

## Psychosocial interventions for schizophrenia

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This paper summarises the research evidence presented in a recent issue of *Effective Health Care* on psychosocial interventions used in the management of schizophrenia.<sup>1</sup> This is the second bulletin on the management of schizophrenia and, as with the previous issue on drug treatments,<sup>2</sup> draws upon evidence from systematic reviews carried out by the Cochrane Schizophrenia Group.<sup>3</sup>

### Background

For schizophrenia, as with any potentially disabling illness, comprehensive care involves a combination of pharmacological treatments, the provision of ongoing support, valid information, and treatment or rehabilitative strategies. This review divides non-pharmacological interventions into three treatment strategies: (1) those that seek primarily to support or educate; (2) those that provide specific skills training; and (3) those that are problem or symptom focused.

Most of the information contained in this bulletin has been extracted from Cochrane reviews. These reviews have been acknowledged in the recent National Service Framework for Mental Health as important sources of information for clinical decision making.<sup>4</sup>

As with the preceding bulletin on drug treatments,<sup>2</sup> efforts have been made to present clinically meaningful data. For a more detailed discussion of each area the reader is referred to the original reviews which are regularly updated in the Cochrane Library.<sup>5</sup> Unless stated otherwise, patients in the studies of non-pharmacological interventions are also being prescribed medication. Most of the trial participants were adults and no studies focused specifically on the care of adolescents or the elderly.

### SUPPORTIVE EDUCATIONAL INTERVENTIONS

Patients with schizophrenia and their carers should expect support and have a right to be well informed about the illness.<sup>6</sup> Supportive educational packages aim to provide structure to what may otherwise be a haphazard process and can be implemented by any trained person.<sup>7</sup> Support involves helping everyone to come to terms with a potentially stigmatising and disabling major mental illness, and practical day to day assistance with additional challenges that result from having a person with a major illness in the family. Patient edu-

cation can take a variety of forms depending upon the abilities and interest of the patient and family. For example, the education may take place in small groups or individual discussions, or by the use of videotapes or pamphlets, or any combination of these.

### Individual psychoeducational programmes

Individual psychoeducational programmes address the illness from the familial, social, biological, and pharmacological perspectives (table 1).<sup>8</sup> Patients are provided with support, information, and management strategies. Nearly 800 people have participated in relevant trials and there are consistent data to suggest that, even one year after the programme has ended, individual psychoeducational interventions can decrease the risk of relapse. However, the mechanism by which this is achieved is unclear.

### Family interventions

Family interventions (table 1) are proposed as adjuncts rather than alternatives to drug treatments.<sup>9</sup> Their main purpose is to decrease the stress within the family and also the rate of relapse. These interventions mainly involve a combination of education about schizophrenia and training in problem solving and may have a number of different aims. Family interventions may also seek to influence expression of emotions, such as hostility and criticism in the family, although the idea of providing “therapy” to a unit that is not sick is viewed with suspicion by some commentators.<sup>10</sup>

Over 700 people have participated in family intervention trials. Provision of support, educational and, perhaps, a therapeutic interaction with the family of patients with schizophrenia does decrease the risk of relapse at one year. However, this decrease was most marked with early studies undertaken by pioneers of the technique. One small study suggested that family intervention may lower the burden on the family, although the small but statistically significant change on the rating scale is impossible to translate into clinical terms.

### SKILLS TRAINING

#### Life skills

Life skills programmes<sup>11</sup> are intended to promote independent functioning in daily living. These programmes could include group or individual training in managing money, organising and running a home, domestic

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Table 1 Summary of results from systematic reviews of specific non-pharmacological treatments

