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Evaluation of a cognitive-behavioral program for chronically psychotic forensic inpatients[☆]

Ruud H.J. Hornsveld^{a,b,*}, Henk L.I. Nijman^{c,d}

^a*De Kijvelanden Forensic Psychiatric Hospital, Rhooon, The Netherlands*

^b*Department Medical Psychology, Radboud University Nijmegen, Nijmegen, The Netherlands*

^c*De Kijvelanden Forensic Psychiatric Hospital, Rhooon, The Netherlands*

^d*Academic Center for Social Sciences, Radboud University Nijmegen, Nijmegen, The Netherlands*

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Abstract

The present study evaluated the progress of four groups of chronically psychotic patients in treatment at De Kijvelanden Forensic Psychiatric Hospital. The psychotic patients were offered a cognitive-behavioral program, including psycho education, grief processing, stress management, functional training, coping with psychotic symptoms (Lieberman module) and social skills training. Nine patients dropped out of the program. Sixteen patients who completed it scored significantly better than a control group of 16 psychotic patients, who had not yet participated in the program, on the “social skills” and “negative coping behavior” subscales of one of two observation scales used. On the other observation instrument (REHAB), however, no significant improvement in the general level of functioning was found in the group of treated patients, as compared to the control group. Apart from these two observation scales, the PANSS (structured interview for positive, negative and general psychopathological symptoms) and the SIG (self-report questionnaire for social anxiety and social responses) were used to evaluate treatment progress. Significant improvements were not found on these scales, except for a slight positive effect on the PANSS negative symptoms scale. These results illustrate the difficulties and limitations of treating chronically psychotic offenders, who often also suffer from cluster B personality disorders.

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* Corresponding author. P.O. Box 900, 3160 AC Rhooon, The Netherlands.

E-mail address: ruuhor@kijvelanden.nl (R.H.J. Hornsveld).

1. Introduction

The literature answers in various ways the question of whether there is a relationship between psychotic disorders and violent behavior. Most authors have drawn the conclusion that patients with psychotic disorders commit serious violent offenses relatively more frequently than “normals” (Hodgins, Côté, & Toupin, 1998; Monahan, 1997; Swanson, Holzer, Ganju, & Jono, 1990; Taylor, 1993). According to Taylor and Gunn (1999), 10% of all homicidal offenses in Western Europe are committed by psychotic patients, a group that constitutes less than 1% of the general population. Junginger (1990, 1995, 1996) believed that specific psychotic symptoms such as paranoid delusions and command hallucinations result in an increased risk.

Other researchers, however, have drawn different conclusions. For example, Quinsey, Harris, Rice, and Cormier (1998) asserted that schizophrenic offenders were less likely to repeat offenses than nonschizophrenic offenders, probably because the former group remained under supervision longer after release. In the MacArthur study on the risk of recidivism in patients with major mental disorders (Monahan et al., 2001), schizophrenics were a low risk group compared to other diagnostic categories. Taylor et al. (1994) and McNeil (1994) had already previously concluded that there is a possible correlation between delusions and hallucinations and violent behavior, but not a causal relationship.

Blackburn (1993, 1996) noted that research on a possible relationship between psychiatric disorders and criminality poses conceptual and methodological difficulties. Neither of these concepts can be defined independently of the other: the psychiatric field increasingly considers antisocial behavior as a criterion for psychiatric disorders. A distinction should also be made between “actual” and “treated” prevalence: not all mentally disturbed people are treated and not all criminals are sentenced. Blackburn (1993) concluded that there is no close connection between any mental disorder and the tendency towards violence. He believed that among schizophrenic patients, only those with delusions pose a higher risk.

Another explanation for the equivocal relationship between psychotic disorders and violent behavior is that psychotic patients are not a homogenous group. Hodgins et al. (1998) made a distinction between “early starters,” characterized by relatively stable antisocial behavior throughout the course of life, and “late starters,” who do not demonstrate any violent behavior before the appearance of the first symptoms of a psychotic disorder.

At this time, there are few guidelines based on empirical research for developing effective programs for offenders with major psychiatric disorders (Hodgins, 2001; Webster, Hucker, & Grossman, 1993), partly because this concerns a very heterogeneous group (Harris & Rice, 1997). According to Müller-Isberner and Hodgins (2000), there are three areas of research that can provide an empirical basis for developing these programs: (a) treatment programs for patients with major psychiatric disorders, (b) rehabilitation programs geared to decreasing the risk of recidivism for criminals without psychiatric disorders and (c) specialized outpatient forensic psychiatric treatment programs.

