Early intervention in psychosis: clinical aspects of treatment†

Brendan P. Murphy & Warrick J. Brewer

**SUMMARY**
Engaging patients in first-episode psychosis services is critical in maximising the effect of early intervention and establishing a framework for longer-term treatment. Biopsychosocial assessments determine a working diagnosis and inform evidence-based treatment. Atypical antipsychotics should be used at doses that maximise therapeutic benefit and adherence while minimising side-effects. Patients are helped to construct a narrative of their illness, including a shared understanding of the contribution of biological and environmental risks, and early warning signs. Common comorbid conditions, including depression, suicidal ideation, substance misuse and anxiety, should be addressed. Management of comorbid borderline and antisocial personality disorders is difficult; their nexus with psychosis is discussed. Cognitive–behavioural therapy is a mainstay of treatment, with specific interventions developed for problems typical in first-episode presentations. Core psychosocial interventions include psychoeducation, vocational and educational support, family interventions and multimodal group programmes.

**DECLARATION OF INTEREST**
B.P.M. has received research support from Diabetes Australia, the Australian Heart Foundation, Eli Lilly and Sanofi; participated in clinical trials sponsored by Sanofi, Eli Lilly, AstraZeneca, Janssen-Cilag and Lundbeck; and been a speaker for Bristol-Myers Squibb, Lundbeck and Pfizer. W.J.B. is supported by a National Health and Medical Research Council Career Development Award and the Colonial Foundation, and has received research support from Janssen-Cilag and Eli Lilly.

The first episode of psychosis most commonly occurs in young people (15–25 years of age) (Amminger 2006) and it is often an extremely traumatic experience for patients and families. Pathways to care can be complex. Here we assume access to a specialised first-episode psychosis service such as those discussed in our previous article in this issue (Murphy 2011).

**Assessment**
Initial service response is critical in establishing long-term engagement and adherence. Ideally, the first assessment should be performed by a first-episode psychosis service, but in reality patients often present out of hours and are seen by crisis assessment teams. All individuals suspected of a first episode of psychosis should be subsequently referred to the local first-episode psychosis service for primary or secondary consultation. In the absence of a specialised prodrome clinic, those with suspected prodromal symptoms should be referred back to primary care with clear pathways for secondary consultation and re-referral delineated.

**Encouraging engagement with services**
Effective intervention as early as possible can prevent disruption of key developmental tasks, in addition to reducing the duration of untreated psychosis (DUP), which may critically improve prognosis (McGorry 2006). Striking a balance between minimising the DUP and engaging the young person is often at the forefront of treatment pathways, especially in those reluctant to take medication. Historically, this has been resolved with coercive responses, including restraint, seclusion, parenteral antipsychotic treatment, use of the Mental Health Act and the use of police to facilitate hospital admission. Such measures traumatised the young person, and compromise engagement and adherence. Although it may be necessary to resort to such acute measures at times, engaging patients and their families during the initial assessment period can provide a foundational framework for optimising an ongoing therapeutic alliance and reduce the need for a traumatic entry into treatment.

In engaging young people, it is important to understand that normal adolescent behaviour is unstable and characterised by novelty-seeking, risk-taking and peer-directed social interactions that foster the development of adult independence (Spear 2000). These processes occur more rapidly than the development of executive skills, leading to a mismatch between drive and self-regulation (Steinberg 2005). Psychosis exacerbates this normal instability, increasing the risk of difficult and challenging behaviour during assessment (McCutcheon 2007). By maximising the patient’s perceived sense of control, their drive can be...
harnessed into sensible decision-making (Brewer 2006a). This can be achieved by a number of techniques (Box 1), which should be maintained throughout treatment. Persistence reflects commitment and containment and can reap rewards with poorly engaged (or disengaged) patients; multiple non-attendance or loss to follow-up should lead to an increased service response rather than to discharge.

**Reaching and revealing the diagnosis**

Patients often present to services before meeting specific categorical diagnoses. For this reason, the term ‘first-episode psychosis’ should be used during the assessment and engagement period. This has the advantage of benignity relative to a diagnosis such as schizophrenia. The term covers a range of conditions and is useful during the early period of illness when there is diagnostic uncertainty.

