Eur Arch Psychiatr Neurol Sci (1984) 234:189–197

European Archives of Psychiatry and Neurological Sciences

Prognosis of the Course of Schizophrenic Psychoses Compared to Other Psychiatric Illnesses

Catamnestic Treatment and Outcome 1 Year After Discharge

Wolfgang Gaebel and Adolf Pietzcker

Psychiatric Clinic and Policlinic of The Free University of Berlin, Eschenallee 3, D-1000 Berlin 19

Summary. In a prospectively designed study of the course of illness of 161 hospitalized psychiatric patients, data regarding outcome could be obtained for 93% 1 year after clinic discharge. It was possible to reexamine 67% of the patients by means of direct interviews. No significant differences appeared in the comparison of the course of illness outcomes (symptoms, rehospitalization, occupation and social contacts) of patients with schizophrenic psychoses, affective psychoses, neuroses or a group of mixed other diagnoses (predominantly alcohol dependency). For the group of neuroses there was a particularly striking discrepancy between the self- and the observer-ratings at the time of discharge from inpatient index-treatment. From this finding and from the comparatively more intense prominence of depressive symptoms at the time of follow-up, one can presume that there has been insufficient after-care treatment of this patient group considering the recorded treatment data. This seems to hold true for the group of alcohol dependents as well. In contrast, the after-care treatment of patients with affective and schizophrenic psychoses seems more likely to be ensured today. Despite this, however, for the latter the close link between the rate of relapse and the rate of rehospitalization can apparently scarcely be influenced.

Key words: Schizophrenia – Follow-up – Outpatient treatment – Physician-patient agreement

Introduction

Psychiatric research concerning the course of illness has a long tradition. Since Griesinger's (1845) effort to define clinical units regarding condition and course and Kraepelin's attempt (1896) to apply the concept of disease identity to the functional psychoses, the discussion about the diagnostic significance of the course of illness has not come to rest (Carpenter and Stephens 1982). On the other hand, long-term studies of the illness course, for example, of schizophrenic psychoses show definitely variable outcomes (Bleuler et al. 1976) as well as their partial connection with psychosocial factors (Bland 1982). Beyond this, a general improvement in the course of schizophrenic psychoses under modern treatment practices has been inferred in comparisons of various patient year groups (Huber et al. 1979).

Such studies have, however, also made it clear that the course outcome cannot be adequately comprehended by means of a single characteristic feature but only through a number of them and, as it turns out, of partially intercorrelated functional areas (Strauss and Carpenter 1977). In addition, the criteria of the course outcome can be differently defined depending respectively upon the specific treatment institution and upon the investigator (Bachrach 1982).

Finally, the individual variability of spontaneous courses and the previously inadequate ability to prognosticate them complicate the therapeutic evaluation of therapy procedures recognized as effective (e.g., neuroleptic relapse prophylaxis) (Davis et al. 1980) in particular instances, and thus preclude the formation of individual indications (Carpenter and Heinrichs 1981). The demand to develop valid prognostic criteria and to include them in the study of therapies is, therefore, only logical (Carpenter et al. 1981).

Knowledge about general tendencies of the course of psychiatric illnesses, especially the identification of high risk groups including information about "placement" or "misplacement" of various diagnostic groups in a given care system, is, on the other hand, necessary for planning improved care structures and for implementing already validated treatment procedures. This is a reciprocal process. Thus, the effectiveness of neuroleptics in preventing relapses proven in group statistics has contributed to psychiatric "deinstitutionalization" and in many places to the construction of a community-based network of outpatient and part-time inpatient care structures, which is supposed to guarantee, among other things, patients' medical care (Hansell and Willis 1977; Freeman 1981). With increasing knowledge of the risks of long-term neuroleptic treatment, on the other hand, alternative forms of treatment, such as neuroleptic interval strategies, are being evaluated (Carpenter and Heinrichs 1983; Pietzcker 1983). The routine outpatient basing of this therapy procedure would undoubtedly involve an increased expenditure of time and personnel, a new orientation not always easy for the patients (Lesser and Friedmann 1981) and probably, therefore, a partial restructuring of the service area. Furthermore, the broad evaluation of this procedure would be confronted with the new problem of establishing proof of the neuroleptics' own effectiveness being applied fractionally as opposed to that of the service system or of their interaction. This recip-

Offprint requests to: W. Gaebel at the above address

rocal process can be regarded as an example of the research on the course of illness and therapy combined in feedback curves (Bachrach 1982).

