AUGUST 2000 VOLUME 6 NUMBER 3 ISSN: 0965-0288

Effective Health Care

Bulletin on the effectiveness of health service interventions for decision makers

Psychosocial interventions for schizophrenia

This bulletin reviews the evidence for the effectiveness of psychosocial interventions used in the management of schizophrenia

- Comprehensive care for 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 (a supportive, educational and, perhaps, therapeutic interaction with the family of people with schizophrenia) decreases the risk of relapse. However, this decrease was most marked with early studies undertaken by pioneers of the technique.
- Evidence suggests that cognitive behavioural therapy may decrease relapse and readmission rates and may also improve the patient's mental state.
- Assertive community treatment (ACT) reduces hospital admissions and time spent in hospital by nearly 50%. ACT teams could prove particularly useful in environments where psychiatric in-patient care is at a premium.
- The Care Programme Approach (case management) may help health and social services keep contact with people, and may serve useful administrative functions, but ACT is required to keep severely mentally ill people out of hospital.
- The whole area of non-pharmacological treatments for people with schizophrenia is under researched. Well-designed, generalisable randomised controlled trials are needed. These should involve people seen in everyday practice, and measure meaningful outcomes, including adverse effects.

The Royal Society of Medicine Press Limited

The University of York

NHS Centre for Reviews and Dissemination

A. Introduction

This bulletin summarises the evidence on the effectiveness of psychosocial interventions used in the management of schizophrenia. This is the second bulletin on the management of schizophrenia and, as with the previous issue on drug treatments,[1] draws upon evidence from systematic reviews carried out by the Cochrane Schizophrenia Group. Details on the nature, epidemioligy and impact of schizophrenia, were provided in the first bulletin.

For schizophrenia, as with any potentially disabling illness, comprehensive care involves a combination of pharmacological treatments, the provision of ongoing support, valid information and therapies or rehabilitative strategies. This bulletin summarises the evidence for the effectiveness of several interventions that are currently used in the UK. These interventions can be split into treatment strategies and service delivery. Treatment strategies can be divided into: ones that seek primarily to support or educate; ones that provide specific skills training; and therapies that are problem or symptom focused.

B. Nature of the evidence

Most of the evidence contained in this bulletin has been extracted from systematic reviews carried out by the Cochrane Schizophrenia Group. These reviews have been acknowledged in the recent National Service Framework for Mental Health (NSF) as important sources of information for clinical decision making.[2]

As with the preceding bulletin on drug treatments, 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.[3] Unless stated otherwise, people in the studies of non-pharmacological interventions were also being prescribed medication. The great majority of trial participants were adults and no studies focused specifically on the care of adolescents or the elderly.

These Cochrane reviews are based on randomised controlled trials (RCTs). The quality of reporting of these non-pharmacological trials does not differ substantially from that used to evaluate drugs.[1] Adverse effects are rarely sought in trials of spoken or behavioural therapies as they would be in studies of drugs. Certainly, there is very poor reporting of negative effects. Additionally, the findings from non-pharmacological RCTs can be difficult to generalise due to differences in the participants, settings and in the delivery of the intervention itself.

C. Supportive educational interventions

People with schizophrenia, and their carers, should expect support and have a right to be well informed about the illness.[4] Supportive educational packages aim to provide structure to what may otherwise be a haphazard process and can be implemented by any trained person.[5] Support involves helping everyone come to terms with a potentially stigmatising and disabling mental illness, and practical day-to-day assistance with additional challenges that result from having a person with major illness in the family. Patient education can take a variety of forms depending upon the abilities and interest of the patient and family. For example, education may take place in small groups or individual discussions, or by use of videotapes or pamphlets or any combination of these.

C1. Individual psychoeducational interventions Individual psychoeducational programmes[6] (Table 1) address the illness from the familial, social, biological and pharmacological perspectives. Patients are provided with support, information and management strategies. Nearly 800 people have participated in relevant RCTs and the evidence suggests, that even one year after the programme has ended, individual psychoeducational interventions can decrease the risk of relapse. Although the mechanism by which this is achieved is unclear. Nine people have to be treated in order to avoid one person experiencing a relapse (NNT 9, 95% CI 6-22). It is unclear, but possible, that psycho-educational interventions increase adherence with medication (n=81, RR 3.5, 95% CI 0.77-15).

