TITLE: Group Therapy in the Treatment of Schizophrenia: A Review of the Clinical Effectiveness

DATE: 02 November 2009

CONTEXT AND POLICY ISSUES:

Drug therapy is the primary treatment for schizophrenia. However, patient compliance with medication may be poor when patients are treated over a long-term period. Relapse and re-hospitalizations are common in patients on oral antipsychotic medication. Successful treatment of schizophrenia therefore relies on both drug and psychosocial, supportive therapies. While the drug treatment can help to control symptoms such as delusions and hallucinations, psychosocial therapy can help patients to comply and adhere to medication treatment, improve their social skills, and learn to communicate and work well with others. Group therapy may be a useful modality for the treatment of both inpatients and outpatients with schizophrenia. However, the evolution of group therapy over time has given rise to different models of interventions to target specific symptoms, making the evaluation of group therapy more difficult. The aim of this review is to evaluate the evidence on the clinical effectiveness of group therapy interventions, excluding family therapy, for treatment of schizophrenia.

RESEARCH QUESTION:

What is the clinical effectiveness of group therapy interventions for the treatment of patients with schizophrenia to improve functioning, health-related quality of life, and reduce hospitalization?

METHODS:

A focused search (main concepts appeared in subject heading) was conducted in Medline and PsycINFO. A limited literature search was conducted on all other key health technology assessment resources, including PubMed in process, The Cochrane Library (Issue 3, 2009), University of York Centre for Reviews and Dissemination (CRD) databases, ECRI, EuroScan, international health technology agencies, and a focused Internet search. The search was limited
to English language articles published between 2004 and September 2009. Filters were applied to limit the retrieval to health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, controlled clinical trials, and observational studies.

HTIS reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials, controlled clinical trials, and observational studies.

SUMMARY OF FINDINGS:

Three systematic reviews and meta-analyses,¹⁻⁷ 10 articles describing nine randomized controlled trials (RCTs),⁸⁻¹⁷ and one controlled clinical trial¹⁸ were identified. Given the number of relevant systematic reviews and RCTs identified for inclusion in this report, observational studies were not included in the critical appraisal.

Systematic reviews and meta-analyses

Lawrence et al., 2006⁵ systematically reviewed trials that evaluated the efficacy of group cognitive behavioural therapy (CBT) for schizophrenia. The review included three RCTs and two case-controlled studies. A meta-analysis of the data was not conducted due to the heterogeneity in the designs, interventions, and outcome measures used in the studies. Two studies reported that patients in the CBT group showed significant improvements in social anxiety compared to patients in the control group. There were mixed results on reduction of auditory hallucinations when compared between CBT and treatment-as-usual. One study showed no significant difference in relapse rates between CBT and another group therapy, psycho-education, although no CBT participants were re-admitted to hospital. Both group therapies (CBT and psycho-education) showed improvement on the positive, negative, and general psychopathology syndrome scale. However, the differences between groups were not significant. CBT was found to be associated with improvements in secondary outcomes such as depression, client satisfaction, and compliance with medication. Limitations of the included studies were relatively small sample size, inadequate control for non-specific aspects of group therapy, incomplete report on blinding and withdrawal, and short-term follow-up with the exception of one study, where the follow-up durations were six months and two years. The authors concluded that although positive findings for CBT have been reported, they are not consistent between studies and the methodological weaknesses of the studies compromise these findings.

Kosters et al., 2006⁵ reviewed the clinical efficacy of inpatient group psychotherapy for mental disorders including schizophrenia. Twenty-four controlled studies and 46 studies with pre-post-measures were included. The patients were adults with a mean age of 40 years. The gender ratio was not specified. Effect size (d) for each outcome was calculated using the formula $d = (M_1 - M_2)/SD$, where $M_1$ and $M_2$ are the means of two conditions being compared and SD is the control standard deviation. For control group comparisons, the overall weighted effect size for the 33 effect sizes that could be calculated from 24 studies was 0.31 (95% Confidence Interval 0.21-0.41) with little heterogeneity. For pre-post-treatment comparisons, the overall effect size was estimated as 0.59 ($SD = 0.04$) with significant heterogeneity. The authors concluded that there are significant beneficial effects of inpatient group therapies on patient outcomes.
Lockwood et al., 2004⁷ compared the clinical effectiveness of group therapy and individual therapy in the treatment of schizophrenia. Seventeen trials and two systematic reviews were included for the analysis. A meta-analysis was not performed due to the level of heterogeneity in trial methods and measurement scales. The findings were summarized in narrative form, where similar studies were grouped-based on treatment types. The authors concluded that the comparison between individual and group therapy in the treatment of schizophrenia has produced results that favor either form of therapy in particular circumstances. The following recommendations were made within the context of the review results:

