Cognitive Therapy and Recovery from Acute Psychosis: a Controlled Trial
I. Impact on Psychotic Symptoms

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Background. The application of cognitive therapy (CT) to psychosis is currently being developed in the UK. This paper reports a trial of CT in acute psychosis with the objective of hastening the resolution of positive symptoms and reducing residual symptoms.

Method. Of 117 patients with acute non-affective psychosis, 69 satisfied inclusion criteria and 40 proceeded to stratified randomisation. The experimental intervention involving individual and group CT was compared with a group receiving matched hours of therapist input providing structured activities and informal support; routine pharmacotherapy was provided by clinicians blind to group allocation. Patients were monitored weekly using self-report and mental state assessments during admission and over the subsequent nine months.

Results. Both groups showed a decline in positive symptoms but this was more marked in the CT group (P<0.001). At 9 months 5% of the CT group v. 36% of the control group, showed moderate or severe residual symptoms.

Conclusion. CT appears to be a potent adjunct to pharmacotherapy and standard care for acute psychosis. Issues concerning internal and external validity of the study and opportunities for further research are discussed.

Many clinical trials are in progress investigating the efficacy of cognitive approaches to an array of emotional disorders (Beck, 1993). Some of this burgeoning literature describes cognitive-behavioural interventions for schizophrenia (Birchwood & Tarrier, 1994; Kingdon & Turkington, 1994). Recent successes with this type of approach for drug refractory delusions (Garety et al, 1994) and auditory hallucinations (Chadwick & Birchwood, 1994) suggest modification of certain cognitive processes may be effective in facilitating positive symptom decay in patients suffering from a psychosis. However, psychological management of positive symptoms has tended to be reserved for persistent, residual symptoms that have demonstrated minimal response to neuroleptic medication (Tarrier et al, 1993) and has consequently been employed when acute episodes of psychosis have receded. This paper explores the possibility that the rate of dissolution of positive symptoms in acute psychosis and the severity or level of residual positive symptoms can be influenced using a form of cognitive therapy (CT) as an adjunct to standard in-patient care. The rationale for this focus on the acute episode was threefold. First, the prospective studies of schizophrenia show that residual symptoms are indeed a residuum of the acute psychotic episode. For example, Shepherd et al (1989) demonstrated that in over a third of patients, impairment and residual symptoms worsened after each acute psychotic episode in an apparent stepwise progression; and in a recent follow-up study of the early course of psychotic illness (Harrow et al, 1995), it was found that where “delusions are found in a schizophrenic patient after the acute phase they are likely to recur or persist over the next 2 to 8 years” (p. 102). It would seem logical, therefore, to focus on the acute psychotic episode as the source of residual symptoms. Second, shortening the duration of acute psychosis may be beneficial in itself. In respect of the first episode, for example, prompt treatment with neuroleptic medication may benefit short-term outcome as long periods of untreated psychosis are associated with increased relapse risk and treatment resistance (Loebel et al, 1992). Third, the experience of acute psychosis and the circumstances of its management can be distressing and has been linked to post-traumatic stress disorder, post psychotic depression and increased risk of suicide (McGlashan, 1994), underlining the need for complementary treatment strategies. Reducing the duration and severity of
acute psychosis using methods that complement drug treatment, hold out the prospect of reducing future difficulties.

One feature of the CT approach to psychosis is an emphasis on the normal rather than the abnormal. Normal psychological processes have been implicated in the maintenance of delusional beliefs (Brett-Jones et al., 1987) for example a bias towards the recruitment of confirmatory evidence. In studies of patients in acute psychosis where delusional belief conviction had begun to decline, it has been suggested that patients employ normal mechanisms to disconfirm their beliefs such as acting on the belief to test its validity (Buchanan et al., 1993) and seeking the assistance of others in collecting disconfirming evidence (Sacks et al., 1974). We hypothesise that these strategies could be facilitated among individuals recovering from an acute episode of psychosis. Patients' attitudes towards their psychotic illness have also been linked to short and long-term outcome (McGlashan & Levy, 1977). In particular, a coping style known as integration, where the patient adopts a curious approach to their illness and wishes to make sense of the psychotic breakdown, is believed to lead to the "most meaningful, consistent and stable recoveries" (McGlashan & Levy, 1977, p. 56). Although a poorly researched area, integration summarises a set of positive attitudes about psychotic illness in which it is perceived as a manageable, meaningful and containable experience. The present study seeks to examine the effects of a particular cognitive intervention (Birchwood & Drury, 1995; Chadwick et al., 1996) involving an emphasis on the integration of psychosis, on the dissolution of positive symptoms in acute psychosis.

