10 Managing schizophrenia in the community

Harry H Hustig and Peter D Norrie

The heterogeneity of schizophrenia and the stigma attached to severe mental illness make initiating and providing treatment difficult — but prudent use of antipsychotics, a practical approach to psychosocial treatments and assertive case management can clearly enhance the individual's quality of life.

The paranoid person who feels that he is being followed can mistakenly take offence against strangers and abuse or even attack them. Reproduced with permission from the Cunningham Dax Collection of Psychiatric Art in the Mental Health Research Institute of Victoria.

Deinstitutionalisation has increased the liberty of people with schizophrenia, but the more disabled have frequently experienced their freedom in substandard living conditions or in too much reliance on their families. Since the early 1990s there has been affirmative action by both Federal and State governments to assist people with schizophrenia, with a shift to integrated community services.[1,2]

Advances in the understanding of the pathophysiology and pharmacotherapy of schizophrenia, combined with increased community-based rehabilitation, have led to considerable improvements in care. The shift to community-based services, compounded by a shift of psychiatrists away from public to private practice,[3] has led to an increased demand on general practitioners. The most expeditious use of resources would be the integrated service model described in chapter 2,[4] where general practice and mental health services are interwoven to meet patient needs.

An important aspect of the general practitioner's role is in supporting the family of people with schizophrenia. Information about the illness and ways of coping with disturbed behaviour are high priorities for carers, who also express the need for increased contact with doctors.[5] As access to public sector psychiatrists is diminishing, this task is falling increasingly to general practitioners.

Synopsis

- There is an increasing expectation that general practitioners will be more involved in treating people with schizophrenia.
- Newer drugs are associated with better clinical outcomes, especially in relation to negative symptoms (ie, apathy, underactivity, slowness, social withdrawal).
- Some patients make a full recovery or are quite functional between episodes.
- Identifying early warning signs will lead to reduction of disability.
- Side effects of medication must be treated vigorously and expediently to enhance compliance.
- Secondary symptoms of dysphoria and depression must be treated to prevent suicide.
- Issues of alcoholism and substance abuse must be addressed, providing education on their implications for the course of the illness.
- People with schizophrenia need continuity of care, which the general practitioner may be best placed to provide because of a long-term commitment to the patient.
- Involvement with the family (education, support and a collaborative approach in monitoring and supporting the patient's well-being) is vital.

The nature of schizophrenia

The prevalence of schizophrenia is about one per cent of the population. The median age of onset for the first episode of psychosis is early to mid twenties for men and the late twenties for women. The onset may be abrupt or have a long prodromal phase and be interwoven with a history of substance abuse.

The age of onset has prognostic significance: an earlier age of onset, being male, poorer premorbid adjustment, lower educational achievement, more structural brain abnormalities, more prominent negative symptoms and more severe cognitive impairment predict a poorer prognosis.

The course of the illness is quite variable. According to Watt et al.,[6] 43% of patients have repeated episodes with increasingly severe residual symptoms and no complete remission, 9% have repeated episodes with lasting impairment at a constant level, 32% have several episodes but minimal impairment in between episodes of illness, and 16% have a single episode of the illness with no lasting impairments. The prog-

Extended Care Services, Royal Adelaide Hospital, Glenside Campus, Adelaide, SA.
Harry H Hustig, FRANZCP, Director;
Peter D Norrie, FRANZCP, Psychiatrist.
Correspondence: Dr H H Hustig, Extended Care Services, Royal Adelaide Hospital, Glenside Campus, PO Box 17, Eastwood, SA 5063.

nosis is more favourable for first-episode patients. There is increasing evidence that psychosis is actively pathogenic or at least that delayed intervention leads to greater secondary morbidity.

Diagnosis

The diagnosis of schizophrenia is based on a combination of positive and negative symptoms combined with a clear disturbance of social and occupational functioning. The exclusion of organic disorders is important. The DSM-IV criteria for schizophrenia are outlined in Box 1.[7]

Medication to reduce symptoms

In early intervention programs, medication may be used in the prodromal phase (Dr P McGorry, Early Psychosis Prevention and Intervention Centre, Melbourne, personal communication), but, most often, treatment follows three overlapping phases:

The acute phase (onset of florid psychosis): The aim is reduction of psychotic symptoms. Start with low doses of a traditional neuroleptic agent (Box 2) or an atypical neuroleptic such as olanzapine (dose, 10 mg) or risperidone (dose, 2–4 mg). If sedation is needed an adjunctive benzodiazepine may be of benefit. Referral to a psychiatric service is essential if there is a risk of self-harm or harm to others and helps to verify the diagnosis and establish collaborative treatment.