- Individual cognitive behavioral therapy (ICBT) can be effective in improving overall mental state and global functioning (level I)
- Relapse and re-admission rates are not improved by the use of ICBT (level I)
- ICBT using a psychodynamic or psychotherapy approach is recommended for outpatient care (level I)
- ICBT can be recommended to promote a 25% improvement in insight (number needed-to-treat = 10) (level II)
- Group psychotherapy is not effective at improving global functioning when given for short periods of time (level II)
- Interactive behavior training is not effective at improving social functioning (level II)
- Long-term group psychotherapy or modular skills training can be effective at improving overall psychological symptoms (level II)
- Modular skills training is effective at improving living skills and medication compliance (level II)
- Group psycho-educational training is not effective for improving medication compliance (level II)
- Coping skills training has a longer lasting effect in improving goal attainment than problem skills group training in patient with schizophrenia (level II)
- Intensive group cognitive behavioral therapy and supportive counseling effectively reduce the number of psychiatric symptoms and positive psychiatric symptoms in patients with a short duration of illness and less severe symptoms in the longer term (2 years) (level II)
- The use of group psychotherapy can be effective at decreasing social anxiety and improving social (level II)
- Group psychotherapy is ineffective at producing lasting improvement in polydipsia among subjects with schizophrenia (level II) (p310)

Randomized controlled trials

The characteristics and outcome measures of different intervention strategies were summarized in Appendix 1.

Group versus group

Penn et al., 2009⁸ compared the effectiveness of two different group therapies, CBT and enhanced supportive therapy (EST), for auditory hallucinations. The study was conducted in an outpatient setting with 32 and 33 participants (age 18 to 65, 1:1 ratio of male to female) in the respective groups. Interventions were given over a 12-week period and a follow-up assessment was completed at one year. Group CBT intervention for hallucinations is a manual-based treatment covering introduction to treatment, psycho-education, behavioral analysis, and coping strategies. Group EST intervention is also a manual-based intervention comprising emotional support and counseling of non-symptom related problems. The primary goal of EST is to improve social integration into the community by providing a supportive environment for the
client. At 12 months' follow-up, patients in the EST group were specifically associated with a reduction in negative belief about voices relative to those in the CBT group. CBT group was associated with lower general and total symptoms scores on Positive and Negative Syndrome Scale relative to those in the EST group. The authors concluded that outcomes improved in both groups, with EST having more impact on auditory hallucinations (reduction in negative beliefs about voices) and CBT impacting general psychotic symptoms (reduction in voice distress or intensity).

Lysaker et al., 2009\textsuperscript{9} designed a CBT intervention, namely Indianapolis Vocational Intervention Program (IVIP) to help patients with schizophrenia to persist and perform better at job placements. The IVIP includes weekly cognitive behavior groups and individual sessions aiming to assist patients in learning to recognize the basic cognitive processes which underlie their thoughts about themselves and others and to then help them to identify and correct dysfunctional beliefs relevant to work. The comparator was group support services (SS), which provided in Veterans Affairs work programs and included weekly group sessions to offer support and discussion of work related issues and concerns. No CBT principles were given in SS, but weekly individual meeting was provided to match the amount of treatment intensity of IVIP. Fifty patients (mean age 46; 5:1 ratio of male to female) were randomized into each group and assessment was conducted biweekly over six months. It was found that patients randomized to IVIP demonstrated higher levels of work quantity and quality in a rehabilitation program than those who received weekly individual and group interventions, which were supportive in nature rather than utilizing CBT methods. The authors suggest that there is a connection between cognitive-behavioral interaction and higher levels of work performance in patients with schizophrenia.

Granholm et al., 2009\textsuperscript{10} compare the clinical efficacy of Cognitive-Behavioral Social Skills Training (CBSST, n=40) and Goal-Focused Supportive Contact (GFSC, n=39) on social disinterest in patients (age 18 or older; about 1:1 ratio of male to female) with schizophrenia. CBSST is a group psychotherapy intervention that has three modules (challenging thoughts, asking for support, and solving problems) covering CBT and SST components. The CBT intervention targeted beliefs about psychotic symptoms and self-efficacy beliefs that interfered with functioning behaviors. The SST components were modified from symptom management, communication role-play, and problem-solving. GFSC was used as control condition, which is a form of enhanced supportive contact that focused on functional goals and provided the same amount of therapist and group contact as CBSST. This is an ongoing trial. The preliminary results showed that both groups did not differ significantly with regard to overall change in social disinterest attitudes during treatment. The authors suggested that nonspecific social interaction during group therapy can lead to changes in social disinterest, regardless of whether these attitudes are directly targeted by cognitive interventions.