Based partly on their clinical experience, Harris and Rice (1997) and Hodgins (2001) formulated the characteristics of what they believe to be ideal treatment programs. They think that the emphasis should be placed on inventorying criminogenic factors in risk assessment. The medication and cognitive-behavioral treatment of psychiatric disorders should be the primary focus and systematically evaluated. Treatment should not only be geared to teaching the required skills in the areas of symptom management, substance abuse, social skills, employment and leisure activities, but also to changing antisocial attitudes. Outreaching case management, working in conjunction with social services, should

be part of the programs. In addition, these authors also believe that it is crucial for such a treatment program that participants at risk of psychotic decompensation can be rapidly hospitalized for crisis intervention. Finally, compulsory participation in the treatment programs is recommended.

The present study evaluated the progress of four groups of chronically psychotic patients following a cognitive-behavioral treatment program at De Kijvelanden, a forensic psychiatric hospital near the city of Rotterdam with facilities for 113 male mentally disordered offenders detained under a TBS-order. In Dutch, TBS stands for “TerBeschikkingStelling”, which can be translated as “placed at the disposal of the government”. TBS-patients have committed crimes carrying a prison sentence of at least 4 years. For those patients the court has also established a link between “insufficient development or pathological disorder of their mental faculties” and their crimes, based on examination by two behavioral scientists (e.g. a psychiatrist and a psychologist). Without inpatient or outpatient treatment, the risk of reoffending for those patients is considered to be high. That is why the most important goal of treatment in forensic psychiatric hospitals is to bring about a change in the behavior of these patients and reduce this risk to an acceptable minimum. Every 1 or 2 years, a judge decides whether the TBS-sentence is continued or terminated on the basis of the reports about treatment progress and risk assessments. About a quarter of the patients in De Kijvelanden are diagnosed as chronically psychotic, the other three quarter generally have as main diagnosis one or more cluster B personality disorders (Nijman, de Kruyk, & van Nieuwenhuizen, 2004).

2. Method

2.1. Patients

The “Psychotic Disorders” treatment program is offered to a group of no more than eight patients at the time. The primary inclusion criterion is that patients suffer from a chronic psychotic disorder, whether or not schizophrenia. As part of the assessments for the court about whether a TBS-sentence is justified or not, all patients already had been diagnosed by a psychiatrist and psychologist as suffering from schizophrenia or another DSM-IV psychotic disorder. After admission, psychiatric condition and treatment progress are evaluated every 6 months in a multidisciplinary team. As soon as patients’ mental state has been sufficiently stabilized and he is able to participate in structured group therapy sessions, he is considered for the “Psychotic Disorders” program.

The data is from four groups of patients (male), who participated in the treatment program from 1998 to 2001. Twenty-five patients started the program, 16 of which (64%) succeeded in completing it. Discontinuation of the program usually occurred at the initiative of patients, who found the program too stressful or felt that the program did not meet their needs.

The control group consisted of 16 other patients, matched in terms of duration of hospital stay, and who had not (yet) participated in the treatment program. The control patients had also been diagnosed as schizophrenic or chronic psychotic, but they refused to follow the “Psychotic Disorders” program or they were judged as not being able to participate in a therapy group. The duration of stay was used in matching, because previous research (Nijman et al., 2004) has demonstrated that the behavior of the total group of TBS-patients at De Kijvelanden significantly improved in the first 18 months of hospitalization, regardless of the treatment programs in which they participated. Although this improvement was not observed in the subgroup of psychotic patients, it was decided to select control patients in a way that the

period between the date of hospital admittance and first assessment was, insofar as possible, the same in both groups (see Table 1). An alpha of 0.05 was used as the measure of significance for all analyses. *P*-values under 0.1 are reported as trends.

As shown in Table 1, there was no difference in admission duration at the start of the program between the 16 patients who completed the program and the 16 control group patients. There were also no differences between the two groups in overall intelligence, number of previous sentences or number of co-morbid personality disorders. There was, however, a significant difference in age between the groups and a trend in the control group of more frequent sentencing for homicidal offenses.

