# **Group Cognitive Behavioral Therapy for Delusions: Helping Patients Improve Reality Testing**

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Group Cognitive Behavior Therapy (CBT) was used to treat residual delusions in patients with schizophrenia. Initially all patients (N = 6) reported delusions of various types, such as persecution, body/mind control, grandiosity, and religious themes. The group format allowed patients to share their experiences and beliefs, thereby eliminating shame and providing support and coping strategies; as well as allowing for peer–peer discussion of irrationalities and inconsistencies in each other's beliefs. After 13 sessions there was a statistically significant reduction in delusional conviction, unhappiness associated with thinking about a delusion, intensity of distress associated with delusion, and an increased ability to dismiss a delusional thought.

**KEY WORDS:** psychotherapy; cognitive behavioral; group; delusions; psychosis; schizophrenia.

## COGNITIVE BEHAVIORAL THERAPY FOR SCHIZOPHRENIA

Schizophrenia affects 1% of the population worldwide, causing tremendous suffering for patients and great societal cost. Delusions and hallucinations represent a severe part of the psychiatric symptom spectrum, occur in up to 74% of patients with schizophrenia (Kaplan & Sadock 1995), and cause significant morbidity. Despite advances in antipsychotic medication, such treatment leads to incomplete improvement. After two years of treatment with medication, more than 55% of patients with schizophrenia still experience delusions (Harrow, Rattenbury, & Stoll, 1988), and only one-third of patients with treatment resistant symptoms show improvement with clozapine (Kingdon & Turkington, 1994).

A number of studies have shown that Cognitive Behavior Therapy (CBT) improves drug-resistant psychotic symptoms (Chadwick, Birchwood, & Trower, 1996; Fowler Garety & Kuipers, 1995; Haddock et al., 1998), and that this treatment is cost effective (National Institute for Clinical Excellence, 2002). CBT for schizophrenia draws on the tenets of cognitive therapy originally developed by Beck and Ellis to treat depression and anxiety disorders (Beck, 1976; Ellis, 1962). CBT for schizophrenia is focused on: (1) reducing distress caused by psychotic symptoms by modifying delusions and beliefs about hallucinations; (2) enhancing coping skills for managing symptoms; (3) reducing emotional disturbances such as depression and anxiety by modifying dysfunctional schemas (i.e., assumptions about themselves); (4) providing psychoeducation (developing a shared model of the nature of psychotic symptoms); and (5) reducing stigma and sense of alienation. An analysis of 13 randomized controlled trials involving more than 1300 people showed that CBT reduces psychotic symptoms and associated distress by 20% to 40% and helps 50%-60% of patients (Garety, Fowler, & Kuipers, 2000). Studies also suggest that CBT is more effective than other treatments for positive symptom reduction and results in larger, longer-lasting effects than supportive psychotherapy; CBT can be used for patients with both chronic difficulties and with acute psychotic episodes; and CBT is most effective for the treatment of delusions.

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Traditional approaches to delusions suggested that delusions were qualitatively different from normal beliefs. Delusions were defined as "false beliefs held with unusual conviction, which were not amendable to logic" (Jaspers, 1963). However, recent phenomenological and empirical studies demonstrated that delusional conviction, preoccupation, and distress fluctuate over time. It is now believed that delusional thinking may involve perceptual aberration and the failure of normal belief evaluation. It has also been debated whether those who hold delusional beliefs form such beliefs as an attempt to explain abnormal experiences, or whether delusional beliefs can be a response to commonplace data as well as to abnormal data filtered by motivational, attentional and attributional biases.

