

## EARLY INTERVENTION IN PSYCHOSIS. CONCEPTS AND SERVICE DEVELOPMENT

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### SUMMARY

*This is a summary of a lecture given in Portoroz, Slovenia, in 2005. It is clearly totally derivative, and I acknowledge all authors on whom I drew to give the lecture. A literature review has been carried out to describe present knowledge of how psychosis develops, and to describe the concepts of early intervention in psychosis, the critical period, the duration of untreated psychosis, and the prodrome of psychotic illness. Hence, the principles of how an early intervention service intended to deal with first psychotic episodes of illness is described. The setting up of such a service in Luton, Bedfordshire is then described, and its first results are assessed.*

**Key words:** psychosis – schizophrenia - prodrome - at risk mental state - early intervention in psychosis - critical period - duration of untreated psychosis

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### Introduction

‘Early intervention in psychosis amounts to deciding if a psychotic disorder has commenced and then offering effective treatment at the earliest possible point and secondly ensuring that intervention constitutes best practice for this phase of illness, and is not just the translation of standard treatments developed for later stages and more persistently ill subgroups of the disorder.’ This paper opens with a quotation from Professor Patrick McGorry, (IRIS 1999) which is also the opening statement of the IRIS Guidelines, the National Psychosis Guidelines for England. It provides a good working definition of Early Intervention in Psychosis.

In this paper, I hope to Explain what an Early Intervention in Psychosis service is, describe, the model of how psychosis presents and develops in its earliest stages, and then further develops into a number of related illnesses and diagnoses, as described in ICD10, and explain why we feel that we could improve the prognosis of psychotic illnesses by intervening during the early phase of the illness and what this intervention consists of. I hope to illustrate this latter point by presenting some of the three year results of our Early Intervention service in Luton, Bedfordshire.

Over the last few decades there has been increasing interest and research in the issues surrounding the onset of psychotic illness. The UK

government is setting up fifty early intervention services across England.

### The Model of the Illness of Early Psychosis

Schizophrenia is commonly said to afflict up to one per cent of the population at some time in their lives. However the incidence seems to be affected by various social factors, which vary in different populations. These include migration, living in an ‘inner city’, social deprivation (Croudace 2000) season of birth (Cotter 1995) and major psychological trauma (Boydell 2003). There are also biological factors which influence the incidence of psychosis, such as genetic makeup (Cardno 2003, Cannon 2003), insults in utero (including the incidence of various viral infections during pregnancy, and other insults, such as poor nutrition or rhesus incompatibility, birth trauma, and head injury (Cannon 2003).

Certain Developmental markers have been observed to be precursors of psychosis, and these include delayed developmental milestones. This evidence suggests that schizophrenia is a neuro-developmental disease (Cannon 2003).

It has been demonstrated that females tend to develop schizophrenia some years later than males, and this has led to the hypothesis that oestrogen may play a protective function against the development of psychotic illness (Hafner 2003).

It is known that the use of such illicit drugs as cannabis can induce psychotic illness in certain vulnerable persons (Andreasson 1987).

It is known that Psychosis Symptoms occur in the General Population to a greater extent than does the syndrome of psychosis (van Os 1999). This argues for a larger incidence of psychosis in the general population than the traditional 1%, and raises the issue that there needs to be an explanation for the fact that many persons with psychotic symptoms may never develop into cases of psychosis. This fact would argue for the Polygenic inheritance of psychosis which we will describe below.

We are used to diagnosing the illness of psychosis according to the cross-sectional Diagnostic categories of ICD10 or DSM4. However there are other dimensions to the illness of psychosis, such as the development of symptom pattern over time, including Onset of psychosis, which is a much more dynamic concept, and the continuum between non-affective and affective symptoms, in psychotic patients, leading to the overlapping of Syndrome patterns in Schizophrenia (McGorry 1998). This leads to the Schizophrenia Spectrum of Disorders. This spectrum may be explained, at least in part, by an underlying polygenetic aetiology, interacting with social and environmental factors.

McGorry argues for psychosis as a series of overlapping syndromes (McGorry 1998). It should be noted that many psychologists also view schizophrenia/psychosis as in fact a number of overlapping syndromes rather than a single disease entity.