A full biopsychosocial assessment, with close regard to phenomenology and the presence or absence of risk factors for particular illnesses, should be undertaken to guide the clinician towards a working diagnosis. Assessment should include investigations to exclude rarer organic causes of psychosis where indicated. A review by a consultant psychiatrist should take place as early as possible to provide diagnostic clarification through a biopsychosocial formulation that addresses developmental issues and guides evidence-based treatment. Although diagnostic shift can occur, studies have demonstrated diagnostic stability of 70% at both 12 months (Addington 2006) and 18 months (Schimmelmann 2005) after thorough initial assessment, with diagnostic consistency of over 90% for schizophrenia.

Choosing the best time to discuss the diagnosis with patients and their families is important. Prematurely ‘labelling’ a patient with a diagnosis of schizophrenia before they have had a chance to process their experience and its implications is countertherapeutic. The diagnosis should be conveyed sensitively in a non-stigmatising manner and framed in hopeful and optimistic terms. Nevertheless, there should be a full and frank discussion on the nature of the illness and what the patient can do to achieve the best prognosis, for example cease substance misuse (Wade 2006a), adhere to medication regimens (Malla 2006) and engage in psychosocial interventions (Petersen 2008).

**Diagnostic confounders**

Drug-induced psychosis is a spurious term and many patients initially diagnosed with substance-induced psychosis ultimately receive a diagnosis of schizophrenia (Mathias 2008). For example, in one study 44.5% of people initially presenting with cannabis-induced psychosis were subsequently diagnosed with a schizophrenia-spectrum disorder (Arendt 2005). The term ‘drug-precipitated’ may be more appropriate in cases where substance misuse is involved.

Agitation in non-affective first-episode psychosis is easily mistaken for signs of a true affective disturbance. This results in initial misclassification to bipolar affective disorder or schizoaffective disorder and inappropriate treatment with mood stabilisers. These drugs are often continued in the out-patient clinic, adding to side-effect burden and contributing to non-adherence. Clearly, true affective disturbance may merit treatment with mood stabilisers. Non-affective excitement can be treated with judicious use of benzodiazepines that can be subsequently discontinued. Secondary consultation with a psychiatrist specialising in first-episode psychosis may be sought to assist the differentiation of agitation from affective illness.

**Treatment**

Treatment is coordinated by a case manager within a multidisciplinary team. The team delivers a phase-oriented focus on early detection, recovery and relapse prevention, while minimising disability and secondary comorbidity. Aims of treatment are phase specific, varying according to the phase of the illness, and they include the following components.

**Antipsychotic medication**

Medication should be used at doses that maximise therapeutic benefit and adherence while minimising side-effects. Atypical antipsychotics remain the mainstay of treatment, despite recent

---

**Box 1 Engagement techniques in first-episode psychosis**

- Treat the young person as responsible and capable of having some say in decision-making
- Show genuine interest in the young person and their explanatory model
- Express concern for their safety and well-being, reduce anxiety by normalising the experience
- Be calm, reassuring, professional and friendly
- Clarify the young person’s expectations and what they want
- Provide a clear, concise explanation of their illness, avoiding jargon
- Find common ground between what they want and need; tailor goals to the situation
- Be flexible: be prepared to see the young person outside of traditional hospital settings, e.g. their workplace, cafe, school
- Be kind, empathic, open, firm, fair, consistent, non-judgemental and non-authoritarian: be engaging!
- Ensure you have been understood
- Aim for routine and order, to reflect containment
- Do not give up: maintain a consistent approach in the face of rejection

---

*Clinical aspects of early intervention in psychosis*
guidelines (National Collaborating Centre for Mental Health 2009) recanting a preference for atypical antipsychotics shown in an earlier iteration (National Institute for Health and Clinical Excellence 2002). Either way, the tenet of ‘start low, go slow’ is well established. During the acute phase, safety of the patient, staff and family is paramount and medication for behavioural control should be used judiciously.