Method

Design

The efficacy of a cognitive therapy (CT) programme was evaluated by comparison with a control group receiving a matched number of hours of a recreation therapy and to provide informal support (ATY). The pattern and speed of positive symptom decay were assessed by the administration of weekly clinical measures starting at hospital admission and continuing up to a maximum period of six months with a further assessment at nine months. The study hypotheses were that the CT intervention would lead to a more rapid rate of recovery from positive symptoms than the ATY (control) group, and that at nine months' post discharge, the severity of residual symptoms would be less in the CT compared to the ATY group.

Case identification

All subjects included in this study were in-patients at All Saints Hospital, an inner city psychiatric hospital serving West Birmingham and Sandwell (population: 480 000). The screening criteria were derived from the WHO first-contact study as operationalised by Harrison et al. (1988). These criteria were used in order to identify and intervene with a broad spectrum of people presenting with hallucinations, delusions and abnormal behaviour such that a functional psychosis was indicated; however, patients with a current diagnosis of bipolar disorder or hypomania were not included. The criteria excluded patients suffering from organic syndrome, confusional states and disorders associated with drug and alcohol misuse. The use of recreational drugs was not considered a reason for exclusion.

Allocation to condition

All patients were randomly allocated to one of two groups (CT or ATY) using a stratified sampling technique according to variables known, or suspected, to be related to duration of recovery from acute psychosis: age, age at onset, gender, ethnicity, living circumstances prior to admission, number of previous episodes and duration of untreated illness prior to presentation (Table 1). There were no significant differences between the groups on these criteria. Consistent with the inner-city setting, the sample was slanted towards youth, with nearly two-thirds experiencing a first or second episode of psychosis while 70% were within 5 years of first presentation.

Assessments

Florid symptomatology was rated weekly using two measures: the Psychiatric Assessment Scale (PAS; Krawiecka et al., 1977) and a self-report measure of delusional conviction (Brett-Jones et al., 1987).

The PAS consists of eight categories of symptoms assessed on a four-point scale. These are: depression, anxiety, hallucinations, delusions, flattened incongruous affect, psychomotor retardation, incoherence and irrelevance of speech, and poverty of speech. A score of 0 or 1 denotes absence of pathology while a rating of 2, 3 or 4 denotes presence of the target symptom in increasing severity. Flattened affect and incongruity of affect
were rated separately. Core psychotic symptoms were elicited using selected questions from the Present State Examination. All patients were rated by the first author and a random subset of patients were blindly rated by MB and JFM.

Delusional beliefs elicited during administration of the PAS at the initial or second interview, were then discussed in further detail. Each belief was documented once the patient was satisfied with the wording and a Personal Questionnaire was constructed as described by Brett-Jones et al. (1987). Ratings of conviction (how sure the patient was about the belief) and preoccupation (how much time the patient spent thinking about the belief) were obtained on five-point scales.

**Reliability of PAS ratings**

Mental state assessments carried out by the first author on a reliability sample (n = 16) recruited for a previous study (Birchwood et al., 1994), were blindly rated by JFM and MB to determine reliability of the rater at the commencement of the study. Patients from within the present study were selected at different time points, and blindly rated by MB and JFM to detect any drift of rater reliability during the study.

**Treatment protocols**

Treatment and control interventions were delivered according to strict protocols. All interventions were an adjunct to routine hospital care and patients remained under the medical supervision of the responsible consultant psychiatrist who alone determined the pharmacological regime and timing of discharge. After giving informed consent patients received either the cognitive therapy (CT) or the informal support and recreational activities (ATY) programme for an average of eight hours per week. Neither patients nor consultants were aware of group allocation other than that they would be receiving a supportive recovery programme.

