante, cycloid psychosis, the reactive psychosis and schizophreniform psychoses under the broad rubric of acute and transient psychosis (F23).

However, the ICD-10 (World Health Organisation 1992) states that '*The limited data and clinical traditions… do not give rise to concepts that can be clearly defined and separated from each other…. The nomenclature of these acute disorders is as uncertain as their nosological status*'.

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2 Evolution of Concept

In the present diagnostic systems, acute psychotic states are allocated to acute and transient psychotic disorders (ATPD, F23) in ICD-10 (World Health Organisation 1992) and to brief psychotic disorder (BPD) in the Diagnostic and Statistical Manual of Mental disorders, fourth edition (DSM-IV; APA, 1994). Although the operational criteria are new, the descriptions involved show the traces of a long and divergent history of the concept of brief and acute psychoses. In fact, different psychiatric schools, often of a regional or national character, have provided concepts for transient psychotic states.

Descriptions of acute psychosis as a condition characterised by short duration, often having an intensive or even dramatic symptomatology, but with full remission, can be traced back to middle of the nineteenth century.

Researchers of all periods have been faced by three major issues with regard to the concept and definition of ATPD:

(1) ATPD has to be accommodated in the respective nosological system
(2) Diagnostic criteria have to be assigned to delineate these from other psychotic disorders
(3) Need for aetiological explanation for the coexistence of severe disturbance and good prognosis

3 Concepts of Acute and Polymorphous Psychoses—Past and Present

3.1 From Kahlbaum to Kraepelin

Numerous authors have described psychotic states of a transient or periodic nature during the history of psychiatry, even if they did not allocate them to a specific diagnostic category as manifestations of an ongoing disease process passing through several stages (Berrios and Porter 1995). Ludwig Kahlbaum (1828–1899) in his influential work *Die GruppirungpsychischerKrankheiten* (1863) conceived psychotic disorders in their typical forms (‘vesania typica’). Although a number of varieties of ‘vesania typica’ were possible, they had in common the postulated disease process of a progressive nature. There were also disorders, however, in which a psychotic syndrome appeared—often in a severe form—but then remitted without showing the typical sequence of disease states and without leaving a lasting alteration.

Kahlbaum used the term ‘*dysphrenia*’ to denote these disorders, which he believed were not the direct expressions of a typical progressive disease process. Rather, he presumed that some different process, e.g. of epileptic, sexual or rheumatic nature, must have elicited the expression of the syndrome. Thus, the provoking process would stimulate the immediate pathological process ‘without

leaving a lasting alteration in the elements that serve its expression' (Kahlbaum 1863). It is noteworthy that Kahlbaum's concept of *dysphrenia* connected three elements that were to be found again in later concepts of brief and acute psychoses: an atypical (non-progressive) course, a mixed or impure symptomatic picture and the supposition of some provoking aetiological principle, e.g. an epileptic, sexual or rheumatic process.

During the same time in around 1878, German psychiatrist, Karl Westphal, described *paranoia acuta*—an acute form of paranoia with an outburst of perceptual hallucinations, consisting mostly of hallucinatory voices and delusions, with clouding of consciousness. In 1890, Meynert repeated the clinical description but named the condition *amentia*.

While Kahlbaum's classification of mental disorders did not succeed and concept of Westphal and Meynert did not have an impact on the world either, it was the approach of Emil Kraepelin (1856–1926) that dominated psychiatry in the twentieth century. This fact was of crucial significance for later concepts of brief and acute psychoses, since Kraepelin's notion of dementia praecox with its emphasis on a deleterious outcome cannot readily be reconciled with the existence of acute psychoses of good prognosis. The early editions of his textbook already contain the vivid description of a severe psychotic state, developing in 2–3 days, characterised by vivid hallucinations, delusions and changing mood, and remitting after a number of weeks or months. These difficulties persisted despite the fact that Kraepelin himself, in his later years, was somewhat less dogmatic about psychiatric classification. In 1899, Kraepelin included all the endogenous and functional psychosis under *dementia praecox* and all manic and melancholic periodic disorders in a single-group *manic–depressive insanity* with no place between these two diagnostic categories.

However, if we think on this dichotomy currently, we may argue that nature does not take leaps; there are always overlaps, bridges or something else in between. But why should the psyche take leaps?

In 1920, Kraepelin, in his paper 'The manifestations of types of insanity', wrote:

> *No experienced psychiatrist will deny that there are an alarmingly large number of cases in which, despite the most careful observation, it seems impossible to arrive at a reliable diagnosis. We therefore will have to get used to the fact that the symptoms we have used so far are not sufficient to always reliably distinguish between manic–depressive insanity and dementia praecox, but that there are overlaps based on the origin of these symptoms from given preconditions*

However, he still adhered to the notion of two separate disease processes, one of these destructive (schizophrenic) and another one completely balanced (manic–depressive). Thus, although Kraepelin did not abandon his concept of two opposing disease processes, he admitted the existence of phenomenological pictures that could not be grouped unambiguously with either disease.

In 1911, Bleuler replaced the single disease dementia praecox by the concept of a *group of schizophrenias* of various clinical forms. He noticed that schizophrenia

often began with an acute excitatory episode lasting from a few hours to a few years. He described a wide variation of outcome of acute forms of psychosis, but he separated acute schizophrenias from simple schizophrenia as he believed that acute forms did not necessarily end in deterioration. However, the problem of brief, good prognosis psychosis was not solved.

However, in several countries around the world, such as in Germany, France, Scandinavia and Japan, forms of psychoses were described that defied Emil Kraepelin's dichotomic system, as well as Eugen Bleuler's conception of schizophrenia. These were the concepts of bouffeė délirante (Valentin 1886); motility psychosis (Wernicke 1894); *cycloid disorder* (Kleist 1929); *reactive psychosis* (Jaspers 1963); *psychogenic psychoses* (Wimmer 1816; Langfeldt 1937); *acute schizoaffective psychosis* (Kasanin 1933); *Schizophreniform psychosis* (Langfeldt 1937); *hysterical psychosis* (Hollender and Hirsch 1964); and *atypical psychoses* (Mitsuda 1965). *There were also concepts of remitting schizophrenia; good prognosis schizophrenia; acute psychotic reaction*; *acute primitive psychosis; acute paranoid psychosis; transient psychosis; acute psychotic reaction*; *acute psychosis of uncertain origin; hysterical psychosis; acute psychosis without antecedent;* and *acute schizophrenic episode*. These descriptions led to the possibility of a 'third psychosis' apart from schizophrenia and manic–depressive psychosis. A brief account of some of these descriptive forms can help clarify the basic elements of such disorders.

4 Historical Roots of ATPD

(a) Bouffée délirante

For more than 100 years, 'bouffée délirante' has been one of the most eminent and influential diagnostic concepts in French psychiatry. It was created by Valentin (Valentin 1886) Magnan (1835–1916), the eminence grise of French psychiatry (Shorter 1997) and one of the most important French nosologists in the pre-Kraepelinian era. Magnan worked at the Paris mental hospital Sainte-Anne. He devoted much of his professional interest to the study and propagation of the idea of 'degeneration', introduced by Bénédict-Augustin Morel in 1857. The concept of degeneration combined three assumptions that (1) a number of psychiatric disorders and deficits originate from a common disposition or diathesis (the degenerate state) which is partly hereditary in nature, (2) this disposition can be recognised by somatic and psychological abnormalities (the degenerate 'stigmata'), and (3) the related conditions progressively deteriorate as the degenerate diathesis is passed from generation to generation.

Core features of 'bouffée délirante' include a sudden onset of delusional ideas and the rapid evolution of an intense symptomatology, conferring different and often changing contents, for example megalomania, persecution and hypochondriasis (Magnan 1893). Complete remission usually followed after a short time (Pichot 1986).

According to Magnan, in the 'degenerates', psychosis manifested itself through the imbalance of constitutionally labile nervous centres, some irritated and some weakened. In this theoretical framework, bouffée délirante, among other acute psychoses, displays a level of destructuration, intermediate to manic–depressive illness and schizophrenia, hallmarks of which are oneroid phenomena. It is this intermediate level of disturbance that explains the benign prognosis of the bouffée délirante. Bouffée délirante has its firm place in French psychiatry, documented by its inclusion in the national classification system INSERM (1969) and the formulation of operational criteria by Pull and colleagues (Pull et al. 1984, 1987).

(b) Cycloid psychoses

The concept of cycloid psychosis is closely connected to the 'Wernicke–Kleist–Leonhard school of psychiatry'. Carl Wernicke (Wernicke 1894) (1848–1905) gave vivid clinical descriptions of 'anxiety psychosis' and 'motility psychosis' which he conceived as transient psychotic disorders of generally good prognosis (Wernicke 1900). Anxiety psychosis is dominated by anxious affect, leading to other symptoms including psychotic—often paranoid—phenomena. Motility psychosis shows all kinds of motor symptoms and was divided into hyperkinetic, akinetic and mixed ('complete') forms. Wernicke's main concern was to base his classification of mental disorders on pathogenetic hypotheses formulated in terms of the dysfunction of specific brain systems, not on prognosis or aetiology. Wernicke's pupil, Karl Kleist, later coined the term 'cycloid psychoses' (Kleist 1924, 1929), which in its original formulation comprised motility psychosis and confusional psychosis.

Cycloid psychoses 'manifest themselves in multiple phases during life, come and go in an autochthonous way, often show antagonistic syndromes—confusion and stupor, hyperkinesis and akinesis—and do not lead to mental defects' (Kleist 1928).