C2. Family intervention Family interventions[7] (Table 1) are proposed as adjuncts rather than alternatives to drug treatments. 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. These may have a number of different aims including: collaboration with relatives who care for the person with schizophrenia; reducing the emotional stress and burden on relatives and within the family unit; enhancement of relatives' ability to anticipate and solve problems; reducing expressions of anger and guilt by the family; maintenance of reasonable expectations for patient performance; encouragement of relatives to set and keep to appropriate limits whilst maintaining some degree of separation when needed; and attainment of desirable change in relatives' behaviour and belief systems. 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.[8]

Over 700 people have participated in RCTs of family intervention. Provision of support, educational and, perhaps, a therapeutic

interaction with the family of people with schizophrenia, does decrease the risk of relapse at one year (RR 0.7, 95% CI 0.5-0.99; NNT 6.5, 95% CI 4-14). The NSF has recognised the potential of this intervention.[2] However, this decrease was most marked with early studies undertaken by pioneers of the technique. One small study suggests that family intervention may lower family burden. However the small but statistically significant change on the rating scale is impossible to translate into clinical terms.

D. Skills training

D1. Life skills Life skills programmes[9] are intended to promote independent functioning in daily living. These programmes could include group or individual training in managing money, organizing and running a home, domestic 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 RCTs involving only 38 people. This intervention needs further evaluation in large, simple RCTs.

D2. Social skills Social skills training[10] (Table 1) is a long-established psychosocial treatment of schizophrenia.[11] 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. Key components are careful behaviourally-based assessments of a range of social and interpersonal skills, and an importance placed on both verbal and non-verbal communication, as well as the individual's ability to perceive and process relevant social cues and to respond to and provide appropriate social reinforcement. Unlike life skills training, which is focused on domestic skills and personal self care, the goal of social skills training 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 people have participated in RCTs and summation is difficult as comparison treatments are varied. There are no effects demonstrated within RCTs on the value of social skills training for prevention of relapse. Other outcomes such as change in social skills are too poorly reported to be informative.

D3. Vocational skills Two main classes of programmes have evolved to help people stay in employment: pre-vocational training and supported employment. In pre-vocational training the person is supported in some form of sheltered work before entering real-world employment. Supported employment attempts to help people whilst in real-world employment. A Cochrane review is nearing completion and will be available later this year.[12]

E. Problem / symptom focused therapies

E1. Cognitive behavioural therapy (CBT) In CBT[13] (Table 1), links are made between the person's feelings and the patterns of thinking which underpin their distress. The participant is encouraged to take an active part by examining the evidence for and against the distressing belief, challenging the habitual patterns of thinking about the belief, and using reasoning abilities and personal experience to develop rational and personally acceptable alternatives.[14] Over 400 people have entered trials of CBT. Both short and medium term data suggest that CBT may decrease relapse/readmission.

CBT seems also to be an approach that is acceptable to the patient and may improve their mental state, at least in the short term. CBT involves the investment of time of highly skilled health care professionals, often clinical psychologists, and is not yet widely available for people with schizophrenia in the UK. The NSF has highlighted the growing evidence of effectiveness,[2] but it is difficult to know how these initial encouraging results will generalise to every day practice.

Small RCTs have suggested that there may be little difference in outcomes when CBT is compared to supportive counselling. However one recent RCT which has not yet been included in the Cochrane review,[15] found that CBT techniques significantly reduced overall psychopathology when compared to supportive counselling plus befriending. CBT may also reduce the amount of time spent in hospital over a six month follow-up period. However, the RCT was too small and the outcomes too poorly reported to be confident of this result. Another recent RCT[16] 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, compared to those in the befriending group. The Cochrane review is currently being updated.

E2. Cognitive rehabilitation The perceived impact of cognitive impairment on people with schizophrenia has led to the development of cognitive rehabilitation techniques (Table 1).[17] These involve retraining of basic-level processes such as