Patients with schizophrenic illnesses have previously been the focus of attention over the question regarding the need for post-inpatient after-care treatment. However, on the basis of epidemiologic care studies there is no doubt that in addition "the majority of the manic-depressives, and ultimately the alcoholics as well, and a large number of the neurotics" should receive further treatment after clinic discharge (Dilling and Weyerer 1978). Here, opinion about the kind of after-care treatment for neuroses is doubtless more controversial than that for the psychoses. The necessity of a concept of care for patients with alcohol problems is already shown merely from the rising figures of inpatient admissions for this group of patients (Psychiatry-Enquète 1975).

Within the framework of a prospective study with 161 psychiatric patients on the course of illness, the outcome 1 year after clinic discharge was investigated separately according to diagnosis (schizophrenic psychoses, affective psychoses, neuroses, and a group of predominantly alcohol-dependent patients). Recordings of the course outcome were made in various evaluative dimensions based upon self-ratings and observer-ratings in order to allow the broadest comparison possible of the various diagnostic groups. Treatment variables from the catamnestic period were recorded in addition so that the various course outcomes could be interpreted with this as a base.

Random Sample of Patients and Methodology

The initial random sample consisted of 161 patients between the ages of 18 and 55 years, who had been admitted to our clinic between the end of 1978 and the middle of 1979 and who were treated for at least 14 days on an inpatient basis. These patients were grouped into four diagnostic categories for the purpose of comparative study (schizophrenias, $n = 86$; neuroses, $n = 34$; affective psychoses, $n = 17$; a group of other, mixed diagnoses, $n = 24$). The breakdown of the diagnoses at discharge in accordance with ICD-9 (International Classification of Disorders) is shown in Table 1. During index-treatment the psychopathological symptoms were documented at admission and discharge using the AMP system (1972), and the severity of the illness was recorded with the CGI (Clinical Global Impression Scale—in CIPS 1977). Along with data from self-ratings (paranoid-depressiveness scale (PDS) in accordance with von Zerssen 1976 and self-developed Aitken scales 1969) the prior illness and social anamnesis was recorded with an investigatory procedure developed by our study group (Gaebel et al. 1981) in addition to the documentation scales of the AMP system. Data concerning discharge status and planning for further treatment including prognostic ratings were also recorded using this procedure. Finally, among other things, the prognosis scale by Strauss et al. (1977) was included in the version of this procedure, which we translated into German.

It was possible to reexamine 108 patients (67.1%) of the initial random sample in direct interviews 1 year after discharge. Another 14 patients (8.7%) could be reached by telephone inquiry and through questionnaires. Through additional inquiries made by others (relatives, attending physicians, counseling centers, etc.) at least partial information could be recorded for a total of 150 patients (93.2%); 4 patients had committed suicide during the catamnestic period. Insofar as was possible, data were collected for the follow-up period regarding course outcome with the aid of the outcome scale developed by Strauss and Carpenter (1972), data concerning self-ratings and severity of illness using the procedures mentioned, and with regard to the psychopathological symptoms using the AMP system. In addition to this, the course of treatment in the catamnestic period was recorded retrospectively.

Table 1. Diagnostic composition of the four groups investigated (First diagnoses at discharge, ICD-9)

Schizophrenias ($n = 86$)	Neuroses ($n = 34$)	Affective psychoses ($n = 17$)	Other ($n = 24$)
295.0 2	300.0 3	296.1 2	291.0 2
295.1 3	300.1 2	296.2 4	291.3 5
295.2 6	300.3 2	296.3 6	293.0 3
295.3 56 (65.1%)	300.4 24 (70.6%)	296.5 5	301.6 2
295.4 4	300.5 2		305.0 2
295.6 7	300.7 1		303 5
295.7 5			304.0 1
297.2 1			304.1 1
298.3 1			306.1 1
298.8 1			950 2[a]

[a] as second diagnosis respectively 303 and 300.4

The results presented here relate to the comparison of the four diagnostic groups in terms of demographic variables, social adjustment, psychopathology and course of illness in self-ratings and observer-ratings taking intervening treatment variables into account. All of the statistical analyses were made with the SPSS 8 (Nie et al. 1975) computer program.

