

ORIGINAL PAPER

Johan Håkon Bjørngaard · Torleif Ruud · Svein Friis

The impact of mental illness on patient satisfaction with the therapeutic relationship

A multilevel analysis

Received: 1 February 2007 / Accepted: 11 June 2007 / Published online: 11 July 2007

Abstract *Background* The relationship between patients and their clinicians is an essential factor in psychiatric treatment. The purpose of this study was to analyze the influence of psychopathology on patient satisfaction with the therapeutic relationship. *Methods* Data from 969 patients from 40 different treatment teams collected from eight Norwegian community mental health centres were analyzed. Patient satisfaction with the therapeutic relationship was assessed with a six-item scale: sufficient time for contact/dialogue, clinicians' ability to listen and understand, follow-up of planned interventions, respect for patients' views/opinions, cooperation among clinicians, and patients' influence on treatment. Mental illness was assessed using the Health of the Nation Outcome Scales (HoNOS) and Global Assessment of Functioning (GAF) scale. Diagnoses were

established using the International Statistical Classification of Diseases and Related Health Problems—10th revision (ICD-10). Treatment outcomes were clinically assessed retrospectively by rating changes from start of treatment on seven items. Multilevel regression analysis was used for a simultaneous analysis of the contribution of patient and team variables. *Results* Satisfaction was associated with treatment outcome, better health as assessed using HoNOS, being female, of older age and having less psychiatric team severity indicated by the teams' mean GAF score. Patients with a schizophrenia spectrum disorder were more satisfied when treated as in- and day patients, compared with outpatient treatment. Patients in other diagnostic categories were less satisfied with day treatment. *Conclusions* Patients' perceptions of the therapeutic relationship may be influenced by psychopathology. Teams comprising many patients with severe mental illness may constrain the therapeutic relationship. Hence, resources and organizational measures should be carefully considered in such care units.

Key words therapeutic alliance – user satisfaction – psychopathology – community mental health services – multilevel analysis

J.H. Bjørngaard MA (✉)
SINTEF Health Services Research
7465 Trondheim, Norway
Tel.: +47/92242734
Fax: +47/93270800
E-Mail: jhb@sintef.no

Prof. T. Ruud, MD, PhD
Division of Mental Health Services
Akershus University Hospital
Norway

Prof. T. Ruud, MD, PhD
Faculty Division Akershus University Hospital
Faculty of Medicine
University of Oslo
Oslo, Norway

Prof. S. Friis, MD, PhD
Division of Psychiatry
Ullevål University Hospital
Oslo, Norway

Prof. S. Friis, MD, PhD
Institute of Psychiatry
University of Oslo
Oslo, Norway

Introduction

The relationship between patients and their clinicians is a central factor in psychiatric treatment, both from patient [5, 34] and clinical [6, 16, 19, 33] perspectives. When assessing the therapeutic relationship, patient perceptions are essential given the subjective nature of the construct. The measurement of patient perceptions of health services is increasingly recognized in assessment of healthcare interventions and service

quality [23]. Despite the clinical relevance of the therapeutic relationship, there is limited understanding of possible predictors of patient satisfaction with this relationship [15]. In different studies, patient satisfaction with the therapeutic relationship has been associated with age, treatment duration, and severity of psychiatric symptoms [16]. However, it still remains equivocal to what extent such ratings are affected by patients' mental illness.

Since the interpretation of the association between self-perceived health status and patient satisfaction is still open for debate [30], further research is needed to examine the relationship between mental illness as assessed by clinicians, and patient satisfaction with the therapeutic relationship. Patient dissatisfaction with the therapeutic relationship has been associated with clinician rated severe conditions and poor treatment outcome [16]. It is, however, difficult to discriminate between the effect on patient satisfaction of mental illness and of lacking improvement. Hence, there is a need for studies to assess the impact of both the degree of mental illness and the treatment outcome on patient satisfaction with the therapeutic relationship.

When assessing the impact of psychopathology on satisfaction with the therapeutic relationship, it is important to take into account the influence of characteristics of the treatment environment. Research has shown small but significant team-related contributions to outpatient experiences [2]. Administrative/structural measures [4] and characteristics of the clinical work environment [8] have been associated with patient satisfaction with psychiatric services. A classical study indicated that case-mix may influence the treatment environment in such a way that a negative ward atmosphere was associated with the percentage of psychotic patients on the ward [7]. Further studies are required to assess the impact of the composition of severity of mental illness within care units. However, data should be analyzed within a multilevel analytical frame to investigate how patients' individual outcomes, such as patient satisfaction, are influenced by the social groups to which they belong [14].