Stabilisation phase (the disease resolves or stabilises but the patient is at risk of relapse): The dose of antipsychotic should not be significantly reduced from that used to gain control of the psychosis unless reduction is required to minimise side effects.

The maintenance phase (most of the predominant positive symptoms have resolved): The object is to prevent relapse and reduce the level of disability. Identification of early warning signs may lead to further reduction in maintenance medication.

The choice of drug therapy with traditional agents has been dependent largely upon the side effect profile (Box 2), as the drugs are equally effective in treating positive symptoms (ie, hallucinations, delusions, disturbances in thinking).

The introduction of the safer drugs ***risperidone*** and ***olanzapine*** has changed drug treatment.[9] They appear to have equal efficacy, with olanzapine producing fewer extrapyramidal side effects but more weight gain.[10] At low doses such differences may be marginal. Of more importance is the significant reduction in negative symptoms with these agents. Negative symptoms are present at the time of first presentation in 10% of patients. They may be primary, or secondary to depressive symptoms, anxiety symptoms or extrapyramidal symptoms — specifically, parkinsonism and akinesia.[11]

Clozapine is not recommended as first line treatment due to the risk of agranulocytosis (incidence, 0.8%–1%), but is the most effective antipsychotic in treatment-resistant schizophrenia[12] and should be used when a person's illness has not responded to at least two different antipsychotics. Clozapine is effective in controlling aggressive behaviour[13] and associated with a reduction in suicide attempts.[14]

Depot medication may enhance compliance, but extrapyramidal side effects are often a problem and compliance with medication to treat side effects remains an issue. At present there are four depot preparations available in Australia (Box 3): the two associated with the fewest extrapyramidal side effects are flupenthixol decanoate and zuclopenthixol decanoate, the latter agent being slightly more sedating and anxiolytic. Zuclopenthixol is also available in short acting form that lasts one to three days and may provide effective sedation in initial treatment.

1 DSM-IV diagnostic criteria for schizophrenia[7]

A ***Characteristic symptoms:*** Two or more of the following, each present for a significant portion of time during a one-month period:
- ➤ delusions
- ➤ hallucinations
- ➤ disorganised speech (eg, frequent derailment or incoherence)
- ➤ grossly disorganised or catatonic behaviour
- ➤ negative symptoms (ie, affective flattening, alogia, or avolition).

Note: Only one Criterion A symptom is required if delusions are bizarre or hallucinations consist of a voice keeping up a running commentary on the person's behaviour or thoughts, or two or more voices conversing with each other.

B ***Social/occupational dysfunction:*** Since the onset of the disturbance, one or more major areas of functioning, such as work, interpersonal relations, or self-care, are markedly below the level previously achieved.

C ***Duration:*** Continuous signs of the disturbance persist for at least six months. This six-month period must include at least one month of symptoms (or less if successfully treated) that meet Criterion A.

D ***Exclusion*** of schizoaffective disorder and mood disorder with psychotic features.

E ***Substance/general medical condition exclusion:*** the disturbance is not due to the direct physiological effects of a substance (eg, a drug of abuse, a medication) or a general medical condition.

F ***Relationship to a pervasive developmental disorder:*** If there is a history of autistic disorder or another pervasive development disorder, the diagnosis of schizophrenia is made only if prominent delusions or hallucinations are also present for at least a month (or less if successfully treated).

Managing poor response to treatment

For the patient whose illness does not respond adequately to single low dose therapy, reassessment of the diagnosis and assessment of compliance are the first steps. If the diagnosis is confirmed and compliance with therapy seems to have been adequate, the most common practice is to gradually increase the dose. Although high doses may be effective with a minor-

2 Common side effects of oral antipsychotic drugs

Drugs	Sedation	Postural hypotension	Anticholinergic effects	Extrapyramidal side effects	Other*
Phenothiazines					
Chlorpromazine	+++	+++	++	++	Photosensitivity
Pericyazine	+++	++	+++	++	
Thioridazine	+++	++	++	++	Severe decrease in libido Retinal pigmentation Cardiotoxic in overdose
Fluphenazine	++	+	+	+++	
Trifluoperazine	++	+	+	++	
Butyrophenones					
Haloperidol	+	+	+	+++	Young men most at risk Acute dystonic reactions.
Thioxanthines					
Thiothixene	++	+	+	+++	Slightly activating.
Diphenylbutyl					
Pimozide	+	+	+	+++	Sudden death due to arrhythmia at high doses ECG monitoring of benefit
Atypical neuroleptic agents					
Clozapine	++++	+++	+++	+	Agranulocytosis, weight gain
Risperidone	+	++	+	+	Extrapyramidal symptoms increase in higher doses
Olanzapine	++	+	++	+	Weight gain