In recent years, several cognitive theories of delusions have stimulated empirical studies. Maher (1974) proposed that delusions are normal explanations of aberrant perceptual experiences. Frith (1996) proposed a theory of failure of self monitoring as responsible for the delusion of alien control. He argued that a failure to monitor one's actions results in an experience that ones actions are not the result of one's intentions. Frith also proposed a "Theory of Mind Deficit," which suggests that delusions of reference and persecution arise from an inability to represent the beliefs, thoughts and intentions of other people (Frith, 1990). Hemsley and Garety (1986) proposed a Bayesian model of probabilistic inference, a multifactorial model in which past experiences, self-esteem, affect and motivation play a role in some delusions, while biases in perception and judgments are prominent in others, as well as a dynamic interplay between these processes. Many studies further examined specific reasoning, attentional and motivational biases in patients with various types of delusions. For example, it was found that patients with paranoia tended to make excessive internal attributions for positive events and excessive external attributions for negative events (Bentall, 1994; Kaney & Bentall, 1989). Empirical studies found strong support for a reasoning bias (a tendency for people with delusions to gather less evidence than controls), and support for an attributional bias in people with paranoid delusions (Garety & Freeman, 1999). Most researchers agree that cognitive mechanisms involved in the formation of different types of delusions are not the same. However, reasoning biases, such as jumping to conclusions, are common in patients with delusions of different types. In fact when patients are provided with the same amount of information as control subjects, they are able to make a conclusion similar to those made by patients in a control group, suggesting that patients who form delusional ideas have the ability to process information similar to normal controls when provided with sufficient data. In sum, recent research findings suggest that delusions fall within a continuum of normal beliefs; and information processing biases, including attributional, attentional, and motivational biases play a major role in the formation and maintenance of delusional beliefs.

The first attempt to modify patients' delusional beliefs using cognitive interventions was reported by Beck (1952). This approach was further developed by Watts, Powell, and Austin (1973), who suggested a belief modification procedure where patients were encouraged to discuss evidence for and against their beliefs, while direct confrontations were avoided. Chadwick and Lowe (1990) have focused on identifying triggers of delusional thoughts, looked at the consequences of holding on to delusional beliefs, while sensitively helping patients explore the evidence underlying their beliefs, and collaboratively designed behavioral experiments to test the evidence behind these beliefs. These approaches were successfully used in other CBT trials (Fowler et al., 1995; Haddock et al., 1998) most of which used an individual CBT model.

The group approach has proven to be effective for schizophrenia patients, particularly group interventions that are focused on coping with psychotic symptoms, decreasing isolation, improving relationships with others, and strengthening ego functions. It was also reported that homogenous groups (when patients' symptoms are similar) are more effective than heterogeneous groups (Kanas, 1996; Kibel, 1991; Yalom, 1975, 1983). A group CBT format allows for a combination of CBT techniques and psycho-education and has been effective in addressing cognitive distortions. It has been successfully used to treat such conditions as Borderline Personality Disorders (Linehan, 1993), Social Anxiety (Heimberg, 1998), Depression (Beck, 1976), and Auditory Hallucinations (Chadwick, Sambrooke, Rasch, & Davies, 2000). However, group CBT has not been systematically used to treat delusions.

To summarize, a review of the literature suggests that: (1) CBT is effective for residual delusions; (2) groups are beneficial for patients with schizophrenia; (3) homogenous groups are more effective than heterogeneous groups; (4) delusions fall within the normal spectrum of beliefs; (5) group has strong impact on the formation and change of non-psychotic beliefs; and (6) delusional patients can benefit from learning how to process information more effectively. Therefore, we aimed to further develop CBT to treat residual delusions in a group format, and to study the effectiveness of this approach.

## **CURRENT STUDY**

This preliminary study of the effectiveness of Group CBT for residual delusions in schizophrenia patients was conducted at Weill Medical College of Cornell University, New York Presbyterian Hospital. The goal of the group treatment was to improve patients' capacity for reality testing by teaching them specific steps needed to process information, so that they can then apply these skills and reevaluate their delusional beliefs. The treatment model was based on current research findings on information processing in delusional patients (Bentall, Kinderman, & Kaney, 1994; Garety & Freeman, 1999); Chadwick's et al. (1996) CBT model for delusions and hallucinations; and the reports on group work with psychotic patients (Kanas, 1996; Kibel, 1991; Yalom, 1975, 1983). Our model combines cognitive interventions with psychoeducation, where the educational component differs from the traditional approach, in that patients learn information processing strategies, and not just new information. Therefore the function of the group was not only to provide support, amelioration and education, but also to facilitate internal change, more specifically to increase patients' ability for reality testing.

