Cognitive-Behavioral Treatment of Schizophrenia: A Case Study

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Abstract

Cognitive-behavioural treatment (CBT) has rarely been applied as the primary treatment for the multiple, severe and persistent problems that characterize schizophrenia. This case study describes the process of CBT in the long-term outpatient care of a young woman with schizophrenia. The study highlights the adaptation of cognitive-behavioural strategies to the unique needs of schizophrenia and presents data regarding clinical outcomes in this case. Measures of psychosocial functioning, severity of symptoms, attainment of treatment goals and hospitalisation data were used to assess change over the 3- year treatment period and at 1-year follow-up. Results indicate considerable improvement in all outcome variables and maintenance of treatment gains. These findings suggest the potential usefulness of cognitive-behavioural interventions in the treatment of schizophrenia.

Introduction

Cognitive-behavioural treatment (CBT) has been widely used and its effectiveness established with numerous patient populations and problems (Beck, 1993). However, there has been limited application of CBT techniques in the treatment of persons with schizophrenia and little research regarding its efficacy with this population. This neglect may be due to the dominance of pharmacological treatment and the decline of psychotherapy, the severity of the disorder, or the inadequacies of previous attempts to understand and manage schizophrenia from a cognitive behavioural framework (Birchwood & Preston, 1991; Goggin, 1993)

There is a growing commitment to the design of psychotherapeutic treatments that are grounded in knowledge of the psychopathology of specific diagnostic groups and tailored to the unique needs of the population (Hogarty et al., 1995; Liberman, 1993). This paper will highlight current clinical findings and critical issues regarding schizophrenia that must be considered in order to develop an effective "disorder relevant" cognitive-behavioural treatment of schizophrenia. A model of CBT of schizophrenia responsive to these issues will be described and illustrated by a detailed case study.

Schizophrenia: Current Research and Critical Issues

Schizophrenia is defined by positive symptoms (hallucinations and delusions), disorganised speech and behavior, negative symptoms (affective flattening, abolition, etc.) and significant impairment of psychosocial functioning. While it has been considered a uniformly chronic and progressively debilitating disorder, recent long-term outcome studies suggest the course and outcome of schizophrenia is quite varied and that outcomes can be significantly influenced by medications and psychosocial interventions (Carpenter & Strauss, 1991; McGlashan, 1988).

Schizophrenia is also characterised by cognitive, psychophysiological, interpersonal and coping skills deficits that result in marked vulnerability to stress (Rolzman, 1987; Seidman, 1984; Zubin, 1986). Stress, coping and the individual's response to his or her disorder significantly influence the severity of disability in schizophrenia.

Relapse is frequent and there are identifiable prodromal symptoms and stages of decompensation that involve problems in affective regulation and management of stress (Herz, 1985, 1989). Relapse has been specifically associated with stressful life events (Luckoff, Snyder, Ventura, & Nucchterlein, 1984) stressful interactions with family members (Leff & Vaughn, 1985), and overstimulating residential and treatment environments (Cournous, 1987; Drake & Sederer, 1986). Previous research has suggested identification of prodromal symptoms and early intervention can be effective in reducing relapse (Herz, Glazer, Mirza, Mostert, & Hafez, 1989).

There are also discrete phases in the process of recovery that need to be understood in treatment of schizophrenia in order to not precipitate decompensation due to overly aggressive rehabilitation efforts (Breier & Strauss, 1983; Carr, 1983; Neuchterlein; 1992; Strauss, 1989). Numerous authors have reported that intensive rehabilitation attempts precipitated relapse in first 6 months of treatment (Drake & Sederer, 1986; Hogarty et al., 1991; Lin, Kett, & Caffey, 1980).