*A more comprehensive discussion of side effects is available in the *Psychotropic drug guidelines*.[8]

ity of patients, most do not benefit from being prescribed doses higher than Pharmaceutical Benefits Scheme guidelines. In addition, the level of unwanted side effects, secondary negative symptoms, neuroleptic-induced deficiency symptoms and risk of tardive dyskinesia all increase. A high dose treatment strategy cannot be endorsed. The other common practice is to switch to an alternative antipsychotic in the same drug group, but there is little scientific evidence to support this practice, except to avoid specific side effects. Referral to a specialist service for intensive psychological programs and revision of drug therapy, including use of clozapine, is indicated (see Case History 2).

Mood stabilisers such as lithium carbonate, carbamazepine and sodium valproate have shown some benefit in open studies, but their efficacy in treatment-resistant patients remains controversial and monotherapy with an atypical neuroleptic such as olanzapine or risperidone should be attempted first.

3 Depot medications for schizophrenia available in Australia, November 1997

Depot	Dose	Dosing interval
Fluphenazine decanoate	12.5–100 mg	2–4 weekly
Haloperidol decanoate	50–300 mg	4–6 weekly
Flupenthixol decanoate	20–100 mg	2–4 weekly
Zuclopenthixol decanoate	100–400 mg	2–4 weekly

These doses are adjusted according to the patient's symptoms and presentation. Some patients, after specialist review, may require even higher doses.

Depression and suicide

Major depression occurs in at least 5% and dysphoria in up to 50% of patients.[15] Although there is an overlap between depression and negative symptoms, depression should be suspected when a person expresses sadness, pessimism and hopelessness.

The risk of suicide is at least 10%, particularly during the first 10 years of illness. Despite dramatic reports of suicide driven by psychosis, the more common occurrence is suicide during the residual phase of the illness.[16] Those most at risk are the young chronic relapsing patients with good education and high performance backgrounds who show painful insight, feelings of hopelessness and fear of further disintegration, and who have made previous suicidal threats. If suicidal intent is suspected, urgent referral is indicated and the patient may need to be detained.

Case history 1: Timely intervention

A 17-year-old unemployed youth was brought to his general practitioner with increasing social withdrawal of eight months' duration and two weeks of erratic behaviour and being inappropriately argumentative. At the first interview he was coherent and denied any perceptual disturbances or delusions.

The general practitioner had known the family for several years and concurred with the parents' observations. He reassured them that he would investigate the change.

On reassessment six days later, the discussion moved to the young man's peer contacts and he spontaneously admitted to an increasing use of cannabis and auditory hallucinations which persisted for days after having smoked cannabis.

Concerned about the possibility of prodromal schizophrenia, the general practitioner organised a referral to a psychiatrist. On presentation, the young man refuted the history, admitted to cannabis use, but stated that this had decreased because of the increased vigilance of his family. He denied any specific symptoms of schizophrenia, including hallucinations, but was unable to explain his withdrawal and lack of motivation.

The interview with parents focused on the resentment that the young man felt towards them and their recent increased control of his activities and finances. The father revealed that the patient's brother, who was living in another State, had suffered from schizophrenia and that this was the major fear of the family. The pros and cons of intervention were discussed in view of their son's reluctance to be followed up. Resources for further information about schizophrenia were provided. The general practitioner was informed of the additional history and outcome of the assessment.

Five months later the young man presented again, this time with clear features of disorganised schizophrenia. Treatment with low dose trifluoperazine was begun and some of the young man's symptoms began to resolve, but he developed marked problems of akathisia and remained amotivational. The general practitioner contacted the psychiatrist, who recommended either low dose propranolol to reduce the akathisia, or a change of medication to risperidone, given the continuation of negative symptoms.

At reassessment three weeks later, the patient spontaneously acknowledged his auditory hallucinations and clear paranoid delusions in relation to his parents. The parents reported his increased spontaneity and the return of his sense of humour.

Risperidone treatment continued and the young man became involved in a technical education course. Several months later he again began to behave erratically. On review he admitted to increased use of cannabis and non-compliance with medication as he had felt well. His medication was adjusted to provide symptom control.