(c) Reactive psychoses

At the beginning of the twentieth century, several authors described acute psychotic states arising in severely stressful situations such as imprisonment or combat (Kleist 1918; Siefert 1907; Wilmanns 1908). In his Allgemeine Psychopathologie, Jaspers (1963, 1965) determined three conditions, under which a psychopathological state can be recognised as 'reactive':

(1) an adequate precipitating event in close temporal relationship with the reactive state
(2) a comprehensible connection between the content of the event and that of the abnormal reaction
(3) resolution of the abnormality with the course of time or, especially, with the cessation of the primary cause

The concept of reactive/psychogenic psychoses proved particularly popular in Scandinavian countries. Wimmer (1916) professor of psychiatry at the University of Copenhagen, in his work, 'psychogenic forms of mental disorders', attempted to draw together under a single entity to a variety of psychotic disorders in which

psychogenic factors or emotional stress played an important role. Wimmer gave concept of psychogenic psychosis. He emphasised the fact that it is not only that psychosis develops in association with an emotional trauma, but also the course and symptomatology reflect the trauma. Wimmer (1816) published a monograph on psychogenic psychoses in 1916. He wrote:

> *As psychogenic psychoses we designate . . . the various, clinically independent psychoses, the main features of which is that they – usually on a (definite) predisposed foundation – are caused by mental agents ('mental traumata'), and in such a way that these pathemata determine the point in time of the start of the psychosis, the fluctuations (remissions, intermissions, exacerbations) of the disease, very often also its cessation. Likewise the form and the content of the psychosis are, more or less directly and completely ('comprehensibly'), determined by the precipitating mental factors. To these criteria can, finally, be added the predominant tendency of these disorders to recovery and, more specifically, that they never end in deterioration.*

Later, the term 'reactive' was used interchangeably with 'psychogenic', and finally, 'reactive' was preferred because it conveyed fewer theoretical assumptions. The phenomenology of reactive psychoses, as the diagnosis is applied, covers a broad spectrum ranging from psychogenic twilight states to depressive symptoms to chronic delusional development.

Kasanin (1933) described this group to be suffering from *schizoaffective psychosis*, which are characterised by sudden onset, generally preceded by severe mental stress in the setting of marked emotional turmoil, followed by good recovery.

Patients originally diagnosed by Wimmer as having psychogenic psychosis were followed up by Faergeman (1946, 1963) 15–25 years after their index admission. He reported that 50 % of patients could be considered confirmed cases of psychogenic psychosis and pointed towards the need for recognising these as separate groups of disorders, which were quite different from schizophrenia and affective psychosis.

The findings of Faergeman partly concurred with those of the Langfeldt (1937), who tried to differentiate 'true schizophrenia' from 'schizophreniform states' (Langfeldt 1939). He did not assume the schizophreniform psychoses to be a distinct diagnostic entity, but rather an aetiologically heterogeneous group. Langfeldt (1937) coined the term 'schizophreniform' psychosis to define a group of psychosis disorders in which symptoms subsided spontaneously and had a good prognosis.

(d) Schizophreniform disorder (SFD)

The concept of SFD was given by Langfeldt in 1937.

The characteristics of this group were as follows:

- Sudden onset
- Associated mood symptoms
- Clouding of consciousness
- Benign course

Forty years later, this disorder was officially included in DSM-III under psychosis NOS and was maintained with little change in DSM-IV-TR.

Kendler (1980) suggested that SFD belongs within the 'schizophrenia spectrum'. Changes from *DSM-III* to *DSM-III-R* regarding the schizophreniform category include the stipulations that the clinical picture must not meet the criteria for brief reactive psychosis and that there is no evidence that an organic factor initiated and maintained the illness.

DSM-III-R includes a subcategory of good prognostic features, which includes at least two of the following:

(1) Onset of prominent psychotic symptoms within 4 weeks of first noticeable change in usual behaviour or functioning
(2) Confusion, disorientation or perplexity at the height of the psychotic episode
(3) Good premorbid social and occupational functioning
(4) Absence of blunted or flat affect

The centrality of symptom duration as a change from *DSM-III* to *DSM-III-R* regarding the schizophreniform category includes the stipulations that the clinical picture must not meet the criteria for brief reactive psychosis and that there is no evidence that an organic factor initiated and maintained the illness.

(e) Hysterical psychosis

Hollander and Hirsch (1964) described hysterical psychosis as an illness, which begins suddenly and dramatically, temporally related to stressful event and recedes as suddenly and as dramatically as it had begun. They also emphasised the importance of patients with histrionic personality premorbidly would usually tend to develop this illness.

The features of hysterical psychosis are as under:

- Sudden onset
- Onset related to an event which is profoundly upsetting
- Manifestations in form of delusions, hallucinations, depersonalisation or grossly unnatural behaviour
- Affectivity not usually altered; it is usually in direction of volatility and not flattening
- Disorder is generally circumscribed and transient
- Acute episode, seldom lasts longer than 1–3 weeks
- Psychosis recedes as dramatically as it began, leaving practically no residue
- Second and third episodes may occur
- Common in those with hysterical personality and in women
- Hysterical psychosis is the end point on a continuum beginning from hysterical character

Langness (1967) found that hysterical psychosis occurs in males and females related to culturally defined stressful events and is transient. He also found that behaviour during the attack is stereotyped and is shaped and directed by the particular event. On similar note, Martin (1971) considered that hysterical psychosis was a type of coping mechanism used when all other mechanisms fail.

Mallett and Gold (1964) described a similar clinical entity as pseudo-schizophrenic hysterical syndrome, which primarily involved woman with history of

superficial object relations, multiple somatic complaints, moderate to severe depression associated with loneliness, emptiness and moderate to severe social and sexual dysfunction.

(f) Atypical psychoses

The term 'atypical psychoses' has been used by many authors to characterise various conditions not fitting the classical Kraepelinian dichotomy. In DSM-III and DSM-III-R, 'atypical psychoses' were employed as a synonym for the residual category of psychotic disorders not otherwise specified, including, for example, post-partum psychoses not fulfilling the criteria of any other psychotic or organic disorder, psychoses failing to meet the duration criteria of a specific disorder and psychoses with unclear or unusual clinical symptoms that could not be classified elsewhere. However, 'atypical psychosis' has most consistently been used as a diagnostic entity in Japanese psychiatry. Its founder was Hisatoshi Mitsuda, who first published on the topic in 1941. According to Mitsuda (1965), the clinical picture is characterised by a kaleidoscopic appearance and rapid fluctuation. At the initial stage, emotional disturbances are frequent, followed by confusional or oneroid states, hallucinations and delusions. Some impairment or clouding of consciousness is often found. The clinical course of 'atypical' psychosis is, in most cases, episodic or periodic, and the prognosis is presumed to be usually favourable. Complete remission is not obligatory, however, and the development of a defect syndrome has been found in a proportion of patients (Hatotani 1996; Kimura et al. 1980). Still, the differentiation of atypical psychosis from schizophrenia has been a major concern for most authors involved.

It was apparent that the historical concepts of acute psychotic states often contain aetiological assumptions, each of a very specific nature but with quite different implications. These assumptions reflect the preferences of their times as well as the underlying ideas of the respective psychiatric schools. A psychogenic or (later the preferred term) reactive aetiology of psychotic states can be traced back to the writings of Jaspers, but appeared most convincing to psychiatrists in northern Europe. From there, the notion of reactive psychoses influenced American psychiatry, including DSM-III. A related tradition stressed the aetiological significance of an emotionally vulnerable personality in conjunction with specific triggering experiences. In apparent contrast, a number of authors have always postulated a close connection between brief and acute psychoses and organic abnormalities such as epilepsy or metabolic disturbances. The coexistence of reactive and organic hypotheses can be observed, even in recent publications: both fever and acute stress have been suggested as aetiological factors in acute brief psychoses in India (Malhotra et al. 1998).

Thus, to summarise, it may be concluded that Kahlbaum and Kraepelin set the stage on which brief and acute psychoses appeared 'atypical'. The concept of 'bouffée délirante', cycloid psychoses, reactive (psychogenic) psychoses and atypical psychoses has provided diverging, but interrelated ways to delineate brief and acute psychoses and to determine their nosological status.

When all these entities were evaluated, it was found that they had following common features:

1. Acute or sudden onset
2. Variable and unstable symptomatology
3. Associated anxiety
4. Affective symptoms, most commonly fear
5. Clear relation with a stressor
6. Good premorbid adjustment
7. Rapid and complete recovery

There was further evidence emerging from the WHO multi-centre collaborative studies such as International Pilot study of Schizophrenia (IPSS), determinants of outcome of severe mental health disorders (DOSMeD) and cross-cultural study of acute psychosis (CAP), which supported the notion of non-affective, non-schizophrenic, acute psychotic states occurring in significant proportion of cases of functional psychosis.

5 International Pilot Study of Schizophrenia (IPSS 1968–1970)

This international multi-centric study was initiated in 1965. This was a nine-country study on schizophrenia funded by World Health Organisation (1973). It was a prospective follow-up study, in which cases were selected through a series of screening procedures and examined with standard instruments. Nine field research centres selected were Aarhus (Denmark), Agra (India), Cali (Columbia), Ibadan (Nigeria), London (UK), Moscow (USSR), Taipei (Taiwan), Washington (USA) and Prague (Czechoslovakia). In this study, patients between 15 and 44 years of age with history of defined symptoms indicative of mental disorder with duration less than 5 years were included.

The aims of study were as follows:

1. Whether schizophrenia existed in different parts of world?
2. What were common/differing clinical presentations?
3. What was course and outcome among different cultures?

In this study, 1,202 patients were recruited and followed up at 1 year, 2 years and 5 years.

The major conclusions of the study were as follows:

- The study demonstrated that it was possible to carry out a large-scale international psychiatric study involving the psychiatrists and mental health workers from different cultures and socio-economic background.
- Similar groups of patients with schizophrenia were identified from all the countries involved in study.

- It was also noted that there was a great variability in the course and outcome of schizophrenia.
- More than half of the patients were in best outcome group.
- Twenty-six percentage of subjects with schizophrenia had good outcome and had only one episode.
- Developing countries had better course and outcome than developed countries. Best course was seen in patients from Ibadan, followed by patients from Agra. However, Aarhus patients had worst course and outcome.
- From different centres, it was found that insidious onset; marital status of widowhood, divorced or separated; social isolation; long duration of episode; and past history of psychiatric treatment were predictors of poor outcome.
- It was hypothesised that culture has an important effect on course and outcome of schizophrenia and that social variables have a greater predictive importance in terms of prognosis than symptomatic variables.

  The results obtained from IPSS study paved the way for further studies on schizophrenia.