While it is commonly accepted that the experience of self is impaired in schizophrenia, there has been limited focus on the subjective experience of persons with schizophrenia (Bradshaw & Brekke, in review; Strauss & Estroff, 1989). Strauss (1989) has highlighted the need to focus on the interaction between the person and his disorder: how the person's goals, feelings regarding illness and self and ways of managing affect the course of the disorder and vice versa. Similarly, Estroff (1989) has emphasized that focusing on the impact on the self of the person with schizophrenia is critical for treatment of schizophrenia. Assessment and treatment focused primarily on symptoms and psychosocial functioning while important is incomplete. Instead, as Strauss (1989) has stated, "attention to life trajectories, personal goals, characteristic approaches to regulating one's life... is essential."

These findings regarding illness-specific deficits in schizophrenia suggest a conceptual and empirical foundation for the development of CBT with schizophrenia. They highlight the need for (I) specific coping skills that help the client modify environmental stresses, change perceptions and interpretations of events, reduce physiological arousal and manage affect, and (2) focus on the interaction of the illness and the person. Enhancement of the client's ability to cope with stress and manage affect is essential to prevent relapse and improve functional agility.

Cognitive-Behavioral Treatment and Schizophrenia

Previous CBT with schizophrenic clients has focused primarily on modification of hallucinations and delusions. Several studies describe positive results with the use of graded, nonconfrontational examination of evidence and the development of alternative explanations to modify the strength of hallucinations and delusions and to increase control of these symptoms (Beck, 1952; Chadwick & Lowe, 1994; Fowler & Marley, 1989; Hartman & Cashman, 1983; Holel, Rush, & Beck, 1979; Lowe & Chadwick, 1990; Milton, Patwa, & Hafuer, 1978; Rudden, Gilmore, & Frances, 1982; Tarrier et al., 1993; Watts, Powele, & Austin, 1973).

Others have described the use of CBT as an adjunctive therapy in residential and inpatient treatment settings. Kingdom and Turkington (1991, 1994) describe the use of a destigmatising, normalising rationale to explain symptom emergence and management to clients. Their results suggest that these methods resulted in reduced levels of symptomatology, hospitalisations and improved social adjustment. Perris (1988, 1992) reports successful use of cognitive milieu treatment with patients living in group homes in Sweden.

In a single subject design study of the CBT of four persons with schizophrenia who participated in outpatient treatment, Bradshaw (1997) found that clients experienced considerable reduction in

symptomatology, rehospitalisations and improvement in psychosocial functioning and attainment of treatment goals that were maintained at 1-year follow-up.

Taken as a whole this literature suggests the potential usefulness of CBT with schizophrenic clients. However, these initial clinical findings are limited due to significant methodological problems: some have described relatively brief periods of experimental treatment with brief follow-up; others lack designs that control for the multiple treatments clients received in inpatient settings; most lack standardised measures of outcome and provide limited posttreatment data. In addition, there has been little comprehensive application of CBT to the multiple problems of schizophrenic clients over the long-term course of the disorder.

Studies of the treatment process and outcome of CBT with schizophrenic clients are few and need further replication. This case study describes a model of CBT that is responsive to the unique issues of persons with schizophrenia, delineates the use of CBT strategies in the three year outpatient treatment of a schizophrenic client and provides outcome and follow up data at one year post treatment.

CASE DESCRIPTION AND CONCEPTUALIZATION

Carol is a 26-year-old single White female. She is a high school graduate and completed 1 year of college. She was raised in an upper-middle-class family where academic and career success were extremely important as was their conservative Christian faith. She was the third of five children. Carol was a good student, hard working and somewhat self-critical. She was shy but had several friends and dated occasionally.

After graduation from high school Carol went out of state to college. She received passing grades her first year but began to experience auditory hallucinations and delusions. She began to act in bizarre ways and withdrew from people. She was hospitalised at age 18 for 1 month and dropped out of college. In the past 7 years she has been hospitalised 12 tunes. She has been unable to work and was supported by SSI. There was no history of psychiatric illness in the family. Her family was supportive of her financially.

Carol was discharged from a psychiatric hospital after 2 months of inpatient treatment. Her diagnosis was schizophrenia, undifferentiated type, chronic. Her Global Assessment of Functioning (GAF) at discharge was 30. She lived with her parents and was on SSI. She took 500 mg of thorazine daily and was medication compliant.

