

Brief report

Initial assessment of hospital treatment by patients with  
paranoid schizophrenia: A predictor of outcome

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**Abstract**

The value of schizophrenic inpatients' initial global assessments of treatment in the prediction of outcome was investigated. Within 3 days of admission, 31 patients with an acute paranoid schizophrenic psychosis according to ICD-10 rated on a visual analog scale to what extent they believed the treatment they were receiving was right for them. Outcome criteria were overall clinical changes measured on the Brief Psychiatric Rating Scale and the Intentionality Scale. The patients' initial global assessments of treatment were significantly correlated to both outcome criteria, indicating that patients with a more positive initial assessment of treatment ultimately benefited more than those with a more negative appraisal. The predictive correlations were independent of the influence of other variables recorded in the study. Patients' initial global assessments should be taken seriously in clinical practice and studied systematically in research.

*Keywords:* Prognosis; Milieu therapy; Neuroleptic treatment

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**1. Introduction**

The initial subjective responses of schizophrenic patients have repeatedly been shown to predict the outcome of neuroleptic therapy. Van Putten and May and co-workers (Van Putten and May, 1978; Van Putten et al., 1980, 1981) investigated subjective response 4–48 h after a test dose of neurolep-

tic medication (May et al., 1976). Patients gave their responses on a short scale that included items about perceived effects and side effects as well as a question asking whether they believed that the medication was right for them. Patients with a more positive initial response showed significantly greater improvement after 4 weeks. The predictive power of subjective initial response for short-term outcome of neuroleptic treatment has been supported by the findings of other studies (Singh and Smith, 1973; Singh, 1976; Singh and Kay, 1979).

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While Van Putten et al. (1981, 1984) assumed that a negative initial response mainly reflected extrapyramidal side effects, their assumption has not been confirmed by further studies (Fink et al., 1982; Awad and Hogan, 1985; Hogan et al., 1985; Hogan and Awad, 1992).

Schizophrenic patients' initial reactions to treatment have also been found to predict the outcome of day hospital treatment. In a study conducted by our own research group, schizophrenic patients assessed whether treatment in a day hospital was right for them on the day after admission. This initial global assessment of treatment was significantly associated with the degree of symptomatology during treatment and with outcome at discharge. A more positive initial assessment — self-rated on a one-item rating scale — predicted a more favorable change in symptomatology (Priebe, 1992; Priebe and Gruyters, 1994). To what extent the outcome of a complex hospital treatment that combines various somatic and psychosocial therapeutic approaches is predicted by patients' initial assessments has been investigated in depression (Priebe, 1987; Priebe and Gruyters, 1995b) but has not previously been examined in schizophrenia.

In this prospective and naturalistic study, we investigated in a group of acute paranoid schizophrenic inpatients whether their global assessments of treatment rated within the first 3 days after admission would predict the outcome of a subsequent complex hospital treatment. The criterion for outcome was the overall clinical change at discharge. It was hypothesized that a more positive initial assessment would be correlated to a more favorable change of psychopathological symptoms at discharge.

## 2. Methods

The study was carried out in a psychiatric hospital in Berlin. The criteria for inclusion were a diagnosis of paranoid schizophrenia according to ICD-10 (World Health Organization, 1992) and a total psychopathological baseline score between 40 and 65 on the Brief Psychiatric Rating Scale (BPRS; Overall and Gorham, 1962). The range of baseline BPRS scores was limited to achieve a

somewhat homogeneous group in which symptomatic change would not be unduly influenced by the initial BPRS scores. All patients were treated in a milieu therapy setting. In addition to the regular ward program, patients participated in occupational therapy daily and in supportive group therapy twice a week.

Within the first 3 days after admission, the patients were given a self-rating scale with one simple question: "Is the treatment you are currently receiving right for you?" The patients' answers were given on an 11-point marked visual analog scale (VAS) from 0 (= not at all) to 10 (= entirely right) and taken as predictors (Priebe and Gruyters, 1993, 1995a).