Bechdolf et al., 2004, 2005\textsuperscript{16,17} compared the effects of a brief group cognitive-behavioral therapy (CBT, n=40) and a group psycho-education (GPE, n=48) in acute patients (age 18 to 64) with schizophrenia. The treatment was conducted while patients were hospitalized. CBT approach used coping strategy enhancement, problem solving, and relapse prevention in patients with psychosis. The GPE program focused on improvement in medication compliance and re-hospitalization rates. The outcome measures included positive and negative syndrome, compliance, relapse, and re-hospitalization and were followed at post-treatment, six months, and two years. When compared with GPE at post-treatment and six months' follow-up, participants in CBT group had lower rates of re-hospitalization, had lower relapse rates, and had higher compliance rates. The advantages of CBT were however lost at long-term follow-up.
Group Therapy with Schizophrenia

Group versus Usual Care

Agara & Onibi, 2007\textsuperscript{11} evaluated the effects of GPE on the scheduled clinic appointments of patients admitted for schizophrenia and depression after discharge from a neuro-psychiatric hospital. Twenty-five patients were randomly selected to receive GPE and 23 patients to receive regular medication and care. The patients' mean age was 30.6 years, and male to female ratio was approximately 1:1. GPE is a group intervention involving at least four sessions, and includes a structured and intensive educational process about patients’ illness, before discharge from hospital. A follow-up assessment was done for up to nine months on the number of clinic appointments kept. It was found that patients having GPE intervention were consistently more compliant with scheduled clinic appointments than those treated as usual. The authors suggested that GPE can be used a part of treatment package for all psychiatric diagnoses.

Ulrich \textit{et al}., 2007\textsuperscript{12} examined the effects of Group Music Therapy (GMT) for schizophrenic in-patients needing acute care. This was an RCT having 26 patients in the GMT and 21 patients in the usual care group. Details regarding usual care were not specified. The patients’ mean age was 36 years, and male to female ratio was about 1:1. GMT consists of group sessions where patients were playing together on rhythm instruments, which were relatively easy to play. Structured or semi-structured musical exercises were often used. There were also group discussions used for reflection. Outcome measures at pre- and post-treatment included interpersonal contact, negative symptoms, and quality of life (QOL). The study found that there were significant effects of music therapy in patients’ self-evaluation of their psychosocial orientation and for negative symptoms. However, no differences between groups were found in the QOL. The authors suggested that the positive effects of music therapy such as the reduction in negative symptoms and improvement in interpersonal contact could increase patient’s ability to adapt to the social environment in the community after discharge from the hospital.

Granholm \textit{et al}., 2007\textsuperscript{13} examined whether benefits such as cognitive insight, mood and psychotic symptoms, and anti-psychotic dosage for CBSST relative to treatment-as-usual (i.e., the patients continued the on-going care they were receiving) gained at the end of treatment were maintained at 12-month follow-up. This was an RCT on patients between 42 to 74 years of age, where 33 patients were assigned to CBSST group and 37 patients to treatment as usual group. Brief explanation for CBSST could be found above in Granholm \textit{et al}., 2009\textsuperscript{10}. The study showed that the improvement in skill acquisition and self-reported performance of living skills in the community was maintained up to one year. However, the improvement in cognitive insight at the end of treatment (six months) did not maintained at one year. The authors conclude that older patients with chronic schizophrenia were able to learn and maintain new skills with CBSST and showed improved self-reported functioning one year after treatment. Longer treatment or booster sessions may be needed to maintain gains in cognitive insight.