It is necessary to have such a multi-dimensional, poly-syndromal model of Early Psychosis, developing over time, with changes in the symptom pattern exhibited by the patient over time, in order to explain the observed 'diagnostic instability' of early psychotic patients. This instability is the phenomenon in which the diagnosis of patients tends to change over time. Because of this diagnostic instability, the traditional standard, cross-sectional ICD-10 diagnosis of patients becomes unsatisfactory by itself when planning treatment for patients in the early phases of psychosis (McGorry 1991, McGorry 1994, McGorry 1995, McGorry 1994, McGorry 1998, McGorry 2000).

The syndromal spectrum of early psychosis includes (McGorry 1997):

- Mania;
- Major Depression;

- Melancholia;
- Negative Symptoms;
- Deficit syndrome;
- Psychosis- positive symptoms;
- Co-morbid symptoms-OCD, PTSD, depression, anxiety, substance abuse.

Care planning will need to take into account the possibility of any combination of these syndromes being present and requiring adequate treatment (both pharmacological and psychological) at any time in patients who present in the early phases of a psychotic illness.

### The Genetics of Psychosis

The Family history of psychotic patients is described in the following population prevalence rates:

- General population rates are 1:100;
- One parent with schizophrenia then 10:100;
- Both parents with schizophrenia then 45:100.

The increase in prevalence of psychosis if there is psychosis in first degree relatives suggests that there is an important genetic component to psychosis. As suggested above, the genetics of schizophrenia is described as polygenic.

It has been suggested that there is an overlap between the genetics of schizophrenia and that of bipolar affective disorder. The evidence for this similar, but somewhat different poly-genic basis for both schizophrenia and bi-polar disorder (Murray 2005) can be summarised as follows:

- Clinical evidence of 2 entities, with some overlap (schizoaffective) and some 'misdiagnosis or variable diagnosis.
- Epidemiological studies suggest a factor increasing the incidence of both Schizophrenia and Bipolar in Black Groups (Harrison 1998).
- Birth Cohort studies- Dunedin Study, Israeli Army Study, and the Swedish Army Study, - showed impaired neurocognitive development in schizophrenia but not in bipolar (Cannon 2003).
- The Maudsley MRI study shows that Gray matter deficits are more important in patients with genetic loading for Schizophrenia than in patients with Bipolar (McDonald 2004).
- Developmental brain abnormalities are more important in patients with schizophrenia than in patients with bipolar illness (Cannon 2003).
- Twin studies; the concordance rates in the Maudsley study are the same for Schizophrenia, Schizoaffective disorder, and mania (Cardno 1999, Cardno 1999).

## Identifying Genes

The first Gene for Schizophrenia (found in Iceland) was Neuregulin on chromosome 8. The second gene for schizophrenia was Dysbindin, on chromosome 6. These were both susceptibility genes for schizophrenia with a likely neuro-developmental role. There are also susceptibility genes for schizophrenia with likely effect on neurotransmitters. These are G72, on chromosome 13 and COMT on chromosome 22.

These genes are partly associated with schizophrenia and partly with bipolar disorder. So there appears to be a genetic overlap between the two conditions. This genetic overlap explains the diagnostic instability that has been described above.

However, ultimately, over time, the symptomatology of each patient will settle down to fit into one of the known diagnostic categories of the schizophrenia spectrum of disorders, including bipolar disorder.

## The Schizophrenia Spectrum

The different psychosis syndromes are differentiated according to

- The time they last (schizophrenia);
- Their ethiology (drug induced psychosis);
- The symptom pattern (delusional disorder);
- Whether mood is affected (mania).

All the psychosis syndromes are similar in four ways

- They all include positive symptoms (hallucinations, delusions, thought disorder);
- They all have a prodrome;
- They all have a stress vulnerability model;
- The age in which they occur is 14-35 by definition (but they may also arise at other ages);
- NOTE Organic psychosis and drug induced psychosis have NO prodrome, as they are caused by a toxic state or organic changes so Organic psychosis also has no stress vulnerability model, but drug induced psychosis fits in the standard stress vulnerability model.

The psychosis syndromes differ in one important way

- Some include cognitive deficits (schizophrenia, Deficit syndrome, Negative symptoms);
- Others do not (Bipolar disorder, major depression);
- This has important implications for outcomes;
- Therefore, the outcomes of an early psychosis service should not be compared to a service

which only deals with schizophrenia, and that diagnosed relatively late;

- Furthermore, the patients with the best outcomes will be those with brief psychotic episodes.