2.2. Measures

At De Kijvelanden Forensic Psychiatric Hospital, ward staff completes two observation scales for all patients every 6 months, i.e. the Rehabilitation Evaluation Hall and Baker, or REHAB in short (Baker & Hall, 1988; Van der Gaag & Wilken, 1994) and the MI Observation Scale (Brand, Diks, van Emmerik, & Raes, 1998). For these two measures, the scores of the patients who completed the treatment ($n=16$) could be compared with those of the control patients. Apart from that, two other measures, namely the Positive and Negative Syndrome Scale (PANSS; Kay, Fiszbein, & Opler, 1987) and the Questionnaire for Interpersonal Behavior (SIG; Arrindell, de Groot, & Walburg, 1984) were used to evaluate the program. However, these scores were only obtained in the group of treatment participants. Below, more information is provided about the four instruments used in the evaluation.

1. The *Rehabilitation Evaluation Hall And Baker* (REHAB; Baker & Hall, 1988; Van der Gaag & Wilken, 1994) is a reliable observation scale for measuring the general functioning level of chronic psychiatric patients. Van der Gaag and Wilken (1994) translated and revised this instrument for the Dutch situation. The main scale assesses “general behavior” (GEN, 16 items) as observed by unit staff.
2. The *MI Observation scale* (Brand et al., 1998) was developed by the Dr. F.S. Meijers Institute and has the following subscales: cooperative behavior (COOP, nine items), social skills (SOSK, nine items), domestic skills (DOME, twelve items), antisocial behavior (ASOC, eight items), positive coping skills (COPP, seven items) and negative coping (COPN, seven items concerning verbal and physical aggression). The items in each subscale are scored on a three, four or five-point scale.

Table 1
Experimental group compared with control group at the start of the program

Variables	Experimental group ($n=16$)		Control group ($n=16$)		
	M	(S.D.)	M	(S.D.)	
Length of hospitalization at the start of the program ^a	1.7 years	(1.0)	1.4 years	(0.9)	$t(30)=0.7, p=n.s.$
Intelligence (I.Q.)	99	(11.1)	93	14.7	$t(27)=1.3, p=n.s.$
Number former convictions	5.7	(5.7)	4.4	(5.3)	$t(30)=0.6, p=n.s.$
Number co-morbid personality disorders	10 (63%)		7 (44%)		$\chi^2(1)=1.1, p=n.s.$
Age	33	(5.2)	39	(9.4)	$t(30)=2.3, p<0.05$
Number convicted for (attempts to) manslaughter or murder	5 (31%)		10 (63%)		$\chi^2(1)=3.1, p=0.08$

^a For the control patients it concerns the length of hospitalization at the start of the control measuring.

3. The *Positive and Negative Syndrome Scale* (PANSS; Kay et al., 1987) is a commonly used, semi-structured, clinical psychiatric interview for symptom assessment in schizophrenic patients, with which both positive (POS, seven items) and negative symptoms (NEG, seven items), such as general level of psychopathology (GEN, 16 items), can be assessed. Items are scored on a seven-point scale and each score is described. Since pre- and post-treatment assessments with the PANSS were introduced when the evaluation of the treatment program was already in an advanced phase, pre- and post-PANSS scores were only available for eight treated patients.
4. The *Schaal voor Interpersoonlijk Gedrag* (Questionnaire for Interpersonal Behavior, SIG; Arrindell et al., 1984) is a questionnaire (fifty items), which assesses on five-point scales social anxiety (ANXI) and frequency of responses (FREQ) in social interactions. The SIG was used to assess the Social Skills Training module. Pre- and post-treatment data of the SIG were available of nine treated patients.

2.3. Treatment program

All patients in the forensic psychiatric hospital follow the “basic program”, which, when indicated, includes elements such as pharmacotherapy, psychotherapy, nonverbal therapy, education, employment, sports and social work. In addition, the patients of the experimental group followed the “Psychotic Disorders” treatment program. This treatment program is organized every year and it takes a full year to complete it. The program includes the following components (Hornsveld & Kavelaars, 2000):