Carol was referred by her psychiatrist for ongoing psychotherapy as part of her discharge plan to help her adapt to the demands of community living and manage her illness. Cognitively she experienced auditory persecutory hallucinations and delusions as well as frequent cognitions like, "I'm no good," "I can't do anything," "I'll always be this way." Affectively she had flat affect and anxiety related to inter-personal situations and tasks and the content of the hallucinations and delusions. Interpersonally she was withdrawn and socially isolated. Behaviourally she was inactive, unable to work or live independently. Her basic self-care was severely limited.

Carol's psychosocial functioning was significantly impaired by the interaction of her illness and her methods of coping. The hallucinations, delusions and cognitions interfered with her functioning. Her coping methods of avoidant behavior toward tasks and interpersonal situations and the increase in negative symptoms (apathy, avolition, anhedonia) to deal with stress in turn increased anxiety, negative cognitions and psychotic symptoms.

ASSESSMENT MEASURES

Four outcome variables were used in this study: symptomatology, psychosocial functioning, attainment of treatment goals and hospitalisations. Symptomatology was measured by the Global Pathology Index

(GPI) of the Hopkins Psychiatric Rating Scale (Derogatis, 1974). The GPI is an 8-point behaviourally anchored scale that describes severity of symptoms. Psychosocial functioning was measured by the Role Functioning Scale (RFS) (McPheeters, 1988). RFS is made up of four subscales: work, social, family and independent living subscales. Each scale is a 7-point behaviourally anchored scale. The RFS and GPI are rater-based scales. Hospitalisation was measured by the number of times hospitalised and total days in hospital.

Attainment of treatment goals was measured by Goal Attainment Scaling (GAS) (Kiresuk & Sherman, 1968). In GAS behavioural descriptions of functioning for various levels of goal achievement are developed and scored with the client. A score ranging from -2 (regression in goal attainment) through 0 (attainment of goal) to +2 (exceeds standards) is given for each goal based on the client's attainment.

The GPI, RFS and hospitalisation data were independently obtained by the case manager on a quarterly basis throughout the 3-year treatment period and at 6 months and 1-year follow-up. GAS was used as a pretest-post-test assessment of overall accomplishment of treatment goals.

THERAPIST CLIENT JOINING

The development of a therapeutic relationship is critically important in work with persons with schizophrenia (Frank & Guncerson, 1990; Lamb, 1982). Rapport took some time to develop (approximately 3 months) and was established by consistent use of the core conditions of genuineness, respect and accurate empathy. The worker was directive, active, friendly and used feedback, containment of feelings, reality testing and self-disclosure to develop the real relationship and lessen transferential problems. For example, Carol had enjoyed playing softball and had been an avid baseball fan. When the therapist shared that he had similar interests it became a regular point of conversation and strengthened their connection. Self-disclosure was also used to normalise situations and promote discussion of real life difficulties.

Length of sessions were determined by the client's capacity at the moment and would range from 15 minutes to an hour or more. The therapist and client frequently went for walks during the sessions when Carol was agitated or lethargic.

SOCIALIZATION PHASE

The goals of this phase were to develop the therapeutic alliance regarding the rationale of treatment, to facilitate the client's understanding of the process of cognitive-behavioural treatment and to establish agreement about treatment goals. This phase of treatment (approximately 2 months) involved the therapist taking an active role educating the client about schizophrenia and the process of treatment. The normalising destigmatising procedure described by Kingdom & Turkington (1991, 1994) was used to explain the experience of schizophrenia. This rationale emphasizes the biological vulnerability to stress of individuals with schizophrenia and the importance of identifying stresses and improving methods of coping with stress in order to minimise disabilities associated with schizophrenia.