**Cognitive therapy**

CT consisted of four individual and group procedures (see Birchwood & Drury, 1995; Chadwick et al., 1996 for a fuller account), administered in a staged way over the course of recovery. These were: (i) Individual cognitive therapy in the context of a supportive relationship involving the challenging and testing of key beliefs; (ii) Group cognitive therapy. In small groups (maximum of six), patients were encouraged to observe how others’ beliefs often contain inconsistencies and irrationalities and were asked to consider alternative explanations for them. Patients were helped to understand and develop new strategies for coping with positive symptoms (including possible relapse), to challenge negative evaluative beliefs about psychosis and to ‘face up to’ and integrate their illness rather than seek refuge in their psychotic experiences; (iii) Family engagement included up to two sessions of specific guidance on helpful ways of interacting with the patient and how to support their attempts to manage their symptoms, particularly delusional beliefs which were the target of intervention. Families were encouraged to understand the rationale behind the study programme and to collaborate with the CT regime; (iv) A structured activity programme in a relaxed atmosphere away from the ward. This included activities aimed at improving interpersonal and self-care skills (e.g. cookery classes, creative therapies, discussion groups). (i) and (ii) were administered for an average of 3 hours per week with daily input; (iii) and (iv) required an average 5 hours per week.

**Recreation and support (ATY)**

This consisted of flexible and low key leisure and social activities away from the ward ranging from the availability of a quiet room to listen to music, to outings and social groups. Patients’ concerns about their situation and their anxieties about psychotic experiences and treatment were listened to sympathetically and particular requests or problems referred to the RMO.

**Data analysis**

Data summary and routine analyses were carried out using SPSS/PC (version 4.0). Repeated measures analysis using 12 data points was carried out using the general mixed model program 5V in BMDP (Dixon, 1994). The 5V program uses the Restricted Maximum Likelihood (REML) to estimate parameters of a general class of models. The effects modelled were group, time and group x time with the assumption that the within-subject covariance matrix has a compound symmetry structure. The time and group x time effects involve repeated measures (recovery) and has the advantage of taking account of correlations between different time-points. In line with recent studies (Liddle, 1987) that have identified three independent dimensions of psychopathology, it was decided to combine certain subscales of the PAS and analyse them together. These subscales were: (i) hallucinations...
with delusions ("positive symptoms"); (ii) thought disorder with inappropriate affect ("disorganisation"); and (iii) poverty of speech, flatness of affect and psychomotor retardation ("negative symptoms").

The main hypotheses were tested using the Wald test of significance for main effects and interactions (Dixon, 1994).

**Results**

In total, 117 patients were screened for possible entry into the study. Sixty-nine of these satisfied the inclusion criteria and were approached to take part. Seven patients were subsequently excluded on the following grounds: four were found to be suffering from affective disorders on formal mental state examination, one patient self-injured and was transferred to a general hospital, and in two cases the therapists were unable to communicate effectively such that conditions for monitoring and CT were considered not to have been met.

**Selectivity of attrition**

Of the 62 patients randomly allocated to the two groups, 22 were excluded: 10 from CT and 12 from ATY. Ten patients (33% allocated to CT) were not considered suitable for the cognitive therapy treatment programme. These CT 'non-engagers' consisted of four patients who took less than 50% prescribed medication, two patients who did not disclose any psychotic symptoms and four who would not engage in CT. Twelve patients (37% allocated to ATY) were deemed inappropriate for the activity programme on the following grounds: two patients were withdrawn from the study by their clinicians, two took less than 50% prescribed medication, two patients did not disclose any psychotic symptoms, four did not engage in the organised activities and two refused to complete the assessments. There was no differential attrition between the groups. It is worthy of note that only four patients (19%) of those offered CT refused to take part and a further two (5%) could not engage in CT by virtue of their refusal to disclose psychotic symptoms. These figures would therefore suggest that CT is an approach acceptable to the majority of patients in an acute psychotic episode.