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

Broad class of intervention	Intervention group	Control group	Outcomes	
			Short term 0-6 months	Medium term >6-24 months
Supportive / educational interventions	Individual psychoeducation[6] 428 participants	Standard care 360 participants		Relapse ⇓ (RR=0.8; CI: 0.7–0.92) Attrition ⇔ (RR=1.13; CI: 0.89–1.44)
	Family Intervention[7] 387 participants	Standard care 358 participants	Relapse ⇔ (RR=0.6; CI: 0.3–1.2)	Relapse ⇓ (RR=0.7; CI: 0.5–0.99) Attrition ⇔ (RR=0.99; CI: 0.72–1.4) Drug compliance ⇔ (RR=0.8; CI: 0.6–1.0) Unemployed ⇔ (RR=1.1; CI: 0.9–1.3) Living independently ⇔ Family burden ⇓ (MD=-0.4; CI: -0.7 to -0.1)
	Life skills[9] 20 participants	Standard Care 18 participants	Attrition ⇔ (RR=2.0;CI: 0.2–20)	
Skills training	Social skills[10] 88 participants	Standard Care 79 participants		Relapse ⇔ (RR=0.88; CI: 0.6–1.3) Poor compliance with therapy ⇔ (RR=1.1;CI: 0.6–2)
		Supportive Group Psychotherapy 37 participants		Relapse ⇔ (RR=0.94; CI: 0.6–1.4) Poor compliance with therapy ⇔ (RR=1.2;CI: 0.6–2.4)
Problem/symptom focused therapies	Cognitive behavioural therapy[13] 148 participants	Standard care 140 participants	Admitted ⇔ (RR=0.36;CI: 0.1–1.04) Mental state – unimproved ⇓ (RR=0.24;CI: 0.1–0.5) Attrition ⇔ (RR=0.79; CI: 0.4–1.5)	Admitted ⇓ (RR=0.66;CI: 0.5–0.9) Mental state - unimproved ⇓ (RR=0.81;CI: 0.7–0.99) Attrition ⇔ (RR=0.80; CI: 0.5–1.2)
	33 participants	Supportive counselling 26 participants		Relapse ⇔ (RR=0.63;CI: 0.2–2.1) Mental state - unimproved ⇔ (RR=0.79;CI: 0.6–1.05) Attrition ⇔ (RR=3.1; CI: 0.4–26.5)
	Cognitive rehabilitation[17] 42 participants	Standard care 42 participants	Mental state – average BPRS end score ⇔ (MD = - 0.9; CI: -2.9 to 1.1) Attrition ⇔ (RR=1.0; CI: 0.22-4.6)	
	17 participants	Occupational therapy 16 participants	Mental state – average BPRS end score ⇔ (MD = -2.5; CI: -11 to 5.6) Attrition ⇔ (RR=2.8; CI: 0.33–24)	
	Psychodynamic / analytic therapy[19] 46 participants	Medication 48 participants		Remaining in hospital ⇑ (RR=8.0;C1:2–34)
	88 participants	Reality-adaptive psychotherapy 76 participants	Attrition ⇓ (RR=0.46;CI: 0.3–0.6)	Admitted ⇔ (RR=1.2; CI: 0.9–1.6) Attrition ⇓ (RR=0.45;CI: 0.3–0.7)
	Token economy[20] 54 participants	Standard care 56 participants	Mental state (negative symptoms) ⇓ (MD= -13; CI: -21 to - 3) Attrition ⇔ (RR=1.2; CI: 0.4–3.6)	Attrition ⇔ (RR=1.2; CI: 0.4–3.3)

Key: RR= Relative risk – the 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; BPRS: Brief Psychiatric Rating Scale

memory, attention, speed of processing and abstraction levels in the hope of improving the functioning of people with schizophrenia.[18] Studies are small (total n=117) and the use of different scales makes interpretation difficult. Current RCTs do not suggest any clinically relevant effect. Even measures of specific cognitive domains, such as attention and memory, detected no differences between cognitive rehabilitation and the controls. Day-to-day functioning was not measured.

E3. Psychodynamic/analytic therapy Dynamic and analytic therapies have not been subject to evaluation in large scale RCTs (Table 1).[19] Despite this, the available evidence suggests that, when compared to the use of medication, psycho-dynamic therapy does not help people recover enough to leave hospital (numbers needed to harm 3, 95% CI 2-6). Some form of dynamic/analytic therapy may be more acceptable than others, but the effects of such an approach, in addition to medication, are unknown.

E4. Token economy A token economy[20] (Table 1) is a behavioural therapy technique in which the desired change is achieved by means of tokens administered for the performance of pre-defined behaviours according to a programme. It is disappointing that it is evaluated in studies with poorly reported outcomes on a total of just over 100 people. This technique is the only non-phamacological therapy 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 RCTs of modern variants of token economy programmes.