In Early Intervention for psychosis services, patients with all of the illnesses mentioned in the schizophrenia spectrum will be dealt with.

## The Critical Period

The concept of the critical period (Birchwood 1998) has developed out of several longitudinal studies of the course of schizophrenia, from the time when it first presents as an acute psychotic episode. Many such studies have been carried out. An important study was the one by Shepherd et al, which demonstrated that patients with acute psychotic episodes usually recover from the acute episode. Subsequently, about 16% do not have a further episode, about 43% have repeated episodes with a constant deterioration in their mental state between one attack and the next, about 32% will have recurrent attacks of psychosis, with a normal mental state between attacks, and 9% will have repeated attacks with some ongoing psychotic symptoms between attacks. In other words, a psychotic episode does not always lead to chronic ongoing mental illness, and it is only a minority of patients with acute psychosis go on to have an ongoing mental illness with increasing mental health symptoms and cognitive impairment.

Subsequent to this study, Lieberman demonstrated that the risk of relapse and deterioration in mental state was reduced in patients with an episode of psychosis if they continued to take anti-psychotic medication (Lieberman 1993).

Finally, the Northwick Park Study demonstrated the observation which led to the 'Critical Period Hypothesis' (Birchwood 1998), which can be stated as follows:

- It has been observed that there is often major change in the psychosocial functioning of many people with schizophreniform illnesses within the first three years of the onset, thereafter, the deterioration tends to plateau out, so that the first three years of the illness could be described as a 'critical period' in which the future course of the illness is set. As a consequence, It is suggested that intervention in a psychotic illness at the earliest possible time, particularly in the 'critical period' may offer the best chance of improving the prognosis of patients.

This observation has led to the concept that it is of great clinical importance to identify and treat patients with acute psychotic episodes as early as possible, and that any delay in instituting treatment with appropriate medication is likely to adversely influence the prognosis of the illness. Unfortunately, however, it is common experience that patients tend to fail to present for treatment early, and there is a marked delay between the onset of psychosis and effective initiation of treatment. In the UK, before the inception of Early Intervention services, this delay in treatment was 12 months on average. As a concept, this was referred to as the Duration of Untreated Psychosis (Birchwood 1998).

### **The Duration of untreated psychosis**

Duration of untreated psychosis (DUP), is defined as the delay between the onset of psychosis and treatment with antipsychotic medication, and was found to be associated with an unfavorable course of schizophrenia. The reasons for DUP are Complex, and include; Stigma, Positive experience of symptoms, symptoms especially paranoia may prevent disclosure, the tendency of patients to feel that they are not really ill, poor recognition of psychosis by clinicians and poor mental health literacy.

We know that:

- Long DUP leads to unfavourable outcome, be it physical, social, or legal.
- Long DUP is linked with longer Hospital Admissions, Seclusion, Police involvement, and more frequent Hospital admissions.
- Prolonged DUP leads to the need of a higher dose of medication to stabilise the patient.
- Long DUP may be correlated with difficulty in diagnosis.
- The decline in functioning linked with long DUP begins in the prodromal phase of the illness.
- The consequence of the association between a prolonged DUP and a more unfavourable outcome of the illness is that great efforts are being made by many services to reduce the duration of untreated psychosis.

In order to achieve such a reduction, some services have committed themselves to important outreach effort, including public advertisement and education (Birchwood 1998, de Haan 2003, Lieberman 2000, Larsen 2001).

### **The Stress –Vulnerability Model**

The stress-vulnerability model of psychosis was first proposed by Zubin and Spring. It suggests that though a specific vulnerability to psychosis may exist, it is often a combination of stressors that precipitates the illness (Zubin 1977).

Thus, the Genetic factors described above, as well as the Intra-Uterine factors and possible head injuries which have been described above constitute reasons why certain individuals may have an increased vulnerability to psychosis, and they can be said to establish a threshold ('psychosis threshold') for the onset of psychosis in a particular individual which is lower than the normal threshold, so that these people are susceptible to psychosis to a greater extent than 'normal' individuals.

The actual onset of psychosis occurs when these vulnerable people are exposed to various stressors.