The subsample of 22 patients who were excluded from the study were found to differ significantly from the main sample in two important respects: the subsample included significantly more patients of African Caribbean origin (68% v. 27%; \( \chi^2 = 10.0, \text{d.f.} = 2, P < 0.007 \)) and were more likely to have been detained under a section of the Mental Health Act (77% v. 37%, \( \chi^2 = 10.1, \text{d.f.} = 2, P < 0.006 \)).

**The sample**

Of the 20 patients in the CT group 12 (60%) were men, 18 (90%) were single and 7 (35%) were suffering from a first psychotic episode. The mean age was 29.7 years (19–55 years) with a mean duration of illness of 6.1 years.

Of the 20 patients in the ATY group 13 (65%) were male, 19 (90%) were single and 5 (25%) were suffering from a first episode. The mean age was 31.7 years (21–52 years) and a mean duration of illness of 6.2 years. The clinical and sociodemographic characteristics of the sample are shown in Table 1.

All patients were in receipt of neuroleptic medication. Prescribing clinicians were blind to group allocation. At inception into the study, the groups did not differ in absolute scores on observer ratings of psychotic symptoms (PAS) nor self-report ratings of delusional conviction (Tables 3 and 4).

We consider the absolute morbidity of the two groups to be comparable.

**Reliability of PAS ratings**

The reliability samples included: (i) a sample prior to the commencement of the study (n = 16) and (ii) all patients within the study (Table 2). Apart from the anxiety ratings in the first sample, all correlations were high indicating that ratings were reliable at the onset of the study and there was no 'drift' in the course of the study.

**Evaluation of the cognitive therapy programme**

**Positive symptoms: observer ratings**

It was found that both groups showed a marked reduction in positive symptoms during the 12-week period following hospital admission (see Fig. 1). This was highly significant (Wald test for main effect of time: \( \chi^2 = 40.2, \text{d.f.} = 11, P < 0.0001 \)). As predicted, the decline in positive symptoms was greater in the CT group (Wald test for group x time interaction: \( \chi^2 = 34.1, \text{d.f.} = 11, P < 0.0001 \)).

Post hoc analyses (Table 3) conducted at each of three time-points (1, 7, 12 weeks) revealed no significant difference between the groups on admission but highly significant differences between the groups by week 7 (\( t = 4.6, P < 0.00 \))
which was maintained at week 12 \((t=3.8, P<0.01)\). Thus CT showed a significantly faster rate of decline of positive symptoms over the first 12 weeks of the intervention and significantly less positive symptoms at week 7 and week 12 than ATY.

**Core delusional beliefs: self-report ratings**

Self-report ratings showed a marked reduction in belief conviction and preoccupation over the 12-week period following admission to acute care which was highly significant (Wald tests: \(\chi^2=48.3\), d.f. = 11, \(P<0.0001\); \(\chi^2=40.2\), d.f. = 11, \(P<0.001\) for conviction and preoccupation, respectively). The decline in delusional conviction was significantly greater in the CT group (Wald test for group \(\times\) time interaction: \(\chi^2=31.1\), d.f. = 11, \(P<0.0001\)) (see Fig. 2) but there were no such differences in delusional preoccupation (Wald test: \(\chi^2=3.4\), d.f. = 11, NS).

Post hoc analyses revealed no significance difference in belief conviction between the groups on admission but by week 7, a highly significant difference had emerged \((t=5.0, P<0.001)\) which was maintained at week 12 \((t=4.0, P<0.001)\).
There were no group differences in belief preoccupation on any occasion during the 12 weeks.

**Disorganisation symptoms: observer ratings**

Both CT and ATY groups showed a significant reduction in thought disorganisation ($F=10.82$, $P<0.001$) during the first 12 weeks of the intervention. However, unlike positive symptoms, disorganisation symptoms faded rapidly, so that at week 4, the mean disorganisation rating for CT was 0.68 (s.d. = 18) and for ATY, 0.65 (s.d. = 1.0). The rate of diminution of disorganisation symptoms did not vary between groups.