Broad class of intervention	Experimental group	Control group	Outcomes	
			Short term 0–6 months	Medium term >6–24 months
Supportive educational interventions	Individual psychoeducational <sup>8</sup> (n=428)	Standard care (n=360)		Relapse ↓ (RR=0.8; CI 0.7 to 0.92) Attrition ↔ (RR=1.13; CI 0.89 to 1.44)
	Family intervention <sup>9</sup> (n=387)	Standard care (n=358)	Relapse ↔ (RR=0.6; CI 0.3 to 1.2)	Relapse ↓ (RR=0.7; CI 0.5 to 0.99) Attrition ↔ (RR=0.99; CI 0.72 to 1.4) Drug compliance ↔ (RR=0.8; CI 0.6 to 1.0) Unemployed ↔ (RR=1.1; CI 0.9 to 1.3) Living independently ↔ Family burden ↓ (MD=-0.4; CI -0.7 to -0.1)
Skills training	Life skills <sup>11</sup> (n=20)	Standard care (n=18)	Attrition ↔ (RR=2.0; CI 0.2 to 20)	
	Social skills <sup>12</sup> (n=88)	Standard care (n=79)		Relapse ↔ (RR=0.88; CI 0.6 to 1.3) Poor compliance with therapy ↔ (RR=1.1; CI 0.6 to 2)
	(n=43)	Supportive group psychotherapy (n=37)		Relapse ↔ (RR=0.94; CI 0.6 to 1.4) Poor compliance with therapy ↔ (RR=1.2; CI 0.6 to 2.4)
Problem/symptom focused therapies	CBT <sup>15</sup> (n=148)	Standard care (n=140)	Admitted ↔ (RR=0.36; CI 0.1 to 1.04) Mental state unimproved ↓ (RR=0.24; CI 0.1 to 0.5) Attrition ↔ (RR=0.79; CI 0.4 to 1.5)	Admitted ↓ (RR=0.66; CI 0.5 to 0.9) Mental state unimproved ↓ (RR=0.81; CI 0.7 to 0.99) Attrition ↔ (RR=0.80; CI 0.5 to 1.2) Relapse ↔ (RR=0.63; CI 0.2 to 2.1)
	(n=33)	Supportive counselling (n=26)		Mental state unimproved ↔ (RR=0.79; CI 0.6 to 1.05) Attrition ↔ (RR=3.1; CI 0.4 to 26.5)
	Cognitive rehabilitation <sup>19</sup> (n=42)	Standard care (n=42)	Mental state: average BPRS end score ↔ (MD -0.9; CI -2.9 to 1.1) Attrition ↔ (RR=1.0; CI 0.22 to 4.6)	
	(n=17)	Occupational therapy (n=16)	Mental state: average BPRS end score ↔ (MD -2.5; CI -11 to 5.6) Attrition ↔ (RR=2.8; CI 0.33 to 24)	
	Psychodynamic/analytic therapy <sup>21</sup> (n=46)	Medication (n=48)		Remaining in hospital ↑ (RR=8.0; CI 2 to 34)
	(n=88)	Reality-adaptive psychotherapy (n=76)	Attrition ↓ (RR=0.46; CI 0.3 to 0.6)	Admitted ↔ (RR=1.2; CI 0.9 to 1.6) Attrition ↓ (RR=0.45; CI 0.3 to 0.7)
Token economy <sup>22</sup> (n=54)	Standard care (n=56)	Mental state (negative symptoms) ↓ (MD=-13; CI -21 to -3) Attrition ↔ (RR=1.2; CI 0.4 to 3.6)	Attrition ↔ (RR=1.2; CI 0.4 to 3.3)	

RR = relative risk (experimental event rate/control event rate); CI = 95% confidence intervals (an estimate of the precision of RR); ↓ = decreased; ↑ = increased; ↔ = no clear difference; MD = mean difference; CBT = cognitive behavioural therapy.

skills, and personal self-care. They are distinct from, but often paired with, social skills training and may be undertaken by health care professionals such as nurses or occupational therapists. The evidence presented in table 1 is based on two short term trials involving only 38 patients. This intervention needs further evaluation in larger randomised controlled trials.

#### Social skills

Social skills training<sup>12</sup> is a long established psychosocial treatment of schizophrenia.<sup>13</sup> The extent to which it is used varies across the world. It is a strategy aimed at enhancing social performance and reducing distress and difficulty experienced by people with schizophrenia. Unlike life skills training which is focused on domestic skills and personal self-care, the goal is to build up individual behavioural elements into complex behaviours and thus develop more effective social communication. There is considerable emphasis not just on clinic based interventions (including modelling, role play, and social reinforcement), but also the setting of homework tasks and the generalisability of the treatment.

For such a widely advocated and discussed intervention there are few data. Only about 300 patients have participated in randomised controlled trials and summation is difficult as

comparison treatments are varied. No data are available on the value of social skills training for prevention of relapse, and other outcomes such as change in social skills are too poorly reported to be informative.