He was reluctant to be involved with the local psychiatric team but was agreeable to seeing his general practitioner. He attended every two or three weeks for the next two months, then monthly. He remained symptom-free while the importance of compliance with medication and abstinence from cannabis was reinforced.

A year after the initial consultation a gradual withdrawal of medication was undertaken. His mental state was monitored by his general practitioner and at the end of two years he remained free of symptoms.

Although most of the symptoms of depression link more closely with dysphoria than melancholia, antidepressants may be of benefit. In the past, tricyclic antidepressants reduced dysphoria but were often associated with increased side effects, and, given the potential for cardiac arrest in overdose, they were often underprescribed. The newer selective serotoninergic reuptake inhibitors reduce the risks in overdose considerably. They can reduce dysphoria and anxiety, but there may be an increase in agitation and akathisia.

Compliance

Compliance with medication is estimated at 60% and this increases to 80% with depot medication. Without medication, relapse rates are about 87%, but can be reduced to 63% when treatment occurs at the beginning of a relapse, 44% when treatment is initiated for prodromal symptoms or early warning signs and 20% with continuous medication.[17]

Several factors enhance compliance: details of after-care should be clearly provided to the patient and carer, including specific training in administration of medication; the involvement and contact by the community psychiatric team should be established before discharge; and the clinic milieu should be welcoming and without long waiting periods, as many patients are socially anxious.

Ambivalence about medication is often quite strong. Patients and families need a clear opportunity to ventilate their feelings. The patient needs to be reassured that most nuisance side effects of constipation, dry mouth, blurred vision, dizziness, hypersalivation and sedation will diminish with time, while symptoms such as sexual dysfunction and weight gain tend to plateau.

Extrapyramidal side effects are significantly reduced with antiparkinsonian drugs such as benzhexol, and akathisia responds well to low dose β-blockers. Simple changes to timing, use of a lower dose or less potent agents and treating specific side effects enhance compliance. It is important that the specific benefits to the individual in taking medication are identified and reinforced.

Alcohol and drug abuse

Drug abuse has increased dramatically in young patients, particularly cannabis, alcohol and amphetamines. Carr reported that the six-month prevalence was 26.8% for alcohol and drug dependence and this increased to 59.5% as a lifetime prevalence.[18]

Dixon reported that 72% of patients with schizophrenia used drugs to get high, an equal number used it to avoid depression and only 15% reported that it was to reduce side effects.[19] Most used illicit drugs to go along with the group. Some patients also admitted that they preferred to see themselves as having a drug problem rather than schizophrenia.

Treatment needs to be individualised, focusing on detoxification, education over the maladaptive effect of drug misuse, the increased risk of schizophrenic relapse and the need to use higher doses of neuroleptics while the abuse is occurring.

Case history 2: Established schizophrenia resistant to treatment

A 34-year-old divorced man with a 16-year history of schizophrenia lived with his parents, but harboured persistent overvalued paranoid ideas towards his father.

When these ideas reached psychotic intensity, he was detained in a psychiatric hospital: he had bizarre thoughts in relation to telepathy via high power voltages and a belief that his father was forcing him to inhale chemicals to control his brain.

The patient was a heavy smoker, caffeine abuser and episodic binge drinker. His insight was poor, and he held his father responsible for both auditory and olfactory hallucinations. Treatment with oral neuroleptics was attempted but compliance (as in previous hospitalisation) was poor and depot haloperidol was introduced. His detention order was revoked by the State Guardianship Board but a community treatment order (enforceable like a detention order, allowing for return to detention if community treatment is not maintained) was conceded after much debate.

Given the man's residual paranoia and lack of insight, his general practitioner agreed to provide regular intramuscular depot medication.

The situation at the family home became increasingly tenuous due to the patient's lack of personal self-care and his father's intolerance of his son's lack of motivation and increased paranoid ideation. Although two attempts at inpatient rehabilitation were undertaken, the situation at home remained poor and response to antipsychotics and augmenting treatment strategies left the patient with persistent paranoid beliefs and olfactory hallucinations pertaining to the "chemicals".

Although the level of disability was endured by the parents, the situation reached crisis when the patient expressed clear homicidal ideation towards the father and thoughts of mass destruction with nuclear weapons.

Prolonged hospitalisation led to little improvement and clozapine therapy was instituted. The patient made a modest recovery and, although thought-disordered, developed sufficient insight to distinguish his illness-related experiences from reality.