Barrowclough \textit{et al}., 2006\textsuperscript{14} evaluated the effectiveness of group CBT for schizophrenia. The CBT program involved 18-sessions covering the introduction to CBT; identification of patient problems; formulating problems in terms of thoughts; feelings and behaviors; negative patterns and thought monitoring; thought challenging; behavioral strategies; experiments and action plans; stress, arousal and medication; staying-well plans; emergency staying-well plans; follow-up and revision. The patients (age 18 to 55; 72.6% male) were randomized to receive either CBT plus standard care (n=57) or treatment-as-usual (n=56) (standard psychiatric care) for 6 months and follow-up assessments were done at 12-month time point. The outcome measures included positive, negative, general and total Positive and Negative Syndrome Scale (PANSS) scores, and the Global Assessment of Functioning (GAF); Social Functioning Scale (SFS); and
relapse and readmission. The results showed that there were no significant differences between CBT and treatment-as-usual on measures of symptoms, functioning or relapse. However, CBT treatment resulted in reductions in feeling of hopelessness and in low self-esteem. The authors concluded that although group CBT may not be the optimum treatment method for reducing hallucinations and delusions, it may have impact on negative feeling and hopelessness.

**Group versus individual**

Hogarty *et al.*, 2006\(^{15}\) determined whether the previously reported positive effects of cognitive enhancement therapy (CET) could be maintained one year after treatment. CET was described by the authors as a multi-dimensional, developmental approach to the remediation of social-cognitive and neuro-cognitive deficits among patients with schizophrenia. This was a follow-up study of the previous RCT, where 121 participants (mean age: 37 years; male: 59%) with schizophrenia or schizoaffective disorder were randomly assigned to CET (n=67) or an enriched supportive therapy (EST) (n=54) for a two-year period (one year treatment and one year follow-up). EST is a personal therapy approach, which fosters illness management through psycho-education and control of stress. Results showed that significant improvement favoring CET continued one-year post-treatment on composite measures of processing speed, cognitive style, social cognition, and social adjustment. The authors concluded that long-term post-treatment effects of CET on cognitive and behavior were maintained one year after treatment ended.

**Controlled clinical trials**

**Group versus Usual Care**

McCay *et al.*, 2006\(^{18}\) conducted a pilot project to evaluate the impact of a group intervention on self-concept (i.e., engulfment, where identity is lost, leaving individuals to consider themselves as only exemplars of a particular illness) and overall QOL for young adults (mean age: 26.7 years; 2:1 ratio of male to female) recovering from a first episode of schizophrenia. Fifty-two young adults diagnosed with schizophrenia were assigned to either group intervention or treatment-as-usual. The group intervention consists of five, 12-week sessions designed by research staff to evaluate engulfment, QOL, and positive and negative symptoms. Outcome measures of the two groups were compared on pre-treatment, post-treatment, and at three months post-treatment. Forty participants completed the 3-month follow-up. The preliminary results showed that group intervention had improvement in engulfment, QOL and symptoms, which were found unchanged in the comparison group. The authors concluded that group intervention may enhance self-concept and minimize the engulfment effects of illness.

**Limitations**

The variations of group interventions, outcome measurements, and timing of measurement among studies made the analyses complex and difficult to interpret. Two of the three included systematic reviews did not perform a meta-analysis due to heterogeneity in interventions, design, and outcome measures used among studies. Of the RCTs included in this report, there are nine different names of group interventions: CBT, EST, IVIP, SS, CBSST, GFSC, GPE, GMT, and CET. In some cases, it is unclear about the degree of complexity and overlap among these group interventions. The conclusions were therefore limited to individual studies, where direct comparisons of certain outcome measures were made between specific interventions.
CONCLUSIONS AND IMPLICATIONS FOR DECISION OR POLICY MAKING:

Despite limitations, most group therapies seemed to be superior to treatment-as-usual or individual therapy in maintaining long-term improvement of outcomes in patients with schizophrenia. It is not possible to know for certain which group therapy is best, when comparing among them. Each group therapy appears to have specific impact on certain types of outcome measures. The development of a universal group therapy may provide long-term improvement to most major outcomes in schizophrenia.

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### APPENDICES:

#### Appendix 1: Study Characteristics and Outcome Measures of Different Intervention Strategies

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<tr>
<th>Study and (country)</th>
<th>Type of intervention, number (N) and study design</th>
<th>Intervention model</th>
<th>Inclusion criteria</th>
<th>Sessions, duration and location of intervention</th>
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<th>Main results</th>
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<tr>
<td><strong>Penn et al., 2009</strong>&lt;sup&gt;8&lt;/sup&gt; (USA)</td>
<td>Group Cognitive-Behavioral Therapy (CBT) (32), Group Enhanced Supportive Therapy (EST) (33), RCT</td>
<td>CBT: Wykes&lt;br&gt;EST: Penn Group vs. group</td>
<td>Schizophrenia or schizoaffective disorder, age 18-65, auditory hallucinations rating of at least 4 on PANSS, undergone at least 2 pharmacological trial</td>
<td>CBT: 12 one-hour weekly sessions&lt;br&gt;EST: 12-week manual-based intervention&lt;br&gt;Outpatient facilities</td>
<td>Clinical psychologist, psychiatrist, social work graduate student (at least a Master’s degree in psychology)</td>
<td>Baseline, post-treatment, 3 and 12 months: symptoms, mood, self-esteem, insight, social functioning, and hospitalizations</td>
<td>CBT: more impact on general psychotic symptoms&lt;br&gt;EST: more specific impact on auditory hallucinations</td>
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<td><strong>Lysaker et al., 2009</strong>&lt;sup&gt;9&lt;/sup&gt; (USA)</td>
<td>Indianapolis Vocational Intervention Program (IVIP) (50), support services (SS) (50), RCT</td>
<td>IVIP: Davis (cognitive-behavioral group and individual interventions)&lt;br&gt;SS: services provided in Veteran Affairs work programs Group vs. group</td>
<td>Schizophrenia or schizoaffective disorder, mean age 46, post-acute phase of illness</td>
<td>IVIP: 4 two-week modules (total 8 sessions) on group sessions, weekly, biweekly, then monthly supervision for 6 months&lt;br&gt;SS: weekly group meeting (1 hour) for 6 months, no</td>
<td>Research psychologist or trained research assistant with Bachelor’s or Master’s degree in psychology</td>
<td>Biweekly over 6 months: work behavior</td>
<td>IVIP: worked greater number of weeks, worked more hours, better work performance than SS&lt;br&gt;There was a connection between cognitive-behavioral interventions and work</td>
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<td>Granholm et al., 2009 (USA)</td>
<td>Cognitive Behavioral Social Skills Training (CBSST) (40), Goal-Focused Supportive Contact (GFSC) (39), RCT</td>
<td>CBSST: Granholm GFSC: not reported Group vs. group</td>
<td>Schizophrenia or schizoaffective disorder, age 18 or older, no prior exposure to SST or CBT in the past 5 years, hospitalized or non-hospitalized patients</td>
<td>CBSST: 3 modules, each module had 6 weekly 2-hour sessions (total 36 sessions), followed by 9 monthly booster sessions GFSC: enhanced supportive contact that focused on functional goal and provided the same amount of therapist and group contact as CBSST</td>
<td>Two therapists with at least Master-level education (clinical psychology or social work), at least 1 year experience in CBT</td>
<td>Preliminary report on an ongoing trial: Independent Living Skills Survey, and Social Disinterest</td>
<td>The groups did not differ significantly with regard to overall change in social disinterest attitudes during treatment. Nonspecific social interaction during group therapy can lead to changes in social disinterest, regardless of whether these attitudes are directly targeted by cognitive interventions.</td>
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<td>Agara &amp; Onibi, 2007 (Nigeria)</td>
<td>Group psycho-education (GPE) (25), Usual care (UC) (23), RCT</td>
<td>GPE: Zygmunt Group vs. UC</td>
<td>Schizophrenia and depression admitted into the psychiatric hospital, mean age 30.6</td>
<td>GPE: 4 sessions (1 or 2 weeks after admission) In hospital</td>
<td>Trained mental health care staff</td>
<td>Post-discharge (2 weeks, then every 4 to 6 weeks for 9 months): number of clinic appointment kept</td>
<td>GPE: improvement in patients’ compliance with scheduled clinic appointments after discharge for a period of 9 months</td>
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<td>Ulrich et al., 2007 (Germany)</td>
<td>Group Music Therapy (GMT) (26), Usual care (UC) (21), RCT</td>
<td>GMT: World Federation of Music Therapy Group vs. UC</td>
<td>A ICD-10 code F20-F29 schizophrenia, mean age 36</td>
<td>GMT: 7.5 (SD 3.5) sessions of music therapy, 45 min per session. The study lasted for 8 months In hospital</td>
<td>Trained mental health care staff</td>