The action of preventive medication may be described to patients as shifting the 'psychosis threshold' back towards normal, while the use of illicit drugs such as cannabis may be said to further lower the 'psychosis threshold' so increasing the likelihood that the patient may develop an episode of psychosis. These explanations are key to the psycho-education which patients in Early Intervention Services receive.

The stress vulnerability model has become a cornerstone for the design of the interventions used in all Early Intervention services, especially the Psycho-education Programs.

### **The Prodrome**

The Prodrome is the first clinical phase of a psychotic illness (schizophrenia).

Recently the 'Prodrome' or 'at risk mental state' phase of the illness has achieved significant attention and this phase is seen, arguably as one potential target for improving the outcome of psychosis (Jackson 1995, Yung 1996, Yung 1996).

The prodrome may be considered to be:

- The earliest form of a psychotic disorder;
- A syndrome conferring increased vulnerability to psychosis, I.e. an 'at risk mental state' or 'precursor state'.

If the prodrome is indeed an early form of psychotic disorder, then without intervention, psychosis will inevitably follow its emergence, even if this can only be defined retrospectively.

If the prodrome is a risk factor for psychosis, then only a proportion of individuals experiencing a prodromal phase will progress to a psychotic episode.

At present, the prodrome remains a retrospective concept, and further work is needed before it can be used in a prospective or predictive way. Because the prodrome is usually only identified in retrospect it has been difficult to identify people experiencing a prodromal period. The features of the prodrome are variable and non-specific. The development of preventive strategies would mean a shift to a prospective framework.

Studying the prodromal phase of schizophrenia includes observing the onset of a psychotic illness and observing how the symptom pattern of psychosis changes with time in the early phase of the illness, until it reaches a stable pattern.

The Prodromal features in first episode psychosis which are most commonly described in first episode studies, in descending order of frequency, include:

- Reduced concentration, attention;
- Reduced drive and motivation, anergia;
- Depressed mood;
- Sleep disturbance;
- Anxiety;
- Social withdrawal;
- Suspiciousness;
- Deterioration in role functioning;
- Irritability.

Estimates of the duration of the prodrome vary. Two North American studies which are quoted by McGorry, suggest that the prodrome has a mean duration of two years in schizophrenia. At least one German study, the ABC study of Hafner, suggests that the prodrome can last up to 5 years (Hafner 2003).

Singh has described a progression of prodromal symptoms. He describes the prodrome as beginning with a period of unease, which is then followed by a period of non-psychotic symptoms, such as depression and anxiety. There then follows a period in which positive psychotic symptoms begin to occur in an attenuated manner. There might also be, in the latter part of the prodrome, 'BLIPS' (Brief limited psychotic episodes), lasting for less than a week. Subsequently, the patients 'convert' to having full blown, ongoing positive psychotic symptoms, so that the onset of Schizophrenia is complete. This sequence has been

described by Singh in the NOS scale (Nottingham Onset Scale) (Singh 2000).

In the prodromal phase there occur:

- Profound changes in subjective experience and behaviour;
- Isolation from family and friends;
- Damage to social and working relationships and prospects;
- Deviant behaviour causes crime and losses;
- Increased risk of self harm, aggression and substance abuse;
- Sense of self and personality maturation affected;
- Aberrant development, difficult to reverse.

Based on the ABC study, Hafner's team (Hafner 2003) in Germany has developed IRAOS, the Instrument for the retrospective Assessment of the onset of Schizophrenia, as a semi-structured interview designed for the assessment of individual social development, premorbid adjustment, onset of prodromal signs and symptoms, functional impairment, and social disability. Later ERAOS, a screening tool for young persons with early psychosis was also developed, to be used prospectively. In recent years, Rating Scales, such as CAARMS (developed by McGorry and Yung's team in Melbourne), SIPS, and SOPS (Developed by McGlashan's team in Yale) have been developed in order to enable assessment of the mental state of patients in the prodromal state of a psychotic illness to be assessed and the point of conversion to full blown psychosis to be identified (Hafner 1992, Miller 2002, McGorry 2003).

In order to carry out research ethically on the effect of anti-psychotic medication on the conversion of patients with prodromal symptoms to full psychosis, Yung, McGorry et al developed the concept of identifying patients at 'ultra-high risk' of developing full acute psychosis. They refer to this as the 'close-in strategy' (McGorry 2003).