#### Group Members and Their Reasons for Joining

Six patients from NYPH Outpatient Schizophrenia Clinic with a primary diagnosis of schizophrenia or schizoaffective disorder, as defined by DSM-IV, who also had delusional beliefs, participated in a group. Patients ranged in age from 34 to 45; four men and two women. Five patients were Caucasian, and one female patient African-American. All patients were taking atypical antipsychotic medication and had been stabilized on these medications for some time.

Group size was determined based on a previous study work with severely regressed and psychotic patients (Kanas, 1996), suggesting that small groups of not more than four members are recommended for severely regressed and psychotic patients, whereas for patients who are not as acutely ill, groups could consist of six to eight patients.

All patients were referred to the group by their primary therapist, who informed them of the possibility to join a group focused on discussing and learning how to reality test beliefs, including delusional beliefs. Most of the patients referred to the group were disturbed by their beliefs, as well as disturbed by the fact that for years they were told that their beliefs were delusional. They were interested and motivated to learn whether there was some evidence for their beliefs. All patients met with the therapist individually. The goal of this first meeting was to provide the patients with more information about the group and to help patients decide whether it would be beneficial for them to join. It was emphasized that the goal of the group is to discuss beliefs that group members held that the majority of people in the community consider to be delusional, and to learn how to reality test these beliefs. Patients were told that if they are interested in joining the group they will meet for two more individual sessions to talk more about the belief they want to explore, to discuss their individual goals for the group, and to undergo an assessment. They were also told that the final decision about joining the group would be made collaboratively after the assessment was complete. Eight patients were referred to the group. After the first meeting with the therapist, six patients agreed to join the group.

## Assessments

During the next two individual sessions patients underwent cognitive behavioral assessment (see Chadwick et al., 1996; Morrison, Renton, Dunn, Williams, & Bentall, 2004) of their delusional beliefs. They were asked to choose one or two delusions they would like to explore further in the group. They were encouraged to choose the belief that leads to the most disruption in their life, and the one that they would rather not believe in, if they could. At baseline all patients reported delusions of various types, such as persecution, external control (passivity), grandiosity, mind reading, and religious themes. Examples of these beliefs are listed below, one for each patient: (1) Someone who lives in my house is praying for me to die, so that he can have my girlfriend; (2) Someone is reading my mind and controlling me by moving my body; (3) All people except me can transmit voices, put thoughts into my mind, read my mind, make me angry, make me mean, make me upset, kill my energy. Policemen and gangsters are transmitting voices into my head and stealing my potential wives; (4) I have a light in the middle of my brow and this light is a seal of God, and I am adapted by the Trinity. But I am afraid I am adapted by Satan, because the voice I hear is the voice of Lucifer; (5) There are groups and gangs that are out to get me. They torture me, put things in my brain to make me forget things; (6) There are good and bad demons that follow me and have sex with me.

After each patient identified the belief he/she wanted to work on in the group, he/she was asked to evaluate various characteristics of these beliefs using the Characteristics of Delusions Rating Scale (CDRS) (Garety & Hemsley, 1987). If patients reported hearing voices that contributed to the formation of their delusion, the Cognitive Assessment of Voices Interview Schedule (Chadwick & Birchwood, 1994) and Tophography of Voices Scale (Hustig & Häfner, 1990) were administered. All patients also completed Psychotic Symptom Rating Scales (PSYRATS) (Haddock, McCarron, Tarrier, & Faragher, 1999). To evaluate treatment outcome, the same scales were administered after the completion of the group.

## **Treatment Overview**

The Group met weekly for 13 weeks for one-hour sessions. CBT for psychosis interventions (Startup, Jackson, & Pearce, 2002) such as engagement, "Columbo style" questioning, and providing a normalizing rationale were used to create a safe, supportive and engaging group environment, where patients felt secure to share their delusional beliefs. The therapist was active and directive in helping patients interact and support each other, encouraged discussions and introduced topics. Yalom (1975, 1983) stated that schizophrenia patients benefit from groups that are not demanding, are supportive, and provide an opportunity for successful experience. He advocates for a reality focused, structured approach, versus insight oriented and unstructured, stating that anxiety should be kept to a minimum, and the therapist should be active, open, and encouraging. The CBT approach of addressing psychotic experiences helps patients understand maladaptive behaviors and how they contribute to current problems. However, thinking of maladaptive behaviors and past painful experiences may produce anxiety and an increase of symptoms. Therefore adding structure to this process by exploring patients' beliefs in a systematic way using ABC model would be more productive since it reduces anxiety, and still allows for patients to see how maladaptive behaviors and beliefs contribute to the current problems. Consistent with the CBT approach, and to help reduce patients' anxiety by adding structure, sessions were organized in the following way:

- Warm-up exercise (5 min)
- Review of previous topics, review of homework, introduction of the new topic (5–10 min)
- Discussion of the new topic, which could include a structured exercise (20–30 min)
- Homework (5 min)
- Review of the session (5–10 min).

Research in group therapy showed that even a minimum level of participation decreases anticipatory anxiety. Warm up exercises gave the opportunity for everyone to participate. For example, patients were asked to go around the circle and share something they like about themselves, or something they are good at. Yalom (1983) stated that the most effective type of exercise is a pairing experience that combines solo activity, dynamic interaction, and total group interaction. An example of such an exercise can be writing an example of a belief, sharing it in pairs, and then reviewing it for the group. During the review of the session, the therapist asked each patient to reconstruct what happened during the session (e. g. "What did we talk about? What did you learn today?") and to evaluate it ("What did you like and/or dislike about today's session?").

The treatment consisted of 13 sessions with the following topics:

SESSION 1: Introduction. How can we make this group safe and comfortable? What is CBT? Define delusions. SESSION 2: Sharing individual goals for the group. Identifying the delusions that the patients want to work on. SESSION 3: Learning the ABC model

- 1. Activating event. What triggers the delusional thought?
- 2. Belief. What is the difference between Event (Experience) and Belief?
- 3. Consequences. What are the outcomes of having a belief? Feelings, actions; positive and negative.

SESSIONS 4–5: Applying the ABC model to group members' beliefs.

SESSION 6: Can we change our beliefs? Generating alternative explanations. Looking for evidence. Empirical testing.

*SESSION* 7–9: Evaluating and challenging specific beliefs (e.g. beliefs about voices, paranoid thoughts, delusions of control, etc.).

SESSION 10: Reinterpreting past events in light of a new belief.

SESSION 11: Time to practice! Putting it all together.

*SESSION 12–13:* Will I relapse? Developing an Action Plan. What did I learn in this group?

## Initial Phase (Sessions 1-2)

The first phase of the CBT group was focused on establishing supportive and comfortable relationships between the therapist and the patients, and among group members, and socializing the patients to the cognitive model. At this stage delusions were not challenged, and group members were engaged in learning about CBT, differences between "Fact" and "Belief," defining delusions, and discussing personal goals. Group members were engaged in

#### Morris' Belief: A person is praying for me to die because he wants my girlfriend

Activating events: When I see him praying When I see him When I am at the house At a meal time When I feel week or sick

#### **Consequences:**

*Feelings:* Paranoid Depressed Anxious Doubting my own spirituality Angry

#### Positive:

I have someone to blame I sympathize with myself Behaviors:

Pray more Escape from his presence

*Negative:* Negative feelings Do not enjoy my living

Fig. 1. LEARNING ABC.

specifically designed exercises to practice distinguishing facts from beliefs. The exercises were fun, engaging and stimulated a lot of laughter. Patients were then encouraged to come up with their own definition of a delusion. Thus, one of the patients stated that "Delusion is a thing that you believe is true and that may or may not be true, but most people believe is not true." At this phase of treatment patients also talked about their goals for the group and specific beliefs that they would like to focus on.

#### Middle Phase (Sessions 3–10)

Since it is often anxiety-producing for patients to reveal personal information, and also to try to be logical about a belief that is usually emotionally charged, the following technique was used: Patients first learned logical steps of reality testing, then practiced them using neutral examples. Then they used examples that were similar to their own but introduced by the group leader, and finally began discussing their own beliefs. Patients were discouraged from discussing their delusional beliefs early on because sharing very personal information in the group before a sense of trust and support is established may produce anxiety and decompensation. The group leader commented that people in groups sometimes feel anxious when they don't speak at all, or when they disclose a lot of personal information before they feel that the group is a safe place, and that one of our first goals is to try to do everything we can to make everyone in the group feel comfortable.

