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# Stability of outcome in a comprehensive, cognitive therapy based treatment programme for long-term mentally ill patients. A 2-year follow-up study

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**Abstract**

A total of 21 long-term mentally ill patients, from an original sample of 28, were assessed with regard to quality of life, symptomatology, global functioning and target complaints at 6 and 24 months after discharge from a comprehensive in-patient treatment programme based on cognitive therapy. A subgroup of people with a diagnosis of schizophrenia was compared with a matched control group receiving conventional rehabilitation, with regard to living situation, work situation and use of in-patient psychiatric care 2 years before and 2 years after treatment. The results showed improvement for the patients in the treatment group in four out of five outcome measures between admission and the 2-year follow-up. The investigation of differences in outcome between the patients in the treatment group and the control group showed a marked reduction in the use of in-patient psychiatric care for the patients receiving comprehensive cognitive therapy based treatment during the 2 years after treatment. Furthermore, they also had a significantly higher degree of independent living at the 2-year follow-up.

## Introduction

There is a growing body of knowledge about the effectiveness of cognitive therapy for psychotic patients. Several studies have shown that presenting alternative viewpoints, reality testing and enhancing coping strategies, particularly for patients with positive symptoms, may be helpful (Chadwick & Lowe, 1990; Fowler, 1992; Garety *et al*., 1994; Haddock *et al*., 1996; Kingdon & Turkington, 1991). Three randomised controlled trails have been performed and they show a significantly better outcome for patients treated with cognitive therapy in comparison with treatment as usual or other modalities of therapy (Drury *et al*., 1996; Kuipers *et al*., 1997; Tarrier *et al*., 1993). Other, more comprehensive treatment programs like the Integrated Psychological Therapy (Brenner *et al*., 1994) have shown patient improvement in several domains including cognitive, behavioural and social functioning (Spaulding *et al*., 1998). In Sweden, a study of a treatment model based on cognitive therapy and social skills training in a milieu therapeutic context (Perris, 1989) has shown that patients improved concerning

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basic cognitive functions and in overall functioning (Perris *et al.*, 1990; Perris & Skagerlind, 1994). However, few follow-up studies have been made and the knowledge of the maintenance effects is limited. Kuipers *et al.* (1998) showed that the improvement in symptomatology was maintained in an 18-month follow-up study and Tarrier *et al.* (1993) showed a significant improvement of symptomatology at a 6-month follow-up from both pre- and post-treatment levels. In a 3-year follow-up study, carried out by Perris & Skagerlind (1994), the patients' improvement concerning symptoms and social functioning continued from discharge to follow-up. These findings indicate that the outcome of treatment has a certain endurance and may imply that these positive changes also will benefit the patients in their adjustment to society. To our knowledge few investigations have targeted how a positive outcome of cognitive therapy is reflected in the patients' ability to work and have an independent living, or the size of the impact on the patients' quality of life. In one study investigating the model described by Perris (1989), the results showed a significant improvement in quality of life between pre-and post-treatment (Svensson & Hansson, 1999) but it is unclear if these changes sustain the patients adaptation to society.

## Aims of the study

The aims of the present paper were:

1. To investigate the endurance and stability of treatment effects at a 6-month and a 24-month follow-up period after discharge from an in-patient comprehensive treatment programme based on cognitive therapy.
2. To investigate the use of psychiatric services 2 years before and 2 years after treatment for a subgroup of individuals with schizophrenia and to compare their use of services with a matched control group.
3. To make a comparison between the patients with a diagnosis of schizophrenia in the cognitive therapy group and a matched comparison group concerning their ability to establish an independent living and to function in working life.

## Method and subjects

### Design

Between August 1990 and September 1994 all patients consecutively admitted to a treatment unit located in the south of Sweden were approached and invited to participate in the study. Participating patients were assessed at admission, at discharge, at 6-month follow-up and at a 24-month follow-up regarding quality of life, level of symptoms, global functioning and target complaints. The patients' background characteristics were registered at admission. The Strauss–Carpenter scale was obtained at admission and at the 24-month follow-up. Diagnoses were made according to the DSM-III-R. Concerning social functioning, occupational situation and use of in-patient services, a matched comparison group was used in the follow-up study. The study was approved by the Ethical Committee at the Medical Faculty, University of Lund. Participation in the study was based on informed consent given by the patients before entry to the study.