In order to identify such patients, who were at ultra high risk of developing full acute psychosis, they used the following criteria, and CAARMS was designed to identify such patients:

- Family history of psychotic illness or a DSM-IV schizotypal personality disorder and a recent change in mental state or;
- Sub-threshold psychotic symptoms (such as unusual perceptual experiences) occurring several times a week over a period of at least a week or;

- Brief, limited or intermittent psychotic symptoms (BLIPS) lasting less than a week and which spontaneously remit;
- These patients are all 'help seeking'.

In Germany, the team based round Bonn have developed a system of identifying patients with prodromes of psychosis based on the identification of Basic Symptoms of Schizophrenia. This led to the development of the Bonn Scale for the Assessment of Basic Symptoms (BSABS) by Gross, Huber and Klosterkötter. This basic symptom concept and scale has now been incorporated into the full version of CAARMS (Gross 1992, Klosterkötter 1994, Kojoh 1990).

The German system has now developed the system of Basic symptoms further so that, as with the NOS scale previously referred to, they describe an early and a late prodromal phase. The symptoms in the early prodromal phase are referred to as the 'early initial prodromal phase' (EIPS)

The early initial prodromal state (EIPS):

- At least one of the following basic symptoms;
- Thought Interference;
- Compulsive perseverance of thoughts;
- Thought pressure;
- Thought Blockade;
- Disturbances of receptive language, either heard or read;
- Decreased ability to discriminate between ideas and perception, fantasy and true memory;
- Unstable ideas of reference (subject-centrism);
- Derealisation;
- Visual perceptual disturbances (blurred vision, transitory blindness, partial seeing, hypersensitivity to light, etc);
- Acoustic perceptual disturbances (hypersensitivity to sound or noise, etc);
- Occuring in the last three months prior to the study for several times a week;
- And/Or;
- Reduction of GAF by 30 points in the last year;
- AND one of the following risk factors;
- First degree relative with a lifetime history of schizophrenia or schizophrenia spectrum disorder;
- Pre or Peri natal Complications;

This is followed by a late prodromal phase, the Late Initial Prodromal Phase (LIPS).

The Late Initial Prodromal State (LIPS):

- Presence of at least one of the following symptoms;
- Ideas of reference;
- Odd belief or magical thinking;
- Unusual perceptual experience;
- Odd thinking and speech;
- Suspiciousness and paranoid ideation;
- Symptoms have to appear several times per week for a period of at least one week during the three months prior to the study and/or;
- BLIPS;
- Duration of episode less than one week, interval between episodes at least one week;
- Symptoms resolve spontaneously;
- Presence of at least one of the following symptoms during three months prior to the study;
- Hallucinations;
- Delusions;
- Formal thought disorder;
- Gross disorganised or catatonic behaviour.

The LIPS will then merge into full psychosis (Wolbrock 2004).

Several studies have been carried out to assess whether atypical anti-psychotic medication can be used in order to delay the onset of full psychosis in patients who are in the late phase of the prodrome. McGorry has demonstrated that Risperidone is effective in this respect. McGlashan and Wood have also had results which suggest that Olanzapine may be useful in this respect. There has also been a small study using Amisulpride. The original Study by McGorry also suggested that CBT, on its own or in combination with Risperidone, might also be effective in slowing down or preventing conversion to acute psychosis. A further study, by Morrison et al has shown that CBT may, on its own, prevent the conversion of prodromal patients to acute psychosis. Much more work remains to be done, however, before it may be concluded that there is a general consensus in the scientific community that intervention in the prodromal phase will effectively prevent or change the prognosis of psychotic illness. There has been much discussion about the ethical issues involved. Although differing opinions persist, it is the view of the present author that, before psychotic symptoms become apparent, patients should receive treatment for the symptoms or syndromes which they present, (thus Depression should be

treated as depression, anxiety as anxiety etc, and anti-psychotics should not be prescribed). Once psychotic symptoms, including frequent attenuated symptoms, occur, then it is justifiable to use both anti-psychotic medication and psychological interventions in order to avoid any period of untreated psychosis (McGlashan 2003, McGorry 2002, Morrison 2004, Wolbrock2004).