Because response rates in surveys of patient satisfaction with psychiatric services are usually low, results cannot be unequivocally claimed to be representative of all patients [12, 28]. Although it seems that patients with more severe mental illness are less likely to participate in patient satisfaction surveys [12], the possible consequences of low response rates are not fully understood.

The following study attempts to overcome the previous limitations of research reported in the literature by analyzing the influence of psychopathology on patient satisfaction with the therapeutic relationship. We utilized a survey of 969 patients in 40 treatment teams in eight Norwegian community mental health centres. We hypothesized that patients

with more severe mental illness and poorer treatment outcome would be less satisfied with the therapeutic relationship. We also hypothesized that patients in teams comprising patients with more severe symptoms and conditions would be less satisfied with the therapeutic relationship. As we also had clinical data on the nonresponders, the study allowed for an investigation of the representativeness of the responders, compared with the nonresponders.

Methods

■ Data collection

Data were collected from eight community mental health centres representing a cross-section of urban and rural settings, over a four-week census period in February–March 2005. Norwegian local community mental health centres are designed to operate as local psychiatric hospitals, offering outpatient, day treatment, ambulatory care and limited inpatient services, such as short-term crisis intervention units and longer-term rehabilitation units. All patients receiving treatment during the census period were asked to complete a questionnaire. The questionnaire was distributed at the clinic, together with a prepaid return envelope. Most patients returned the questionnaire by mail, although some returned the envelope through the community mental health centre. The procedures regarding informed consent, study design and collection of data were approved by the Norwegian Regional Committee for Medical Research Ethics, the Data Inspectorate and the Norwegian Board of Health.

Clinician-rated information was collected on all patients and could be linked to the patient questionnaire if patients had given their consent to the linkage. A description of the responders and the nonresponders are presented in Table 1.

■ The patient satisfaction questionnaire

The patient satisfaction questionnaire was designed to provide information on several aspects of care in collaboration with the user organization Mental Health Norway. The instrument was tested in an earlier study at the same centres [29].

We selected six items representing different aspects of patient satisfaction with the therapeutic relationship: sufficient time for contact/dialogue, clinicians' ability to listen and understand, follow-up of planned interventions, respect for patient's views/opinions, cooperation among clinicians, and influence on treatment. All these aspects are important from a patient perspective [34]. Each item was answered on a five-point Likert scale. Factor analysis produced one single factor for the six items. Hence, a sum score was calculated and transferred to a 0–100 score, where 100 is the best possible experience. Corrected item-total correlation values ranged from 0.39 to 0.71. Cronbach's alpha was 0.85 and corresponding to a similar scale's internal consistency in the earlier study [29]. The scale's validity was assessed with a correlation (Spearman's r) with a question on total satisfaction at 0.49 ($P < 0.001$) and a question on met expectations at 0.51 ($P < 0.001$).

■ Psychopathology

Based on the International Statistical Classification of Diseases and Related Health Problems—10th revision (ICD-10) [36], psychiatric disorders were recoded into two main categories: schizophrenia spectrum disorders (F2, ICD-10) and other disorders. Problems with substance abuse were assessed with combined information from the ICD-10 and two scales on use of alcohol and drugs [18]. Patients receiving diagnoses of mental and behavioural disorders

Table 1 Sample characteristics

Variable	Responders	St. dev	Nonresponders	St. dev	P
Age (mean)	40.1	12.2	39.2	13.1	0.051
Gender (% men)	35		40		0.010
Episode length in years (mean)	1.2	1.7	1.1	1.9	0.154
Drugs/alcohol (%)	8		14		<0.001
GAF (mean) ^a	55.2	9.6	52.5	11.2	<0.001
HoNOS (mean) ^b	18.8	10.2	21.5	12.3	<0.001
Outcome from treatment (mean) ^c	50.0	14.7	46.6	14.2	<0.001
Schizophrenia spectrum disorders (%)	10		15		<0.001
Outpatient treatment (%)	82		84		
Day treatment (%)	11		6		
Inpatient treatment (%)	7		10		<0.001
N	969		2,071		

^aScale from 1 to 100 with lower ratings for more severe symptoms or low functioning

^bScale from 0 to 100 with higher ratings for more severe problems

^cScale from 0 to 100 with higher ratings for better outcome from treatment

due to psychoactive substance use (F10-19, ICD-10) and/or having a score of 3 or higher on the two scales (abuse/addiction/institutionalized) were rated as abusing.