Results

In comparing the initial population ($n = 161$) with the group of patients directly examined at follow-up ($n = 108$), no significant difference was established in the diagnostic composition. In particular, in the group of schizophrenias and neuroses the main diagnosis of respectively ICD-No. 295.3 and 300.4 was represented to an identical extent in the subpopulation (respectively 65.5% and 70.8%, compare, accordingly, Table 1). However, the group of "other" diagnoses showed the largest "rate of diminishment" of patients directly investigated. Here the rate was 45.8% in contrast to the affective psychoses with the smallest rate of diminishment (23.5%). Proportionately this drop is almost exclusively at the expense of the patients with alcohol dependency (ICD-No. 303) and alcohol hallucinosis (ICD-No. 291.3). No significant differences were found in the age and sex distribution between the initial and follow-up random sample.

1. Differences in the Initial Random Sample Indicated by the Diagnoses

With the aid of one-way analyses of variance (four diagnostic groups as the factor) mean differences were calculated for various dependent variables (Table 2). The Scheffé test and additionally the method of the modified LSD (Least Signifi-

Table 2. Comparison of the four diagnostic groups with regard to sociodemographic variables, social adjustment and illness variables at index-admission (one factor analysis of variance)

	Schizophrenias (n = 63–86)	Neuroses (n = 17–34)	Affective psychoses (n = 13–17)	Other (n = 13–24)	F	df	P
Age at admission (years)	32.9 ± 9.6[2,3]	36.4 ± 10.2[1]	44.7 ± 8.0[1,2]	39.2 ± 7.8[3]	8.98	3/156	0.0000
Sex male	47 (55%)	20 (59%)	7 (41%)	12 (50%)	0.52	3/157	N.S.
Sex female	39 (45%)	14 (41%)	10 (59%)	12 (50%)			
Social class[a,b]	1.4 ± 1.3	1.5 ± 1.0	1.3 ± 1.0	1.3 ± 0.8	0.32	3/157	N.S.
Social class of family of origin[b]	1.7 ± 1.0	2.0 ± 1.1	1.9 ± 0.7	1.6 ± 1.1	0.82	3/149	N.S.
Heterosexual contacts[a]	1.7 ± 1.7[1]	2.7 ± 1.6	3.1 ± 1.5[1]	2.4 ± 1.6	5.20	3/157	0.002
Social contacts[a]	2.4 ± 1.4	2.0 ± 1.2	2.4 ± 1.2	1.8 ± 1.4	1.70	3/157	N.S.
Occupation[a]	2.4 ± 1.7	2.6 ± 1.7	2.6 ± 1.6	3.1 ± 1.4	1.01	3/157	N.S.
Illness duration[c]	5.0 ± 2.0	5.2 ± 1.7	5.5 ± 2.1	4.3 ± 2.0	1.46	3/157	N.S.
1st manifestation of illness[a]	2.8 ± 0.8[(1)]	2.8 ± 1.3[(2)]	3.2 ± 0.7	3.5 ± 0.8[(1,2)]	4.03	3/157	0.009
Previous behavior abnormalities[a]	3.5 ± 0.8	3.1 ± 1.1	3.6 ± 0.6	3.1 ± 0.8	3.08	3/157	0.03
Duration previous hospital stays[a]	2.0 ± 1.4[1]	2.9 ± 1.3[1]	2.1 ± 1.2	2.8 ± 1.2	5.17	3/157	0.002
Free interval (weeks)	28.2 ± 30.6	61.6 ± 55.4[1]	27.3 ± 42.3	21.0 ± 18.9[1]	4.52	3/102	0.005
Precipitating factor of this episode[a]	0.7 ± 1.0[1]	1.4 ± 1.1[1]	0.8 ± 1.1	1.1 ± 1.0	4.57	3/157	0.004
CGI[d]	6.4 ± 1.0	5.5 ± 1.1[1]	6.4 ± 0.9[1]	5.6 ± 1.2	8.43	3/154	0.0000

[a] Items of the prognosis scale by Strauss et al. (1977)—scale 0–4 (4 = favorable pole)
[b] Class conventions by Moore and Kleining (1960). 0 = lower lower class, 4 = upper class and upper middle class
[c] 4: $> 1 \leq 2$ years
5: $> 2 \leq 5$ years
6: > 5 years
[d] CGI scale—scale 2–8 (8 = very severely ill)
– Mean values of a line variable with the same indices ([1], [2] or [3]) differ in the Scheffé test $P < 0.05$
– Mean values with the same indices set off in brackets [(1,2)] differ according to the procedure of the modified LSD $P < 0.05$

cant Difference) were computed to locate significant mean differences (Nie et al. 1975; Bortz 1979).