After 10 weeks of clozapine therapy, however, he felt that he should return home. Due to the distance from the clozapine clinic, his general practitioner was contacted and agreed to partake in a cooperative prescribing and monitoring arrangement. The patient continued to improve at home and resumed work in the family business. The hostility between him and his father diminished as he became more active, his father became less critical and the paranoid ideation towards his father gradually abated. Compliance with clozapine therapy was confirmed by regular tests of serum clozapine levels.

Rehabilitation needs to focus on establishing alternative social networks and vigorous treatment of any secondary conditions such as depression or anxiety.

Psychological intervention

The role of psychological strategies is to minimise disabilities and strengthen the person's ability to cope in the community. Their effectiveness depends on whether the person can be persuaded to take responsibility for managing the disorder.

The general practitioner (as in both case examples) is often the only doctor who has known the person before schizophrenia developed. The general practitioner may be aware of the family dynamics and is usually aware of the person's support network. A therapeutic alliance with the patient may already be present. Such a relationship is more difficult to establish in the acute phase or during periods of intense paranoid ideation.

The American Psychiatric Association guidelines in the treatment of schizophrenia emphasise the following components:[9]

- **Establishing and maintaining a therapeutic alliance,** with continuity of care.
- **Monitoring patients' psychiatric states.** Collaboration with family members and the support network is essential, as people with schizophrenia often lack insight.
- **Education about schizophrenia and its treatment.** The patient's ability to understand and retain information fluctuates. Education should be ongoing and lead to a collaborative approach and must be extended to family members.
- **Establishing an overall treatment plan.** This is an iterative process, depending on patient response and preferences, and collaboration with specialist psychiatric services.
- **Enhancing adherence to the treatment plan.** This requires the acceptance of psychosocial intervention, vocational goals and addressing relationship issues. An atmosphere of tolerance in which patients feel free to discuss treatment critically improves collaboration and reduces drop-outs.
- **Increased understanding of effect of the disability,** by assisting patients to cope with their interpersonal relationships, work, and other physical health needs (e.g., helping them determine who they can share their delusional beliefs with). Assistance and coaching with basic problem-solving skills is often of great benefit.
- **Identifying stressors and early warning signs that could initiate relapse.** Early warning signs are often non-specific and may just present as a change in mood, anxiety or social withdrawal. They are often consistent in subsequent episodes and often initially detected by family members two to four weeks before relapse.[18]
- **Reducing family distress and improving family functioning.**
- **Facilitating access to services (mental health, general medical and welfare).** The general practitioner, treating psychiatrist and mental health team need to work collaboratively in arranging such things as disability income support, housing and other services for which patients or their families are unable to advocate effectively.

4 Psychosocial therapies in treating schizophrenia

Inability to cope with stress

- Stress management: cognitive–behavioural strategies coupled with problem-solving therapy

Social interpersonal difficulties

- Social-skills training, targeting specific areas such as making conversation, eye contact, non-verbal communication, method role playing, modelling, and small groups
- Self-help groups

Residual psychotic symptoms

- Cognitive–behavioural treatments which either lead to switching attention, increasing or decreasing stimuli, sensory strategies or physiological strategies
- Reality reinforcement educational group, aiming to increase patients' insight into the bizarre nature of their beliefs and allowing differentiation between symptoms and reality.

Deficit symptoms

- Counselling, encouragement to join groups, structured rehabilitation, sheltered employment with high task repetition
- Constructive use of leisure time

Lack of skills in activities of daily living

- Specific rehabilitation of basic life skills, such as cooking and budgeting
- Use of community support workers for practical assistance

Social handicaps (finances, resources, housing, stigma)

- Assistance and advocacy, social programs, service networking, self-help groups

Family discord

- Psycho-education: didactic information about schizophrenia, drugs and the role of stress in relapse
- Stress management: enhance communication; problem solving (both discreet issues and problem-solving techniques)
- Crisis intervention

Families

Families still carry the burden of the stigma of mental illness, and their support is pivotal in the outcome of schizophrenia. Families at greatest need of assistance are those with frequent arguments leading to verbal or physical violence, which repeatedly call for the police, in which the identified patient relapses (even on maintenance therapy), and which frequently contact staff for reassurance and information.[20]

There is often considerable family guilt and shame, which can be reduced by focusing on the biological causes of schizophrenia. Symptoms need to be clearly explained, particularly negative symptoms, which are often misinterpreted as laziness. Realistic information about prognosis is essential. Information about the different types of treatment and relative risks and merits, including the availability of community-based services and utility of hospitalisation, is essential. The family will also need help in coming to terms with the loss of aspirations that they had for the patient.