<td>Pretest-posttest: interpersonal contact, negative symptoms, quality of life (QOL)</td>
<td>GMT diminishes negative symptoms and improves interpersonal contact. No differences in QOL between groups</td>
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<td>Granholm et al., 2007 (USA)</td>
<td>Cognitive Behavioral Social Skills Training (CBSST) + usual care (UC) (33), UC (37), RCT</td>
<td>CBSST = CBT + SST CBT: Beck, Kingdon SST: Modules in the UCLA Social and Independent Living Skill Series Group vs. UC</td>
<td>A DSM-IV schizophrenia, stable outpatient, age 42 to 74, free of medical problems that would interfere with treatment, no substance dependence within the</td>
<td>CBSST: 24 weekly 2-hour group therapy sessions Outpatient facilities</td>
<td>Project staff</td>
<td>Up to 1 year: skill mastery-functioning, psychotic and depressive symptoms, and cognitive insight (belief flexibility)</td>
<td>CBSST: improvement in skill acquisition and self-reported performance of living skills in the community, which was maintained up to 1 year. Improvement in</td>
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<td>Barrowclough et al., 2006&lt;sup&gt;13&lt;/sup&gt; (UK)</td>
<td>Group Cognitive-Behavioral Therapy (CBT) + Usual care (UC) (57), UC (56), RCT</td>
<td>CBT: Pilling Group vs. UC</td>
<td>A DSM-IV schizophrenia or schizoaffective disorder, age 18 to 55, persistent and clinically significant positive symptoms, at least 1 month of clinically stable conditions</td>
<td>CBT: 18 sessions for 6 months Outpatient facilities</td>
<td>Project staff</td>
<td>12 months’ follow-up: positive symptoms; negative, general and total PANSS scores, and the Global Assessment of Functioning (GAF); Social Functioning Scale (SFS); relapse and readmission</td>
<td>Cognitive insight at the end of treatment (6 months), but not maintained at 1 year.</td>
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<td>McCay et al., 2006&lt;sup&gt;18&lt;/sup&gt; (Canada)</td>
<td>Group Intervention on self-concept (engulfment) and overall QOL (26), Usual care (UC) (14), non-RCT, controlled trial</td>
<td>GI: McCay Group vs. UC</td>
<td>A DSM-IV schizophrenia, age 17 to 42</td>
<td>Group Intervention: five 12-week group sessions Outpatient facilities</td>
<td>Project staff</td>
<td>Six months’ follow-up after baseline: engulfment, QOL, positive and negative symptoms</td>
<td>Group Intervention: improvement in engulfment, QOL and symptoms</td>
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<td>Hogarty et al., 2006&lt;sup&gt;15&lt;/sup&gt; (USA)</td>
<td>Group Cognitive Enhancement Therapy (CET) (67), Individual Enriched Supportive Therapy (IEST) (54), RCT</td>
<td>CET: Brenner IEST: Hogarty Group vs. Individual</td>
<td>Schizophrenia or schizoaffective disorder, clinically stable, mean age 37</td>
<td>CET: 56 social-cognitive group sessions of 90 minutes each, for 2 years</td>
<td>Project staff</td>
<td>One year after treatment: behavioral composite measures, neuropsychological composite measures, cognitive style, social cognition, and social adjustment</td>
<td>CET: improvement continued one year post-treatment on composite measures of processing speed, cognitive style, social cognition, and social adjustment</td>
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<td>Bechdolf et al., 2004, 2005&lt;sup&gt;16,17&lt;/sup&gt; (Germany)</td>
<td>Group Cognitive Behavioral Therapy (CBT) (40), group Psycho-education (GPE) (48), RCT</td>
<td>CBT: Tarrier GPE: Hornung Group vs. group</td>
<td>A ICD-10 code F20, F23, F25 schizophrenia or related disorder, age 18 to 64, no drug or alcohol dependence, organic brain disease, learning disability or hearing impairment</td>
<td>CBT: 16 sessions for 8 weeks GPE: 18 sessions for 8 weeks</td>
<td>Project staff: psychiatrist, clinical psychologist</td>
<td>Up to 2 years’ follow-up: Positive and negative syndrome, compliance, relapse, and re-hospitalization</td>
<td>CBT: At post-treatment and 6 months’ follow-up, less re-hospitalized, lower relapse rates and higher compliance. The advantages of CBT were lost at long-term follow-up</td>
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CBT: Cognitive Behavioral Therapy; CBSST: Cognitive Behavioral Social Skills Training; CET: Cognitive Enhancement Therapy; EST: Enhanced Supportive Therapy; GAF: Global Assessment of Functioning; GFSC: Goal-Focused Supportive Contact; GPE: Group psycho-education; IEST: Individual Enriched Supportive Therapy; PANSS: Positive and Negative Syndrome Scale; QOL: quality of life; RCT: randomized controlled trial; SFS: Social Functioning Scale; SST: Social Skills Training; UC: usual care