1.1. Sociodemographic Variables. As Table 2 shows, the four diagnostic groups differ significantly with regard to age at admission. The group of affective psychoses is significantly older at admission than those of the neuroses and schizophrenias. The group of other diagnoses is significantly older only in comparison to the schizophrenias. Differences in sex distribution, social class and social class of the family of origin (Moore and Kleining 1960) were not found.

1.2. Variables Concerning Social Adjustment. In the comparison of the corresponding items of the prognosis scale developed by Strauss et al. (1977) no difference was found among the four diagnostic groups with regard to the frequency of social contacts or in the level of occupational activity with reference to the year before index-admission. With respect to the frequency of heterosexual contacts, on the other hand, the patients with an affective psychosis do significantly better as compared to the schizophrenias. This is traceable to the greater number of married patients with an affective psychosis (59%) as opposed to those with a schizophrenic psychosis (22%).

1.3. Illness Variables. The four diagnostic groups do not differ with regard to the anamnestic duration of illness before index-admission. Inevitably, however, the age of the onset of illness varies in accordance with the different ages at admission. It is higher for the unspecified diagnostic group and for the affective psychoses than for the neuroses and schizophrenias.

In the total duration of anamnestic hospital stays, only the schizophenias differ significantly from the neuroses with a significantly longer duration of stay (on the average up to 3 months). Excluding the group of first admissions it becomes apparent that the free interval after the preceding clinic stay is only significantly longer for the neuroses with a mean of 61.6 weeks in comparison to the other diagnoses. Whereas, despite global significance, differences in anamnestic behavior abnormalities (e.g., suicide attempts and criminal acts) could not be established between individual diagnostic groups, precipitating factors for the index-illness were only significantly more frequently ascertainable for neuroses as compared to schizophrenic illnesses. In the degree of severity of illness at admission only the affective psychoses differed significantly from the neuroses. The latter were assessed as the least severe. Finally, it is mentioned that no difference between the four diagnostic groups could be detected in the family anamnesis of psychiatric hospital stays.

1.4. AMP Syndromes. For better comparability we also calculated the AMP syndromes at index-admission and index-discharge for the subsample of 108 patients, who could be directly reexamined at the 1-year follow-up (Gebhardt et al. 1981). Table 3 shows that the four diagnostic groups differ significantly at admission (time I) in the vegetative, paranoid, depressive and manic syndromes. The group of other diagnoses was the highest on the vegetative syndrome due to the high number of delirious syndromes, the neurotic illnesses being second. Whereas the difference between schizophrenia and neuroses in regard to the paranoid syndrome needs no explanation, it is striking that the neuroses do not differ from the affective psychoses in the depressive syndrome. They are, however, significantly more depressive than the schizophrenias. The strong prominence of the manic syndrome in the affective psychoses can be traced to the number of manias

Table 3. AMP syndrome differences for complete groupings of the four diagnostic groups at 3 points of time (I, II, III) (admission, discharge, 1-year follow-up). (One-factor analysis of variance)