Symptom severity, level of functioning and treatment outcome were assessed by the clinician treating the patient. The Health of the Nation Outcome Scales (HoNOS) [35] and the Global Assessment of Functioning (GAF) scale (split symptom and function scores from 1 to 100) [1] were based on the evaluation of the most severe conditions in the last week. The two GAF scales were combined in an average score (Cronbach's alpha = 0.89). The HoNOS comprise 12 different scales: aggression, self-harm, drug/alcohol problems, cognitive impairment, physical problems, hallucinations and/or delusions, depression, other psychological problems, social relationships, activities of daily living, accommodation problems, and employment/leisure problems. The sum of scales 1–7 and 9–10 was used as an index of the severity of problems (Cronbach's alpha = 0.60). Studies have indicated moderately high internal consistency and low item redundancy of the HoNOS sum score, and thus support the instrument's use as a meaningful summary of severity of symptoms [22]. In an earlier data collection in the same eight community mental health centres, clinicians' ratings of case vignettes had shown satisfactory reliability on all HoNOS, with the exception of scale 8 [29]. Scales 11–12 were excluded since they do not measure aspects of the patients' condition. The HoNOS are rated from 0 (no problems) to 4 (severe problems). The sum score was transferred to a 0–100 score, where 100 was the most severe problem level.

The clinicians rated seven items on change in clinical state since the start of the treatment, each scored on a seven-point Likert scale where 1 equals much poorer and 7 equals considerable improvement, and with 3 as the rating for no change. The seven items were: psychiatric symptoms, psychological problems, close relations, social functioning, practical functioning, work ability, and behavioural problems. The sum score (Cronbach's alpha = 0.92) was used as a measure of treatment outcome and was transformed to a 0–100 score, where 100 was the best possible treatment outcome score. Since the time since start of treatment varied substantially (mean 1.2 years, SD 1.7 among the responders), length of treatment episode was included as a control variable in addition to the patients' age and gender.

■ Team characteristics

The community mental health centres comprised different types of care units and teams. The outpatient teams comprised general outpatient teams (68%), psychosis/rehabilitation/ambulatory teams (13%), and drug/alcohol teams (2%). Approximately 8% of the patients were treated in day units/teams providing mainly group therapy. About 9% were provided with inpatient treatment. Team function was categorized into out-, day- and inpatient treatment

teams. The teams' mean level of GAF and HoNOS scores on the patients treated by the team were used as measures of severity of mental illness within each team.

■ Statistical analysis

Sample characteristics and representativeness are shown in Table 1. Multilevel regression analysis was performed using the software MLwiN. This analysis simultaneously examines the contribution of team- and individual patient-level characteristics [14]. The regression intercepts were allowed to vary randomly across teams, making possible an estimation of the variance attributed to the team versus patient level. The intraclass correlation coefficient (ICC) is a measure of the degree of agreement between patients belonging to the same team. When multiplied by 100 it can be interpreted as the percentage of variance attributed to the team level. The dependent variable was treated as a continuous variable and linear regression analyses were performed. Differences were denoted significant when $P < 0.05$.

Results

Of the 3,040 patients, 1,194 (39%) returned the questionnaire. We were able to link 969 of the 1,194 to the clinical data, as some patients had not given consent to such linkage. There was no significant difference in satisfaction between the responders we could link, compared with those we could not. In Table 1 we have compared the responders who we could link to the clinical information (denoted responders) with the non-responders and the responders we could not link (denoted nonresponders). We were not able to distinguish the non-responders from the responders that could not be linked. Analyses revealed significant, but small group differences for the GAF scores (55 vs. 53), as well as the sum score of HoNOS (19 vs. 22). On average, the responders were 40 years old and this did not significantly deviate from the age of the nonresponders. The responders comprised 35% males compared with 40% of the nonresponders. The length of episode for the two groups was not substantially different. Responders comprised 10% with a schizophrenia spectrum disorder, compared with 15% of the non-

Table 2 Multilevel regression analysis of satisfaction with the therapeutic relationship of 828 patients in 40 treatment teams