**Negative symptoms: observer ratings**

Negative symptoms in both groups reduced significantly over the first 12 weeks of the intervention. By week 12, ratings had reached clinically insignificant levels (CT mean rating = 1.33, s.d. = 1.80; ATY mean rating 1.71, s.d. = 2.20). The diminution of negative symptoms did not vary between the groups.

**Nine-month follow-up**

**Positive symptoms: observer ratings**

At 9-month follow-up the CT group showed significantly fewer positive symptoms than ATY ($t=2.2$, $P<0.05$). Ninety-five per cent of the CT v. 44% of the ATY group reported no or only minor hallucinations or delusions on the PAS ($\chi^2=8.9$, d.f. = 1, $P<0.01$).

**Delusional beliefs**

In addition to crude present/absent ratings of delusional beliefs, a range of outcome categories were defined to reflect degrees of change. These categories were ordered along an ordinal scale of 'worst' to 'best' outcome: category 1 was defined as...
the presence of at least one core belief held 'in the present tense' (e.g. I am being followed by the KGB) at, or near, full conviction; category 2 as the presence of a core belief held at 50% or less of the original conviction level and held in the 'present tense'; category 3 as the presence of a core belief held at any level of conviction but in the 'past tense' (I was being followed by the KGB) or a further delusional belief substituted for a core belief held at less than full conviction; category 4, the presence only of ideas of reference; and category 5 as the absence of any delusional beliefs. CT had significantly better outcome than ATY at 9 months' post discharge on this scale (Mann–Whitney $U = 112.5$, $P < 0.05$, one-tailed) (Table 4).

Disorganisation symptoms and negative symptoms
At 9-months' follow-up there was no significant group difference in PAS ratings of disorganisation or negative symptoms.

Medication
All neuroleptic medication was converted to Stelazine equivalents (Foster, 1989). With careful reference to medication sheets all regular and p.r.n. medication taken by each patient was documented. During the first week of hospital admission, the mean daily dose of medication taken by the CT group was 51.6 mg (s.d. = 61.1) Stelazine equivalents and by ATY 38.9 mg (s.d. = 38.3) Stelazine equivalents. The difference was not significant; however, this represents a mean difference of 12.7 mg equivalents. This difference arose as a result of one outlier who received a mega-dose of 251.4 mg Stelazine equivalent during week 1. Omitting this individual, the means (s.d.) for CT at week 1 were 41.06 (40.05) and for ATY 38.94 (38.75). Both groups showed a significant increase in weekly cumulative drug dosage over the first 12 weeks as shown by a highly significant main effect of time ($F = 27.76$, $P < 0.000$). However, the increase in drug dosage did not vary between the groups. At week 12 the mean daily dose of medication taken by the CT group was 75.3 mg (s.d. = 112.6) and by ATY was 53.1 mg (s.d. = 44.2). The difference was not significant. Again this mean difference can be accounted for by the same outlier; when omitted, the mean (s.d.) dose of medication was 55.6 (71.8) for CT and 53.1 (44.2) for ATY. The main results of the study were unaffected by exclusion of this outlier, or when cumulative dose was used as covariate in the main analyses. The outlier in fact had the poorest outcome of the CT group with partial recovery at week 16 and relapse at week 19. Twenty-five per cent of the experimental group and 15% of the control group received standard doses of minor tranquillisers (temazepam, lorazepam or diazepam) during the first four weeks of admission in addition to neuroleptics, and 5% of the control group were prescribed antidepressants. Lithium or carbamazepine were not prescribed for any patient included in this study.

Discussion
The nature of cognitive therapy in psychosis
While there have been numerous studies evaluating the effectiveness of neuroleptic drugs in acute psychosis (Baldessarini et al., 1988), this is the first trial of a psychological (CT) intervention in the acute phase. There have been controlled studies of psychotherapy in psychosis from the USA but they have reported generally negative outcomes with the result that this approach is rarely used in the USA (McGlashan, 1994). These were not conducted in acute psychosis and were driven by different models from the present one: supportive psychotherapy tends to ignore positive symptoms, advocates neuroleptics and can involve an assertion of reality; investigative psychotherapy on the other hand, scrutinises symptom 'antecedents' such as early experience, and personal meaning of symptoms (McGlashan, 1994).