1. Information on the treatment program. In a maximum of three 1-h intake interviews, the patient (and his family) are informed about and encouraged to participate in the program.
2. Information about schizophrenia. This is given in ten 90-min sessions. Goals are to provide information about schizophrenia, promote acceptance, explain medication and initiate a therapeutic alliance with the patient.
3. Prospects for the future (processing grief). This module consists of ten 90-min group therapy sessions: five sessions at the start and five at the end of the program. The goal is to teach patients to accept their prospects for the future in relation to their illness.
4. Stress management. In eight 90-min group sessions, participants learn to relax and enjoy physical activity.
5. Functional and skills training. In six 90-min sessions, attention is focused on dysfunctional cognitive functions, such as the inability to concentrate and recognize emotions.
6. Coping with psychotic symptoms (Lieberman module) and teaching coping strategies. This concerns Lieberman’s training module three: Coping with psychotic symptoms. The module has been reduced to fifteen 90-min sessions, the goal of which is to teach patients how to avoid or limit relapse by recognizing warning signs. Problem-solving skills are also practiced.
7. Social skills training. This training course consists of fifteen 90-min group sessions and two follow-up sessions. Patients learn simple, basic social skills.
8. Domestic skills training. This is an individual course, the duration of which varies per resident. The goal is to improve knowledge of housekeeping and domestic skills.
9. Self-care skills training. This is also an individual course without a definite duration. The goal is to improve knowledge about personal presentation and eating habits, as well as to improve self-care skills. Modules (8) and (9) are given on the ward.

Days on which participants are to return (once a month) are arranged at the end of the program. These days are intended as booster sessions and their goal is to consolidate the skills learned. Due to the limited availability of treatment staff and trainers, the number of sessions of the Liberman module and modules derived from Slooff, Appelo, Berkenbosch, and Louwerens (1994) was reduced. With regard to content, a decision was made to emphasize symptom management and increase social skills. After all, employment and leisure activities are handled in the basic program.

3. Results

The results for the 16 participants in the program on the various assessment instruments were as follows (wherever possible the scores prior and after treatment are compared to those of the control group patients) (Table 2).

The REHAB scores (“general functioning”) of patients who completed the program changed very little and the scores of the 16 control patients showed practically identical development. Some changes, however, were observed on the instrument specifically developed for forensic psychiatric populations, namely the MI Observation Scale (Brand et al., 1998). Participants of the treatment program scored significantly better on “social skills” and displayed a decrease in “negative coping behavior.” In addition, there was a trend towards an increase in “positive coping behavior” in comparison to the control group.

The PANSS was used to determine the course of psychotic symptomatology in eight treated patients. On average, no significant decrease in PANSS total scores was found, although a trend towards improvement was observed on the “negative symptoms” subscale. However, only eight patients could be included in this analysis.

Social anxiety during social interactions as measured with the SIG did not decrease significantly, and the frequency of social skills remained unchanged over time.

Administering the treatment program was often difficult. Patients came irregularly and many showed little motivation, although in some this improved over the course of the program. The participants showed most genuine interest in the psycho educational modules. Patients with severe co-morbid cluster B personality disorders (early starters) displayed maladjusted behavior more frequently during program sessions than patients without or with less severe cluster B personality disorders (late starters).

4. Discussion

Although main scale and subscale scores for patients who completed the program generally showed a development in the right direction, there were only few (marginally) significant improvements observed. Compared to the “control group,” significant improvements were found in “social skills” and “negative coping behavior,” as well as trends in the desired direction in “positive coping behavior” and “negative psychotic symptoms”.

These findings should be regarded with considerable caution, particularly since the group of patients included in this exploratory study was small. Conclusions that are more definite can only be drawn from studies with larger groups of patients and it is premature to conclude that chronically psychotic patients will not benefit from a program as described above. Since the percentage of chronically psychotic