6 Determinants of Outcome of Severe Mental Health Disorders (DOSMeD; 1978–1980)

This study (Sartorius et al. 1986) was designed in late 1970s to further investigate some of the findings of the IPSS. It was planned that a more representative sample of patients with schizophrenia at the initial stages of illness would be studied. In this, new cases of schizophrenia occurring over a specified time period were included. Twelve centres in ten countries were included in the study, and they were Aarhus (Denmark); Agra and Chandigarh (India); Cali (Columbia); Dublin (Ireland); Honolulu and Rochester (USA); Ibadan (Nigeria); Moscow (USSR); Nagasaki (Japan); Nottingham (UK); and Prague (Czechoslovakia). Some of these centres had earlier also participated in the IPSS study. The main aim of the study was to assess the incidence of schizophrenia in different cultures and to provide definite evidence about course and outcome of schizophrenia in the different parts of world. In this study, all cases of first-onset psychosis within a specified catchment area and specified age range were taken.

The main findings of the study were as follows:

1. Incidence of schizophrenia: Incidence differed from 'broadly defined' schizophrenia (including reactive and unspecified psychosis, as per ICD-9)(1.5–4.2/lac/year) and 'narrowly defined' schizophrenia (CATEGO S + SFRS)(0.7/lac/year). Broadly defined schizophrenia included a group of acute onset reactive and unspecified psychosis.
2. It was also found that the peak of incidence of broadly defined schizophrenic conditions in males was at 24 years in majority of centres. The peak age of incidence in males was at 20–24 years, but in females, it shifted towards onset at older age.

3. Morbid risk of schizophrenia was found around 0.53 % in Honolulu, about 1.74 % in rural Chandigarh for broad diagnosis of schizophrenia.
4. There was a group of patients who had non-affective psychosis, which remitted completely. They were called non-affective, acute, remitting psychosis (NARP). The incidence of such NARP cases was 10 times higher in developing countries.
5. These patients from developing countries exhibited a benign course at 2 years follow-up.
6. Fifty percentage of patients had single psychotic episode followed by complete or incomplete remission and 16 % had unremitted, continuous illness.

In both the IPSS and the DOSMeD, predictors of good outcome were mainly the following:

- Acute onset
- Developing country setting

Following these results, the WHO conducted another study on acute psychotic states. It was called the **CAP (Cross-cultural Study of Acute Psychosis, 1980–1982).**

This study (Cooper et al. 1990) was an off-shoot of DOSMeD study done in 14 centres and 7 countries. The main objectives of the study were to know the following:

1. Whether there are acute psychotic states that can be defined, which are descriptively different from schizophrenia and MDP?
2. How is acute psychosis related to psychological and physical stress?

One thousand and four patients meeting the criteria of acute onset psychotic symptoms were included in the study. The main findings of the study were as follows:

- Forty-two percentage had stress at onset of symptoms
- Higher prevalence in lower socio-economic status
- Two-thirds of patients had no relapse at 1 year
- Forty-one percentage had schizophrenic symptoms
- Twenty percentage had affective symptoms
- Thirty-five percentage had other symptoms of psychosis
- Outcome of patients with acute psychosis with schizophrenic symptoms was similar to those with only affective symptoms

Taken together, the findings of these three major WHO studies provided strong evidence in favour of occurrence of acute onset psychotic disorders, which were different from both schizophrenia and MDP, and formed the basis for recognition of these entities as one disorder by WHO in 1992 by including it in ICD-10 as ***ATP (acute and transient psychosis)***.

Similarly, the concept of reactive (psychogenic) psychosis was never fully accepted. A category of 'brief reactive psychosis' was introduced in DSM-III (APA 1980). However, the 'brief reactive psychosis' of DSM-III differs from the Scandinavian concept by virtue of the restrictive criteria for trigger, symptomatology

and duration. In DSM-IV, it was replaced by '**brief psychotic disorder**'. For this diagnosis, a triggering event is no longer necessary. Thus, the modern classifications, namely the ATPD of ICD-10 and the BPD of DSM-IV, reflect the varied history of the concept.

7 Post-ICD-10 ATP Validation Studies

1. Analysis of the DOSMeD data:
   This study was done by Susser and Wanderling in 1994. It was aimed to study first-onset psychosis cases and acute psychosis cases, identified as non-affective, acute remitting psychosis (NARP). It was also found that these cases were more prevalent in developing countries and among females. The incidence of NARP in men was about one half the incidence in women, and the incidence in the developing country setting was reported about tenfold the incidence in the industrialised country setting. These associations with sex and with setting were different from schizophrenia. It was also reported that the duration of episode among NARP had a bimodal distribution with point of rarity between the clusters of symptoms with 80 % patients had duration less than 28 weeks and 20 % had duration of more than 1 year. Acute remitting psychosis was found to have a modal distribution of 2–4 months, which was greater than 1–3 months period given by the ICD-10. These findings suggested that the typical duration of the episodes of ATPD was about 28 weeks, and it was longer than the time period recognised by the ICD-10.

2. Chandigarh ATP course and outcome study:
   It was 5-year follow-up study of ICD-10 ATP cases by Rozario et al. (1999), Acute and transient psychotic disorders: A follow-up study. Unpublished MD thesis: PGIMER, Chandigarh in 1999. In this study, it was found that 75 % had good outcome in the form of complete recovery, and there were no residual symptoms. Various good outcome predictors were identified such as female gender, presence of stress at onset and absence of schizophrenic symptoms. It was also reported that in their study group, about 65 % patients had single episode psychosis, and only 35 % of cases had recurrence. Besides this, it was found that 77 % of patients had good adjustment in their social functioning. About 84 % of patients were completely asymptomatic at time of follow-up, of which significantly greater number had stress present.
   There was another 20 years follow-up study by Malhotra et al. 2000, Twenty-year follow-up of WHO CAP study cohort, Unpublished in 2000. It was the study of the WHO CAP study cohort. In this long-term study, it was found that 82 % patients had excellent outcome with no relapse and no residual symptoms.

3. Study on Recurrent ATPD by Malhotra et al. (2005):
   The study was done in 2005 (Malhotra et al. 2005) and was aimed at determining different correlates of recurrent ATPD. The correlates were also compared with non-recurrent forms. It was found that while the two groups of recurrent and

non-recurrent ATP were comparable with respect to sex, occupation, education, income, religion, family type and locality, there was significant difference when compared on marital status. Recurrent ATPD was found more likely in married than the unmarried individuals. Among the clinical correlates, it was reported that acute onset of illness was more common with non-recurrent ATPD. However, response to treatment was better in recurrent ATP than non-recurrent ATP. It was also found that recurrence was fairly common in ATPD (47 %). The psychopathology as well as the diagnostic stability of ATPD was retained over episodes. However, there appeared to be no major predictors of recurrence in ATPD.

4. The Halle Study on Brief and Acute Psychoses:
   The 'Halle study on brief and acute psychoses' (HASBAP) (Marneros and Pillman 2002) was the most comprehensive study carried out in Germany. In this study, a prospective approach was adopted. A consecutively recruited inpatient sample with a diagnosis of 'acute and transient psychotic disorder' or 'BPD' was included. A cohort of 42 patients with ATPD was followed up for a mean of 4.7 years after the index episode or 10.6 years after the first episode. The findings in the study were as follows:

- Incidence rate of ATPD was around 8.5 %, and the frequency of ATPD was found to be higher countries of the third world
- Socio-biographic features: more common in female 78.6 % versus 21.4 % males
- Most frequently between the thirtieth and forty-fifth years of age
- Acute stress played a major role
- Duration of psychotic episode: average around 13 days
- Psychopathology of the acute episode: schizophrenic first-rank symptoms were found in more than 70 % of patients with ATPD, i.e. though insertion, thought broadcasting, delusions of being influenced
- Disturbances of affectivity were also found in all patients, with depressed mood, euphoria and anxiety, all being present in most of the patients at some point in time; a 'polymorphic picture: rapidly changing mood, rapidly changing symptoms and bipolarity of symptoms'. In this, not only the quickly changing mood seems to be characteristic of an ATPD episode, but also quickly changing topics of delusions, which were very unstable. Bipolarity (i.e. change between hyperthymic and depressed mood) was found in 29 % of patients within the same episode, often even within one day. This rapid changing of affect especially in the polymorphic group shows the similarity of some such states with the cycloid psychoses or the bouffée délirante
- Because of the short duration of the episode, the effectiveness of the pharmacological treatments has repeatedly been questioned. It has been supposed that the psychotic episode could as well remit without psychopathological picture, which is dramatic and acute as a rule, and is often accompanied by suicidal tendency.

Till now, if we summarise the understanding of acute and transient psychosis, then we may conceptualise the knowledge in form of following questions:

Q. What is their significance in psychiatry?
According to Marneros (2006), from the clinical point of view, the majority of people with ATPD occupy a special position different from that of people with schizophrenia or schizoaffective or affective disorders. Their educational and occupational status and level of functioning are not significantly different from those of the mentally healthy population. They also have an average level of social interaction and activities, as well as the same frequency of stable heterosexual partnerships as mentally healthy people. Their illnesses have symptoms, course and outcome, which distinguish them from other psychotic disorders.

The theoretical point of view is that the ATPD demonstrates the importance of differential diagnosis and of exact final diagnosis in creating a homogeneous group for research. Clinical features, course and outcome of ATPD exclude this kind of psychotic disorder from other psychotic groups such as schizophrenia and from affective or schizoaffective disorders. Patients can also develop affective, schizoaffective and schizophrenic episodes during the long-term course of ATPD, perhaps providing a strong argument in favour of a psychotic continuum or a set of bridge to classical mental disorders such as schizophrenia and melancholic depression.

8 Diagnostic Validity of Acute Psychosis

According to Robin and Guze (1970) in psychiatric illness for any valid diagnosis to exist, it must have a specific clinical description which could be supported by laboratory studies, which could be separated from other entities, and on follow-up must be stable and there must be familial aggregation. However, over the years, the scheme has been modified due to the limited and disparate evidence the research findings are presented according to Kendler (1980) three main classes of potential 'validators':

(1) Antecedent factors: demographic factors, premorbid personality, precipitating factors and familial aggregation
(2) Concurrent validators: biological and psychological factors, symptom measures
(3) Prognostic validators: diagnostic stability, response to treatment, course and outcome

9 Antecedent Validators

1. Demographic factors

   Incidence of ATPD:
   Two studies reported on incidence of ATPD. Singh et al. in 2004 estimated an annual rate of 3.9 per 100,000 population in Nottingham (UK), with a male/female ratio of 1.87.
   In another study by Castagnini et al. in 2008, the incidence of ATPD based on data from the Danish National Register was estimated to be 9.6 per 100,000,

though it was also recorded that about 60 % of cases tended to change diagnosis on subsequent admissions. In Germany, Jäger et al. in 2003 found a frequency of 7.9 % in first admissions for non-affective psychoses, similar to that reported by Albus et al. in 1990 and Marneros et al. in 2004. A comparative study of the ICD-10 diagnoses used in German and Danish psychiatric hospitals by Lange et al. in 2002 pointed to higher rates of ATPD in the latter. Researchers have repeatedly noted the higher incidence of non-affective acute psychoses in developing compared with industrialised countries (Jørgensen et al. 1997; Susser et al. 1996; Das et al. 1999).