Cognitive therapy as defined in this protocol (Birchwood & Drury, 1995; Chadwick et al., 1996) focuses directly on the belief, the distress it causes and the evidence for that belief, then invites the client to consider, in a collaborative manner, alternative constructions and meanings. One of the positive outcomes of conducting the trial was the evidence of the high level of continued

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<th>Table 4</th>
<th>Delusional beliefs at nine-months' follow-up</th>
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<td>The worst 9-months' post outcome</td>
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<td>ATY (n=18)</td>
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Definitions: 1. Core delusions held in present at or near full conviction; 2. Core delusions held in present at <50% original conviction ratings; 3. Core delusions held in past only or 'new' delusional belief substituted for core delusional belief held at less than full conviction; 4. Minor delusional beliefs of reference or misinterpretation; 5. No delusional belief held.
engagement in CT, which we believe was linked to a feeling on the part of clients that their beliefs were engaged directly and not ignored or dismissed. The CT approach in psychosis therefore marks a departure from past doctrines and psychotherapies and operates within a framework that has found application and validation in several other psychiatric disorders.

Whereas biomedical paradigms focus upon the form of the psychotic symptom, CT pays closer attention to content; for example in the case of voices, we have shown that delusional beliefs are driven by patients' attempts to construct meaning from anomalous experiences (Chadwick & Birchwood, 1994) and in respect of voices at least, it is around this 'search for meaning' that CT had its focus. In this respect our cognitive approach to psychosis has much in common with the cognitive approach to panic disorder (Clark et al., 1994). This trial and other recent reports (Tarriet et al., 1993; Garety et al., 1994; Kingdon & Turkington, 1994) encourage the view that psychotic symptoms, though probably biologically driven in many instances, are inadequately characterised as quasirectal phenomena. For example, it is known that coping strategies (Tarriet et al., 1993) and styles of reasoning about voices (Chadwick & Birchwood, 1994) can influence the intensity of psychotic experience and delusional conviction.

Methodology: Internal validity
The results suggest that CT can accelerate recovery from positive symptoms and lead to a lower level of residual symptoms both quantitatively and qualitatively which is maintained nine months after the onset of acute care. CT thus appears to be a potent intervention.

The groups were carefully matched on known or suspected prognostic variables: gender, age, duration of untreated psychosis, number of prior episodes/duration of illness, voluntary v. compulsory admission, marital status and living circumstances. There was a non-significant excess of first episodes in the CT group; however post hoc analysis showed that the results were similar for first or multiple episode patients and there was no difference in time to recovery of positive symptoms between them. Like many first episode patients, those in the present sample showed a trend toward longer duration of untreated psychotic illness than those with multiple episodes, a factor which is known to be associated with longer and incomplete recovery (Loebel et al., 1992). Again there was a non-significant excess of CT patients living with their family which may have been a factor in the decision to discharge early. Post hoc analysis showed no relationship between living conditions and recovery of positive symptoms; this might be considered unusual but there was selective attrition in both groups of young black men who were more often detained under section and living alone (but not necessarily isolated) in the inner city.

There was no difference in weekly or cumulative neuroleptic drug exposure between the experimental groups with exception of one outlier. Repeating the main analyses first of all excluding the outlier and second by using drug dose as covariate made no difference to the results. We are confident therefore that the effects are not the result of drug exposure. The median weekly chlorpromazine equivalent was 433 mg which is a little in excess of the median figure of 350 mg given by Baldessarini et al. (1988) this being the median effective drug dose for anti-psychotic benefit derived from 19 double-blind trials and well in excess of the 'neuroleptic threshold' dose established by McClevey et al. (1991) for acute psychosis of 3.4 mg of haloperidol (approximately 100 mg of chlorpromazine equivalent). RMOs were blind to group allocation and could not have influenced the outcome. The experimenters were not of course blind to group allocation, a refinement which is not possible with psychological interventions. Many precautions were, however, taken to ensure the reliability of the data. First, independent reliability checks were made on the PAS measures before, and during the course of, the study. Patients were also asked to complete self-report measures administered by a research assistant measuring the strength of delusional conviction and preoccupation, insight and non-specific symptoms. There was a high correlation between the PAS delusions scale and the patient-rated delusional conviction scale (r = 0.89 averaged over the 12 weeks; range: 0.86–0.98). We believe therefore that the data collected are reliable and uncontaminated by experimenter bias. In the second, linked paper evidence is presented in respect of duration of hospitalisation available which was not determined by the investigators and showed a close correlation with these measures of delusional conviction.