F. Service provision

As psychiatric services face increasing pressure on inpatient beds, they have been reconfigured into two types in order to reduce admissions. First there are packages of care designed to divert patients about to be admitted to hospital; and second, interventions designed to reduce admissions for people at high risk of future admission. While some interventions are well defined (e.g. assertive community treatment (ACT) and acute day hospital care), others are not (for example, case management and home based care). In an attempt to avoid confusion, this bulletin follows the useful classification of interventions recently published in *Clinical Evidence*.[21]

Interventions designed to divert people about to be admitted to hospital

F1. Assertive community treatment (ACT) With ACT, patients are diverted to the care of a community-based, multidisciplinary team including psychiatrists, nurses, and social workers. The team carries small case loads and sees patients frequently in their own homes, with 24 hour cover. Such teams care for the full range of acutely ill patients, including those who are suicidal or potentially violent. ACT has the same aims as case management but whereas under case management great emphasis is placed on individual responsibility of case managers for clients, ACT by contrast emphasises team-working. The vital link is between the team and its clients, rather than between particular team members and particular clients. Team members work with different clients as and when required, and several members commonly work together with the same client. ACT teams always work with low staff:client ratios (usually 10–15 patients per member) and invariably practice 'assertive outreach', meaning that they continue to contact and offer services to reluctant or uncooperative clients. ACT teams also place particular emphasis on medication adherence and 24 hour emergency cover.[22]

2647 people have been randomised into 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).[23] People receiving ACT were more likely to remain in contact with services (lost to follow up RR 0.6, 99% CI 0.5–0.7) and less likely to be admitted to hospital (RR 0.71, 99% CI 0.5–0.97) than those in standard care. Time spent in hospital was reduced by nearly 50%. There were no differences in clinical outcomes. When ACT is compared to hospital rehabilitation programmes admission rates do continue to favour the ACT groups.

In the recent National Plan the government has outlined its plans to create 170 assertive outreach teams.[42] The NSF has also referred to 'assertive outreach' which it describes as 'ACT, a form of intensive case management that provides a clinically effective approach to managing the care of severely mentally ill people in the community.'[2] It is not clear if this use of assertive outreach means ACT as practised in the USA.

F2. Community mental health teams A major thrust towards community care has been the development of community mental health teams (CMHT).[24,25] These teams provide the core of local specialised mental health services. Usually teams comprise several disciplines, including nurses, occupational therapists, psychiatrists, psychologists and social workers. CMHTs work to provide care less focused on a hospital or institution setting.[26]

CMHT management causes less people to be dissatisfied with their care (NNT 4, 95% CI 3-8) and to leave the studies early (NNT 9, 95% CI 6-21).[27] No clear difference was found in admission rates, overall clinical outcomes and duration of in-patient hospital treatment, although this was partly a consequence of poorly presented data (Table 2).

F3. Home based care and initial crisis intervention Psychiatric services in Amsterdam were at the forefront of such treatment introducing a 24-hour 'first-aid' emergency home service.[28] There are two types of crisis care. One diverts people from admission to hospital, whilst the other is a home-based response to a psychiatric emergency. Most people seen by the second type of service would never have been admitted.

In the 1970s more specific crisis intervention models were introduced that aimed to treat psychiatric crises in the community and if possible avoid hospitalisation or, if this was unavoidable, reduce time spent in hospital.[29] Although the ethos of these models was more latterly subsumed into Case Management and ACT models of care, over 400 people participated in RCTs of crisis interventions. As hospital admission was part of standard care, comparison with crisis intervention on this outcome is meaningless. Compared to 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.

F4. 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 RCTs (one in the USA, two in the UK) examined diversion of 486 participants about to be admitted to day hospital care.[30-32] Two trials reported on the proportion of people who could be diverted (28% and 18% respectively)[30,31] and two reported on the impact on use of inpatient care (reduced by 12% and 66% respectively).[30,32] Clinical and social outcomes were similar for intervention and control groups in

all three trials. Effects on care-giver burden are uncertain and data on serious adverse events limited. A Cochrane review with additional information, summating the effects of all relevant trials, will be available late this year.[33]

F5. Non health service based day care There are a number of RCTs of crisis houses which act as alternatives to admission, but these have not yet been evaluated. A Cochrane review is expected in the near future.[34]

Interventions designed to reduce admissions for people at high risk of future admission

F6. ACT (See previous section)

F7. Case management Case management, in its simplest form, is a means of co-ordinating services in the community. 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 person.[35] Case management aims to keep people in contact with services,[36] reduce the frequency and duration of hospital admissions (and hence costs)[37 38] and improve outcome, especially social functioning and quality of life.[35]

Case management has been described as an 'indispensable element' of community care in Germany[39] and in the UK (where it is known as the Care Programme Approach – CPA), the NSF has highlighted CPA as the approach for managing people with severe mental illness.[2] The NSF has also referred to 'assertive outreach.'[2] As mentioned earlier, it is not clear if this use of 'assertive outreach' means assertive community treatment as practiced in the USA. Case management may be of low or high intensity, but is more individualistic than the team-based ACT.