Developing countries:

In a study by Susser and Wanderling in 1994, it was found that for non-affective acute remitting psychosis, the incidence in the developing country setting was about tenfold higher than the incidence in the industrialised country setting.

Sex distribution:

Female preponderance has been found in different studies. In a study by Malhotra et al. in 1998, ATP was reported as being more common in females and in patients with a rural background. In another study in 1999, Das et al. (1999) reported that ATPD was more common in females with a mean age in the early middle adulthood. Similarly, in the 'Halle study on brief and acute psychosis (HASBAP) (Marneros and Pillman 2002) at Germany in 2003, it was found that majority of patients diagnosed as having ATPD were females and the female/male ratio was about 3.7:1. Susser and Wanderling (1994) reported male/female ratios of NARP of 0.96 in the developing countries and 0.44 in industrialised settings. The incidence of cycloid psychosis in Sweden (Lindvall et al. 1993) was also reported to be higher in women (0.05 per 1,000) than in men (0.036 per 1,000). In a study by Castagnini et al. in 2008, it was found that among ATPD subgroups, despite the relatively small number of cases, those with schizophrenic features (F23.1 and F23.2) showed a reverse gender distribution, being prevalent in males, indicating a close kinship with schizophrenia. Similar evidence was found in the Danish registry sample, where incidence rates were found only slightly higher in females (9.8 vs. 9.4 per 100,000).

Age:

Age at onset of non-affective psychoses varies considerably across studies. In the DOSMeD, the mean age at onset of NARP was 22.4 years for both sexes in developing countries and 25.5 years for men and 24.9 years for women in industrialised countries (Susser and Wanderling 1994). Similar results have been reported from studies in Iran (Alaghband-Rad et al. 2006a); however, the mean age at onset of NARP was reported around mid-1930s in an incidence cohort from New York (Mojtabai et al. 2003) and Germany (Marneros et al. 2003). In Denmark (Castagnini et al. 2008), the age at onset of ATPD was also higher and differed between men and women (46.2 years females vs. 37.8 years for males).

In a community study in northern Norway (Kørner et al. 2009), the 5-year (1940–1944) prevalence of constitutional (reactive) psychoses in the population over 60 years was found to be 2.2 %. In the study by Jørgensen et al. in 1997, it was found that patients suffering from late first-contact acute and transient psychosis were at a 10 times higher risk of subsequently getting a dementia

diagnosis compared to patients with osteoarthritis and at eight times higher risk compared to the general population.

Overall, the similarities among these epidemiologic studies of non-affective acute psychoses were that these conditions appear to be more common in females than males, distinguishing this syndrome from schizophrenia. Second, the non-affective acute psychoses appear to be more common in developing country settings than in industrialised settings. Finally, the average age at onset was higher than the age at onset of schizophrenia.

Socio-biographical data:

In study by Malhotra et al. in 1998, it was found that lower socio-economic status and rural population have more prevalence of ATP. In the HASBAP study, it was reported by Marneros et al. in 2003 that a broken home situation was found significantly in ATPD than in healthy controls. A broken home situation was defined as a disruption in the continuity of caregiving in the patient's family before the age of 15 years (when one of the following criteria was met: death of one or both parents, divorce or separation of parents, caregivers other than parents, severe addiction of one/both parents).

2. Premorbid personality:

   In study conducted by Kuruvilla, it was found that hysterical psychosis was more common in hysterical personalities. Similarly, Tasman et al. reported that ATPD was seen more commonly in personality disorders such as histrionic, paranoid, schizotypal, narcissistic and borderline. Pillmann et al. (2003) carried out a comparison between ATPD patients and control groups with schizophrenia, schizoaffective disorder and healthy subjects using the 5-NEO Factor Inventory (neuroticism, extraversion, openness to experience, agreeableness and conscientiousness). They reported no relevant difference between ATPD and healthy controls; however, it was found that patients with schizoaffective disorder and particularly those with schizophrenia showed markedly higher neuroticism, and lower extroversion and conscientiousness. The latter also had fewer premorbid social relation functions and difficulty in entertaining stable relationships. In a study done by Jørgensen et al. (1996) in 1995, it was observed that almost two-thirds of the patients with ATPD in their study group qualified for a concomitant diagnosis of personality disorder; however, this rate dropped significantly 1 year later. In this study, a high rate (63 %) of personality disorders was observed among an inpatient sample of ATPD patients shortly after recovery from symptoms. However, this rate decreased at 1-year follow-up to 46 % using ICD-10 criteria and 29 % using DSM-IV criteria. It was concluded that personality disorder could be a transient consequence of psychotic decompensation or an effect of pharmacological treatment because most patients were taking neuroleptic drugs on hospital discharge. These findings were consistent with studies of Singh et al. in 2004 and Suda et al. in 2005, who also reported that cases with ATPD did not have significant premorbid dysfunctions.

3. Precipitating factors

   Stress:

ICD-10 defines ‘acute stress’ as events that would be regarded as stressful for most people in similar circumstances (bereavement, unexpected loss of partner or job), occurring within 2 weeks before onset of psychotic symptoms. Also, acute stress within 2 weeks of onset of psychosis is noted as defining criteria for ATPD. However, as reported by Das et al. in 2001, only 10–69 % patients in their study group experienced acute stress in this time frame. They also reported that patients with family history of psychiatric illness in their first-degree relatives require significantly less amount of stress prior to onset of acute psychotic illness. Stress in this study was construed as a major event that either had a negative impact or involved a significant increase in the responsibilities of the patient. Thus, they emphasised that it was moderate to severe form of stress that preceded the onset of psychosis.

Similarly, in the study by Sajith et al. in 2002, life events were involved in two-thirds of cases, and most often the symptoms had an abrupt onset (less 48 h). These findings were similar to study by Okasha et al. in 1993, in which it was found that 74 % of their Egyptian patients with acute psychosis experienced some stressful event. In a study by Malhotra and Malhotra in 2001, it was reported that stress preceding the onset of symptoms was present in about 60 % of ATPD patients. This study supported the results of earlier studies that stress was more common in female subjects and additionally found that it was associated with better outcome.

In a study from India in 2001 Das et al. (2001) to study the stress-vulnerability hypothesis, it was reported that 32.5 % of patients experienced stress within two weeks before the onset of symptoms. The main finding of this study was that ATPD patients with a positive family history of psychiatric disorder in their first-degree relatives reported significantly less amount of stress prior to the onset of their acute psychotic illness. It was also hypothesised that the positive family history confers a certain degree of vulnerability on the probands, and thereby, these patients need a lesser amount of stress for the occurrence of ATPD in them.

A study from India by Collins et al. (1996) in 1996 reported that recent life events (characterised as job distress for men and leaving or returning to parental village for women) were more common among the brief psychotic cases with acute onset than among those with non-acute onset.

Similarly in a Danish sample Jørgensen et al. (1996), psychosocial stressors were reported within the two weeks prior to the onset of first psychotic symptoms for 53 % of patients and those with preceding stressors were more likely to experience an abrupt onset. On the other hand, ATPD tends to have an abrupt onset in European countries, and ‘acute stress’ was recorded only in a small number of cases (Singh et al. 2004; Marneros and Pillmann 2004; Jørgensen et al. 1997).

Apart from variations between industrialised and developing countries, (Das et al. 2001; Susser et al. 1995) where social and cultural factors are usually associated with acute psychoses, these studies have disproved the hypothesis that stress factors trigger ATPD.

Different researchers have tried to identify different correlates of stress. It was found that the role of stress may vary by gender and frequency of episodes. In a

study by Malhotra et al. in 1998, it was reported that stress is more common in female as compared to male patients. In this study group, stress was present in over 50 % of the female subjects and in 26 % of the male subjects. It was also postulated that the female subjects are more vulnerable to the development of psychosis under conditions of stress than males, and that could perhaps partly explain the female preponderance of this disorder. In a similar study by Rozario et al. in 1999, it was found that in patients in whom stress precipitated the illness, in 60 % of them, stress was reflected in their symptomatology.

It was found that many cases of psychosis in the post-partum period can be characterised as cases of non-affective acute psychoses. The post-partum period may be an especially stressful period for women both physically and psychologically. In a study sample by Pfuhlmann et al. in 1998, of consecutively admitted women with post-partum psychosis, it was reported that 21 % of the patients met the diagnostic criteria for acute and transient polymorphous psychotic disorders, and 54 % met the criteria for cycloid psychosis.

There is also some evidence of increased rates of non-affective acute psychosis in immigrants. In a Portuguese sample (Alexandre et al. in 2010, it was found that black immigrants were more likely than non-immigrant white patients to receive a diagnosis of schizophrenia or ATPD. In a similar study in 2009, of foreign domestic workers admitted to a psychiatric hospital in Hong Kong, (Lau et al. 2009) 63 % received a diagnosis of ATPD. Similarly, West African and Caribbean immigrants (Littlewood and Lipsedge 1981) living in Britain have been reported to experience an increased frequency of acute psychotic reactions, although increased rates of schizophrenia also have been reported in this patient population.