### Instruments

All assessments were made by an independent rater unconnected with the treatment unit, the first author. The rater was not blind to the treatment conditions.

Symptoms were rated according to Hopkin's Symptom Check List-90 (HSCL-90) (Derogatis & Fasth, 1977) and the Com-

prehensive Psychopathological Rating Scale (CPRS) (Asberg *et al*., 1978)

The HSCL-90 is a 90-item self-rating scale containing various symptoms related to psychiatric illness. Symptoms are rated on a five-point scale from 0, not at all to 4, extremely. The instrument consists of nine subscales: somatisation, obsessive–compulsive symptoms, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psychoticism. Scores of the sum of all items and for each subscale can be calculated.

The CPRS is a clinical symptom rating scale consisting of 40 reported items and 27 observed items. The assessment is based on a structured interview and the rating of each item is made in four operationally defined steps with the possibility of rating three intermediate steps.

Quality of life was assessed according to Kajandi (1994). This is a structured interview and targets 17 different dimensions of quality of life. Each dimension is rated on a five-point scale where scores of 1, 3 and 5 have operationally defined anchor points. The 17 dimensions are divided into three life areas, namely, external life conditions, interpersonal relationships and internal psychological state.

Target complaints (TC) were assessed according to Battle *et al*. (1966) and were used as an individualised measure of outcome. During the initial interview the patient was asked to define the complaints of relevance for the actual treatment. The patient then rated the severity of each complaint on a five-point scale with a defined maximum and minimum and with three intermediate rating possibilities. In the analysis the first complaint mentioned by the patient was regarded as the patients main target complaint.

Global functioning was rated according to the Global Assessment of Functioning Scale (GAF), Axis V in the DSM-III-R (American Psychiatric Association, 1987).

The patients' pre-admission functioning was rated according to the Strauss–Carpenter, scale which assesses the situation during the month before index contact, with regard to social contacts and psychiatric symptoms, and the previous year with regard to employment and use of psychiatric in-patient services. In each subsection the scale ranges from 0 to 4, where 4 represents the highest level of functioning (Strauss & Carpenter, 1972, 1974).

Diagnoses were made by an experienced clinician according to DSM-III-R (American Psychiatric Association, 1987).

## Setting

The treatment programme was construed in accordance with the ideas of cognitive therapy in the context of milieu therapy and group therapy as outlined by Perris (1989, 1992). Although community-based care is rather well developed in Sweden, the creation of small in-patient units based on the principles of milieu therapeutic communities has also been a part of the deinstitutionalisation process. The unit under study was in accordance with these principles an in-patient unit with two separate apartments, each having accommodation for six residents. The unit provided home-like living conditions and each patient had a room of their own with a bathroom. The patients participated in all normal daily living activities such as tidying, shopping and cooking.

Each patient had two therapists and took part in at least two therapy sessions a week. The leading principles used during the sessions were as follows: developing a collaborative empiricism; accepting the basic tenets of cognitive therapy concerning the relationship between thoughts, emotions and behaviour and their reciprocal influence; taking

into account the singularity of each patient, independently of present status or diagnostic categorisation; addressing the healthy aspects of the patient rather than focusing on symptoms; trusting that every individual has the potential to influence his or her own condition, at least to a certain extent; promoting the development and maintenance of the patient's autonomy; promoting the unfolding and enhancement of the patient's competence (Perris,1992).

A number of group activities were scheduled every week. They included body-awareness training, activities of recreational and sports nature and expressive art therapy. The formal group therapy sessions consisted of a social skills training group once a week and a weekly specially designed group activity focusing on the identification, differentiation and expression of feelings and emotions. The treatment also included a psycho-educational programme for relatives.

## Subjects

In total 33 patients were admitted and discharged during the study period. All patients were invited to participate in the study. Of these, one patient refused to participate in the study, two patients were transferred to other units shortly after their arrival because of violent and dangerous behaviour, one patient was discharged shortly after admission, and one patient died from a physical illness during admission. Thus a total of 28 patients were finally included in the study. Outcome at discharge is presented elsewhere (Svensson & Hansson, 1999).