The patients' symptoms were assessed after admission at the same time that patients rated their initial assessment of treatment and at discharge. The interviewer, who assessed the patients' psychopathological status and administered the self-rating scale, was not involved in the treatment. Psychopathological symptoms were rated on the BPRS and on the Intentionality Scale (InSka), a 60-item German-language scale especially constructed for the assessment of negative symptoms in schizophrenia (Mundt et al., 1985, 1989). The clinician was not informed about the patients' initial global assessments of treatment or about the ratings of psychopathological symptoms. The criteria for prediction were changes in levels of symptomatology as assessed by the BPRS and the InSka between admission and discharge.

## 3. Results

Thirty-one consecutively admitted inpatients (15 women, 16 men) who met the criteria for inclusion were examined. Their ages ranged from 19 to 50 years (mean = 34.2, SD = 9.4). Fifteen patients were living alone, four with partners, seven with parents, four in apartment-sharing arrangements, and one in a therapeutic institution. Two patients had not completed their primary school education, 15 had completed secondary school, and 14 had completed advanced school education. Eleven patients had no occupational qualifications, 17 had completed an apprenticeship, and three held university degrees. Ten patients had a job, six were

still in professional training, 11 were unemployed, and four were prematurely retired. The duration of illness varied between 0 and 30 years (mean = 6.5, SD = 7.2), and the number of previous hospital admissions ranged from 0 to 13 (mean = 4.3, SD = 4.0).

By the time of the initial interview, neuroleptic medication had started in 28 patients; in three patients, it began later. The duration of hospital treatment ranged from 19 to 168 days (mean = 66.0, SD = 39.3). The mean neuroleptic dosage at discharge was equivalent to 304 mg (SD = 208) chlorpromazine (Davis, 1976).

The patients' initial global assessments of treatment, measured on the VAS, were slightly positive (mean = 5.8, SD = 3.0). The initial global assessment was not significantly correlated with the baseline total scores of the BPRS or the InSka. It also was not significantly correlated with any of the BPRS subscales, with any BPRS single items, or with akinesia as assessed by the InSka. Between admission and discharge, the mean score on the BPRS changed significantly from 52.3 (SD = 7.0) to 34.7 (SD = 7.8;  $t$  test for paired samples:  $t = 10.7$ ,  $df = 30$ ,  $P < 0.001$ ) and that on the InSka from 38.4 (SD = 12.8) to 20.8 (SD = 12.2;  $t = 8.67$ ,  $df = 30$ ,  $P < 0.001$ ).

The VAS scores for global assessment of treatment were found to be significantly correlated to the overall clinical change on both the BPRS (Pearson's  $r = 0.50$ ,  $P < 0.01$ , one-tailed) and the InSka ( $r = 0.46$ ,  $P < 0.01$ ). Patients who initially assessed their treatment as being more appropriate showed a significantly greater improvement at discharge than those with a more negative initial assessment.

To examine whether the predictive correlations were influenced by a third variable that was associated with both predictor and outcome variables in a similar way, the correlations were adjusted for the regression on sociodemographic (gender, age, education, professional qualification, living environment, and occupational status), clinical (previous hospitalizations and duration of illness), and treatment variables (dosage of neuroleptic medication and duration of current hospitalization). The partial correlations remained significant and almost unchanged; the adjusted correlations of ini-

tial assessment of treatment with overall clinical change on the BPRS varied between  $r = 0.46$  and  $r = 0.52$ , and those with change on the InSka between  $r = 0.36$  and  $r = 0.47$ . Thus, the predictive value of patients' initial global assessment was independent of influences by other variables recorded in this study.

#### 4. Discussion

Patients' initial global assessment of treatment was positively correlated to the overall clinical change achieved during complex hospital treatment. This finding is consistent with the hypothesis that patients who had a more positive assessment of the appropriateness of treatment within the first 3 days would ultimately show greater benefit from treatment. The same correlation emerged regardless of whether changes were assessed with the BPRS or the InSka. Statistical significance was achieved despite the facts that the patient group was small and heterogeneous in some respects, that the treatment varied, and that only one question was used to measure the initial assessment of treatment.