Reducing face-to-face contact between family and patient often helps reduce tension. As most patients with significant disability are unable to obtain open employment, day programs, self-help groups and leisure activities that take the patient out of the house are all useful alternatives.

Overinvolvement often occurs during the early phase, usually during the patient's adolescence. If brief trials of separation are to be successful then the mirroring between the patient's dependence and the relatives' anxiety needs to be addressed. The parents' focus often needs to be redirected to the marital relationship, which has often been neglected in an excessive focus on the patient. The patient needs to seek peer contacts outside the home.

Psychosocial rehabilitation

Some specific psychosocial treatments have been shown to lower the rate of relapse and improve social functioning (Box 4). Many of these are quite time intensive and may be beyond the resources of general practitioners to implement.

However, support, understanding, encouragement, explanation, advocacy, the maintenance of the person's physical health, and an integrated collaborative approach with specialist services are the tools of rehabilitation that will enhance patient outcome and quality of life.

References

1. Commonwealth of Australia National Mental Health Report, 1994. Canberra: AGPS, 1995.
2. Human Rights and Equal Opportunity Commission. Human rights and mental illness. Report of the National Enquirynto Human Rights of People with Mental Illness. Canberra: AGPS, 1993.
3. Keks N, Sacks T. Schizophrenia and the community. *Med J Aust* 1996; 164: 583-584.
4. Keks N, Altson M, Sacks T, et al. MJA Practice Essentials — Mental Health. Collaboration between general practice and community psychiatric services for people with chronic mental illness. *Med J Aust* 1997; 167: 266-271.
5. Winefield H R, Harvey G J. Needs of family caregivers in chronic schizophrenia. *Schizophrenia Bull* 1994; 20: 557-566.
6. Watt DC, Katz K, Shepherd M. The natural history of schizophrenia: a five year prospective follow-up of a representative sample of schizophrenia by means of standardized clinical and social assessment. *Psychol Med* 1983; 13: 663-670.
7. American Psychiatric Association. DSM-IV. Diagnostic and statistical manual of mental disorders. 4th ed. Washington: Amercian Psychiatric Association, 1994: 273-315.
8. Psychotropic Drug Guidelines Subcommittee, Victorian Drug Usage Advisory Committee. Psychotropic drug guidelines. 3rd ed. Melbourne: Victorian Postgraduate Medical Foundation, 1995.
9. American Psychiatric Association. Practice guidelines for the treatment of patients with schizophrenia. *Am J Psychiatry* 1997; 154 Suppl: S1-S63.
10. Tran P, Hamilton SH, Kuntz AJ, et al. Double-blind comparison of olanzapine versus risperidone in treatment of schizophrenia and other psychiatric disorders. *J Clin Psychopharmacol* 1997; 17: 407-417.
11. Andreasen NC, Roy MA, Flaum M. Positive and negative symptoms. In: Hirsh SR, Weinberger DR, editors. Schizophrenia. London: Blackwell Science, 1995: 28-45.
12. Kane J. Drug therapy — schizophrenia. *N Engl J Med* 1996; 334: 34-41.
13. Mallya AR, Roos PD, Roebuck-Coglan K. Restraint, seclusion and clozapine. *J Clin Psychiatry* 1992; 53: 395-397.
14. Meltzer HY, Okayli G. Reduction of suicidality during clozapine treatment in neuroleptic resistant schizophrenia: impact on risk-benefit assessment. *Am J Psychiatry* 1995; 152: 183-190.
15. Barnes TR, Curson DA, Liddle PF, Patel M. The nature and prevalence of depression in chronic schizophrenic inpatients. *Br J Psychiatry* 1989; 154: 486-491.
16. Drake RE, Gales C, Cotton PG, Whitaker H. Suicide among schizophrenics who are at risk. *J Nerv Ment Dis* 1986; 172: 613-617.
17. Falloon IRH. Developing and maintaining adherence to long term drug taking regimes. *Schizophrenia Bull* 1984; 10: 412-417.
18. Carr VJ. The role of the general practitioner in the treatment of schizophrenia — specific issues. *Med J Aust* 1997; 166: 143-146.
19. Dixon L, Hans G, Weider PJ, et al. Drug abuse in schizophrenic patients: clinical correlates and reason for use. *Am J Psychiatry* 1991; 145: 224-230.
20. Leff J. Working with families of schizophrenia patients. *Br J Psychiatry* 1994; 159: 71-76. ❑