Table 2
Results of the experimental group compared with the control group

Measurement instrument	Experimental group M (S.D.) (<i>n</i>) ^a			Control group M (S.D.) (<i>n</i>) ^a			
	Before	After	Diff.	Before	After	Diff.	
REHAB ^b	51.5 (19.2) <i>n</i> =13	49.8 (25.9) <i>n</i> =13	−1.7	49.4 (20.8) <i>n</i> =16	47.3 (21.6) <i>n</i> =16	−2.1	<i>F</i> (1, 27)<1.0, <i>p</i> =n.s.
MI-scale (COOP) ^c	1.41 (0.33) <i>n</i> =12	1.43 (0.36) <i>n</i> =12	+0.03	1.16 (0.44) <i>n</i> =16	1.06 (0.42) <i>n</i> =16	−0.1	<i>F</i> (1, 26)<1.0, <i>p</i> =n.s.
MI-scale (SOSK) ^c	1.44 (0.35) <i>n</i> =12	1.77 (0.26) <i>n</i> =12	+0.33	1.50 (0.41) <i>n</i> =16	1.44 (0.37) <i>n</i> =16	−0.06	<i>F</i> (1, 26)=10.5, <i>p</i> <0.05
MI-scale (ASOC) ^c	1.69 (0.27) <i>n</i> =12	1.60 (0.21) <i>n</i> =12	+0.09	1.74 (0.34) <i>n</i> =16	1.78 (0.20) <i>n</i> =16	+0.04	<i>F</i> (1, 26)<1.0, <i>p</i> =n.s.
MI-scale (DOME) ^c	1.61 (0.28) <i>n</i> =12	1.60 (0.34) <i>n</i> =12	−0.01	1.61 (0.32) <i>n</i> =16	1.56 (0.31) <i>n</i> =16	−0.04	<i>F</i> (1, 26)<1.0, <i>p</i> =n.s.
MI-scale (COPP) ^c	0.90 (0.31) <i>n</i> =11	1.12 (0.34) <i>n</i> =11	+0.22	0.75 (0.37) <i>n</i> =11	0.75 (0.36) <i>n</i> =11	0.00	<i>F</i> (1, 20)=3.0, <i>p</i> =0.098
MI-scale (COPN) ^c	1.53 (0.36) <i>n</i> =11	1.81 (0.20) <i>n</i> =11	+0.28	1.78 (0.17) <i>n</i> =11	1.61 (0.32) <i>n</i> =11	−0.17	<i>F</i> (1, 20)=7.2, <i>p</i> <0.05
PANSS (TOT) ^b	50.4 (4.5) <i>n</i> =8	48.0 (9.3) <i>n</i> =8	−2.4	–	–	–	<i>t</i> (7)<1.0, <i>p</i> =n.s
PANSS (POS) ^b	9.9 (1.9) <i>n</i> =8	10.1 (2.5) <i>n</i> =8	+0.02	–	–	–	<i>t</i> (7)<1.0, <i>p</i> =n.s
PANSS (NEG) ^b	13.6 (2.5) <i>n</i> =8	11.5 (4.2) <i>n</i> =8	−2.1	–	–	–	<i>t</i> (7)=1.8 <i>p</i> =0.06, one sided
PANSS (GEN) ^b	26.9 (3.9) <i>n</i> =8	26.4 (5.2) <i>n</i> =8	−0.04	–	–	–	<i>t</i> (7)<1.0, <i>p</i> =n.s
SIG (ANXI) ^b	99.2 (22.1) <i>n</i> =9	95.3 (26.6) <i>n</i> =9	−3.9	–	–	–	<i>t</i> (8)<1.0, <i>p</i> =n.s
SIG (FREQ) ^c	159.4 (21.9) <i>n</i> =9	158.1 (15.0) <i>n</i> =9	−1.3	–	–	–	<i>t</i> (8)<1.0, <i>p</i> =n.s

Dashes indicate that no data were obtained.

^a Notice that the number of degrees of freedom varies to tests because of missing values.

^b Lower scores point to an improvement in the condition of the patient.

^c Higher scores point to an improvement in the condition of the patient.

patients in TBS-hospitals is limited and their hospital stay of long duration, multi-centered research on uniformly applied treatment programs is needed to gain more insight into the effects.

In general, however, the high dropout rate (36%) and the limited progress of patients completing the program underline the problems of treating psychotic TBS-patients (also see Nijman et al., 2004). Psychotic forensic patients often have limited understanding of their illness and frequently refuse to take psycho pharmaceuticals or take it irregularly. Long-term compulsory medication treatment is difficult to achieve in practice: mentally disordered patients under a TBS-order are subject to compulsory care, not compulsory treatment. Accordingly, in their assessment of the TBS-legislation, Leuw and Mertens (2001) recommended forced pharmacological treatment for certain TBS-patients to prevent severe and prolonged stagnation of treatment (p. 147).

Different treatment policies for early and late starters have now been implemented in our hospital. The emphasis for late starters, where violent behavior seems to have resulted largely from their psychotic disorder, is now on the “Psychotic Disorders” program, followed by a rehabilitation program which may enable them to be transferred to a facility for general psychiatric care for chronic psychotic patients.

For early starters the “Psychotic Disorders” program is now followed by the “Aggressive Behavior” program (Hornsveld, van Dam-Baggen, Leenaars, & Jonkers, 2004), for treatment of their antisocial behavior. If sufficient progress is made in the treatment of both the psychotic disorder and the antisocial behavior, care in a general psychiatric facility can be considered. However, if antisocial behavior remains unchanged, prolonged stay in a TBS-hospital will probably be the only prospect for these patients.

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