4. Family genetic studies:
   Family history of psychotic illness increases the risk of ATP, and presence of family history is hypothesised as a constitutional vulnerability. In a study by Das et al. in 1999, it was found that (a) ATPD was three times more frequent in first-degree relatives of patients with ATPD than family members of schizophrenics; (b) the risk of schizophrenia was significantly increased in first-degree relatives of schizophrenic patients; (c) the risk of affective disorders did not exceed that expected in the general population. It was also found that first-degree relatives of patients with schizophrenia-like symptoms were more likely to develop schizophrenia than ATPD. In this study, it was reported that there is a genetic overlap between ATPD, schizophrenic symptoms and schizophrenia. ATPD is a genetically heterogeneous category including a subgroup that overlaps with schizophrenia or at the interface between the two disorders, whereas there is no relationship to affective psychoses. ATPD subtypes with schizophrenic symptomatology (ICD-10 codes F23.1 and F 23.2) had more family history of schizophrenia than the rest of the ATP subtypes. A later study by Das et al. in 2001 reported that ATPD patients with a family history of mental disorders experienced fewer life events and scored less cumulative stress before illness onset than those without familial psychiatric morbidity. They also hypothesised that these findings lend support to the view that cases with ATPD may be regarded as having an altered sensitivity on the basis of a familial

predisposition that render them susceptible to stress effects. In the same study, it was also found that family history of mental illness in first-degree relatives was present in 20.3 % in ATPD patients and 3.6 % for healthy controls. Similarly, the proportion of first-degree relatives with psychotic disorders was 3.4 % for the ATPD group and 0.7 % for controls without mental disorder.

The findings in this study were supported by another study from India in 1988 by Chavan and Kulhara (1988). They reported more family history of psychiatric illness in patients of reactive psychosis. However, there were also some studies that have not replicated such results. Marneros and Pillmann in 2004 reported a higher rate of mental disorders in family members of patients with ATPD than the relatives of healthy controls, but found that there was no significantly raised risk of psychotic disorders.

Increased risk of cycloid psychoses in family members of patients with cycloid psychoses (Perris 1974) also has been noted. However, a twin study of patients with cycloid psychosis found little evidence supporting heritability (Franzek and Beckmann 1998). Also, first-degree relatives of schizophrenic probands had significantly higher prevalence of schizophrenia than those of ATP probands. ATP subtypes with schizophrenic symptomatology (ICD-10 codes F23.1 and F 23.2) had more family history of schizophrenia than the rest of the ATP subtypes.

10 Concurrent Validators

Infections

Acute psychosis has also been described in patients with specific infections such as the viral infection, (Klein et al. 1984; Jarvis et al. 1990) meningoencephalitis (Wise et al. 1977; Frasca et al. 1993) and neurocysticercosis (Shriqui and Mileltte 1992). Viral infections such as influenza, Epstein-Barr virus infection and the herpes simplex virus have been associated with psychotic symptoms. These studies have also found a relationship between the course of psychotic symptoms and changes in serum and CSF viral antibodies (Srikanth et al. 1994). It was proposed by Lycke and Ziegler in 1983 that the stress of recent illness and fever may lead to reactivation of the latent virus, resulting in an acute and short-lived manifestation of psychotic symptoms. It could also be possible that the acute infection and fever initiate an auto-immune response, predisposing to the development of psychosis in the weeks after the fever itself subsides.

Fever

The association with fever assumes importance in view of common occurrence of acute brief psychotic states (Castagnini et al. 2008; Collins et al. 1996, 1999) as well as fever in developing countries with greater prevalence of infectious diseases. It is also proposed that this may be reason for higher incidence of these disorders in developing countries. It was proposed that fever could act as a physiological stressor, leading to hormonal and biochemical changes in the brain resulting in psychosis (Malhotra et al. 1998). It is also possible that acute infection

and fever initiate an auto-antibody response that predisposes to the development of psychotic symptoms in the weeks after the fever itself subsides (Collins et al. 1999). The association with fever and ATPD was significant because both fever and acute brief psychoses are common in developing countries. In the same study, Collins et al. found a strong association (odds ratio = 6.2) between antecedent fever and acute brief psychosis and proposed that antecedent fever might be a biological correlate of acute brief psychosis.

According to Malhotra et al. (1998), the association of fever within 4 weeks prior to the onset of psychosis in the DOSMed and CAPS samples (the presence of fever was an exclusion criterion in the FAT PD group) were compared. A significantly higher number of patients were found to have fever in the study group (16.8 % vs. 4.9 %, odds ratio 3.95, 95 % confidence limits 0.81, 26.22). In about 16.8 % of patients in the study group, fever occurred within 4 weeks preceding the onset of psychosis, which was significantly in excess of that in the control group. It was non-specific fever of a moderate to high degree (not necessarily as measured by a thermometer), without associated impairment of consciousness or any possibility of brain involvement. Fever was self-remitting or remitted by non-specific treatment given locally within 2–7 days without any residual systemic effects. Patients in this study group often reported that psychotic symptoms occurred after a variable period of about 1–2 days to 1–2 weeks following the onset of fever. However, the clinical examination and routine laboratory investigations of acute psychosis patients with fever revealed no positive evidence to characterise the pathology.

Hypothalamic—pituitary axis abnormalities

In 1998, a case–control study was done by Malhotra et al. (1998). In this study, the comparative samples of patients with acute non-affective remitting psychoses and of non-affective, non-remitting psychoses or schizophrenias were drawn from the three major study cohorts generated by different teams of investigators at different points in time during the period 1978–1995 (Collins et al. 1996; Varma et al. 1992). In this study, it was found that as compared to the control group, significantly higher proportion of married females (21.7 %) reported childbirth within 3 months prior to the onset of psychosis, (4.5 %; odds ratio 5.83, 95 % confidence limits 0.72, 264.9). Another significant finding of this study was the higher incidence of childbirth in the study sample (10 of 77 cases; 13 %) compared to the controls (1 of 32 cases; 3 %). Of the married female subjects, about 21.7 % of cases involved childbirth in acute psychosis patients, compared to 4.5 % in the controls (an excess of nearly fivefold). Thus, childbirth appears to be a significant factor associated with acute psychosis among female patients.

In this study, it was hypothesised that childbirth acts as a psychophysiological stressor with major hormonal changes which could trigger a psychotic illness. Since acute psychoses occur more often among women, predominantly in the reproductive age group, childbirth may make an important contribution to the aetiology of these disorders. In the study done by Kumar (1994) on post-partum psychosis in different cultures, it was reported that the relative risk of psychosis among women after childbirth was 16- to 20-fold higher, and it was higher for

primipara, i.e. 35-fold higher than for the equivalent time prior to conception (Kendell et al. 1981). However, Wieck et al. (1991) proposed that the aetiology of post-partum psychosisis is a specific physiological cerebral dysfunction, rather than psychosocial in nature.

Seasonal pattern

Malhotra et al. in 1998 observed that there was a summer peak (May–September) in acute psychotic states. They reported that the number of patients with onset between May and September in the study group was significantly higher (58.5 %). Since there are no data on the month of onset of acute psychotic states available in the literature, this finding remained incomparable. The reasons for acute psychoses with onset in the peak summer months when temperatures range between 30 and 45 °C maximum are not known. They, however, proposed that the developing countries often have hot and temperate climates, and rural patients may not have enough resources to protect themselves from the direct effects of heat. They further added that exposure to heat may act as a physiological stressor, triggering neuroendocrine changes that are responsible for psychosis. These changes might be rapidly reversed by the alteration of environmental conditions and amelioration of stress, or by treatment, leading to rapid and complete recovery from psychosis.

Neurophysiological basis

A. Role of amino acids: Pepplinkhuizen et al., Fekkes and Pepplinkhuizen in 1997 and 2003 argued that metabolic changes in amino acid (serine) pathways are responsible for acute polymorphic psychotic disorders by doing an analogy with the clinical phenomena induced by psychedelic drugs. In this study, it was reported that many patients with acute polymorphic psychotic disorders also suffer from psychosensory phenomena (APP+) in form of congruent and fleeting delusions and hallucinations, distorted sensory perceptions and intense emotional states. It was found that most of these patients were exhibiting a low plasma serine concentration and a high TSM ratio (taurine–serine–methionine ratio), indicating a disturbed serine metabolism. It was proposed that these biochemical markers might be a useful diagnostic tool in discriminating APP+. In this study, after an oral challenge with serine in the remitted APP+ patients, it was found that the characteristic dysperceptions and psychedelic symptoms were induced. Besides that, the plasma concentrations of serine and methionine were decreased, and the concentration of taurine was increased. Fibroblast experiments also suggested that the activities of the serine metabolizing enzymes serine hydroxymethyltransferase and cystathionine fi-synthase were increased in these patients. However, no other studies have been published on the occurrence of amino acid abnormalities in transient acute polymorphic psychosis and due to limited data available, the proposed metabolic changes in amino acid (serine) pathways as a cause of acute polymorphic psychotic disorders cannot be compared and verified.

B. P300: Roth and McClelland (1979) in 2005 examined EEG recordings of patients with ATPD, but did not found an increased pattern of cerebral activity. This was clearly distinct from EEG recordings of residual schizophrenia and all other psychiatric disorders investigated. From the neurophysiological

point of view, this study suggested that cycloid psychosis should be considered separately from schizophrenic disorders. It was also proposed that the P300 might contribute useful information for the prognostic evaluation of the course of the disorder after remission of an acute psychotic episode. Low amplitudes and right-sided peaks appear to be the domain of core schizophrenia with chronic or subchronic course and incomplete remissions, while high amplitudes and normal P300 topography indicated the presence of schizophrenia-like cycloid psychosis with a good prognosis. Duncan et al. (Strik et al. 1994) in 1987 described an increase in P300 amplitudes after successful treatment in the patients with ATPD, and no correlation between P300 amplitudes and neuroleptic dosages was found. The finding of higher-than-normal amplitudes in cycloid psychosis was consistent in different studies (Strik et al. 1994, 1997; Pfefferbaum et al. 1989; Duncan et al. 1987), and this group typically had an excellent prognosis in form of full recovery and complete restitution of social competence. As the P300 amplitudes correlate with attentional performance and with higher levels of norepinephrine metabolite in CSF, it was proposed that higher-than-normal amplitudes might be an indication of higher levels of arousal in the cycloid psychosis group (Strik et al. 1997).