When it was possible to evaluate case management versus standard care for people with schizophrenia (many eligible participants will now be 'case managed' as standard) 1751 people entered RCTs.[40] Case management programmes were moderately effective at increasing the numbers remaining in contact with services (RR 0.7 99% CI 0.50–0.98; n=1210), although the advantage over 'standard care' is small. The standard care may have contained elements of case management, thus diluting any effect. Case management considerably increases admission rates (RR 1.6 99% CI 1.2–2.1; n=1300) and time spent in hospital (by over 50%) without any evidence for benefit to mental state, social functioning or quality of life (Table 2). There are no data on care-giver burden.

Interventions limiting length of hospital admission

F8. Planned short admissions (~28 days) Old RCTs were synthesised in the systematic review.[41] When people had to be admitted to hospital they were allocated to a group who had, from the start, active plans made for discharge by about four weeks, or a group that received standard care without the active planning. Once discharged, the former group were at no more risk of admission within one year (RR 1.06 95% CI 0.8-1.4) and were less at risk of staying beyond their predicted time of discharge (RR 0.56 95% CI 0.3-0.9) (Table 2).

G. Implications for practice and research

Comprehensive care for schizophrenia involves not only drug treatments, but also the provision of ongoing support, valid information and, if necessary and available, therapies or rehabilitative strategies.

There are consistent data to suggest that individual psychoeducational interventions can decrease the risk of relapse, although the mechanism by which this is achieved is unclear.

Whilst there is evidence that family intervention (a supportive, educational and, perhaps, therapeutic interaction with the family of people with schizophrenia) decreases the risk of relapse at one year, this was most marked in early studies undertaken by pioneers of the technique.

Evidence suggests that CBT may decrease relapse/readmission rates and may also improve the patient's mental state, at least in the short term.

ACT is an effective way of caring for people with severe mental illness in the community. ACT reduces hospital admissions and time spent in hospital by nearly 50%. When it is compared to hospital rehabilitation programmes admission rates do continue to favour ACT groups. ACT teams could prove particularly useful in environments where psychiatric in-patient care is at a premium.

The CPA may help health and social services keep contact with people, and may serve useful administrative functions, but ACT is required to keep severely mentally ill people out of hospital.

The whole area of non-pharmacological treatments for people with schizophrenia is under researched. Well-designed, conducted and reported trials are rare.

Generalisable RCTs are needed involving people readily seen in every day practice, evaluating accessible interventions and measuring meaningful outcomes, including adverse effects.

Overburdened services for which waiting lists already exist, may find the only fair allocation to care is by random assignment. This situation affords opportunities for funders to support inexpensive trials rooted in the real world.

Further systematic reviews of non-pharmacological interventions, and maintenance of those that exist should be a priority for funders and researchers.