Two main classes of programmes have evolved to help people stay in employment: pre-vocational training and supported employment. In pre-vocational training the patient is supported in some form of sheltered work before entering real world employment. Supported employment attempts to help people in real world employment. A Cochrane review is nearing completion and will be available later this year.<sup>14</sup>

#### PROBLEM/SYMPTOM FOCUSED TREATMENT

##### Cognitive behavioural therapy

In cognitive behavioural therapy (CBT) (table 1) links are made between the feelings of the patient and the patterns of thinking which underpin his or her distress.<sup>15</sup> The patient is encouraged to take an active part by examining the evidence for and against the distressing belief, challenging their habitual patterns of thinking about the belief, and using reasoning abilities and personal experience to develop rational and personally acceptable alternatives.<sup>16</sup> Over 400 patients have participated in randomised controlled trials of CBT and both

short and medium term data suggest that CBT may decrease relapse/readmission.

CBT seems to be an approach that is acceptable to patients and may improve their mental state, at least in the short term. It involves the investment of time of highly skilled health care professionals, often clinical psychologists, and is not yet widely available for patients with schizophrenia in the UK. The National Service Framework for Mental Health has highlighted the growing evidence of effectiveness,<sup>4</sup> but it is difficult to know how these initial encouraging results will generalise to everyday practice.

Small trials have suggested that there may be little difference in outcomes between CBT and supportive counselling. However, one recent randomised controlled trial,<sup>17</sup> which has not yet been included in the Cochrane review, found that CBT techniques significantly reduced overall psychopathology when compared with supportive counselling plus befriending. CBT may also have reduced the amount of time spent in hospital over a six month follow up period but unfortunately the trial was too small and the outcomes too poorly reported to be confident of this result. Another recent randomised controlled trial<sup>18</sup> found no difference in outcomes between CBT and befriending at the end of treatment. However, nine months after treatment had finished those who had received CBT showed significantly greater improvements in measures of both positive and negative symptoms than those in the befriending group. The Cochrane review is currently being updated.

#### *Cognitive rehabilitation*

The perceived impact of cognitive impairment on patients with schizophrenia has led to the development of cognitive rehabilitation techniques (table 1).<sup>19</sup> These involve retraining of basic processes such as memory, attention, speed of processing, and abstraction levels in an attempt to improve the functioning of schizophrenic patients.<sup>20</sup> Studies are small (only 117 patients have been studied to date) and the use of different scales makes interpretation difficult, but randomised controlled trials performed to date do not suggest any clinically relevant effect. Even measures of specific cognitive domains such as attention and memory detected no differences between patients treated with cognitive rehabilitation and the control subjects. Day to day functioning was not measured.

#### *Psychodynamic/analytical therapy*

The dynamic and analytical treatments have not been subject to evaluation in large randomised controlled trials (table 1).<sup>21</sup> Despite this, the available evidence suggests that, when compared with the use of medication, psychodynamic therapy does not help patients to recover sufficiently to leave hospital. Some forms of dynamic/analytical therapy may be more acceptable than others, but the effects of such an approach, in addition to medication, are unknown.

#### *Token economy*

Token economy<sup>22</sup> (table 1) is a behavioural therapy technique in which the desired change is achieved by means of tokens administered for the performance of predefined behaviours according to a programme. It is disappointing that it has been evaluated in studies in which the outcomes have been poorly reported in a total of just over 100 patients. This technique is the only non-pharmacological treatment that measures and shows statistically significant improvement in negative symptoms of schizophrenia. These data are difficult to interpret clinically but, given the often intractable nature of negative symptoms, it may be possible to generate hypotheses that can be tested in well planned randomised controlled trials of modern variants of token economy programmes.

#### **Different ways of providing care**

As psychiatric services face increasing pressure on inpatient beds, they have been reconfigured into two types in order to reduce the number of admissions: (1) packages of care designed to divert patients about to be admitted to hospital and (2) interventions designed to reduce admissions for people at high risk of future admission. In an attempt to avoid confusion, this bulletin follows the useful classification of interventions recently published in *Clinical Evidence*.<sup>23</sup>

#### INTERVENTIONS DESIGNED TO DIVERT PATIENTS ABOUT TO BE ADMITTED TO HOSPITAL

##### *Assertive community treatment*

Assertive community treatment (ACT) is an effective way of caring for patients with severe mental illness in the community. Patients are diverted to the care of a team including psychiatrists, nurses, and social workers. The team carries small case loads, sees patients in their own homes, and keeps contact and offers services to reluctant or uncooperative patients. ACT teams also place particular emphasis on medication compliance and 24 hour emergency cover.<sup>24</sup>

A total of 2647 patients have been enrolled into randomised controlled trials of ACT, most of which were undertaken in the USA where the "standard care" control may not reflect that in the UK (table 2).<sup>25</sup> Patients receiving ACT were more likely to remain in contact with services and less likely to be admitted to hospital than those in standard care. The time spent in hospital was reduced by nearly 50% but there were no differences in clinical outcomes. When ACT is compared with hospital rehabilitation programmes the admission rates do continue to favour the ACT groups.