Four patients were lost by the time for the 6-month follow-up. Three of them refused to participate in the follow-up interview and one patient could not be traced. At the 24-month follow-up another three patients refused to participate in the study. However, for the people with the diagnosis of schizophrenia ($n$=4) in the drop-out group, register data and data from medical files were obtained for the 24-month follow-up. Thus the total attrition for the assessment part of the follow-up study was seven patients (25%).

The background characteristics of the patients in the cognitive therapy group who participated in the 6-month and the 24-month follow-up studies are shown in Table 1. As can be seen from the table, the patients were in general young ($m$=24.6) but with several years duration of illness ($m$=5.0), and a number of previous in-patient episodes ($m$=5). It is also clear that most of the patients had been unable to establish any higher level of social function in terms of finding a partner, getting married, finding a job or creating an independent living after their first psychotic episodes. At admission 13 of the 17 patients with the diagnosis of schizophrenia also presented with unremitting (at least 6 months) positive psychotic symptoms despite medication and they fulfilled the criteria for drug-resistance as suggested by Garety *et al.* (1994). The patient's length of stay at the rehabilitation unit ranged from 15 to 140 weeks ($m$=70.1)

In total, 15 of the patients fulfilled the DSM- III-R criteria for schizophrenia. Two patients received a diagnosis of schizotypal personality disorder. These two patients were clinically considered to be schizophrenic, but due to lack of evidence of regressive symptoms they did not fulfil the DSM-III-R criteria; in the analyses they are included in the group of individuals with the diagnosis of schizophrenia. The remaining patients suffered from bipolar affective disorder, hyperactivity disorder, anxiety disorder and finally one patient had a mixed personality disorder (border-line and histrionic PD). The main reasons for the admission of the non-schizophrenic patients into the treatment unit were that they were long-term mentally ill, had a

**Table 1**: Background characteristics of the cognitive therapy group ($n$=21)

| | ***N*** |
|---|---|
| *Gender* | |
| Men | 12 |
| Women | 9 |
| *Age* (mean, range) | 24.6 (17–38) |
| *Marital status* | |
| Not married | 21 |
| *Living conditions* | |
| Alone | 10 |
| With parents | 11 |
| *Occupational situation* | |
| Sheltered work | 1 |
| Student | 2 |
| Unemployed (sick-leave or disability pension) | 18 |
| *Age at onset of illness* (mean, range) | 19.9 (15–26) |
| *Duration of illness* (mean, range) | 5.0 (1–15) |
| *Number of previous in-patient episodes* (mean, range) | 5 (1–30) |
| *In-patient days during the 18-month period preceding index admission* (mean, range) | 239 (0-510) |
| *Previous suicidal attempts* ($n$, range) | 4 (1–6) |
| *Diagnosis* | |
| Schizophrenia | 15 |
| Schizotypal personality disorder | 2 |
| Bipolar affective disorder | 1 |
| Other | 3 |

severe social dysfunction, that other rehabilitation efforts had failed and that the majority of them had, in spite of their classification, repeated psychotic episodes.

## Therapists

The therapists were experienced psychiatric nurses who had a training in cognitive therapy equivalent to the regulations of the Swedish National Board of Health and Welfare for performing psychotherapy under supervision of an authorised supervisor. They also had at least 1 year of practical experience in providing supervised cognitive therapy before the study started. The therapists adherence to cognitive therapy was monitored by regular use of videotaped sessions in the supervision of each therapy and therapist. The supervisors were experienced psychiatrists and psychologists who also were registered psychotherapists, authorised in providing cognitive therapy by the Swedish National Board of Health and Welfare.

### The matched control group

The comparison group matching the schizophrenic patients, including the patients with schizotypal personality disorder in the cognitive therapy group ($n$=21), was obtained from a rehabilitation unit focused on long-term mentally ill patients. The unit served the catchment area of the city of Lund, which comprises about 100,000 inhabitants. The unit had a long tradition of psychiatric rehabilitation and admitted patients who were in need for long-term treatment. It offered individualised systematic social communication and skills training interventions including problem solving and ego-strengthening weekly therapy sessions in the highly structured and predictable, psychodynamically orientated milieu of an open in-patient ward. This treatment condition was considered as 'treatment as usual' for patients with a severe long-term mental illness. The matching variables used were diagnosis, sex, age of onset, duration of illness and age at index treatment. Diagnoses according to DSM-III-R were matched very rigorously so that all subclassifications were taken into account in the matching procedure. In order to make the matching as accurate as possible the control group was collected from a large cohort of patients treated during the period from 1982 to 1991. This had, as a consequence, that the controls on average had been admitted to rehabilitation 3.8 years before the cognitive therapy group. The patients in the cognitive therapy group had spent longer time in the index treatment ($m$=72.0, $r$=15–140 weeks) than the controls (54.5, $r$=15–128 weeks).