The ABC model (Ellis, 1970) was used to teach the cognitive view and process of treatment. Issues from the client's daily life were used to highlight the cognitive components of feeling and behavior. The therapist and client would label the A (activating event) and C (the emotional consequence) of an emotional episode and the therapist would help the client figure out possible self- statements (B) that could have led to the emotional consequence or that would lead to other emotional responses. It was initially difficult for Carol to do this in times of stress or when applying the ABC model to significantly loaded situations. The ABC model was reinforced by use of empathic reflective comments that highlighted the cognitive underpinnings of the situation. Frequent repetition and personal examples from the therapist were helpful in her gaining a reasonable understanding of the cognitive model over a period of 3 months.

EARLY PHASE OF TREATMENT

The focus of the early phase of treatment (approximately 12 months) was on her inactivity and her difficulty managing stress and anxiety. Carol would spend much of her time in bed, watching TV and smoking. When she would consider doing some activity or was requested by her parents to do something, she would become anxious and hallucinations and delusions would increase. She would think that the task was too much for her and would withdraw to her room. She coped with the stress of her symptoms by apathy and withdrawal.

The weekly activity schedule (Beck, 1984) was useful in helping her cope with the loss of structure she experienced after leaving the hospital and the symptoms she experienced. Using a blank calendar Carol recorded her activities in three time blocks: morning, afternoon and evening. She and the therapist reviewed the activities to identify what things improved or exacerbated her condition and to help Carol understand her reactions to different events.

Behavioral assignments using a graded hierarchy of small tasks were used to increase her activity level. Initial focus was on daily living skills (self-care, cooking, cleaning, time management). Exploration of previous interests and the use of an interest inventory were helpful in stimulating her interests and expanding the range of her activities. She had previous experience in arts and crafts and began to do paint by number paintings. This was followed by learning macramé and adding other activities such as bowling that could be done with other people. Mastery and pleasure ratings were later assigned to activities to evaluate the benefits of the activities and to identify cognitive distortions that minimised her sense of accomplishment and pleasure.

Stress management skills were developed in three ways. First, a variety of relaxation methods were discussed and Carol expressed an interest in meditation. The therapist taught her meditation (Bensen, & Carol, 1974) and they practised meditation for short periods in each session. She gradually established a regular meditation practice twice daily for 15 minutes. Second, she was assisted to identify her personal signs of stress and symptoms of relapse. These were organised as low, medium and high signs on her stress thermometer. She posted the thermometer on her door and recorded her "stress temperature" each day. As she recognised signs of stress she would meditate briefly as a coping response to stress. Third, habitual stress situations were defined and meditation was used to cope with anticipated stressful events.

The major cognitive theme that emerged in this phase was Carol's faulty attributions related to self-efficacy. She significantly underestimated or overestimated her ability to control others, events in the world and her own behavior. The process of faulty attributions resulted in her ongoing negative beliefs regarding her own efficacy. Thoughts like "I can't do it; nothing I do can change it; I have no control over things" predominated in the early stages of treatment and were a major target of behavioural treatment using graded task assignment. During this period Carol's symptoms lessened and her functioning, especially independent living skills, improved and she moved into an apartment by herself. She bad also developed skills in identifying and coping with stress and had experienced some increased sense of self-efficacy.

MIDDLE PHASE

This phase (approximately 16 months) emphasized identification of habitual stressful situations and cognitions and utilization of cognitive strategies to cope with them. Three major areas of cognitive work emerged: dealing with social situations, the impact of schizophrenia on Carol's sense of self and fears of relapse.

Social Situations

Social situations were a major source of stress. Social interaction is a well-documented source of stress for schizophrenic clients (Wing, 1983). Many problems in social relations were due to errors in social perceptions of self and others. Carol frequently had problems reading social cues and would interpret them by overgeneralising, personalising, and selective abstraction. She was trained to "check it out" by identifying automatic thoughts, evaluating evidence, exploring alternative explanations and generating new coping self-statements to replace the automatic thoughts (Beck & Weishaar, 1989; Burns, 1980).