## Methods

### *Service Development*

As a consequence of these concepts, there is a world-wide attempt to develop new services to deliver effective care to younger psychotic patients. This has led to the development of new services focused on this age-group. Thus guidelines for these new services have been developed.

We will now review the UK (IRIS 1999) guidelines:

- Why intervene early in psychosis? (IRIS 1999);
- There is usually a long delay between the beginning of psychotic symptoms and effective treatment;
- The longer persons with psychosis remain untreated, the greater the likelihood of harm, be it physical, social or legal;
- Social and personal disability becomes rapidly evident in the first few years of psychosis;
- Early treatment with anti-psychotic drugs is known to improve the further development and prognosis of a psychotic illness;
- If treatment of psychosis is delayed, there are substantially higher health care costs for the first three years after treatment is initiated;
- Treatment resistant symptoms tend to develop in the first three years, or critical period;
- The tendency to repeated hospital admissions begins in the first three years, or critical period.

Why treat patients with a first psychotic episode in a specialised manner? (IRIS 1999)

- It is likely that patients who have had their first episode of psychosis will recover well in the short term;
- Relapse during the early course of psychosis leads to an increased likelihood of further relapses and chronic illness;
- If a decline in function occurs in a psychotic illness, the decline will occur early in the illness, or even in the prodromal phase, before

clear psychotic symptoms are manifested. This means that the first three years of psychosis are a 'critical period' in biological terms;

- The first few years of psychosis are also a 'critical period' from the psychosocial point of view.

### *Guiding Principles (IRIS 1999)*

- An early psychosis service should have a youth and client centred focus;
- If the patient fails to engage, his case should not be closed;
- There should be an emphasis on maintaining the client's social roles;
- Psychiatric treatment should be delivered in the least restrictive setting possible, so long as treatment can be delivered effectively and safely;
- Treatment should be delivered in such a way as to avoid stigma;
- The dose of neuroleptics should be the lowest dose which will effectively treat the symptoms;
- It must be accepted that in the early phases of a psychotic illness, a definitive diagnosis may be impossible to make because of the day to day variability of symptoms;
- The family must be fully involved in all aspects of the care of the patient.

### *Clinical Guidelines (IRIS 1999)*

- A strategy for early detection and assessment of frank psychosis is an essential component of early intervention;
- Following referral of the case, a key worker should be appointed soon, in order to engage with the client and family / friends through the first three years (the critical period) within a model of assertive case engagement;
- An assessment plan and collaborative assessment of needs, which is both comprehensive and collaborative, and driven by the needs and preferences of the client and their relatives and friends should be drawn up;
- The management of acute psychosis should include low dose, preferably atypical, anti-psychotics and the structured implementation of cognitive therapy;
- Family and friends should be actively involved in the engagement, assessment, treatment and recovery process;
- A strategy for relapse prevention and to counter treatment resistance should be implemented;

- A strategy to facilitate the client's return to work and valued occupation should be developed in the critical period;
- Ensure that the basic needs of daily living-housing, money and practical support –are met;
- Assessment and treatment for co-morbidity should be undertaken in conjunction with similar processes for psychosis;
- A local strategy to promote a positive image for people with psychosis needs to be adopted.

#### *Who Do we treat in EI Services? (IRIS 1999)*

- The initial (and bulk) of the evidence is regarding Schizophrenia;
- However in First Psychotic Episodes, there is often Diagnostic instability;
- Often the diagnosis may be unclear;
- There is evidence that other forms of psychosis may have as long a duration of untreated psychosis as with schizophrenia. This includes Manic Depressive psychosis.

Therefore, we treat the whole of the 'Schizophrenia Spectrum', including Manic depressive psychosis, following the lead of EPPIC and the IEPA. As stated earlier, there may be a similar poly-genic basis for both Schizophrenia and Manic Depressive psychosis (Murray 2005).

We acknowledge that while about 3 in 100 persons suffer from an episode of psychosis in their lifetime, one in ten persons actually suffer from affective symptoms in their lifetime. Of people who suffer from psychosis, about 30% suffer from affective symptoms

#### *Assessment*

In order to adequately assess patients who present as psychotic for the first time, it is necessary to understand that many young persons with psychosis may not at all wish to disclose that they are experiencing psychotic symptoms. Patients might be very withdrawn and reclusive because of their illness. Patients might also intentionally wish to 'cover up' their symptoms, or they may be in denial.