No interview assessment variables were available for the matched control group. Therefore, it was only possible to use data obtainable from case registers and medical records. Due to different routines in the registration of the use of services, the most reliable variable, days spent in in-patient care, was chosen for comparisons between the groups. Data concerning days in in-patient care 2 years before admission and 2 years after discharge was collected and differences between the groups were analysed. It was also possible to make an estimation of the patient's ability to function in terms of living conditions and work situation which allowed comparisons between the two groups. The amount of support from psychiatric out-patient services during the follow-up period was for both the cognitive therapy group and the control group categorised as follows. 1. Continuous contact indicating referral to day-care units or other daily support. 2. Regular contact indicating regular and scheduled meetings with therapist or keyworker. 3. Sporadic contacts indicating scarce and irregular contacts with out-patient services. The medication regime for the patients was also registered at follow-up.

### Statistics

The statistical software used was SPSS for Windows, release 7.0 (Norusis, 1995). Non-parametric tests were used due to the small sample size and the lack of normal distribution in the variables used in the analyses. Wilcoxon matched-pairs signed-rank test was used to compare differences between ratings at admission and 24-month follow-up, and between discharge and the 24-month follow-up. It was also used in comparisons between the cognitive therapy group and the matched control group.

## Results

### The follow-up of the cognitive therapy group

The results from the assessments at admission, discharge, the 6-month and the 24-month follow-up are shown in Table 2. As seen from the table, the patients in all out-

**Table 2:** Assessment of outcome measures at admission, discharge and follow-up ($n$=21)

| Measure | Admission mean (SD) | Discharge mean (SD) | 6-months follow-up mean (SD) | 24-months follow-up mean (SD) |
|---|---|---|---|---|
| Quality of life | 36.2(6.3) | 40.4(7.7) | 40.4(9.1) | 43.3(7.9)*** |
| CPRS | 26.4(13.7) | 29.5(30.4) | 26.1(12.6) | 20.8(10.5)* |
| SCL-90 | 114.7(68.5) | 100.3(76.5) | 103.0(68.4) | 91.7(69.7) |
| GAF | 46.2(10.4) | 53.3(10.8) | 48.3(11.9) | 55.2(13.0)** |
| Target complaints | 4.0(0.7) | 3.0(1.1) | 3.0(1.0) | 2.9(1.2)*** |

Comparisons between admission and 24-month follow-up. Wilcoxon matched-pairs signed-rank test. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

come measures showed a positive change from admission to the 24-month follow-up and with the exception of the SCL-90 the improvements were significant. There was also a significant improvement between admission and the 24-month follow-up according to the four measures included in the Strauss Carpenter scale: see Table 3.

The changes in medication between admission, discharge and the 24-month follow-up were as follows: at admission 10 patients had traditional neuroleptics, seven had clozapine, one other psychopharmacological drug and three had no medication. At discharge five had traditional neuroleptics, 10 had clozapine, one other psychopharmacological drug and five had no medication. At 24-month follow-up three patients had traditional neuroleptics, nine had clozapine, three had olanzapine, one other psychopharmacological drug and five had no medication. The use of medication was stable between discharge and the 24-month follow-up but throughout the study period there was a change from traditional neuroleptics to clozapine and olanzapine. Also more patients were able to manage without medication at discharge and the 24-month follow-up than at admission.