The result is in line with findings from research on neuroleptic drug treatment (Van Putten and May, 1978; Van Putten et al., 1980, 1981) and day hospital treatment of schizophrenic patients (Priebe, 1992; Priebe and Gruyters, 1994). It remains unclear, however, whether the processes responsible for the predictive correlation between initial reactions and outcome are similar or different for these forms of treatment. The factors that mediate the predictive power of the patients' initial assessments of treatment are still unknown. In this study, variables such as sociodemographic, clinical, and treatment data failed to explain the correlation between patients' initial statements and overall clinical change. However, only the influence of basic variables was examined. Causal attributions, control expectancies, and health belief attitudes (Forsterling, 1988; Priebe and Stieglitz, 1990) that might function as mediating variables were not investigated. Whether patients' initial views were — at least in some patients — due to effects of specific treatment components such as neuroleptic medication remains an open question

(Awad, 1989, 1993; Priebe, 1992). It may be speculated whether the patients' initial assessments reflected early effects of setting and milieu factors or qualities of a therapeutic relationship (Priebe and Gruyters, 1993) that — during the course of hospital treatment — led to a difference in outcome. The relevant therapeutic relationship might be a dyadic one in conventional psychotherapy or in a more complex way formed by interactions with various staff members (Saltzman et al., 1976; Bordin, 1979; Luborsky et al., 1985; Clarkin et al., 1987; Horvath and Symonds, 1991).

We conclude that patients' assessments of hospital treatment should be noted and taken seriously in clinical practice even during the first 3 days following admission or even if they seem irrational to the clinician. In research, schizophrenic patients' initial global assessments of treatment should be studied systematically and regarded as a potential predictor of outcome — not only in neuroleptic drug therapy, but also in complex treatment programs.