Independent variables	Unadjusted ^a	<i>P</i>	Adjusted ^b	<i>P</i>
<i>Patient-level variables</i>				
Age	0.18	<0.001	0.15	0.002
Gender (men = 1)	-2.59	0.031	-2.59	0.039
Episode length in years	1.14	0.001	0.49	0.169
Drugs/alcohol abuse	-3.08	0.158	-1.95	0.389
GAF	0.18	0.004	0.03	0.679
HoNOS	-0.22	<0.001	-0.14	0.041
Outcome from treatment	0.24	<0.001	0.19	<0.001
Schizophrenia spectrum disorders	2.18	0.287	2.06	0.406
<i>Team variables</i>				
GAF team mean	0.64	0.003	0.94	<0.001
HoNOS team mean	-0.48	0.053	-0.11	0.644
Outpatient treatment (reference)				
Day treatment	-7.00	0.017	-8.42	<0.001
Inpatient treatment	-9.70	0.001	0.73	0.829
Interaction (day-/inpatient × Schizophrenia)			14.16	0.012
Team-level variance	39.41 ^c	0.003	6.04	0.082
Patient-level variance	289.36 ^c	<0.001	268.19	<0.001
ICC ^d	12%		2%	
Explained variance			17%	

^aUnstandardized bivariate regression coefficients

^bUnstandardized multivariate regression coefficients

^cTeam- and patient-level variance estimates in a model without explanatory variables

^dThe percent of the total variance attributable to the team level

responders. The responders receiving services from a day treatment team comprised 11%, compared to 6% of the nonresponders.

The scale score of patient satisfaction with the therapeutic relationship was 75.1 (SD = 18.0). Table 2 presents the predictors of patient satisfaction with the therapeutic relationship. The results are presented as bivariate associations between each independent variable and the satisfaction scale, unadjusted for other variables. Subsequently, the adjusted associations between satisfaction and all independent variables were analyzed.

In the bivariate analysis, males were less satisfied than females ($P = 0.031$). Satisfaction was positively correlated with age ($P < 0.001$), episode length ($P = 0.001$), the patients' score on the GAF scale ($P = 0.004$), the patients' score on the outcome scale ($P < 0.001$) and the teams' mean score of GAF ($P = 0.003$). The patients' score on HoNOS was negatively associated with satisfaction ($P < 0.001$). Unadjusted for other variables, outpatients were more satisfied than day patients ($P = 0.017$) and inpatients ($P = 0.001$). Unadjusted for patient and team variables, 12% of the variance could be attributed to the team level.

The patients' score on HoNOS was significantly associated with dissatisfaction in the multivariate model ($P = 0.041$). However, this association was weak. A 10 scale-point increase in the scale of HoNOS (SD = 10) was associated with a 1.4 scale-point decrease in satisfaction. The patient score on GAF was not significantly associated with satisfaction in the multivariate model. The outcome score was significantly related to patient satisfaction ($P < 0.001$). A 15

scale-point increase in the scale of outcome (SD = 15) was associated with a 2.9 scale-point increase in satisfaction.

In the multivariate model, the age was positively associated with satisfaction and females were more satisfied than males. Episode length was not significantly associated with satisfaction in the multivariate model.

The teams' mean GAF score was significantly associated with patient satisfaction ($P < 0.001$), indicating that patients in teams consisting of healthier patients are more satisfied with the therapeutic relationship, other variables being held constant. There were no significant effects of the teams' mean HoNOS score.

The difference between patients with a schizophrenia spectrum disorder and other patients was modified by treatment setting (interaction effect $P = 0.012$). Patients with a schizophrenia spectrum disorder were more satisfied with day- and inpatient treatment compared with outpatient treatment. For the other patients, day patients were less satisfied than outpatients.

The variables included in the multivariate regression model reduced the team level variance from 12% to about 2% of the total variance. In the multivariate model, the team level variance at 2% was no longer significant, which indicate that there was no more additional variance to explain.

Discussion

This study showed that patient satisfaction with the therapeutic relationship was related to clinical

assessment of mental illness, both due to each patient's psychopathology as well as to the composition of mental illness severity in each team.