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 people about to be admitted to hospital	**Assertive Community Treatment** [23] 831 participants	**Standard care** 766 participants	Lost to follow up ⇓ (RR=0.6; CI: 0.5–0.7) Admitted ⇓ (RR=0.71;CI: 0.5–0.97) Unemployed ⇔ (RR=0.9; CI: 0.74–1.2) Living independently ⇔ Homeless ⇔ (RR=0.3; CI: 0.04–1.8) Mental state – average BPRS end score ⇔ (MD -0.9; CI: -7.7 to 6) Quality of life – average QoL end score ⇑ (MD -0.5; CI: -0.9 to -0.1)
	101 participants	**Case management** 102participants	Trouble with the police ⇓ (RR=1.71; CI: 1.1–2.8) Lost to follow up ⇔ (RR=0.9; CI: 0.5–1.4)
	105 participants	**Hospital based rehabilitation** 121 participants	Admitted ⇓ (RR=0.5;CI: 0.3–0.8) Living independently ⇔ Unemployed ⇓ (RR=0.6; CI: 0.4–0.8)
	Community Mental Health Teams[27] 412 participants	**Standard care** 442 participants	Admitted ⇔ (RR=0.7; CI: 0.5–1.1) Lost to follow up ⇔ (RR=0.8; CI: 0.7–0.9) Not satisfied with care ⇓ (RR=0.6; CI: 0.5–0.8)
To reduce admissions for people at high risk of future admission	Assertive Community Treatment (see above)		
	Case management [40] 599 participants	**Standard care** 611 participants	Lost to follow up ⇓ (RR=0.7; CI: 0.5–0.98) Admitted ⇑ (RR=1.6;CI: 1.2–2.1) Mental state – average BPRS end score ⇔ (WMD 0.5; CI: -3.6 to 4) Quality of life – average QoL end score ⇔ (WMD 0.1; CI: -0.2 to 0.4)
To limit length of hospital admission	**Planned short stay ~ 28 days**[41] 225 participants	**Planned standard stay** 227 participants	Admitted ⇔ (RR=1.1; CI: 0.7–1.7) Unable to be discharged as originally planned ⇓ (RR=0.6; CI: 0.3–0.9) Poor social functioning ⇓ (RR=0.6; CI: 0.5–0.7)

Key: RR= Relative risk – the 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; BPRS: Brief Psychiatric Rating Scale

There is a strong case for further ACT versus standard care comparisons in countries outside the US, particularly those with highly developed primary care services, such as here in the UK.