C. Cerebral blood flow: In 1992, Warketin et al. (1992) studied the relation between cycloid psychosis and regional cerebral blood flow. They reported that patients with cycloid psychosis have a significantly elevated level of cortical blood flow when they are in an acute state of their illness, presenting overt and florid symptoms. They also found that the flow normalises again with neuroleptic treatment and clinical remission. In other words, the findings indicate that during an acute exacerbation of symptoms, the cortex was highly aroused in these patients. These flow variations seen during a cycloid episode were different from those usually seen in normal subjects. This was particularly evident in the great variability of hemispheric flow, which in some patients was as large as 25–30 % during the psychotic episode. They also found that hemispheric blood flow levels seen at admission were significantly related to the clinical state of the patients. The higher was the cortical blood flow, the more the patient was behaviourally disturbed. This was particularly evident in relation to the negative symptoms, such as impoverished emotional expression, reactivity and feelings.

D. 5-HT2A receptors: In a study of first-episode psychosis by Arranz et al. in 2009, it was found that then, NARP patients had significantly fewer 5-HT2A receptors compared with patients with paranoid schizophrenia and with healthy controls. They reported that this pattern was quiet distinct from affective disorders. These results supported the results of previous studies that NARP was distinct from affective psychosis and schizophrenia.

E. Ventricular abnormalities: An imaging study (Franzek et al. 1996) from Germany was done by Franz et al. in 1996. It was aimed at comparing the diagnoses of psychiatric patients with ventricular abnormalities and patients without such abnormalities. They found that a higher prevalence of cycloid psychosis was associated with ventricular abnormalities in the form of ventricular enlargement and/or asymmetry.

F. Antibodies: In the study by Karlsson et al. in 2012, it was found that the offspring who were exposed to high levels of antibodies directed at gliadin in the intrauterine life were at an elevated risk of developing non-affective psychoses in the later life. Antibodies of the IgG class were detected in the neonatal blood samples and were predominantly derived from the maternal circulation and transferred across the placenta during pregnancy. These antibodies were therefore likely to represent maternal reactivity to gliadin and thus suggest that mothers who produce high levels of these antibodies during pregnancy give birth to children who have an elevated risk of developing a non-affective psychosis later in life. This is the first study to show an association between high levels of maternal antibodies directed at gliadin and the later development of non-affective psychoses in offspring.

11 Prognostic Validators

The parameters used by different researchers for the assessment of course and outcome of ATPD are the stability of diagnosis, recovery, relapses, readmissions and socio-occupational functioning. Most of the existing studies, on course and outcome of acute psychoses, point towards an excellent prognosis and distinctness of the group from other functional psychoses. Various studies have reported a favourable prognosis of ATPD (Chavan and Kulhara 1988; Susser et al. 1998; Varma et al. 1996).

12 Diagnostic Stability, Course and Outcome

In developing countries, ATPD has a relatively high diagnostic stability (54–73 %) and low rates of relapse (Thangadurai et al. 2006; Amini et al. 2005; Alaghband-Rad et al. 2006b). A long-term follow-up study in a developing country setting has compared the course of acute brief psychosis with that of other remitting psychoses at 5, 7 and 12 years after onset (Susser et al. 1998). In the study, the long-term prognosis of acute brief psychosis was found to be excellent and remarkably homogenous, with only one out of seventeen subjects developing a chronic psychotic illness at 12-year follow-up. On the contrary, the long-term prognosis of other remitting psychoses was often poor, with frequent relapses and one half of cases being ill at 12-year follow-up, possibly schizophrenia.

In another follow-up study of unspecified non-organic psychosis, Chaturvedi and Sahu (1986) reported change in diagnosis in 46 % (21 % affective, 16 % reactive psychosis, 9 % schizophrenia) cases.

In 2000, Gupta and Bhardwaj (2000) studied the outcome of ATPD after 10 years. In this study, patients recruited in ICMR study in 1982 were assessed after the completion of 10 years. It was found that 25 % of patients were having

continuous illness with first-rank symptoms, 56 % patients never had any psychotic illness during the course of follow-up, 9 % had multiple episodes in the interval period and were diagnosed to have bipolar disorder, whereas 11 % had been diagnosed with schizophrenia.

A small study of first-episode psychotic patients in Iran found that 100 % of those diagnosed with ICD-10 ATPD and DSM-IV BPD maintained the same diagnosis over 12 months of follow-up (Amini et al. 2005). Another study of 60 patients with a first episode of psychosis from Iran (Alaghband-Rad et al. 2006b) reported that 10 cases with ATPD had their diagnosis confirmed 1 year later. Likewise, from different studies, it was concluded that the acute remitting psychoses have high stability particularly in developing countries, where the disorder also shows a favourable prognosis (Amini et al. 2005; Alaghband-Rad et al. 2006b; Susser et al. 1998; Mojtabai et al. 2000).

On the other hand, in European countries, the diagnostic stability of ATPD was found significantly different from developing countries. Apart from an early follow-up study of Jørgensen (1995), which reported a fairly high diagnostic stability, in Europe, it was found that more than 50 % of cases with ATPD changed diagnosis into another category of 'schizophrenia and related disorders' or affective disorders (Castagnini et al. 2008; Jäger et al. 2003). Even the frequency of recurrences was increased compared with rates observed in developing countries. Marneros and Pillmann in 2004 reported that three-quarters of their cases with ATPD had a recurrent affective or psychotic episode, 30 % developed affective disorders, and a relatively small number converted into either schizoaffective disorder or schizophrenia.

In a study by Pillmann and Marneros in 2005, it was found that only one-third of the patients enjoyed a stable remission and discontinued medication after 7 years. The outcome of ATPD proved to be more favourable than in schizophrenic patients by follow ups from the Nottingham first-episode psychosis study, though two-thirds of cases changed diagnosis over 3 years. However, a Munich study covering 15 years of registry data found a 39 % stability rate of ATPD, with 60 % of the total ATPD sample developing another psychiatric disorder by their third admission (Möller et al. 2010). Similarly, diagnostic stability over 5 years in a first-episode psychotic sample in China was 35 % for those diagnosed with ATPD, and it was found that 29 % of ATPD patients transitioned to schizophrenia. In this study, it was also found that group of ATPD patients who later developed schizophrenia had a 'non-polymorphic' subtype at baseline, whereas patients with a 'polymorphic' subtype at baseline were rediagnosed with bipolar disorder (Chang et al. 2009). In 2008, Castagnini et al. (2008) conducted a six-year analysis of readmission patterns of all subjects listed in the Danish psychiatric central register. They included all patients who were admitted to hospital or treated in outpatient services for the first time with a diagnosis of ATPD from 1 January to 31 December 1996. They reported that more than 80 % of patients diagnosed with ATPD in their study were readmitted on at least one further occasion during the study period. They also reported that during their last admission, 60 % patients changed diagnosis; half were shifted to another F2 category; and 11 % were shifted to affective disorders. The overall stability rate for ATPD was about

39 %. Due to this poor diagnostic stability, authors also argued against attempts to separate ATPD from schizophrenia and other related disorders.

There was, however, one study that reported the stability of NARP in an industrialised country setting; 6 % of the NARP patients from a New York sample changed to a schizophrenia or schizoaffective diagnosis by the 2-year follow-up period, whereas the majority (77 %) of individuals with other remitting psychoses at baseline transitioned to a schizophrenia or schizoaffective diagnosis (Sajith et al. 2002).

Comparing schizophrenia-like and non-schizophrenic subgroups of ATPD, Singh et al. (2004) also found stability rates were markedly lower for 'polymorphic psychotic disorder' and 'predominantly delusional disorder'. They also suggested that female gender and good premorbid adjustment predicted favourable outcome. In another study, it was also found that stress reactivity is mediated through an emotional-driven pathway leading to florid psychotic disorders with good prognosis, whereas cognitive impairment involved in insidious-onset psychoses associated with negative symptoms and poorer outcome (Myin-Germeys et al. 2001).

It was reported by different researchers that ATPD has an episodic course with longer remissions than cases that later develop schizophrenia (Marneros and Pillmann 2004; Jäger et al. 2007). It was also found that patients with ATPD have a favourable response to drug treatment, but are usually prescribed antipsychotic medications for long periods to prevent recurrences (Marneros and Pillmann 2004). Abrupt or acute onset, female gender and good premorbid functioning predicted diagnostic stability and favourable outcome in ATPD (Singh et al. 2004; Das et al. 2001). Marneros and Pillmann in 2004 reported from the follow-up studies that more than half of those affected with ATPD changed to another F2 category 'schizophrenia and related disorders' or mood disorders. The frequency of recurrent affective and psychotic episodes has been interpreted as indicating that ATPD bridges schizophrenia to affective psychoses, from the point of view of psychotic spectrum.

Coryell and Tsuang (1982) reported that outcome of acute psychosis is best if the duration of admission is shorter, i.e. between 2 weeks to a month. On the basis of duration of psychosis, Susser et al. (1995) also showed that the duration of psychotic illness episode in non-affective acute psychoses have a bimodal pattern of distribution, with a point of rarity between two symptom score clusters. In 80 % of the cases, the duration was less than 28 weeks, and in the rest of the 20 % cases, it was more than a year. In a study from Germany in 2010, after 15 years of follow-up, it was reported that 30 % of ATPD patients experienced a single episode, 50 % had an episodic-remitting course, and 20 % had a chronic course (Möller et al. 2010). Perris (1974) reported that patients with cycloid psychosis have on average about five episodes throughout their lifetime. Throughout 2 years of follow-up, 48 % of patients with NARP remained in full remission, compared with 14 % of patients with other types of remitting psychoses (e.g. schizophrenia, delusional disorder). The course of non-affective acute psychoses may be even more benign in developing countries. In the Chandigarh site of the DOSMeD study, only one (6 %) of 17 patients followed up to 12 years had remaining symptoms of illness at the follow-up (Susser et al. 1998).

Different researchers have reported different recurrence rate for ATPD. In study conducted by Malhotra et al. in 2005 in India, a recurrence rate of 46.6 % was found over an 8-year follow-up. In the same study, different correlates of recurrence were found. They reported that recurrence was more common in females (59 %) and in the patients who were married (about 71 %). No catatonic features were present in recurrent group, and they also responded better to treatment (96 %).The different recurrence rate reported in various studies ranged from 11 to 35 %. In 1995, Susser et al. (1995) reported a recurrence rate of 22 % in a 5-year follow-up study and in 1998 reported recurrence rate of 12 % in a 12-year follow-up study. Similarly, Rozario et al. (1999), Acute and transient psychotic disorders: A follow-up study, Unpublished MD thesis: PGIMER, Chandigarh in 1999, reported a 35 % recurrence rate in a 5-year follow-up study.