##### *Community mental health teams*

A major thrust towards community care has been the development of community mental health teams (CMHTs).<sup>26 27</sup> These teams usually comprise several disciplines including nurses, occupational therapists, psychiatrists, psychologists, and social workers. CMHTs work to provide care which is less focused on a hospital or institution setting.<sup>28</sup>

Table 2 Summary of results from systematic reviews of specific packages of care

Aim of intervention	Experimental group	Control group	Outcomes (medium term >6–24 months)
To divert patients about to be admitted to hospital	ACT <sup>25</sup> (n=831)	Standard care (n=766)	Lost to follow up ↓ (RR=0.6; CI 0.5 to 0.7) Admitted ↓ (RR=0.71; CI 0.5 to 0.97) Unemployed ↔ (RR=0.9; CI 0.74 to 1.2) Living independently ↔ Homeless ↔ (RR=0.3; CI 0.04 to 1.8) Mental state: average BPRS end score ↔ (MD -0.9; CI -7.7 to 6) Quality of life: average end score ↑ (MD -0.5; CI -0.9 to -0.1) Trouble with the police ↓ (RR=1.71; CI 1.1 to 2.8)
	(n=101)	Case management (n=102)	
	(n=105)	Hospital based rehabilitation (n=611)	Lost to follow up ↔ (RR=0.9; CI 0.5 to 1.4) Admitted ↓ (RR=0.5; CI 0.3 to 0.8) Living independently ↔ Unemployed ↓ (RR=0.6; CI 0.4 to 0.8) Admitted ↔ (RR=0.7; CI 0.5 to 1.1) Lost to follow up ↓ (RR=0.8 CI 0.7 to 0.9) Not satisfied with care ↓ (RR=0.6; CI 0.5 to 0.8)
To reduce admission for patients at high risk of future admission	ACT <sup>25</sup> (see above) Case management <sup>41</sup> (n=599)	Standard care (n=611)	Lost to follow up ↓ (RR=0.7; CI 0.5 to 0.98) Admitted ↑ (RR=1.6; CI 1.2 to 2.1) Mental state: average BPRS end score ↔ (WMD 0.5; CI -3.6 to 4) Quality of life: average end score ↔ (WMD 0.1; CI -0.2 to 0.4)
		Planned short stay ~28 days <sup>42</sup> (n=225)	Planned standard stay (n=227)
To limit length of hospital admission	Planned short stay ~28 days <sup>42</sup> (n=225)	Planned standard stay (n=227)	Admitted ↔ (RR=1.1; CI 0.7 to 1.7) Unable to be discharged as originally planned ↓ (RR=0.6; CI 0.3 to 0.9) Poor social functioning ↓ (RR=0.6; CI 0.5 to 0.7)

RR = relative risk (experimental event rate/control event rate); CI = 95% confidence intervals (an estimate of the precision of RR); ↓ = decreased; ↑ = increased; ↔ = no clear difference; WMD = weighted mean difference; ACT = assertive community treatment; CMHTs = community mental health terms.

Management by CMHTs causes fewer patients to be dissatisfied with their care and to leave the studies early.<sup>29</sup> No clear difference was found in admission rates, overall clinical outcomes, or duration of inpatient hospital treatment, although this was partly a consequence of poorly presented data (table 2).

#### Crisis care

Generally speaking, there are two types of crisis care.<sup>30</sup> One diverts patients from admission to hospital while the other is a home based response to a psychiatric emergency. Most patients seen by the second type of service would never have been admitted to hospital. In the 1970s more specific crisis intervention models were introduced that were aimed at treating psychiatric crises in the community and, if possible, avoiding admission to hospital or, if this was not possible, reducing the time spent in hospital.<sup>31</sup> Although the ethos of these models has more recently been subsumed into case management and ACT models of care, over 400 patients have participated in trials of crisis interventions. As hospital admission was part of standard care, comparison of this outcome with crisis intervention is meaningless. Compared with the standard hospital admission for crises, those allocated to crisis intervention were at no less risk of repeated admissions. They were, however, less likely to be lost to follow up at a year and family burden was perceived as less in the crisis intervention group.