References

1. NHS Centre for Reviews and Dissemination. Drug treatments for schizophrenia. *Effective Health Care* 1999;5(6).
2. Department of Health. *The National Service Framework for Mental Health. Modern standards and service models.* London: Department of Health, 1999.
3. Update Software. *The Cochrane Library.* Oxford: Update Software, 2000.
4. American Hospital Association. *A patient's bill of rights.* Chicago: American Hospital Association, 1975.
5. American Nurses Association. *A statement on psychiatric-mental health nursing practice and standards of psychiatric-mental health clinical nursing practice.* Washington DC: American Nurses Association, 1982.
6. Pekkala E, Merinder L. Psychoeducational interventions for schizophrenia and other severe mental illnesses (Cochrane Review). *The Cochrane Library, Issue 3.* Oxford: Update Software, 2000.
7. Pharoah F, Mari J, Streiner D. Family intervention for schizophrenia (Cochrane Review). *The Cochrane Library, Issue 3.* Oxford: Update Software, 2000.
8. Fuller Torrey E. *Surviving schizophrenia: a manual for families, consumers and providers.* Inc: New York: HarperCollins Publishers, 1995.
9. Nicol M, Robertson L, Connaughton J. Life skills programmes for chronic mental illnesses (Cochrane Review). *The Cochrane Library, Issue 3.* Oxford: Update Software, 2000.
10. Pilling S, Orbach G, Connaughton J, Nicol M, Bebbington P. Social skills programmes for schizophrenia (Cochrane Review). *The Cochrane Library, Issue 3.* Oxford: Update Software, 2000.
11. Liberman R, Mueser K, Wallace C. Social skills training for schizophrenic individuals at risk for relapse. *Am J Psychiatry* 1986;143(4):523-6.
12. Crowther R, Bond G, Huxley P, Marshall M. Vocational rehabilitation for people with severe mental disorders (Protocol). *The Cochrane Library, Issue 3.* Oxford: Update Software, 2000.
13. Jones C, Cormac I, Mota J, Campbell C. Cognitive behaviour therapy for schizophrenia (Cochrane Review). *The Cochrane Library, Issue 3.* Oxford: Update Software, 2000.
14. Beck A. *Cognitive therapy of depression.* New York: Guilford Press, 1979.
15. Turkington D, Kingdon D. Cognitive-behavioural techniques for general psychiatrists in the management of patients with psychoses. *Br J Psychiatry* 2000;177:101-106.
16. Sensky T, Turkington D, Kingdon D. et al. A randomized controlled trial of cognitive-behavioral therapy for persistent symptoms in schizophrenia resistant to medication. *Arch Gen Psychiatry* 2000;57:165-72.
17. Hayes R, McGrath J. Cognitive rehabilitation for people with schizophrenia and related conditions (Cochrane Review). *The Cochrane Library, Issue 3.* Oxford: Update Software, 2000.
18. Spring B, Ravdin L. Cognitive remediation in schizophrenia: Should we attempt it ? *Schizophrenia Bulletin* 1992;18:15-20.
19. Malmberg L, Fenton M. Individual psychodynamic psychotherapy and psychoanalysis for schizophrenia and severe mental illness (Cochrane Review). The *Cochrane Library, Issue 3.* Oxford: Update Software, 2000.
20. McMonagle T, Sultana A. Token economy for schizophrenia (Cochrane Review). *The Cochrane Library, Issue 3.* Oxford: Update Software, 2000.
21. Marshall M. *Psychiatric services: designs to reduce hospital admissions. Clinical Evidence.* London: BMJ Publishing Group, ACP/ASIM, 2000:468-474.
22. McGrew J, Bond G. Critical ingredients of Assertive Community Treatment: judgements of the experts. *Journal of Mental Health Administration* 1995;22; 113-25.
23. Marshall M, Lockwood A. Assertive community treatment for people with severe mental disorders (Cochrane Review). *The Cochrane Library, Issue 3.* Oxford: Update Software, 2000.
24. Bouras N, Turnell G, Brough D, Watson J. Model for integration of community psychiatric and primary care. *Journal of the Royal College of General Practitioners* 1986;36(62-6).
25. Bennett D, Freeman H. Principles and prospect. In: Bennett D, Freeman H, (eds) *Community Psychiatry.* Edinburgh: Churchill Livingstone, 1991:1-39.
26. Merson S, Tyrer P, Onyett S. et al. Early intervention in psychiatric emergencies: a controlled clinical trial. *Lancet* 1992;339:1311-4.
27. Tyrer P, Coid J, Simmonds S. et al Community mental health teams (CMHTs) for people with severe mental illnesses and disordered personality (Cochrane Review). *The Cochrane Library, Issue 3.* Oxford: Update Software, 2000.
28. Querido A. The shaping of community mental health care. *Brit J Psychiatry* 1968;114:293-302.
29. Weisman G. Crisis Intervention. In: Bellack A, (ed) *A clinical guide for the treatment of schizophrenia.* New York: Plenum Press, 1989.
30. Sledge W, Tebes J, Rakfeldt J. et al Day hospital / crisis respite care versus inpatient care, part I: clinical outcomes. *Am J Psychiatry* 1996;153:1065-1073.
31. Creed F, Black D, Anthony P. et al Randomised controlled trial of day patient versus inpatient psychiatric treatment. *BMJ* 1990;300:1033-1037.
32. Creed F, Mbaya P, Lancashire S. et al Cost effectiveness of day and inpatient psychiatric treatment: results of a randomised controlled trial. *BMJ* 1997;314:1381-1385.
33. Almaraz-Serrano A, Marshall M, Creed F. Day hospitals for people with psychiatric disorders (Protocol for a Cochrane Review). *The Cochrane Library, Issue 3.* Oxford: Update Software, 2000.
34. Catty J, Burns T, Comas A. Day centres for severe mental illness (Protocol for a Cochrane Review). *The Cochrane Library, Issue 3.* Oxford: Update Software., 2000.
35. Holloway F. Case management for the mentally ill: looking at the evidence. *International Journal of Social Psychiatry* 1991;37:2-13.
36. Thornicroft G. The concept of case management for long term mental illness. *International Review of Psychiatry* 1991;3:125-32.
37. Rossler W, Loffler B, Fatkenheuer A, Riecher-Rossler A. Case management for schizophrenic patients at risk of rehospitalization - a case control study. *European Archives of Psychiatry and Clinical Neuroscience* 2000; (in press).
38. Kanter J. Integrating case management and psychiatric hospitalization. *Health and Social Work* 1991;16:34-42.
39. Rossler W, Loffler W, Fatkenheuer B, Reicher-Rossler A. Does case management reduce the rehospitalization rate? *Acta Psychiatrica Scandinavia* 1992;86:445-9.
40. Marshall M, Gray A, Lockwood A, Green R. Case management for people with severe mental disorders (Cochrane Review). *The Cochrane Library, Issue 3.* Oxford: Update Software, 2000.
41. Johnstone P, Zolese G. Length of hospitalisation for people with severe mental illness. *The Cochrane Library, Issue 3.* Oxford: Update Software, 2000.
42. Secretary of State for Health. *The National Plan: a plan for investment, a plan for reform.* London: Department of Health, 2000.