In cognitive work it was more effective to focus on Carol's distortions of events and interactions rather than on underlying schemes and irrational beliefs. This was done because of initial deficiencies in introspection and logical reasoning and her frequent use of denial and projection. Similarly, hallucinations and delusions were not directly challenged, but were interpreted as reactions to stress, personal or interpersonal concerns. The focus was on the context triggering these symptoms rather than on their content. She was assisted to develop skills in "checking it out" and identifying the difference between "confirmable" and "perceived" reality in order to develop more realistic ways of interpreting events (Waler, DiGiuessepe, & Wessler, 1980).

Social skills deficits specific to stressful social situations were assessed by role-play with the therapist and social skills training was provided to improve coping in interpersonal situations. Two social skills deficits were addressed. These included expressing feelings and assertiveness. Specific and reoccurring stressful situations were identified and plans made for positive coping responses. Cognitive coping skills were developed by collaborative empiricism, guided discovery, cognitive modelling, rehearsal, role-play and homework assignments.

Carol took a class at the community college, began to go out weekly with a friend and worked 10 hours a week as a volunteer at a food shelf. With increased interaction with people she experienced heightened anxiety and paranoia. This was worked on behaviourally by planning activities in a way that ensured she had a sufficient balance of time alone and time with others and by the use of planned regression in which Carol would take a day off in which she stayed in her apartment and had no contact with others.

Fears of Relapse

As Carol made major progress in various areas of her life, she frequently experienced anxiety, fears and hopelessness regarding relapse. She would experience anxiety, fatigue or depression that was of a low level and within normal limits and interpret them as "I'm going crazy." Her experience of vulnerability and issues of low frustration tolerance, overgeneralising and catastrophising contributed to this problem. Fears of relapse were dealt with in several ways. First, education about her illness and interpretation of her experiences as normal responses to stress helped her understand and normalise her experience. Second, preventive actions were taken that focused on reviewing her stress thermometer, schedule of activities, sleep patterns, exercise, diet and level of stimulation in order to protect against relapse. Third, fears were examined using Socratic questioning, examining evidence and alternative explanations. (Padesky, 1993).

Impact on the Self

As Carol became more confident of her stability and experienced success in her life, she began to talk about the impact of schizophrenia on her sense of self. Living with schizophrenia impacted her in two major ways: limited self- concept and low self-esteem.

Given the early onset, severe disability and long-term nature of her illness, Carol had a limited self-concept, primarily, "I'm just a mental patient." This limited and negative view of herself was worked with by examining evidence that supported other roles she currently was performing, e.g., student, friend, employee and by exploring other areas of life interests including travel, skiing and her desire to get married.

Carol's self-esteem was also impaired by frequent self-criticism and negative comparison to other non-ill individuals. Selective perception and attributions of negatives to oneself and positives to others were common. Because individuals with schizophrenia have exceptionally negative and distorted appraisals

of themselves and events (Robey, Cohen & Gara, 1989; Warner, Taylor, Powers, & Hyman, 1989; Wilson, Diamond, & Factor, 1990), a cognitive technique, PSOB, pat self on back, was developed by the author to train clients to more positively appraise situations and themselves (Bradshaw, 1997, 1996). Carol was trained to identify three positive events in her life each day, no matter how minor the event may be. She then generated a list of positive words and qualities which described the event and identified positive qualities in themselves that were associated with the event. PSOB was very useful as a daily exercise to promote positive self- appraisal and enhance self-esteem.

ENDING PHASE

Two major tasks were addressed in this phase (approximately 3 months): dealing with thoughts and feelings regarding ending treatment and developing plans to maintain treatment gains. Several techniques were used to facilitate maintenance of change. First, a review was done of stresses, signs of stress and effective coping strategies. Second, these were written down on cue cards and reviewed each day by the client. Third, a 3-month termination plan was developed. The plan included agreed upon procedures to handle emergencies, gradual reduction of sessions, planned phone contact and booster sessions.