## Comparisons between the individuals with a diagnosis of schizophrenia in the cognitive therapy group and the matched control group

When the patients, in both groups, were discharged a treatment plan for each individual was made in order to provide a need adapted support in out-patient treatment. Fifteen patients in the cognitive therapy group

**Table 3:** Assessments according to the Strauss–Carpenter scale at admission and the 24-month follow-up ($n$=21)

| | Admission mean (SD) | 24-month follow-up mean (SD) | $p$-value* |
|---|---|---|---|
| Work situation | 0.38 (0.9) | 1,4 (1,7) | <0.01 |
| Social contact | 1.7 (1.3) | 2.6 (1,7) | <0.05 |
| Symptoms | 1.6 (1.6) | 2.6 (1.4) | <0.05 |
| In-patient care | 1.9 (1.6) | 3.0 (0.3) | <0.01 |
| S.C. total | 5.5 (2.5) | 9.6 (3.9) | <0.001 |

Wilcoxon matched-pairs signed-rank test.

and eight patients in the control group was provided treatment on a regular basis during the follow-up period. Continuous contact with services was given to five patients from the cognitive therapy group and to 11 patients from the control group. Finally one patient from the cognitive therapy group and two from the control group had a sporadic contact with their psychiatric treatment teams.

The medication for the patients in the control group at follow-up were as follows: seven patients had clozapine, 13 patients had traditional neuroleptics in lowest effective dosage. One patient had no medication and was considered not to be in need of such treatment. The medication for the subgroup of individuals with a diagnosis of schizophrenia receiving the cognitive therapy programme were at follow-up as follows: nine patients had clozapine, three patients had olanzapine and five patients had traditional neuroleptics in lowest effective dosage. Four of the patients were not on medication and were considered to manage without.

Concerning the patients' living conditions at the 24-month follow-up, 16 of the 21 patients in the cognitive therapy group were living in their own apartment and could function independently. In the control group 10 of the 21 patients had an independent living condition. The differences between the groups were statistically significant ($p$=0.03). Those patients who had not established independent living were in both groups, either living with their parents or in different forms of sheltered accommodation.

The patients' working situation was assessed in terms of having a full-time occupation. Planned studies, work training and work were all placed on an equal footing. In the cognitive therapy group eight of the 21 patients and in the control group six of the 21 patients had an occupation. The other patients in both groups had on average a low level of functioning signified by a sporadic participation in occupational therapy. The difference in occupation between the groups was not significant.

The use of in-patient services during the 2 years before and the 2 years after treatment was for the cognitive therapy group, 212.8 days before and 129.5 days after and for the control group, 125.9 days before and 205.1 days after. There was a marked decrease in the days of the in-patient care in the cognitive therapy group during the 2-year follow-up period, while there was a corresponding increase in the matched control group. None of these changes was significant. The number of days in in-patient treatment decreased in average by 83.6 days in the cognitive therapy group and increased by 79.2 days in the matched control group. Comparisons between the groups demonstrated that this difference in change in service use was significant ($p$=0.01). In total figures this indicates a reduction of in-patient days by 1755 days for the cognitive therapy group, a reduction by 39.3% compared to the 2-year period before index admission. The matched control group in total increased their use of in-patient days by 1664 days, an increase by 63% compared to the 2-year period before index admission.

## Discussion

The present study was a longitudinal 2-year follow-up investigation of long-term mentally ill patients treated in an in-patient treatment programme based on cognitive therapy. Due to the naturalistic nature of the study the results must be considered in the light of its limitations. The sample size was small and there was diagnostic heterogeneity among the patients. The attrition rate of 25% in the assessment part of the follow-up study also reduced the external validity of the results.

However, the sample represents a patient group often seen in clinical settings and often considered hard to treat. These patients all had severe disabilities in everyday life, they had not showed gains from earlier treatment attempts and a majority of them presented severe psychotic symptoms. The changes in the cognitive therapy group showed a stable improvement from admission to the 24-month follow-up. The most important gains for the patients were seen in the areas of global functioning, quality of life and target complaints. On the other hand, symptoms decreased only slightly, and concerning self-rated symptoms the decrease was not significant. In this respect the results differ from earlier follow-up studies (Kuipers *et al.*, 1998; Perris & Skagerlind, 1994; Tarrier *et al.*, 1993) which have demonstrated significant improvements in symptomatology. However, comparisons with earlier studies investigating only cognitive therapy delivered in out-patient settings are problematic, since the present study was investigating a comprehensive in-patient programme also using other interventions. This makes it hard to single out the specific effectiveness of the cognitive therapeutic interventions. Despite the differences in the treatment design, as compared to earlier studies, a similar maintenance was demonstrated throughout the 2-year follow-up. At the 6-month follow-up the patients, however, showed a slight deterioration. This might be due to the problems patients have when confronting life in the community after a long period of in-patient treatment in a unit characterised by a therapeutic and holding atmosphere. Furthermore, implementation and integration of experiences from the treatment period into the daily living situation probably takes a longer time. It is reasonable to believe that treatment effects concerning social competence and coping do not manifest themselves during a short follow-up period. The changes in medication could, to some extent, explain the improvements. However, most of the patients were medicated at the admission and despite that they remained severely disabled. The minor changes in the symptomatology might indicate that the medication only had a limited impact.