In acute day hospital care, patients are admitted to a highly staffed, acute day hospital from which they may return home at night. Care is provided for the full range of acutely ill patients, but those who are suicidal or potentially violent are usually excluded. Three recent randomised controlled trials examined diversion of 486 participants about to be admitted to day hospital care.<sup>32–34</sup> Two trials reported on the proportion of patients who could be diverted (28% and 18%, respectively)<sup>32–33</sup> and two reported on the impact on use of inpatient care (reduced by 12% and 66%, respectively).<sup>32–34</sup> Clinical and social outcomes were similar for the intervention and control groups in all three trials. The effects on caregiver burden are uncertain and data on serious adverse events are limited. A Cochrane review with additional information, summing the effects of all relevant trials, will be available later this year.<sup>35</sup>

There are a number of studies of crisis houses that act as alternatives to admission but these have not yet been evaluated. A Cochrane review is expected in the near future.<sup>36</sup>

#### INTERVENTIONS DESIGNED TO REDUCE ADMISSIONS FOR PATIENTS AT HIGH RISK OF FUTURE ADMISSION

##### Assertive community treatment

This has already been discussed above.

##### Case management

Case management, in its simplest form, is a means of coordinating services in the commu-

nity. Each mentally ill person is assigned a case manager who is expected to assess needs, develop a care plan, arrange provision of suitable care, monitor quality of care, and maintain contact with the patient.<sup>37</sup> Case management aims to keep patients in contact with services,<sup>38</sup> reduce the frequency and duration of hospital admissions (and hence costs),<sup>39–40</sup> and improve outcome, especially social functioning and quality of life.<sup>37</sup>

In the UK case management is known as the Care Programme Approach (CPA). The National Service Framework has highlighted CPA as a suitable approach for managing patients with severe mental illness<sup>4</sup> and has also referred to “assertive outreach” which it describes as “assertive community treatment, a form of intensive case management that provides a clinically effective approach to managing the care of severely mentally ill people in the community”.<sup>4</sup> It is not clear if this use of “assertive outreach” means assertive community treatment as practised in the USA.

When it was possible to evaluate case management against standard care for patients with schizophrenia (many eligible participants will now be “case managed” as standard), 1751 were randomised to participate in clinical trials. Case management programmes were moderately effective at increasing the numbers remaining in contact with services, although the advantage over “standard care” was small.<sup>41</sup> The standard care may have contained elements of case management, thus diluting any effect. Case management considerably increases admission rates and time spent in hospital (by over 50%) without any evidence for benefit to mental state, social functioning, or quality of life (table 2).

#### INTERVENTIONS LIMITING LENGTH OF HOSPITAL ADMISSION

Old randomised clinical trials of planned short admissions were synthesised in the systematic review.<sup>42</sup> When patients had to be admitted to hospital they were allocated either to a group for whom active plans were made from the start for discharge by about four weeks or to a group who received standard care without the active planning. Once discharged, the former group was no more at risk of admission within one year and were less at risk of staying beyond their predicted time of discharge (table 2).

#### Implications

Comprehensive care for patients with schizophrenia involves not only drug treatments but also the provision of ongoing support, valid information and, where appropriate, therapies or rehabilitative strategies.

Individual psychoeducational interventions can decrease the risk of relapse, although the mechanism by which this is achieved is unclear. Family intervention decreases the risk of relapse by one year. However, this decrease was most marked in early studies undertaken by pioneers of the technique. Evidence suggests that CBT may decrease relapse and readmission rates and may also improve the patients' mental state, at least in the short term. ACT is

an effective way of caring for patients with severe mental illness in the community; it reduces hospital admissions and time spent in hospital by nearly 50%. ACT teams could prove particularly useful in environments where psychiatric inpatient care is at a premium. The CPA (case management) may help health and social services to keep in contact with patients and may serve useful administrative functions, but ACT is required to keep severely mentally ill patients out of hospital.

The whole area of non-pharmacological treatments for schizophrenic patients is under-researched. Well designed, generalisable, randomised, controlled trials involving patients seen in everyday practice are needed which should measure meaningful outcomes, including adverse effects.

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