## References

- Awad, A.G. (1989) Drug therapy in schizophrenia — variability of outcome and prediction of response. *Can J Psychiatry* 34, 711–720.
- Awad, A.G. (1993) Subjective response to neuroleptics in schizophrenia. *Schizophr Bull* 19, 609–616.
- Awad, A.G. and Hogan, T.P. (1985) Early treatment events and prediction of response to neuroleptics in schizophrenia. *Prog Neuropsychopharmacol Biol Psychiatry* 9, 585–588.
- Bordin, E.S. (1979) The generalizability of the psychoanalytic concept of working alliance. *Psychother Theory Res Pract* 16, 252–260.
- Clarkin, J.F., Hurt, S.W. and Crilly, J.L. (1987) Therapeutic alliance and hospital treatment outcome. *Hosp Community Psychiatry* 38, 871–875.
- Davis, J.M. (1976) Comparative doses and costs of anti-psychotic medication. *Arch Gen Psychiatry* 33, 858–861.
- Fink, E.B., Braden, W. and Qualls, C.B. (1982) Predicting pharmacotherapy outcome by subjective response. *J Clin Psychiatry* 43, 272–275.
- Forsterling, F. (1988) *Attribution Theory in Clinical Psychology*. Wiley, Chichester, UK.
- Hogan, T.P. and Awad, A.G. (1992) Subjective response to neuroleptics and outcome in schizophrenia: a re-examination comparing two measures. *Psychol Med* 22, 347–352.
- Hogan, T.P., Awad, A.G. and Eastwood, M.R. (1985) Early subjective response and prediction of outcome to neuroleptic drug therapy in schizophrenia. *Can J Psychiatry* 30, 246–248.
- Horvath, A.O. and Symonds, B.D. (1991) Relation between working alliance and outcome in psychotherapy: a meta-analysis. *J Counsel Psychol* 38, 139–149.
- Luborsky, L., McLellan, T., Woody, G.E., O'Brien, C.P. and Auerbach, A. (1985) Therapist success and its determinants. *Arch Gen Psychiatry* 42, 602–611.
- May, P.R.A., Van Putten, T., Yale, C., Potepan, P., Jenden, D.J., Fairchild, M.D., Goldstein, M.J. and Dixon, W.J. (1976) Predicting individual responses to drug treatment in schizophrenia: a test dose model. *J Nerv Ment Dis* 162, 177–183.
- Mundt, Ch., Fiedler, P., Pracht, B. and Rettig, R. (1985) InSka (Intentionalitätsskala) — ein neues psychopathometrisches Instrument zur quantitativen Erfassung der schizophrenen Residualsymptomatik. *Nervenarzt* 56, 146–149.
- Mundt, Ch., Kasper, S. and Huerkamp, M. (1989) The diagnostic specificity of negative symptoms and their psychopathological context. *Br J Psychiatry* 155(Suppl. 7), 32–36.
- Overall, J.E. and Gorham, D.R. (1962) The Brief Psychiatric Rating Scale. *Psychol Rep* 10, 799–812.
- Priebe, S. (1987) Early subjective reactions predicting the outcome of hospital treatment in depressive patients. *Acta Psychiatr Scand* 76, 134–138.
- Priebe, S. (1992) *Die Bedeutung der Patientenmeinung. Initiale Bewertung und Verlauf psychiatrischer Therapie*. Hogrefe, Göttingen.
- Priebe, S. and Gruyters, T. (1993) The role of helping alliance in psychiatric community care: a prospective study. *J Nerv Ment Dis* 181, 552–557.
- Priebe, S. and Gruyters, T. (1994) Patients' and caregivers' initial assessments of day hospital treatment and course of symptoms. *Compr Psychiatry* 35, 234–238.
- Priebe, S. and Gruyters, T. (1995a) Patients' assessment of treatment predicting hospitalization. *Schizophr Bull* 21, 87–94.
- Priebe, S. and Gruyters, T. The importance of the first three days — predictors of treatment outcome in depressed inpatients. *Br J Clin Psychol*, 1995b, 34, 229–236.
- Priebe, S. and Stieglitz, R.-D. (1990) External attributions and outcome in depressive in-patients. *Br J Clin Psychol* 29, 341–342.
- Saltzman, C., Luetgert, M.J., Roth, C.H., Creaser, J. and Howard, L. (1976) Formation of a therapeutic relationship: experiences during the initial phase of psychotherapy as predictors of treatment duration and outcome. *J Consult Clin Psychol* 44, 546–555.
- Singh, M.M. (1976) Dysphoric response to neuroleptic treatment in schizophrenia and its prognostic significance. *Dis Nerv Syst* 37, 191–196.
- Singh, M.M. and Kay, S.R. (1979) Dysphoric response to neuroleptic treatment in schizophrenia: its relationship to autonomic arousal and prognosis. *Biol Psychiatry* 14, 277–294.
- Singh, M.M. and Smith, J.M. (1973) Kinetics and dynamics of

- response to haloperidol in acute schizophrenia — a longitudinal study of the therapeutic process. *Compr Psychiatry* 14, 393–414.
- Van Putten, T. and May, P.R.A. (1978) Subjective response as a predictor of outcome in pharmacotherapy. *Arch Gen Psychiatry* 35, 477–480.
- Van Putten, T., May, P.R.A. and Marder, S.R. (1980) Subjective responses to thiothixine and chlorpromazine. *Psychopharmacol Bull* 16, 36–38.
- Van Putten, T., May, P.R.A. and Marder, S.R. (1984) Response to antipsychotic medication: the doctor's and the consumer's view. *Am J Psychiatry* 141, 16–19.
- Van Putten, T., May, P.R.A., Marder, S.R. and Wittmann, L.A. (1981) Subjective response to antipsychotic drugs. *Arch Gen Psychiatry* 38, 187–190.
- World Health Organization. (1992) *The ICD-10 Classification of Mental and Behavioural Disorders*. WHO, Geneva.