The next step (session 3) was to learn the ABC model. An important part of the ABC model is that it allows separating A (activating event, for example hearing a voice, or seeing somebody praying, etc.) from the B (belief that is constructed about the experience). Various examples of activating events, beliefs, and emotional and behavioral consequences of having specific beliefs were discussed, so that patients felt comfortable constructing the ABC model for any hypothetical belief. At this point patients began to discuss their own delusional beliefs and an ABC model for each of their beliefs was constructed. Activating events (which could be any experience or circumstance) and emotional and behavioral consequences of having the belief (C) for each patient were carefully identified and written on a board (see Fig. 1). Positive and negative consequences of having a particular belief were thoroughly explored. It was assumed that if the patient had any positive consequences of holding on to the belief, he or she would be less motivated to change this belief. After all consequences considered as positive were identified, patients with the help of other group members looked for other ways of achieving similar positive benefits. For example, if the belief helped a person to feel better about himself, more adaptive strategies of achieving this goal were discussed, such as devoting more time and energy into something they do well and are proud of, or learning to notice when others give them positive feedback. The negative consequences of holding on to the belief were discussed as well, and particular attention was paid to the impact of the belief on both daily functioning and patients' lives in general. We assumed that the patients' realization of the negative impact of the belief on their lives would contribute to their motivation to change the belief. We also assumed that when the patient is motivated to change the belief, he or she would be much more likely to con-

## EXPLORING THE EVIDENCE

Morris' Belief: A person is praying for me to die because he wants my girlfriend Evidence, For:

<i>Evidence For :</i> I had 3 hospitalizations since he started praying	<i>Evidence Against:</i> I had 3 hospitalizations before I met him
I saw him praying	He could have been praying about something else
People in my family have been sick	He denies it
There are evil forces that can come against you	God wouldn't honor such type of a prayer

Fig. 2. EXPLORING THE EVIDENCE.

sider inconsistencies in his or her belief system, and even specifically look for these inconsistencies to disqualify and replace the belief. In sum, the ABC model was used to help the patients distinguish an activating event, or experience that possibly triggered the belief, and to increase patients' awareness of the impact of their delusion on their lives, and hence increase their motivation to hold on or to change their beliefs.

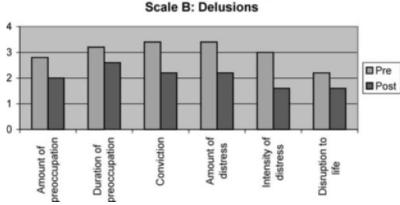
The second half of the middle phase of the treatment was focused on helping patients learn to generate multiple possible explanations of the same event, and to learn steps to decide which possible explanation of the event or experience is most likely. That is done by first listing many possible explanations of the event, evaluating evidence for and against each of these explanations, and choosing the explanation (belief) that has more evidence supporting it. Similar to learning the ABC model, this was accomplished by first discussing neutral examples, then examples that are similar to those of group members, and finally by discussing group members' experiences and delusional beliefs. Examples were provided by the group leader as well as generated by group members. As a warm-up exercise, each group member was asked to give an example of fact and belief (e.g. "there is a rain outside" is a fact and "it's bad luck to have a black cat cross your path "is a belief). The patients were also asked to think about possible experiences that may have contributed to the formation of the belief. At this point the idea of the possibility of belief change ("Can people change their beliefs?") was introduced by the group leader and discussed by group members.

After practicing generating and evaluating different explanations of their experiences, group members focused on discussing their own experiences and beliefs, and generated alternative explanations for their experiences. The patients' beliefs were not challenged before the alternative explanations for their experiences were formulated. Freeman et al. (2004) showed that having only one explanation for an experience and doubting this explanation is correlated with lower self esteem and depressed feelings. Therefore we made sure that the patients had alternative beliefs that made sense and were acceptable to them before the targeted delusional beliefs were challenged. We assumed that having an alternative explanation that the patient was comfortable with played an important role in giving up a belief.