The comparisons between the cognitive therapy group and the matched control group demonstrated a reduction of in-patient care in the cognitive therapy group during the 2-year period after treatment. This was not seen in the control group, where the use of in-patient days actually increased. These changes were significantly in favour of the cognitive therapy group. It could be argued that this difference was due to the fact that the control group on average was admitted a few years earlier and that the ongoing cut-downs in health care budgets and as a consequence of that, fewer beds available and changes in admission policies, might explain the difference. However, the ongoing decrease in beds could not explain the 63% increase in use of in-patient days during the follow-up in the matched control group.

The comparisons between the groups with regard to living conditions and work situation showed that significantly more patients in the cognitive therapy group had an independent living condition. With regard to the working situation, few patients in both groups had achieved a normal or close to normal functioning. This underlines the severity of the schizophrenia and emphasises the need for treatment programmes that systematically take these aspects into account.

Although the comparison group was very carefully matched with the cognitive therapy group, the lack of randomisation limits the possibilities of drawing firm conclusions from the evidence of differences in favour of the cognitive therapy group. However, patients in both groups had access to a diversified out-patient support, which seemed to be more intense in the matched control group during

the follow-up period. Furthermore, patients in both groups were offered novel antipsychotic medication (7 v. 12) and a larger proportion of the patients in the experimental group were able to function without neuroleptics (1 v. 4) compared with the control group during follow-up. It is therefore unlikely that the differences in in-patient service use and living conditions could be explained by differences in use of out-patient services and medication during the follow-up period.

In summary, the results demonstrate that the cognitive therapy group, mainly unresponsive to earlier treatment attempts and despite a low initial functioning in work and a proportionately high level of persisting psychotic symptoms, could benefit from treatment in terms of a better quality of life, stay in the community and in a more independent living.

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## References

American Psychiatric Association (1987). *Diagnostic and Statistical Manual for Mental Disorders*, (3rd Edn, rev.) Washington DC: APA.

Asberg, M., Montgomery, S.A., Perris, C., Schalling, D. & Sedvall, G. (1978). A comprehensive psychopathological rating scale. *Acta Psychiatrica Scandinavica,* **271,** 5–27.

Battle, C.C., Imber, S.D., Hoehn-Saric, R.H., Stone A.R., Mash E.R. & Frank J.D. (1966). Target complaints as criteria of improvement. *American Journal of Psychotherapy,* **20**, 184–192.

Brenner, H.D., Roder, V., Hodel, B., Kienzle, N., Reed, D. & Liberman, R.P. (1994). *Integrated Psychological Therapy for Schizophrenic Patients (IPT).* Toronto: Hogrefe & Huber.

Chadwick, P.D.J. & Lowe, C.F. (1990). Measurement and modification of delusional beliefs. *Journal of Consulting and Clinical Psychology,* **58**, 225–232.

Derogatis, L.R., Fasth, B.G. (1977). Confirmation of the dimensional structure of the SCL-90: A study in construct validation. *Journal of Clinical Psychology*, **33**, 981–989.

Drury, V., Birchwood, M., Cochrane, R. & Macmillan, F. (1996) Cognitive therapy and recovery from acute psychosis: A controlled trial I. Impact on psychotic symptoms. *British Journal of Psychiatry,* **169**, 593–601.