Acute disturbance

Algorithms for pharmacological management of acute disturbance vary. However, oral medication should generally be offered before parenteral treatment and benzodiazepines before antipsychotics. The antipsychotic dose required for behavioural control is invariably higher than that needed for resolution of psychosis, yet the two doses are often conflated on discharge from in-patient units, leading to increased side-effects and non-adherence. Antipsychotics take 10–14 days for therapeutic response, and rapidly increasing the dose or changing medication will not shorten this process and again is likely to lead to increased side-effects and non-adherence.

Antipsychotic-naive patients, patients with slow hepatic metabolism or intellectual disability, and those under 18 years of age are most at risk of iatrogenic harm from antipsychotics. A blood test is now available to detect slow metabolisers and it should be carried out routinely in all patients on first presentation. In known or suspected cases of true affective disturbance, mood stabilisers may be used.

Duration of medication

While recommendations regarding length of antipsychotic treatment in first-episode psychosis remain ill-defined, best practice guidelines recommend a minimum of 1 year (e.g. Orygen Youth Health 2004). Given the high rate of relapse (Huber 2008), it is likely that the majority of patients need in excess of this. For example, those with schizophrenia are likely to benefit from ongoing antipsychotic medication throughout the first 3–5 years of their illness, commensurate with the ‘critical period’ (Birchwood 1998). Selecting which patients may benefit from guided discontinuation of their antipsychotic medication remains an inexact science and requires further research (Wunderink 2007). Practitioners should follow best practice treatment algorithms for affective and non-affective psychosis such as the Maudsley Prescribing Guidelines (Taylor 2011), switching patients as early as possible when non-response is apparent.

Non-response, clozapine§ and depot antipsychotics

Treatment failure needs to be addressed early. Clozapine should be used if positive symptoms associated with functional distress persist after clear failures of two different antipsychotics. There is an argument that earlier use may ameliorate treatment resistance and reduce suicidality, but this must be weighed against the risk of significant side-effects. It is important not to seek to remove all positive symptoms at the expense of iatrogenicity, including negative symptoms. The delicate process of balancing engagement with minimising the DUP in patients resisting treatment can be helped by user-friendly psychoeducation, reducing the need for depot medication. A significant minority of patients will still require depot medication, although with continuing engagement and psychoeducation the majority of these would be expected to switch to oral treatment. Almost 20% of people with first-episode psychosis persistently refuse medication, especially those with comorbid substance misuse, a forensic history, low insight and poor premorbid functioning (Lambert 2010). Such patients are likely to require more intensive assertive community treatment (Crlenjak 2008).

Side-effects and polypharmacy

Medication side-effects can be minimised by using minimum effective dose strategies, testing for slow metabolisers and attending to the patient’s complaints. Polypharmacy should be minimised in accordance with treatment algorithms: there is a dearth of evidence regarding the efficacy of multiple antipsychotics and the rationale for such use should be clearly documented. The advent of atypical antipsychotics has challenged the use of adjunct medication to manage side-effects: patients who develop significant side-effects should have a change of antipsychotic unless there is a compelling, clearly recorded reason against this.

Treatment of specific comorbid conditions

Comorbid conditions are common in first-episode psychosis. They are associated with poorer outcomes (Power 1999) and require targeted evidence-based intervention.

Depression

Depression can occur during the prodromal phase, during acute psychosis and relapse, or in the aftermath of an acute episode (Birchwood 2009). It can be exacerbated by antipsychotic medication, substance misuse, the presence of negative symptoms and the recovery of insight. Prevalence rates vary depending on study criteria (Koreen 1993), but may be as high as 80% (Uptegrove 2010).
Standard treatment algorithms for depression that include medication and cognitive–behavioural therapy (CBT) are appropriate.

Depression in the early stages of psychosis is a key factor in the development of suicidal ideation (Upthegrove 2010), highlighting the value of early treatment in reducing suicide. Other factors associated with increased suicide risk include male gender, unemployment and manic symptoms in the year following presentation (Dutta 2011). Although suicide remains a serious problem in schizophrenia, the commonly accepted estimated lifetime risk of 10% (Miles 1977) has been challenged in more recent years. One study reported a rate of 4.9% among new-onset and newly treated cohorts (Palmer 2005). Another reported rates of 1.9% in 2723 individuals with first-episode psychosis over a mean follow-up period of 11 years (Dutta 2010). As expected, the suicide rate was highest in the first year after presentation, although risk continued, with a median time to suicide of 5.6 years. Despite these lower figures, suicide attempts remain high in prodromal and first-episode cohorts, with rates of nearly 26% reported (Barrett 2010). A specific manualised CBT intervention has been developed to address suicidal ideation among people with first-episode psychosis (Power 2003), in addition to intensified case management (Crlenjak 2008).