Syndrome		Schizophrenias ($n = 58$)	Neuroses ($n = 24$)	Affective psychoses ($n = 13$)	Other ($n = 13$)	F	df	P
Apathetic	I	4.69 ± 3.70	2.71 ± 2.49	3.85 ± 4.32	3.38 ± 2.26	2.09	3/104	N.S.
	II	$2.31 \pm 2.40^{(1)}$	0.92 ± 1.56	1.77 ± 4.30	$0.31 \pm 0.48^{(1)}$	3.50	3/104	0.018
	III	2.53 ± 2.75	2.04 ± 2.68	2.38 ± 1.45	1.38 ± 1.56	0.83	3/104	N.S.
Stuporous	I	1.09 ± 2.08	0.21 ± 0.59	1.15 ± 1.63	0.23 ± 0.60	2.26	3/104	0.085
	II	0.03 ± 0.18	0.08 ± 0.28	0 ± 0	0 ± 0	0.81	3/104	N.S.
	III	0.05 ± 0.22^{3}	0.04 ± 0.20^{2}	$0.31 \pm 0.48^{1,2,3}$	0 ± 0^{1}	4.40	3/104	0.006
Hostile	I	2.07 ± 3.08	0.63 ± 1.50	0.92 ± 1.44	1.00 ± 1.68	2.38	3/104	0.074
	II	0.12 ± 0.38	0.29 ± 0.62	0.08 ± 0.28	0.15 ± 0.38	1.05	3/104	N.S.
	III	0.12 ± 0.42	0.33 ± 0.87	0.23 ± 0.60	0.15 ± 0.38	0.84	3/104	N.S.
Vegetative	I	$0.36 \pm 0.72^{2,3}$	1.46 ± 1.89^{3}	0.92 ± 1.55^{1}	$2.62 \pm 2.60^{1,2}$	9.76	3/104	0.0000
	II	0.09 ± 0.34	0.46 ± 1.02	0.62 ± 1.19	0.38 ± 0.65	2.98	3/104	0.035
	III	0.24 ± 0.51^{1}	1.25 ± 1.26^{1}	1.15 ± 1.72	0.62 ± 1.33	6.92	3/104	0.0003
Paranoid	I	5.47 ± 6.87^{1}	0.46 ± 1.44^{1}	1.46 ± 2.30	2.62 ± 3.57	5.99	3/104	0.0008
	II	0.50 ± 1.34	0 ± 0	0 ± 0	0 ± 0	2.27	3/104	0.085
	III	0.90 ± 2.17	0.25 ± 1.03	0 ± 0	0.23 ± 0.60	1.67	3/104	N.S.
Depressive	I	2.02 ± 2.23^{1}	5.71 ± 4.16^{1}	5.08 ± 4.72	2.77 ± 3.37	8.92	3/104	0.0000
	II	0.38 ± 1.11	1.17 ± 1.63	1.77 ± 3.63	0.31 ± 0.63	3.31	3/104	0.023
	III	0.79 ± 1.63^{1}	$2.33 \pm 2.62^{1,2}$	1.46 ± 1.61	0.31 ± 0.63^{2}	5.17	3/104	0.002
Compulsive	I	0.22 ± 0.73	0.08 ± 0.28	0.38 ± 0.87	0.15 ± 0.38	0.67	3/104	N.S.
	II	0 ± 0	0 ± 0	0.08 ± 0.28	0.08 ± 0.28	2.19	3/104	0.093
	III	0.02 ± 0.13	0.21 ± 0.51	1.31 ± 4.72	0 ± 0	2.33	3/104	0.079
Psychoorganic	I	1.00 ± 2.04	0.17 ± 0.38	0.69 ± 2.21	1.23 ± 2.49	1.34	3/104	N.S.
	II	0.22 ± 0.86	0 ± 0	0 ± 0	0 ± 0	1.11	3/104	N.S.
	III	0.19 ± 0.44	0.21 ± 0.41	0.31 ± 0.48	0.31 ± 0.48	0.44	3/104	N.S.
Manic	I	2.00 ± 3.24	0.63 ± 1.24^{1}	4.00 ± 6.06^{1}	1.31 ± 2.78	3.01	3/104	0.034
	II	0.64 ± 1.62	0.33 ± 0.96	0.08 ± 0.28	0 ± 0	1.36	3/104	N.S.
	III	0.64 ± 1.50	0.25 ± 0.61	0.38 ± 0.65	0.38 ± 0.77	0.69	3/104	N.S.

^{1,2,3} Mean values with the same indices differ respectively in the Scheffé test and in $^{(1)}$ the modified LSD procedure $P < 0.05$

but does not stand out significantly from the other diagnostic groups except when compared to the neuroses.