Fowler, D. (1992). Cognitive behaviour therapy in the management of patients with schizophrenia: preliminary findings. In: A. Werbart & J. Cullberg (Eds.), *Psychotherapy of Schizophrenia: Facilitating and obstructive factors* (pp. 145–153). Oslo: Scandinavian University Press.

Garety, P.A., Kuipers, L., Fowler, F., Chamberlain, F., Dunn, G. (1994). Cognitive behavioural therapy for drug-resistant psychosis. *British Journal of Medical Psychology*, **67**, 259–271.

Haddock, G., Bentall, R.P. & Slade, P.D. (1996). Psychological treatment of auditory hallucinations: Focusing or distraction? In: G. Haddock & P. Slade (Eds), *Cognitive-Behavioural Interventions with Psychotic Disorders* (pp. 45–70). London: Routledge.

Kajandi, M. (1994). A psychiatric and interactional perspective on quality of life. In L. Nordenfeldt (Ed.), *Concepts and Measurement of Quality of Life in Health Care* (pp. 257–276). Dordrecht, Holland: Kluwer Academic Publishers.

Kingdon, D.G. & Turkington, D. (1991). The use of cognitive behaviour therapy with a normalising rationale in schizophrenia. *Journal of Nervous and Mental Disease,* **179**, 207–211.

Kuipers, E., Fowler, D., Garety, D., Chisholm, D., Freeman, D., Dunn, G., Bebbington, P. & Hadley, C. (1998). London–East Anglia randomised controlled trial of cognitive-behavioural therapy for psychosis III: Follow-up and economic evaluation at 18 months. *British Journal of Psychiatry*, **173,** 61–68.

Kuipers, E., Garety, P., Fowler, D., Dunn, G., Bebbington, P., Freeman, D. & Hadley, C. (1997). London–East Anglia randomised controlled trial of cognitive–behavioural therapy for psychosis I: Effects of the treatment phase. *British Journal of Psychiatry,* **171**, 319–327.

Norusis, M.J. (1995). *Statistical Package for the Social Sciences, SPSSPC+ 7.0.* Chicago: SPSS Inc.

Perris, C. (1989). *Cognitive Therapy with Schizophrenic Patients*. New York: Guilford.

Perris, C. (1992). A cognitive–behavioural treatment program for patients with a schizophrenic disorder. *New Directions in Mental Health Services,* **53**, 21–32.

Perris, C. & Skagerlind, L. (1994). Cognitive therapy with schizophrenic patients. *Acta Psychiatrica Scandinavica,* **89**, 65–70.

Perris, C., Toresson, P., Skagerlind, L., Warburton, E., Gustavsson, H. & Johansson, T. (1990). Integrating components in a comprehensive cognitive treatment program for patients with a schizophrenic disorder. In: C.N. Stefanis, C.R. Soldatos & A. Rabavilas (Eds.), *Psychiatry: A world perspective,* Vol. 3 (pp. 724–729). Amsterdam, Elsevier.

Spaulding, W., Reed, D., Storzbach, D., Sullivan, M., Weiler, M. & Richardson, C. (1998). The effects of a remediational approach to cognitive therapy for schizophrenia. In: T. Wykes, N. Tarrier & S. Lewis, (Eds.), *Outcome and Innovation in Psychological Treatment of Schizophrenia* (pp. 145–160). Chichester, England: Wiley.

Svensson, B. & Hansson, L. (1999). Rehabilitation of schizophrenic and other long-term mentally ill patients. Results from a prospective study of a comprehensive in-patient treatment program based on cognitive therapy. *European Psychiatry*, **14**, 325–332.

Strauss, J.S. & Carpenter, W.T. (1972). The prediction of outcome in schizophrenia. I. Characteristics of outcome. *Archives of General Psychiatry*, **27**, 739–746.

Strauss, J.S. & Carpenter, W.T. (1974). The prediction of outcome in schizophrenia. II. Relationships between predictor and outcome variables: A report from the WHO international pilot study of schizophrenia. *Archives of General Psychiatry*, **31**, 37–42.

Tarrier, N., Beckett, R., Harwood, S., Baker, A., Yusupoff, L. & Ugarteburu, I. (1993). A trial of two cognitive-behavioural methods of treating drug-resistant residual psychotic symptoms in schizophrenic patients: I. Outcome. *British Journal of Psychiatry,* **162**, 524–532.