Substance misuse

As well as increasing the prognosis in first-episode psychosis patients (Green 2004; Wade 2006a; Petersen 2008), among whom use is high (Wade 2006b). Depression and persisting positive symptoms are more likely, and assertive interventions should be used to target this comorbid disorder (Edwards 2006; Turkington 2009). Healthcare professionals in all settings should routinely ask young people with known or suspected psychosis about any substance misuse, and further assessment and treatment should be offered in stigma-free environments (Kendall 2011). There is increasing recognition that specialised substance misuse clinicians should be embedded within youth mental health services (Lubman 2003; Barrowclough 2009), although standard evidenced-based treatments for substance misuse suffice for this cohort (Kendall 2011).

Anxiety disorders

Of the anxiety disorders, social anxiety disorder and post-traumatic stress disorder (PTSD) are the most common comorbid conditions in first-episode psychosis (Pokos 2006). Social anxiety disorder constitutes a significant problem, with rates of up to 25% reported (Michail 2009). Reported rates of PTSD secondary to traumatic elements of the episode (including psychotic symptoms, involuntary admission and police involvement) have been found to range from 20 to 39% (Mueser 2010; Sin 2010). Both require effective early treatment using standard evidence-based interventions.

Neurodevelopmental disorders

Autism-spectrum disorders and psychosis are considered separate entities, although there is considerable comorbidity and diagnostic overlap (Nylander 2008; Hofvander 2009). Emerging evidence of a shared neurodevelopmental pathway from genetic (O’Donovan 2008; Carroll 2009; McCarth 2009) and neuropsychological (May 2011) studies suggests that autism-spectrum disorders can be a risk factor for schizophrenia.

It can be difficult to differentiate psychosis from autistic phenomena and to balance antipsychotic and behavioural interventions. Therefore, the recommendations of a specialist in autism-spectrum disorders should be sought (Fraser 2011).

Individuals with attention-deficit hyperactivity disorder (ADHD) treated with amphetamine-like stimulants may be at increased risk of psychosis (Berman 2009; Karatekin 2009; Mosholder 2009). It is also possible that the ADHD embraces a group of children exposed to social adversity, which may itself act as a risk factor for schizophrenia. Where both ADHD and first-episode psychosis are present, amphetamine-like stimulants are contra-indicated.

Intellectual disability

Individuals with intellectual disability (IQ < 70) are at higher risk of schizophrenia and other psychotic disorders than the general population (Bouras 2004; Nettelbladt 2009), with pregnancy and birth complications likely to be relevant aetiological factors in psychosis (O’Dwyer 1997). Diagnosis benefits from specialist input from intellectual disability services, and shared care is essential in achieving good outcomes. People with intellectual disabilities are more sensitive to the cognitive, extrapyramidal and prolactin-inducing side-effects of antipsychotics and are generally prescribed lower doses (Frighi 2011).

Not only are individuals with schizophrenia more likely to have premorbid intellectual impairment (Zammit 2004; Reichenberg 2005), but also those with normal premorbid IQs have lower mean IQs than the general population (Woodberry 2008) and are more likely to exhibit premorbid cognitive
abnormalities (Brewer 2006b; Reichenberg 2006). Furthermore, premorbid IQ correlated with functional outcome in 3- (Leeson 2009) and 10-year (van Winkel 2007) follow-up studies of first-episode psychosis cohorts, although the 10-year study failed to demonstrate progressive cognitive deterioration: those with moderate baseline deficits tended to ‘catch up’ and improve over the course of the illness, whereas those with the most severe cognitive impairments at baseline showed no change (van Winkel 2006).