Different studies were done on the social impairment in ATPD. In 1999, Vázquez-Barquero et al. (1999) examined 76 patients with schizophrenia 3 years after their first episode. They found that 42 % of this sample had a poor social adjustment at follow-up. However, in study done by Jäger et al. in 2003, it was found that 78 % of the patients had good functioning with respect to personal care, 48 % with respect to occupation, 51 % with respect to family and household and 49 % with respect to the broader social context. Only a few patients had developed a severe social impairment as 1 % had poor functioning with regard to personal care, 11 % with regard to occupation, 4 % with regard to family and household and 10 % with regard to the broader social context. Overall, 12 % had a poor social adjustment in at least one of the four domains. As expected, patients with relapse had a more unfavourable social functioning. However, only a minority of these showed severe social impairment: 2 % with respect to personal care, 19 % with respect to occupation, 7 % with respect to family and household and 17 % with respect to the broader social context. Otherwise, patients without relapse showed excellent social functioning in the year prior to the follow-up examination. It was concluded that overall, the patients in the study could be divided into three groups: who experienced no relapse (42 %), those with relapse, but without marked deficits in the social adjustment (46 %) and patients with relapse as well as a severe social impairment (12 %). It was also hypothesised that from a longitudinal point of view, the subgroup with severe social impairment is not compatible with the concept of a 'transient' psychotic disorder, but rather with the concept of schizophrenia in terms of a chronic disorder.

It was also hypothesised that persisting 'negative' and/or 'depressive' symptoms in patients with ATPD might predict an unfavourable outcome in terms of a chronic schizophrenic disorder. Predictors of diagnostic stability and favourable outcome were identified as sudden onset, female sex, duration less than 1 month and good premorbid functioning. Examining a small group of individuals with ATPD, 40 % of whom later developed schizophrenia, and Suda et al. (2005) found no significant differences in severity or duration of psychotic symptoms during the initial hospitalisation. They reported that acute insomnia was predictive of a single episode of ATPD. Confusion and perplexity were listed among the good prognostic indicators of SFD in the DSM-IV (American Psychiatric Association 2000); however, few recent empiric data are available on the predictive validity of

this feature. In a review of 13 follow-up studies of ATPD, Castagnini et al. (2008) noted that studies in developing settings tend to show higher diagnostic stability and lower rates of relapse than in Western settings.

From the various studies, the indicators of good prognosis in ATPD can be summarised as good premorbid adjustment, few premorbid schizoid traits, severe precipitating stressors, sudden onset of symptoms, confusion and perplexity during psychosis, little affective blunting, short duration of symptoms and absence of family history of schizophrenia.

It has been suggested by some of the researchers (Susser et al. 1996; Mojtabai et al. 2000) that diagnostic stability of ATPD might be improved by excluding affective features (emotional turmoil) and extending duration up to 6 months.

13 Relationship of ATPD with Schizophrenia and Affective Disorders

There were lots of attempts by various researchers in post-ICD-10 era to identify relationship between ATP, schizophrenia and affective disorders. It was seen that risk of affective disorders among the first-degree relatives of patients with schizophrenia was 6–8 % and the risk of schizophrenia among relatives of affective disorders was 0.5–3.5 %, and both of these risks were more than the risk of either disorder in general population. Clinical research in last 50 years and genetic research have sufficiently shown that there is no gap between schizophrenia and affective disorder, but there are bridges and overlaps. This lead to the concept of 'continuum hypotheses' for schizophrenia and affective disorders. Winokur, Crow and Maier suggested that there was schizophrenia-affective disorder continuum.

13.1 Where Does ATP Stand in This Continuum?

As previously discussed, in the family genetic studies of ATPD, it was found that family history of ATPD was three times greater and that of schizophrenia was four times lower in first-degree relatives of patients with ATPD, as compared to first-degree relatives of patients with schizophrenia. The findings also suggest that ATPD is genetically distinct from MDP and there is genetic overlap between ATPD and schizophrenia and schizophrenic symptoms. The question still remains whether ATPD and schizophrenia are manifestations of same entity though of different severity? And whether we can club them together as one psychotic group? Some of the researchers argued that the unstable longitudinal course of ATPD, showing a frequent change from ATPD episodes into affective, schizoaffective and schizophrenic disorders, is strong evidence against the nosological independence of ATPD and supports the assumption of a psychotic continuum between schizophrenia and affective disorders (Valentin 1886).

14 Can We Predict Who All Can Develop F20 in Future if They Have ATPD?

Different researchers have compared ATPD and its related disorders with schizophrenia. It was reported that ATPD is associated with better premorbid social adaptation, (Marneros et al. 2003) more precipitating stress, less non-schizoid premorbid personality, more acute onset, less psychological impairment and better global functioning in the follow-up period (Stephens et al. 1982). However, different studies also reported that considerable proportion of the ATPD patients would develop schizophrenia and other mental disorders in the course of their illness. So, it became a topic of interest that whether we can predict who all patients of ATPD will develop chizophrenia in future.

Dahl in 1994, in a review of the studies on ATPD prognosis, reported that the question whether there is a real diagnostic shift in the way that ATPD develops into schizophrenia or whether the disorder has been schizophrenia all along with a debut phase more influenced by life events remains unanswered.

In 2005, Suda et al. (2005) found that ATPD leading to onset of schizophrenia had a greater tendency to recur with a shorter inter-psychotic episode period, which was distinct from those with the ATPD-only course. Similarly, difference was found in symptom manifestation in early stages of the episode. Acute occurrence of insomnia before admission was seen significantly more often among patients who had an ATPD-only course than among patients who later developed schizophrenia. It was also reported that schizophrenia-developing patients had significantly poorer premorbid heterosexual relations. In another study by Stephens et al. (1982), it was reported that patients with ATPD had less premorbid schizoid personality features than those with schizophrenia. The differences found in these studies suggested that the ATPD occurring in those patients who would later develop schizophrenia should be seen as a prodromal process and is different from the ATPD occurring in those patients who will remain in an ATPD-only course. Suda et al. (2005) therefore proposed that the former ATPD episodes might be aborted schizophrenic episodes that failed to develop to their full form, possibly on account of the protecting effect of the patient's favourable concurrent adaptations (Robins and Guze 1970).

15 Psychopathology

Marneros and Pillmann (2004) in 2005 reported that the most important differences regarding phenomenology between ATPD and the other psychotic disorders were the 'rapidly changing delusional topics', 'rapidly changing mood' and anxiety. They also found that in ATPD, delusional topics were found to be widespread including delusions of reference, persecution, religious and grandiose delusions, delusions of guilt and delusional misidentifications. They found that more than one half of the patients with ATPD in their study group change form and topic

of delusion very rapidly within some minutes. Although hallucinations did not change in the same rapid frequency as delusional topics, the richness of the hallucinations was found to be very impressive. They reported that the most characteristic psychopathological feature of ATPD episodes was the rapid changing mood between anxiety/agitation and normal state or ecstatic. Two other characteristics of the symptoms of ATPD episodes reported were their acute onset and the short duration of the psychotic period. The polymorphic features, in particular the quickly changing state of mood, confirm the relationship of ATPD to cycloid disorders (Leonhard 1961). It was also reported that the polymorphic and dramatic symptomatology of ATPD has an acute or even an abrupt onset and a short duration with or without an antipsychotic treatment (Marneros and Pillmann 2004).

16 Psychodynamics of ATPD

Psychodynamically, ATPDs indicate deficient ego strength where under the face of acute and severe stress, there is breakdown of ego functions. In reactive psychoses, it has been shown that the psychotic symptoms reflect the stress and the psychotic breakdown is used as a defence serving as a wish fulfilment or escape from reality. Psychosis appears to be environmentally induced in a person who is vulnerable by virtue of deficient socio-emotional coping or deficient ability to handle intense emotions.

17 Diagnostic Criteria

ICD-10

The ICD-10 category of ATPD is rather broad and provides criteria for several subtypes. The structure of ATPD as described by ICD-10 reflects that WHO tried to integrate the various schools of thought and regional concepts of acute psychosis. These concepts include the bouffeed elirante of French psychiatry and cycloid psychoses, both stressing a 'polymorphous' symptom picture; the reactive psychoses of Scandinavian psychiatry with an emphasis on psychogenic triggers; and acute brief psychoses believed to be prevalent in developing countries. The category 'acute polymorphic psychotic disorder' (F23.0) includes schizophrenic symptoms (F23.1). Taking the concepts of bouffe´e de´lirante and Leonhard's cycloid psychoses, the clinical picture in ICD-10 is characterised by onset within 2 weeks of varied delusions, hallucinations, perceptual disturbances, perplexity and emotional turmoil shifting from day to day or even from hour to hour. The other categories listed under ATPD have acute onset and early remission as common features. F23.2—acute schizophrenia-like psychotic disorder—incorporates the concept of schizophreniform psychosis and replaced the ICD-9 category 'acute schizophrenic episode'; F23.3—acute predominantly delusional disorder—involves relatively stable delusions and hallucinations that do not fulfil

requirements for 'polymorphic psychotic disorder' or schizophrenia; F23.8 other ATPD' and F23.9 'acute and transient psychotic disorder unspecified' are residual classes for cases that cannot be accommodated otherwise. Apart from 'acute schizophrenia-like psychotic disorder', the field trials of ICD-10 (Varma et al. 1996) reported that the other categories failed to achieve 'good' reliability with kappa values of 0.42–0.54.