2. *Differences at Index-Discharge Indicated by the Diagnoses (Short-term Outcome)*

Table 4 shows differences in the inpatient duration of index-treatment. With an average of respectively 8.7 and 9.4 treatment weeks, schizophrenias and affective psychoses are in treatment significantly longer than the group of other diagnoses. Whereas there are no longer any significant differences between the diagnostic groups in the degree of illness severity in the CGI at discharge, the affective psychoses have improved the most markedly in comparison to the neuroses. None of the four diagnostic groups differ with respect to fitness for work as assessed by the physician and social behavior at discharge. Whereas no difference was found among the diagnostic groups in the self-rated paranoid score of the PDS, other pronounced differences are ascertainable in the self-assessment. On the depressiveness scale of the PDS the neuroses differ significantly from each of the other three groups with a higher score, which according to von Zerssen (1976) even at discharge still lies within the range of an inpatient psychiatric patient group (18.75 ± 10.78). The additional self-ratings on the Aitken scales (SRS 121 to 123) likewise show that at discharge the patients with neuroses feel they are "more unwell," sicker and more in need of help. In addition, the tendency (SRS 22) to experience the current clinic stay as being of little help is apparent.

As opposed to that, in the psychopathological observer-ratings based upon the AMP system, no further significant differences become apparent except in the apathy syndrome (Table 3), for which the schizophrenic patients exhibit significantly higher values than the patients with other diagnoses. However, in the vegetative and depressive syndromes there are tendencies towards a greater prominence of the characteristic for the neuroses and the affective psychoses.

3. *Differences Indicated by the Diagnoses at 1-Year Follow-up (Long-term Outcome)*

From Table 5 the fact emerges that there are no differences among the four diagnostic groups in the areas of rehospitalization, occupation, social contacts and symptoms (items from the outcome scale by Strauss and Carpenter 1972). If one considers not only inpatient readmission as a goal criterion but additionally the rate of relapse during the follow-up period, it becomes apparent (Table 6) that there is a significant differ-

Table 4. Self- and observer-ratings upon discharge from inpatient treatment for the four diagnostic groups (one-factor analysis of variance)

	Schizophrenias (n = 79–86)	Neuroses (n = 33–34)	Affective psychoses (n = 16–17)	Other (n = 24)	F	df	P
BHD (weeks)	8.7 ± 5.0[1]	6.9 ± 3.0	9.4 ± 4.5[2]	5.3 ± 3.9[1,2]	4.92	3/155	0.003
CGI 1	4.4 ± 1.4	3.6 ± 1.0	3.8 ± 1.6	4.4 ± 1.3	3.41	3/156	0.02
CGI 2	3.1 ± 0.8	3.3 ± 0.7[1]	2.5 ± 0.7[1]	3.1 ± 0.7	3.50	3/156	0.02
Fitness for work[a]	2.2 ± 1.7	1.9 ± 1.7	2.4 ± 1.6	1.7 ± 1.4	1.10	3/156	N.S.
Contact behavior[b]	2.0 ± 0.6	1.9 ± 0.6	2.4 ± 0.6	1.9 ± 0.6	2.38	3/157	0.07
PDS-P	5.5 ± 5.7	6.1 ± 4.5	3.5 ± 3.5	3.3 ± 3.5	2.24	3/150	0.09
PDS-D	9.3 ± 7.7[1]	17.1 ± 10.4[1,2,3]	7.5 ± 8.0[2]	10.2 ± 7.8[3]	7.95	3/150	0.0001
SRS 121	25.2 ± 26.4	41.5 ± 27.9[(1)]	19.2 ± 15.4[(1)]	23.7 ± 27.7	4.18	3/150	0.007
SRS 122	32.5 ± 28.3	44.5 ± 26.1[1,2]	21.0 ± 15.3[2]	19.4 ± 23.7[1]	5.41	3/150	0.002
SRS 123	32.8 ± 31.2	47.3 ± 36.6[1,(2)]	17.8 ± 18.6[1]	24.8 ± 27.4[(2)]	4.29	3/150	0.006
SRS 22	18.3 ± 23.5	28.5 ± 24.8	11.4 ± 12.1	13.9 ± 17.3	3.19	3/150	0.03