Cognitive remediation (McGurk 2007) and cognitive compensation therapies (Twamley 2003) are the current exemplars for treating cognitive deficits. It is an expanding area of research interest, with pharmacological (Green 2007) and cognitive-based interventions likely to flourish over the next decade. First-episode psychosis services should resource clinical neuropsychologists to provide such specialist input (Allott 2011).

Personality disorders

The presence of schizoid, paranoid or schizotypal personality disorder is likely to be an early manifestation of the disease process rather than a risk factor per se. Their premorbid presence not only makes a diagnosis of schizophrenia more likely, but also suggests a poorer prognosis (Murphy 2010).

The presence of borderline personality disorder in first-episode psychosis presents a dilemma. It is our experience that the overwhelming majority of patients who present with both have a history of childhood trauma. Severe adverse childhood experiences, including sexual, physical, psychological and emotional abuse and emotional neglect, are known to have damaging long-term consequences, including depression, PTSD, personality disorders, and drug and alcohol dependence (Morgan 2007a). However, the nexus with psychosis remains uncertain. Despite a review concluding that childhood abuse is a causal factor in psychosis generally and schizophrenia specifically (Read 2005), a subsequent review urged caution in interpreting the literature, concluding that it was inconsistent and marred by methodological limitations (Morgan 2007a).

The link is certainly plausible and has already been reported in bipolar affective disorder (Etain 2008). Certain risk factors for psychosis, including a first- or second-degree history of migration and urban dwelling, may be acting as proxy measures of early childhood adversity. It is likely that other traumatic events, such as bullying (Kelleher 2008; Schreier 2009) and parental separation (Morgan 2007b), are also implicated. Self-reports of childhood trauma have been shown to be both frequent (Conus 2010) and reliable (Fisher 2011) among people with first-episode psychosis.

Thus, the connections between borderline personality disorder and psychosis are manifold. We have identified factors that can be used to place patients into one of four groups, listed in Box 2. Individual patients can belong to more than one of these groups, but broad treatment recommendations can nonetheless be made.

The first group clearly need long-term antipsychotic treatment, in addition to therapy aimed at addressing childhood trauma. The second group also need both, although they are likely to require briefer antipsychotic treatment. In our experience, the third group benefit from a combination of trauma therapy and targeted antipsychotic medication during periods of stress which is withdrawn when the stress has been alleviated. The final group, those with dissociative symptoms, can benefit from antipsychotics as major tranquillisers (though at considerable side-effect cost), but the mainstay of treatment should be evidence-based trauma therapy.

Unfortunately, first-episode psychosis services tend to overemphasise psychosis at the expense of trauma, tending to classify all patients as belonging to the first group. Misclassification as schizophrenia results in inappropriate exposure to antipsychotics while ignoring the trauma therapy that should constitute the main focus.

Treatment of externalised antisocial personality traits in first-episode psychosis involves working with the individual to maximise their sense of control. This includes engagement within a predictable, routine structure, whereby the

BOX 2 Factors associating borderline personality disorder and psychosis

| 1 | Individuals with schizophrenia may have had traumatic childhood experiences and have premorbid borderline personality traits or borderline personality disorder |
| 2 | Individuals with borderline personality disorder are more likely to engage in substance misuse and are consequently at higher risk of drug-precipitated psychosis |
| 3 | Given the nature of the childhood abuse they have been exposed to, those with borderline personality disorder are more likely to be mistrustful of others and suffer a lower threshold for persecutory ideation, resulting in brief episodes of paranoia when under stress |
| 4 | The boundary between dissociative phenomena and true psychotic symptoms is difficult to demarcate, resulting in misdiagnosis of the former for the latter |
individual is encouraged to recognise triggers for anger, the impact of trauma during development and reliance on substances to ameliorate distress (Brewer 2008).

Careful history-taking of the development of behaviour likely to attract the attention of the criminal justice system is paramount for ascertaining risk of assault, with interventions involving secondary consultation with forensic psychiatrists.

Psychological therapies
Specific CBT-based interventions have been developed for a number of focused treatments. For example, teams at Orygen Youth Health in Melbourne, Australia, have developed interventions for: adjusting to the first episode (Henry 2002), relapse prevention (Gleeson 2009), treatment resistance (Herrmann-Doig 2003), cannabis use (Hinton 2002), suicide risk (Power 2003), bipolar disorder (MacNeil 2009), and comorbid antisocial traits (Brewer 2011).