FOLLOW-UP DATA

Data indicated that Carol experienced improvement in psychosocial functioning, achievement of goals, reduction of symptomatology and number of hospitalisations that were maintained at 6 months and 1-year follow-up (cf. Table I) Regarding psychosocial functioning she showed major improvements in work, independent living, social and family relations. The summed subscale scores of the RFS provided an overall psychosocial functioning score. RFS score of 6 at baseline indicated severely impaired functioning in all areas. Her score of 27 at the conclusion of the study indicated major improvements in psychosocial functioning: relationships with family and friends, ability to independently manage personal and household tasks and performance of school, employment or household tasks.

Symptomatology as measured by GPI was reduced. Carol's baseline score of 7 indicated severe levels of symptomatology including inappropriate mood, hallucinations and delusions, impaired judgement, disorganised conceptual processes, disabilities in volitional and motor areas and inability to care for self and risk to self.

Table 1. Results

	Pretest	Year			Follow-up	
Variables		1	2	3	6 months	1 yr.
Psychosocial Functioning (RFS)	6	11	19	27	27	27
Symptomatology (GPI)	7	6	4	1	1	1
Hospital Days (in previous 3 months)	60	0	0	0	0	0
Goal Attainment (GAS)	19.85			80.15		80.15

At the conclusion of the study her GPI score of 1 indicated only slight impairment. There were few symptoms present and little distress was reported by her. Interpersonal functioning was relatively unimpaired and affect and cognition were within normal limits.

The Goal Attainment score was calculated by summing the scale score values and using the GAS conversion key for equally weighted scales to determine the GAS score. A score of 50.00 represents the expected level of goal attainment in this measure. Carol's pre-treatment score was 19.85. Her posttreatment GAS score of 80.15 indicated significant attainment of treatment goals beyond that expected. Examples of treatment goals accomplished include clinical and socially important tasks such

as improved daily living skills, living independently, developing social support systems, returning to school and obtaining employment.

Carol had no psychiatric rehospitalisation in the 4-year study period. This compares favourably to her extensive history of hospitalisations prior to treatment and to the national average rehospitalisation rate of 35%-50% (Anthony, Cohen, & Vitalo, 1978).

CONCLUSIONS

This case study of the 3-year supportive CBT of a woman with schizophrenia found major improvements in psychosocial functioning, attainment of treatment goals, reduction of symptomatology and hospitalisations that were maintained at one year follow-up. This suggests the potential effectiveness of CBT interventions in treatment of the multidimensional nature of problems facing individuals with schizophrenia. Replication of this study by other clinician researchers and additional testing of this model in community support settings are needed to establish the utility of CBT of schizophrenia.

The model presented expands the use of CBT with persons with schizophrenia from the focus on brief treatment of delusions and hallucinations to the multiple problems experienced by clients over the course of recovery from the disorder. The model, which is grounded in recent research regarding schizophrenia, is a beginning attempt to identify treatment issues and apply specific interventions to stages of treatment and the process of recovery in schizophrenia.

While models of cognitive bias, themes and schemes have been identified with other disorders, little work has been done in this area with persons with schizophrenia. Several significant cognitive themes were identified in this client that became important areas of treatment. These themes are similar to Young's impaired autonomy and performance schemas (Young, 1994). Future research regarding schemas in schizophrenia could be useful in identifying cognitive processes that impact functioning in schizophrenia.

This study also highlights the importance of understanding the impact of schizophrenia on the self and the unique process of change in schizophrenia (Strauss, 1989). Strauss has highlighted the importance of studying the interaction between the person and the disorder in order to understand and treat schizophrenia. Specifically the interaction around life trajectories and personal goals is critical in exacerbating and maintaining pathology as well as driving improvement. Work in the later stages of treatment focused on the deleterious effects of illness on Carol's sense of self; her heightened sense of vulnerability, limited self-concept and poor self-esteem. Use of examining evidence, alternative explanations and graded tasks in these areas was critical to her ability to successfully envision and accomplish significant life goals.

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