To help patients to see that his/her interpretation was only one of many possible ones, all group members were encouraged to gently confront each other's delusions, by looking for alternative explanations for each other's experiences, and evidence for and against their delusional beliefs (see Fig. 2). Some evidence was obtained right in the group session by conducting an experiment that was agreed upon by group members to serve as an evidence for or against the belief. For example the mind reading experiment was conducted to challenge the belief in telepathy. After all alternative explanations were considered, group members were asked to choose an alternative explanation in place of the previously held belief. Figs. 3 and 4.

## Closing Phase (Session 11–13)

After an alternative explanation for the experience was accepted by the patient, his or her life events were reinterpreted in the light of a new belief. The narrative approach was used to help the patient construct a new, more adaptive story. In the last session the possibility of relapse was discussed, and steps of what to do in case the old belief returns were reviewed. The patients were given a card with these steps. The logical steps of evaluating beliefs were practiced and reviewed. During the last session patients



Pre - Post PSYRATS Changes

Fig. 3. Pre-post treatment changes in the characteristics of delusions scores measured by PSYRATS, scale B (Delusions).

discussed what they had learned in the group and whether they had achieved their goals.

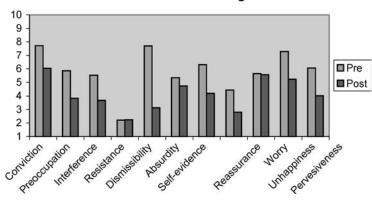
## RESULTS

Two-tailed t tests ( $p \le 0.05$ ) were used to compare pre- and post-measurements. The data of 5 out of 6 completers were used, because one patient did not complete the follow up assessment. After 13 sessions there was a significant reduction in the overall CDRS score (t(5) =2.91, p < 0.043), delusional conviction (t(5) = 3.2, p <0.03), unhappiness associated with thinking about a delusion (t(5) = 3.03, p < 0.03), intensity of distress associated with delusion (t(5) = 3.5, p < 0.02), and an increase in ability to dismiss a delusional thought (t(5) = 3.77, p <0.002). There was also a reduction in the total PSYRATS scores (from 45 to 28.8), which was not significant. The limitations of the study included lack of blindness in the assessment of outcome, the absence of a second comparison group to control for nonspecific effects of increased contact with a therapist, and a small sample size.

## DISCUSSION

A group CBT format was used to treat patients with residual delusions in outpatients with schizophrenia at Weill Medical College of Cornell University, New York Presbyterian Hospital. After 13 sessions, there was a significant reduction in delusional conviction, unhappiness associated with thinking about a delusion, intensity of distress associated with the delusion, and an increased ability to dismiss a delusional thought.

We found the group format to have various benefits: (1) The group allowed for peer-peer discussion of



Pre - Post CDRS Changes

Fig. 4. Pre-post treatment changes in the characteristics of delusions scores measured by CDRS.

irrationalities and inconsistencies in each other's beliefs, which weakened delusional conviction; (2) The group members observed each other holding on to the belief that seemed totally irrational, which made them think that their own belief could be indeed irrational, and that they are just not able to see that, since it is their own belief; (3) The group format allowed for generating various ideas that help patients learn about alternative points of view; (4) The group provided a good learning environment, where the variety of learning exercises could be performed; (5) The group promoted patients' use of coping strategies to deal with symptoms; (6) The group provided a safe place to talk about psychotic symptoms; (7) The group provided an opportunity to reduce social isolation; and (8) The group format allowed more patients to receive treatment. We observed that the group format was particularly beneficial for patients with persecutory delusions, who tended to be more isolated and had a distorted perception of how they were judged by others. This is contradictory to previous findings that suggested that persecutory delusions are most difficult to change (Jorgensen, 1994). This first group also suggested that patients seem to comprehend new information more easily when only one symptom (type of belief) was discussed. These preliminary data suggest that additional controlled studies of group CBT for delusions are warranted to clarify those settings or circumstances leading to different treatment effects, patient characteristics associated with different outcomes, and specific mechanisms that lead to change.

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