Adherence therapy is an essential component of early psychosis intervention. Even brief periods of non-adherence to antipsychotic regimens lead to a greater risk of relapse in the course of early psychosis, and patients should be cautioned about the possible consequences of partial adherence and brief non-adherence (Subotnik 2011).

Working with young people to overcome their fears and prejudices about medication should occur in the context of a therapeutic relationship. Medication should be viewed as one aspect of a multimodal integrated approach to treatment. Common psychological barriers to adherence include fears concerning side-effects, loss of control, what antipsychotic medication means to the person in the context of a family history of psychosis, and the possibility of lifelong treatment (Kulkarni 1999). Patients should be afforded as much power in decision-making as possible, commensurate with mental state. Given that, clozapine aside, atypical antipsychotics are equally efficacious for positive symptoms, it is common practice to discuss side-effect profiles and allow patients to make an informed choice. Other strategies that may increase adherence include family involvement (Rabinovitch 2009), side-effect management, avoidance of polypharmacy, once-a-day dosing, orally disintegrating tablets and adherence therapy (Miller 2008).

Psychosocial interventions
As adolescence is characterised by a steep developmental trajectory, it is crucial to expedite functional recovery in young people with first-episode psychosis. Psychosocial interventions include vocational and educational support, family interventions, multimodal group programmes and the provision of psychoeducation and peer support workers; these appear to be more effective in first-episode cohorts than in people with chronic psychosis (Killackey 2009). Other aspects include assistance with accommodation, legal and forensic issues, culturally and linguistically sensitive practice, and liaison with community agencies.

Framing recovery
Much of the business of first-episode psychosis services involves helping patients to construct a narrative of their illness. This should include a shared understanding of the contribution of biological and environmental risk factors, together with early warning signs of decompensation within a stress–vulnerability model. In addition to the fact that many patients report childhood trauma, the episode itself is often reported as traumatic (McGorry 1991), so much so that a specific CBT intervention has been developed to assist recovery (Jackson 2009). Many patients are embarrassed, traumatised and overwhelmed by their early episodes, triggering a natural tendency to ‘seal over’ rather than attempt to integrate their experience (Tait 2004). This is an issue that the therapist must sensitively though robustly address, for example through establishing a predictable style of engagement that initially focuses on concrete problem-solving.

Family involvement
Many young people with first-episode psychosis are living with their parents or remain significantly involved with them and it is an ethical dilemma deciding on the amount of family involvement when a patient resists their input. First-episode psychosis services generally err in favour of engaging (often traumatised) families in such cases, although negotiating the amount of disclosure is guided by the patient’s legal age, level of maturity, mental state and insight, and the functionality and degree of family involvement. Common family fears that need to be addressed include being blamed for the illness or for not recognising it at an earlier stage, being blamed by the young person for their admission to hospital, and the negative impact of medication. Allaying these often unstated fears may require repeated information given by different clinicians at different contacts.

Phase-specific treatment
Phase-specific treatment along clinical pathway algorithms optimises recovery. Exposure to evidence-based psychotherapies and medication is
Community liaison

Engaging community services is vital for shared care and seamless discharge. It is important that first-episode psychosis services support such agencies, providing effective communication and primary and secondary consultation as necessary. Community liaison should also include community awareness campaigns directed at the general public, general practitioners, police, schools and colleges. First-episode psychosis services need to negotiate division of responsibility for sexual and physical health with primary care providers; cardiometabolic risks are evident early and this period may be critical for intervention (Foley 2011). Although a range of interventions are available, the single most effective is likely to be avoidance of weight-gaining antipsychotics.

Conclusions

Engagement, assessment and early intervention are critical in optimising the outcome of people experiencing a first episode of psychosis. A holistic treatment package should be offered in stigma-free settings, incorporating low-dose antipsychotics, psychological therapies, treatment of comorbid mental and physical illnesses, vocational and educational services, family support and multimodal group programmes.

References


Advances in psychiatric treatment (2011), vol. 17, 408–416