Current diagnostic criteria and categories are as follows:

1. An acute onset [within 2 weeks]
2. Presence of typical syndromes—

- Rapidly changing variable [polymorphic] state
- Typical schizophrenic symptoms

3. Presence of associated acute stress

Recovery in most cases occurs within 2–3 months

Along with these, there are diagnostic guidelines which include the following:

1. That should not meet criteria for manic or depressive episodes although affective symptoms may be present
2. Absence of organic causation although perplexity, confusion and inattention may be present
3. Absence of obvious intoxication by drugs or alcohol

Types of ATP according to ICD-10

F 23.0—acute polymorphic disorder without symptoms of schizophrenia
F 23.1—acute polymorphic psychotic disorders with symptoms of Schizophrenia
F 23.2—acute schizophrenia-like psychotic disorder
F 23.3—acute predominantly delusional psychotic disorders

Brief Psychotic disorder (DSM-IV)

DSM-IV provides the category of BPD. In contrast to DSM-III-R, in brief reactive psychosis, a severe antecedent stressor is no longer mandatory. In DSM-IV, some psychotic disorders of brief duration may be coded as SFD if they fulfilled DSM-IV criteria for schizophrenia for 1 month (or less, if successfully treated) but remit before the time of 6 months. Some cases can be classified as delusional disorder (in DSM-IV, the time criterion for delusional disorder requires a duration of more than 1 month, compared with more than 3 months in ICD-10) or as psychotic disorder not otherwise classified.

By comparing ICD-10 and DSM-IV, it can be seen that while in ICD-10, acuteness of onset is considered to be the defining characteristic, in DSM-IV, duration of psychosis of less than 6 months is the distinguishing feature.

Diagnostic criteria

A. Presence of one (or more) of the following symptoms:

1. Delusions
2. Hallucinations

3. Disorganised speech (e.g. frequent derailment or incoherence)
4. Grossly disorganised or catatonic behaviour

Note: Do not include a symptom if it is a culturally sanctioned response

B. Duration of an episode of the disturbance is at least 1 day but less than 1 month, with eventual full return to premorbid level of functioning.
C. The disturbance is not attributable to depressive or bipolar disorder with psychotic features, schizoaffective disorder or schizophrenia and is not associated with the direct physiological effects of a substance (e.g. a drug of abuse, a medication) or another medical condition.

Specify if With Marked Stressor(s) (brief reactive psychosis): if symptoms occur in response to stressful events
Without Marked Stressor(s): if psychotic symptoms do not occur in response to stressful events
With Post-partum Onset: if onset is within 4 weeks post-partum

18 Concordance Between the ICD-10 Diagnosis of ATPD and the DSM-IV Diagnosis of Brief Psychotic Disorder–Cross-System Comparisons

As there were differences in the criteria for diagnosing ATPD and BPDs, it was important to understand how the two diagnoses relate to each other. Few studies were done to explore the concordance between the ICD-10 diagnosis of ATPD and the DSM-IV diagnosis of BPD.

In a Scandinavian study by Jørgensen et al. in 1997, it was found that ATPD does not conform to any specific category in DSM-IV: only one-third of cases in the study group fulfilled the criteria for BPD, 41 % those for SFD and 25 % unspecified psychotic disorder. Among ATPD subcategories, it was found that 'polymorphic psychotic disorder without schizophrenic symptoms' only partially overlaps with BPD, while 'schizophrenia-like psychotic disorder' has closer similarities to SFD. These findings were similar to the one reported by Heijden et al. in 2004. They reported that in their study group, less than half of patients with 'polymorphic psychotic disorder' met the criteria for BPD. However, a previous study by Pitta and Blay in 1997 reported an unusually high number of cases with a positive diagnosis for both disorders.

In a prospective and longitudinal study by Pillman et al. in 2002, a group of 42 patients fulfilling ICD-10 criteria of ATPD were selected. It was found that out of these, 61 ± 9 % fulfilled the DSM-IV criteria of BPD; 31 ± 0 % of SFD; 2 ± 4 % of delusional disorder; and 4 ± 8 % of psychotic disorder not otherwise specified. BPD showed significant concordance with the polymorphic subtype of ATPD, and DSM-IV SFD showed significant concordance with the schizophreniform subtype of ATPD. It was found that BPD patients had a significantly shorter duration of

episode and more acute onset compared with those ATPD patients who did not meet the criteria of BPD (non-BPD). However, it was found that the BPD group and the non-BPD group of ATPD were remarkably similar in terms of socio-demographical factors (especially female preponderance), course and outcome, which was rather favourable for both groups. BPD showed considerable overlap with ATPD. In this study, it was also found that psychosocial stress was not the characteristic feature of BPD, thus supported the abandonment of the DSM-III-R concept of brief reactive psychosis in DSM-IV. It was concluded that DSM-IV BPD was a psychotic disorder with broad concordance with ATPD as defined by ICD-10 and the DSM-IV time criteria for BPD might be too narrow. It was found that there was a significant, but only moderate concordance between BPD and the polymorphic subtype of ATPD (F23.0) and between DSM-IV SFD and the schizophrenia-like subtype of ATPD (F23.2). The group of acute psychotic disorders with good prognosis extends beyond the borders of BPD and includes a subgroup of DSM-IV SFD.

19 Treatment

The patients of ATPD may require short-term hospitalisations for a comprehensive evaluation and safety.

Pharmacological treatment

In the short term, antipsychotic drugs are often most useful along with benzodiazepines.

Long-term use of medication is often not necessary and should be avoided. If maintenance medications are necessary, the diagnosis may need to be revised. Clearly, the newer antipsychotic agents have a better neurological side effect profile and would be preferred over the typical agents (Tasman et al. Tasman III edition).

In 2005, Ehlis et al. (2005) studied the beneficial effect of atypical antipsychotics on prefrontal brain function in acute psychotic disorders. They found that there were mild deficits in prefrontal response in the patients of acute psychosis. It was also reported that there was a highly significant positive correlation between the amount of atypical neuroleptic medication and the NoGo-anteriorization (NGA) during performance of the CPT (Continuous Performance Test, Rosvold et al. 1956), which was used as a measure of prefrontal brain function in this study. Since the NGA is assumed to be a neurophysiological correlate of prefrontal response control, this finding supported the notion of a beneficial influence of atypical neuroleptic drugs on prefrontal brain function.

In another study by Jabs et al. (Ehlis et al. 2005) in 2002, involving the preliminary functional imaging, an ‘acute hyperfrontality’ was found in some cases of cycloid psychoses. It was reported that acute hyperfrontality returned to normal in the course of the treatment.

Non-pharmacological treatment

Psychotherapy is necessary to help the person reintegrate the experience of psychosis and possibly the precipitating trauma. Individual, family and group

therapies are found to be useful in acute and transient psychosis. Gonzalez de Chavez in 2007 described that acute and transient psychoses could be considered as identity breakdowns with fragmentation of its structure, paranoid mechanism and cognitive regression. He emphasised that psychotherapies favour evolution of psychotic identity through disorder awareness and knowledge of aspects of patients that make them more vulnerable to psychotic experiences.

There are few data available regarding the treatment of acute and transient psychosis as a distinct entity. In the Marneros and Pillmann (2004) study of brief and acute psychoses, 95 % of patients received an antipsychotic, 21 % an antidepressant and 7 % lithium during the initial episode. Compared with patients with schizophrenia or bipolar schizoaffective disorder, a smaller proportion of ATPD patients were still taking psychotropic medications over the follow-up period, and the authors reported good levels of functioning in all patients who were no longer taking medication. NARP patients in a first-episode study from Iran (Alaghband-Rad et al. 2006b) were found to have received fewer months of antipsychotic medication than patients with other non-affective psychotic disorders, which likely reflect faster remission of these psychoses compared with other first-admission psychotic disorders. Similarly, a study by Perris (1974) found that patients with cycloid psychosis on continuous lithium treatment experienced fewer repeat episodes. General treatment recommendations for patients presenting with their first episode of psychosis, including psychotic disorders with acute onset, include a comprehensive assessment to evaluate comorbidities and rule out organic and substance-induced causes (Thomas et al. 2009). A typical antipsychotics, often at low initial doses, are recommended as the first line of medication treatment, with continuation of treatment for 1 year (Jabs et al. 2002). It is also recommended that there should be coordination between treating team, the patient's family and/or friends to help ensure treatment adherence and to educate them about the disorder (Thomas et al. 2009). There is also need for international treatment guidelines for acute episode of ATPD. Guidelines were given by Gaebel et al. (2005) but more research is required in this field. It is also important to have separate guidelines for recurrent category.

20 Mortality in ATPD

Little is known about mortality associated with acute transient psychoses. There are few reports on the increased mortality associated with conditions such as reactive psychosis currently incorporated under ATPD (Jørgensen and Mortensen 1990). In a Danish study by Castagnini and Bertelsen in 2011, it was found that the most unnatural deaths associated with ATPD were from suicide and most of them were within the first 2 years after the initial admission. The standardised mortality ratio for suicide/from unnatural causes was higher and varied by gender (11.1 for males vs. 9.1 for females). Besides this, it was 30.9 times than that expected, with an overall standardised mortality ratio of 2.9 for ATPD patients compared with the general population. There was also an increased risk of suicide/unnatural death in males with

ageless than 40 years. It was also found that the standardised mortality ratio for and was particularly high for suicide (30.9). However, there are few studies with which to make meaningful comparisons. A similar trend was previously reported from earlier studies (Thomas et al. 2009) on mortality of reactive psychoses. It was reported that there was a significantly raised mortality risk in reactive psychosis, and suicide was the largest cause of premature death. From these studies, it can be concluded that ATPD is associated with excess mortality from both natural and unnatural causes, particularly from suicide in younger subjects.

However, there were few studies that did not support this result. Contradictory evidence was found in a study by Pillmann et al. in 2003. No suicide was reported in a series of patients with ATPD 5 years after the index episode, as opposed 2 cases with schizophrenia and 3 with bipolar schizoaffective disorder had died of suicide. In this study, it was also found that suicidal behaviour was linked to acute symptomatology, which is characterised typically by varied delusions, hallucinations, agitation and emotional turmoil shifting from day to day or even from hour to hour in otherwise well-adjusted subjects. It was also found that the rate of suicidal behaviour during the course of ATPD was 35.7 % and was comparable to the rate found in schizophrenia (40.5 %).

21 Conclusion

ICD-10 and DSM-IV incorporate the rich history of the concepts involved, but still leave many questions open to further research. Having two different diagnostic systems which classify these conditions very differently also hampers the research and limits the generalisation of the results. Therefore, there is need to harmonise these two diagnostic systems. To conclude, acute and transient psychoses remain a challenge for nosological considerations in the area of psychotic disorders. It brings into question the nosological boundaries within endogenous psychoses and the concept of psychotic continuum.

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