It is therefore often quite a difficult task to assess patients. It is important that the assessment needs to be made in an environment in which the patient feels comfortable. Open questions should be used initially, but more probing questions need to be asked subsequently. It is important to appropriately evaluate collateral information from parents, friends, and other interested parties.

Sometimes, several sessions are needed before the full picture becomes clear. It is useful sometimes to 'map out' symptoms over months, and also to use appropriate rating scales, such as PANSS in order to evaluate the intensity of mental health symptoms. All appropriate clinical investigations should also be carried out.

The care co-ordinator will also carry out a 'needs assessment' in order to be able to formalise the care plan.

#### *Management*

A comprehensive care plan is drawn up for each patient by the care co-ordinator in order to ensure that each patient has the opportunity to achieve as full a recovery as possible. Assertive case management is considered the most appropriate case management style for an early intervention service.

#### *Assertive Case Management.*

With regard to specific interventions and individual case management, it is felt that the adherence of the individual to a treatment plan is facilitated if his/her initial contact with mental health services is a positive one, thus minimising unnecessary delay in the initiation of adequate treatment and possibly avoiding admission to hospital.

In order to achieve this, the case manager will work in a youth centred way, and will be prepared to meet with the patient in locations which the patient will feel happy with. There is a firm commitment to do all that is necessary to enable the patient to return to mainstream work and or education. We see such objectives as key measures of outcome (Stein 1980, Burns 1999, UK700 Group 1999).

#### *Pharmacotherapy and Psychological Treatment*

In order to maximise benefits, improve compliance, and reduce side effects, the use of low dose medication (in the UK we are now clear that this means the lowest EFFECTIVE dose of atypical anti-psychotics) is advocated, in conjunction with psychological therapies.

Previously, it was considered good policy to use very low dosage of typical anti-psychotic medication, such as haloperidol, in order to attempt to avoid Extra-pyramidal side effects. Today, however, it has been demonstrated that the therapeutic window for typical medications is too narrow for such a medication strategy to be routinely effective, so this policy has been



superseded by the use of atypical anti-psychotic medications (Agius 2004, Dzibur-Kulenovic 2003, Agius 2004).

The plan in UK services is to ensure that patients who have had a psychotic episode should continue on preventive anti-psychotic medication for a period of three years, the period of time in which the patients remain within the early intervention service. Further treatment will be decided according to the circumstances of the individual case. After a study of the literature, our own service has recommended that possible first line medication should be Risperidone 4-6mg, Quetiapine 600mg, or Olanzapine 10-15mg. We recommend, in line with the Maudsley Guidelines, that first one then a second atypical anti-psychotic should be administered, each trial being for six weeks. If neither of these two drugs are effective, then resistant positive symptoms should be treated by Clozapine, at an appropriate dose. Aripiprazole is a new medication, and there is in the literature only one small study of the use of this drugs in first psychotic episodes. We look forward to a major study of this promising medication in first episode psychosis. Amisulpride is used in young patients, at age 14 or 15, because the product licence of this drug permits its use at an age which is lower than that licensed for the other anti-psychotics. (Agius 2004, Dzibur-Kulenovic 2003, Agius 2004).

Patients with Mania are treated with Olanzapine or Quetiapine, as well as a mood stabiliser, usually semi-sodium valproate.

Psychological interventions, including cognitive behaviour therapy (CBT) and family interventions are treatments which can be used to reduce stress, in combination with appropriate medication, in order to adequately intervene with both elements of the stress-vulnerability model.

There is good evidence that CBT can reduce the distress caused by psychotic symptoms such as hallucinations and delusions, but this is mostly from trials of the intervention with chronic patients. More evidence is now being produced regarding the use of CBT in first psychotic episodes (Drury 1996, Kuipers 1997).

Another form of CBT is 'Compliance Therapy', which is a motivational interviewing technique used to enable patients to adhere to their medication (Kemp 1996).

CBT may also be used to treat depressive symptoms which occur as the patient recovers from psychosis. About 30% of patients with psychosis suffer post-psychotic depression in the

recovery stage of the illness. Some may become so distressed that they may commit suicide.