In the multivariate regression model, the patient score on the sum scale of HoNOS was weakly associated with patient satisfaction, but not the GAF scale. Since the HoNOS was based on nine different items, the scale's score is likely to capture a wider range of psychiatric symptoms than with the GAF score. This may also imply that the HoNOS is a more consistent measure than the GAF scale, which may explain why the HoNOS association was significant despite controlling for other independent variables, such as clinical assessment of treatment outcome. However, despite of support to the HoNOS sum score as a meaningful summary of severity of symptoms [22], it has been argued that HoNOS sum score does not measure a single, underlying construct of mental health status, and that it is not clear what the total score is a measure of [32]. Nevertheless, the fact that HoNOS sum score was still significantly related to patient satisfaction, even when controlling for treatment outcome, indicates that patients with more severe mental health problems are not dissatisfied with their clinicians merely as a consequence of unmet expectations of improvement. For instance, it is likely that the patients' mood would be affected by the severity of their illness; hence, to some extent, experiences could be coloured by the mental illness itself.

Patients with better outcome were more satisfied with the therapeutic relationship. This finding supports patient satisfaction with the therapeutic relationship as an individual outcome measure. However, the present study's outcome measure was not based on pre-, post evaluations, but clinician evaluations of improvement at the time of registration. There is some evidence that retrospective evaluations of outcome may be influenced by the degree of severity at the point of the evaluation [20], and given the substantial variability in duration of treatment, this may have had some impact on the assessment of improvement. Furthermore, it is not certain whether patient satisfaction with the relationship is a consequence of improvement or whether improvement is a consequence of a good relationship. Further longitudinal studies are required to assess how satisfaction varies along with the change in severity of the mental illness.

Following previous findings, age was positively associated with patient satisfaction [16], even when controlling for other independent variables. Crow et al. [3] suggested various explanations for why older people generally report higher satisfaction. For instance, it may reflect that older people are more accepting than younger patients. Moreover, they may also have lower expectations based on prior experiences when standards were lower. Alternatively, old age may engender more care and respect from the providers. Women were more satisfied compared with

men, a result that is in line with previous research [2]. However, this difference was marginal. Duration of treatment episode was significantly related to satisfaction. However, when controlling for the other variables, this association was reduced and not significant. Hence, this suggests that patients are not satisfied merely in order to justify their commitment of time and effort, but partly as a consequence of improvement during treatment.

Uncorrected for confounding variables, 12% of the variance could be attributed to the team level, a result that is considerably higher than that usually found in other patient satisfaction studies [2]. Teams in community mental health centres have a considerable diversity in provided services, offering individual therapy, day/group treatment, ambulatory care and some inpatient services, such as short-term crisis intervention units and longer-term rehabilitation units. This may be a reason for the high team-level contribution to satisfaction variance, uncorrected for other variables. The multivariate model of the present study, however, explained a major amount of the between-team variance (a reduction from 12% to 2%). Hence, patients' psychopathology may have a major impact on patient satisfaction differences between care units. As a consequence, the current results do not support the common practice of aggregating user satisfaction data for cross-unit comparison and ranking of care units and institutions—especially without clinical information about both the patient and the team.

Although we could explain a considerable amount of the between-team variance, the total explained variance was only 17%. In spite of statistically significant results for several of the independent variables, dissatisfaction with the therapeutic relationship should not necessarily be attributed to particular sociodemographical or clinical characteristics, since these characteristics were able to explain only a moderate part of the variance.

The present results indicate less satisfaction with the therapeutic relationship in teams comprising patients with more severe conditions, as measured by the teams' mean GAF score, and controlled for patients' individual levels of mental illness. This result is in line with the result from a study of short-term wards [7], where the ward atmosphere was associated with the percentage of psychotic patients. The team composition of severely ill patients may influence the environmental climate in different ways. In a qualitative study of patients with schizophrenia, fear of other patients was linked to dissatisfaction [5]. Moreover, inpatient aggressive and suicidal behaviours have been associated with negative clinician feelings towards the patient [26]. Many patients with severe conditions may also be resource-draining for the team as a unit and this may cause problems in meeting all patients' needs and demands. Further research should assess how mental illness composi-

tion in care units influences the treatment environment, both among patients and clinicians.