It may be considered that the activity in the control group exacerbated the positive symptoms and prolonged recovery (it is well known that acute and chronic stress can trigger episodes of psychosis). We believe this unlikely on two counts. First, the activities in the control group were optional, low key and flexible; and patients' needs for withdrawal were respected. Second, activities were
also a major part of the CT programme amounting to 5 out of a total of 8 hours' weekly contact.

The effect size observed in this trial was similar to that of an unpublished pilot study and the power efficiency of the present experiment was in excess of 0.9. The sample size \( n = 40 \) required to achieve this is comparable to the family intervention studies in psychosis (see Birchwood & Tarrier, 1994) or in other CT trials (e.g. panic disorder, Clark et al., 1994).

The control group in this study received a high standard of care. They were provided with a structured activity regime away from the ward; they were each assigned a keyworker in a community rehabilitation service and received assertive community follow-up, including optional day-care centre attendance, access to vocational training and a befriender service. The CT group received this plus a package of intervention designed to (a) focus directly on delusional beliefs and (b) to challenge the pejorative social stereotypes of severe mental illness so as to facilitate ownership or integration of psychotic experience and to raise self-esteem. Dismantling the package is one approach to uncovering the 'active' ingredients but we strongly believe that true clarification of its mode of action can come only through theoretically well informed development (Birchwood & Tarrier, 1994).

**Generalisability**

CT requires the patients to be willing and able to develop a dialogue about their disturbed and often chaotic mental life. Of the 62 patients randomly assigned to the two groups, 22 (35%) were considered unsuitable because during the first four weeks following allocation they did not disclose their psychotic symptoms and/or took less than 50% of prescribed medication and/or refused to engage in the therapy programme. This was not a specific problem for CT but one which bedevils all forms of acute care (the characteristics of non-engagers in this study were similar in both experimental conditions). At the present time the results may be generalised to those who are willing to engage in a dialogue about their symptoms and also who adhere to medication regimes: this amounts to two-thirds of our inner-city sample of broadly defined non-affective psychotics. There is every reason to suppose that many of the one-third who did not engage initially in CT, and who were excluded under the present protocol, could have been engaged at a later stage in the recovery process. The possible interaction of CT and neuroleptic drug dose opens up an interesting research plan with important implications which we are currently pursuing.

**Direct and indirect effects of the intervention**

Psychosis is a demoralising experience and acute psychosis and the circumstances of its care can be traumatic (Birchwood et al., 1993). One possible explanation for our results is that the optimism and client-centred nature of the intervention raised patients' morale which in turn influenced the reporting of the core delusional beliefs which were the focus of the intervention, or may have reduced the need for 'paranoid defense' (Chadwick & Birchwood, 1995).

One way of examining this is to ascertain whether the intervention 'generalises' to broader aspects of psychotic recovery which were not directly addressed in the intervention, including insight, dysphoria and 'low level' psychotic thinking. This is examined in the accompanying paper.

**Clinical Implications**

- Challenging and testing delusions in acute psychosis can be helpful provided it is non-confrontational.
- Cognitive therapy and pharmacotherapy may be complementary in acute psychosis.
- Treatment protocols needed for acute psychosis to embrace drugs, cognitive therapy and esteem enhancing interventions.

**Limitations**

- Generalisable to two-thirds of patients with acute non-affective psychosis living in the inner-city, taking neuroleptic medication.
- Double-blind placebo methodology not available in psychosocial treatments.
- Replications required to confirm efficacy.

Author details and a full reference list are at the end of the accompanying paper.
V Drury, M Birchwood, R Cochrane and F Macmillan
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