The patients who are most at risk are the 'integrators', who are most likely to be severely affected by low self esteem and a deep sense of personal loss as a result of their illness.

Patients who 'seal over' their psychotic experience are unlikely to suffer from depression.

Family interventions are now well established as a means of reducing High Expressed Emotion, which is a known cause of psychotic relapse. However, in first episode psychosis, it is often the case that High EE has not had time to become established, but the family is severely distressed. The intervention therefore needs to be modified in order to be appropriate for the needs of the families who are being helped (Leff 1982).

Group interventions for families, patients, and psycho-education groups are also known to be effective in assisting patients and their families (McFarlane 1995).

All patients and their families are educated to identify early signs of relapse, and these patients will then work out a relapse prevention plan with their care co-ordinator (Martic-Biocina 2003).

### *Caring for the Carers*

The importance of interaction between people with psychotic illness and their families is recognised. The importance of interaction between people with psychotic illness and their families is recognised. Hence addressing the needs of carers is seen as an integral part of the treatment process.

### **Results**

We developed an Early Intervention service in Luton, Bedfordshire five years ago, from February 2001, and are therefore able to describe the first three year outcomes for the first cohort of 25 patients. We have compared these audit results to the controlled trial carried out by Prof. Tom Craig, in the LEO service in Lambeth (Craig 2004), London, which is a service which is comparable to ours in Format. From the point of view of Process, annual Audits have demonstrated that as our service has grown to up to 90 patients who are being seen at any one time, we have had a preponderance of young men in the service, they have come from a mix of ethnic groups which is representative of the different ethnic groups in our catchment area, DUPs have been relatively long, but are now decreasing to about 12 months, there has been no change in the rate of use of the mental

health act, we have provided a range of psychosocial interventions while prescribing atypical anti-psychotics according to the IRIS guidelines. Of interest have been the different prevalence rates of psychosis in the different ethnic groups.

Our service, like the LEO service, (Craig 2004) was developed as a team which gradually expanded in size and 'learnt on the job' over the years. We have audited the outcomes of the first 25 patients who have spent 3 years in the service before being discharged or transferred to other services. We have been able to show that the mean PANSS score for these patients reduced over the three years from 63 to 42, the mean positive PANSS score reduced from 13 to 8. The mean negative score reduced from 15 to 11.

Twenty three patients lived with their families, while two lived alone. Five patients (20%) reported post-psychotic depression, and were treated with anti-depressants.

Eight patients were in full time employment. One was seeking supported employment, one had completed an apprenticeship, three are unemployed, one worked part-time, and six returned to complete full time courses at University.

Of 25 patients at three years, 18 were taking medication regularly, two were taking medication only irregularly, and five were not taking medication. All the patients and their families received psycho-education and had early warning signs of relapse identified. Of the twelve patients who admitted using illicit drugs, including cannabis, only two were still using illicit drugs (cannabis) after three years.

Over the three years, three patients did not suffer a relapse, six experienced one relapse, three experienced two relapses, eight experienced three relapses, and three remained actively psychotic.

Only six patients experienced one hospital re-admission, while three other patients experienced 3 re-admissions. Thirty episodes of relapsing symptoms were managed at home.

Only 8 of these 25 patients were ever admitted formally under the mental health act, and in all but two cases, this was their first admission. The other two cases were the patients who had had three re-admissions, and these were admitted under the mental health act on each admission (Agius 2004, Agius 2004).

These results are similar to those reported from LEO by Tom Craig (Craig 2004). As with the LEO results, we find assertive case management appears to be the most effective intervention.

We have arranged formal family interventions for some patients, and CBT is being offered to an increasing number of patients.

## Discussion

We suggest that these three year results support the findings of the LEO study, and we hope to be able to publish further cohorts in the near future (Craig 2004).

It needs to be added that we are aware that two of these first 25 patients required further hospitalisation after they had been transferred from our service, both because of relapses due to non-compliance with medication.

## Conclusion

We judge these results to be a confirmation of the effectiveness of the use of specialist teams specialised in Early Intervention in Psychosis. This policy is now supported by the new WHO Europe statement on psychiatric services in Europe, which states that all signatories shall:

*'offer effective treatments, psychotherapies and medication with the fewest side effects , particularly for young people who suffer a first episode of mental ill health' (WHO 2004).*

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