In the multivariate analysis, patients with a schizophrenia spectrum disorder were more satisfied when receiving in- and day patient treatment, compared with outpatient treatment. This may indicate that patients with a chronic disorder benefit from the close follow-up in day- and inpatient treatment. However, it is reasonable to be cautious in interpreting this result since the number of responders with both a schizophrenia disorder and treated as in-/day patients was low. In the patient satisfaction literature, patients with a diagnosis of schizophrenia or psychosis have reported less satisfaction [9, 13, 21], no differences [10, 11, 31] or more satisfaction [24, 25], compared with patients in other diagnostic categories. These different results may be influenced by time and place of assessment and adjustment for other variables. Moreover, these results may also reflect a variation in treatment quality for this patient group. Hence, further studies are required to assess the quality of care in different settings for patients with chronic psychiatric disorders.

The patient response rate in this study was modest (39%), a common problem in mental health user surveys [28]. The literature in general is not conclusive on the consequences of low response rates [17, 27, 37]. In the present study, however, we were able to perform an analysis of the differences between responders and nonresponders. To some extent, nonresponders appeared to represent greater symptom severity and decreased functioning, characterized by lower GAF and HoNOS scores as well as a greater proportion of patients with a diagnosis of schizophrenia. Hence, the variability of patients with different psychopathology is smaller among the responders than it would have been if all the patients had been included. The findings of our study could therefore have been strengthened by a higher response rate.

We were not able to assess patient satisfaction with the therapeutic relationship for individual clinicians. As the relationship between patients and clinicians is emphasized, it is likely that characteristics of clinicians would be important predictors of patient satisfaction with the relationship.

Conclusion

This study indicates that psychopathology—both as a characteristic of the individual patient and of the organizational unit of teams—can influence the satisfaction with the therapeutic relationship. The significant relationship between clinical assessment of treatment outcome and patient satisfaction gives support to patient-rated outcomes as one of several measures of clinical utility of treatment. However, further

longitudinal studies are required to assess how satisfaction varies along with the change in severity of the mental illness. Patients' psychopathology may have a considerable impact on differences in patient satisfaction between services. Less satisfaction was associated with more severe psychiatric symptomatology in each team. Hence, possible consequences for resource distribution and organizational development should be carefully considered for teams and care units comprising many patients with severe conditions.

■ **Acknowledgments** The collection of data was funded by the Research Council of Norway. The writing of the paper was funded by the Norwegian Council for Mental Health. The views expressed are those of the authors.

References

1. American Psychological Association (1994) Diagnostic and statistical manual of mental disorders, 4th edn. American Psychiatric Association, Washington, DC
2. Bjørngaard JH, Ruud T, Garratt A, Hatling T (2007) Patients' experiences and clinicians' ratings of the quality of outpatient teams in psychiatric care units in Norway (in press). *Psychiatr Serv* 58
3. Crow R, Gage H, Hampson S, Hart J, Kimber A, Storey L, Thomas H (2002) The measurement of satisfaction with healthcare: implications for practice from a systematic review of the literature. *HTA* 6:1–244
4. Druss BG, Rosenheck RA, Stolar M (1999) Patient satisfaction and administrative measures as indicators of the quality of mental health care. *Psychiatr Serv* 50:1053–1058
5. Duggins R, Shaw I (2006) Examining the concept of patient satisfaction in patients with a diagnosis of schizophrenia: a qualitative study. *Psychiatr Bull* 30:142–145
6. Frank AF, Gunderson JG (1990) The role of the therapeutic alliance in the treatment of schizophrenia. Relationship to course and outcome. *Arch Gen Psychiatry* 47:228–236
7. Friis S (1986) Factors influencing the ward atmosphere. *Acta Psychiatr Scand* 73:600–606
8. Garman AN, Corrigan PW, Morris S (2002) Staff burnout and patient satisfaction: evidence of relationships at the care unit level. *J Occup Health Psychol* 7:235–241
9. Gigantesco A, Picardi A, Chiaia E, Balbi A, Morosini P (2002) Patients' and relatives' satisfaction with psychiatric services in a large catchment area in Rome. *Eur Psychiatr* 17:139–147
10. Greenwood N, Key A, Burns T, Bristow M, Sedgwick P (1999) Satisfaction with in-patient psychiatric services. Relationship to patient and treatment factors. *Br J Psychiatr* 174:159–163
11. Holcomb WR, Parker JC, Leong GB, Thiele J, Higdon J (1998) Customer satisfaction and self-reported treatment outcomes among psychiatric inpatients. *Psychiatr Serv* 49:929–934
12. Ito H, Shingai N, Yamazumi S, Sawa Y, Iwasaki S (1999) Characteristics of nonresponders to a patient satisfaction survey at discharge from psychiatric hospitals. *Psychiatr Serv* 50:410–412
13. Kelstrup A, Lund K, Lauritsen B, Bech P (1993) Satisfaction with care reported by psychiatric inpatients. Relationship to diagnosis and medical treatment. *Acta Psychiatr Scand* 87:374–379
14. Leyland A, Goldstein H (2001) Multilevel modelling of health statistics. John Wiley & Sons, Ltd
15. McCabe R, Priebe S (2003) Are therapeutic relationships in psychiatry explained by patients' symptoms? Factors influencing patient ratings. *Eur Psychiatr* 18:220–225