Effective Health Care

This bulletin is based on systematic reviews from the Cochrane Schizophrenia Group:

Ana Almaraz-Serrano, Jocelyn Catty, Ruth Crowther, Robyn Hayes, Paul Johnstone, Christopher Jones, Lena Malmberg, Max Marshall, Tom McMonagle, Margaret Nicol, Eila Pekkala, Fiona Pharaoh, Steve Pilling, Peter Tyrer

The bulletin was written and produced by Clive Adams, Editor of the *Cochrane Schizophrenia Group,* and staff at the NHS Centre for Reviews and Dissemination, University of York.

Acknowledgements:

Effective Health Care would like to acknowledge the helpful assistance of the following who commented on the text:

- Alison Evans, University of Leeds
- John Geddes, University of Oxford
- Simon Gilbody, University of York
- Anna Higgitt, Department of Health
- Rob Kehoe, Airedale NHS Trust
- David Kingdon, University of Southampton
- Julian Leff, Institute of Psychiatry, London
- Max Marshall, University of Manchester
- David Owens, University of Leeds
- Anne Richardson, Department of Health
- Stephen Singleton, Northumberland HA
- Nick Tarrier, University of Manchester
- Mike Took, National Schizophrenia Fellowship

Effective Health Care Bulletins

Vol. 2

1. The prevention and treatment of pressure sores
2. Benign prostatic hyperplasia
3. Management of cataract
4. Preventing falls and subsequent injury in older people
5. Preventing unintentional injuries in children and young adolescents
6. The management of breast cancer
7. Total hip replacement
8. Hospital volume and health care outcomes, costs and patient access

Vol. 3

1. Preventing and reducing the adverse effects of unintended teenage pregnancies
2. The prevention and treatment of obesity
3. Mental health promotion in high risk groups
4. Compression therapy for venous leg ulcers
5. Management of stable angina
6. The management of colorectal cancer

Vol. 4

1. Cholesterol and CHD: screening and treatment
2. Pre-school hearing, speech, language and vision screening
3. Management of lung cancer
4. Cardiac rehabilitation
5. Antimicrobial prophylaxis in colorectal surgery
6. Deliberate self-harm

Vol. 5

1. Getting evidence into practice
2. Dental restoration: what type of filling?
3. Management of gynaecological cancers
4. Complications of diabetes I
5. Preventing the uptake of smoking in young people
6. Drug treatment for schizophrenia.

Vol. 6

1. Complications of diabetes II
2. Promoting the initiation of breastfeeding

Full text of previous bulletins available on our web site: www.york.ac.uk/inst/crd

Subscriptions and enquiries

Effective Health Care bulletins are published in association with Royal Society of Medicine Press. The National Institute for Clinical Excellence (NICE) funds a limited number of these bulletins for distribution to decision makers. Subscriptions are available to ensure receipt of a personal copy. 2000 subscription rates, including postage, for bulletins in Vol. 6 (6 issues) are: £46/$75 for individuals, £74/$118 for institutions. Individual copies of bulletins from Vols 1–5 are available priced £5/$8 and from Vol. 6 priced £9.50/$15. Discounts are available for bulk orders from groups within the NHS in the UK and to other groups at the publisher's discretion.

Please address all orders and enquiries regarding subscriptions and individual copies to Subscriptions Department, Royal Society of Medicine Press, PO Box 9002, London W1A 0ZA. Telephone (020) 7290 2928/2927; Fax (020) 7290 2929; email rsmjournals@roysocmed.ac.uk Cheques should be made payable to Royal Society of Medicine Press Ltd. Claims for issues not received should be made within three months of publication of the issue.

Enquiries concerning the content of this bulletin should be addressed to NHS Centre for Reviews and Dissemination, University of York, York YO10 5DD; Telephone (01904) 433634; Fax (01904) 433661; email revdis@york.ac.uk

Funding for the bulletin is provided by NICE. The NHS Centre for Reviews and Dissemination is funded by the NHS Executive and the Health Departments of Wales and Northern Ireland. The views expressed in this publication are those of the authors and not necessarily those of NICE, the NHS Executive or the Health Departments of Wales or Northern Ireland.

Printed and bound in Great Britain by Latimer Trend & Company Ltd., Plymouth. Printed on acid-free paper. ISSN: 0965-0288

The contents of this bulletin are likely to be valid for around one year, by which time significant new research evidence may have become available.