16. McCabe R, Priebe S (2004) The therapeutic relationship in the treatment of severe mental illness: A review of methods and findings. *Int J Soc Psychiatr* 50:115–128
17. McColl E, Jacoby A, Thomas L, Soutter J, Bamford C, Steen N, Thomas R, Harvey E, Garratt A, Bond J (2001) Design and use of questionnaires: a review of best practice applicable to surveys of health service staff and patients. *HTA* 5:1–256
18. Mueser KT, Noordsy DL, Drake RE, Fox L (2003) Integrated treatment for dual disorders—A guide to effective practice. The Guildford Press
19. Neale MS, Rosenheck RA (1995) Therapeutic alliance and outcome in a VA intensive case management program. *Psychiatr Serv* 46:719–721
20. Pekarik G, Wolff CB (1996) Relationship of satisfaction to symptom change, follow-up adjustment, and clinical significance. *Prof Psychol Res Pr* 27:202–208
21. Perreault M, Rogers WL, Leichner P, Sabourin S (1996) Patients' requests and satisfaction with services in an outpatient psychiatric setting. *Psychiatr Serv* 47:287–292
22. Pirkis J, Burgess P, Kirk P, Dodson S, Coombs T, Williamson M (2005) A review of the psychometric properties of the Health of the Nation Outcome Scales (HoNOS) family of measures. *Health Qual Life Outcomes* 3:76
23. Powell R-A, Holloway F, Lee J, Sitzia J (2004) Satisfaction research and the uncrowned king. Challenges and future directions. *J Ment Health* 13:11–20
24. Rohland BM, Langbehn DR, Rohrer JE (2000) Relationship between service effectiveness and satisfaction among persons receiving Medicaid mental health services. *Psychiatr Serv* 51:248–250
25. Rosenheck R, Wilson NJ, Meterko M (1997) Influence of patient and hospital factors on consumer satisfaction with inpatient mental health treatment. *Psychiatr Serv* 48:1553–1561
26. Rossberg JI, Friis S (2003) Staff members' emotional reactions to aggressive and suicidal behavior of inpatients. *Psychiatr Serv* 54:1388–1394
27. Rubin HR (1990) Patient evaluations of hospital care. A review of the literature. *Med Care Suppl* 28:3–9
28. Ruggeri M (1996) Satisfaction with psychiatric services. In: Thornicroft G, Tansella M eds *Mental health outcome measures*. Springer, Berlin, pp 27–51
29. Ruud T, Reas D (2003) Community mental health centres, services and patient satisfaction—state and variation 2002 (In Norwegian). SINTEF Unimed, Trondheim, Norway
30. Salzer M (1998) Consumer satisfaction. *Psychiatr Serv* 49:1622
31. Sandlund M, Hansson L (1999) Patient satisfaction in a comprehensive sectorized psychiatric service: Study of a 1-year-treated incidence cohort. *Nord J Psychiatr* 53:305–312
32. Trauer T (1999) The subscale structure of the Health of the Nation Outcome Scales (HoNOS). *J Ment Health* 8:499–509
33. Wampold BE (2001) The great psychotherapy debate. Models, methods and findings. Lawrence Erlbaum Associates
34. Ware NC, Tugenberg T, Dickey B (2004) Practitioner relationships and quality of care for low-income persons with serious mental illness. *Psychiatr Serv* 55:555–559
35. Wing JK, Beevor AS, Curtis RH, Park SB, Hadden S, Burns A (1998) Health of the nation outcome scales (HoNOS). Research and development. *Br J Psychiatr* 172:11–18
36. World Health Organization (1992) International statistical classification of diseases and related health problems—10th revision
37. Zwier G, Clarke D (1999) How well do we monitor patient satisfaction? Problems with the nation-wide patient survey. *N Z Med J* 112:371–375