[a] 0 = immediately fit for work 5 = unfit for work
[b] 1 = secluded, withdrawn 3 = sociable, receptive
BHD = duration of inpatient stay
CGI 1 = Clinical Global Impression Scale at discharge (scale 2–8; 8 = very severely ill)
CGI 2 = Clinical Global Impression Scale: improvement score (scale 2–8; 2 = condition is very much better)
PDS-P = Paranoid score on paranoid-depressiveness scale (von Zerssen 1976)
PDS-D = Depressiveness score on paranoid-depressiveness scale (von Zerssen 1976)
SRS = Self-rating scale (100 mm-scale; 0 = favorable; 100 = unfavorable
SRS 121 = subjective feeling of well-being; SRS 122 = feeling of illness; SRS 123 = need for help; SRS 22 = assessment of clinic stay
[1,2,3]: Mean value differences in Scheffé test $P < 0.05$
[(1,2)] Mean value differences in modified LSD $P < 0.05$

Table 5. Outcome of course 1 year after inpatient discharge for the four diagnostic groups (one-factor analysis of variance)

	Schizophrenias (n = 58–74)	Neuroses (n = 24–31)	Affective psychoses (n = 13–14)	Other (n = 13–23)	F	df	P
Rehospitalization[a]	3.4 ± 0.9	3.7 ± 0.6	3.8 ± 0.6	3.6 ± 0.7	1.69	3/138	N.S.
Occupation[a]	2.0 ± 1.7	2.2 ± 1.8	2.4 ± 1.6	2.6 ± 1.6	0.78	3/137	N.S.
Social contacts[a]	2.3 ± 1.5	1.9 ± 1.4	2.4 ± 1.1	1.9 ± 1.0	1.09	3/129	N.S.
Symptoms[a]	2.8 ± 1.1	2.5 ± 0.9	2.6 ± 1.0	2.9 ± 1.0	0.57	3/134	N.S.
CGI[b]	3.5 ± 1.4	3.4 ± 1.2	3.6 ± 1.4	3.2 ± 1.0	0.21	3/106	N.S.
PDS-P[b]	5.8 ± 6.8	5.3 ± 6.0	5.3 ± 5.4	3.9 ± 5.6	0.33	3/110	N.S.
PDS-D[b]	9.6 ± 7.5	14.9 ± 12.1	17.0 ± 12.9	9.1 ± 6.8	3.84	3/110	0.01
SRS[b] 131	31.8 ± 26.5	43.8 ± 32.3	51.1 ± 36.6[1]	18.5 ± 20.9[1]	4.13	3/112	0.008
SRS[b] 35	25.2 ± 25.4[(1)]	42.6 ± 36.6	49.2 ± 34.0[(1)]	26.6 ± 21.3	3.97	3/110	0.01

[a] Items of outcome-scale by Strauss and Carpenter (1972)—scale 0–4 (4 = favorable item pole)
[b] see legend to Table 4
SRS 131 = subjective feeling of well-being; SRS 35 = future orientation
[1] Mean value difference in Scheffé test $P < 0.05$
[(1)] Mean value difference in modified LSD $P < 0.05$

Table 6. Relationship of the rate of relapse to the rate of readmission for the four diagnostic groups (χ^2-Test for a random sample)

Diagnoses	Relapse		Readmission		χ^2	df	P
	yes	no	yes	no			
Schizophrenias (n = 74–75)	36 (48%)	39 (52%)	29 (39%)	45 (61%)	2.30	1	N.S.
Neuroses (n = 31)	13 (42%)	18 (58%)	8 (26%)	23 (74%)	3.31	1	0.07
Affective psychoses (n = 14)	7 (50%)	7 (50%)	2 (14%)	12 (86%)	7.14	1	0.008
Other (n = 23)	9 (39%)	14 (61%)	7 (30%)	16 (70%)	0.73	1	N.S.

ence between the frequency of relapse and the readmission rate only for the group of affective psychoses. Affective psychoses are readmitted significantly less frequently than would be expected from their relapse rate. A similar trend arises for the group of neuroses, whereas for the other two diagnostic groups, particularly for the schizophrenias, there is no difference between the relapse rate and the readmission rate. In other words, a relapse probably led to a readmission.

The diagnostic groups also show no differences in the assessment of the degree of severity at the time of follow-up

Table 7. Catamnestic treatment variables in a comparison of the four diagnostic groups (one-factor analysis of variance)

	Schizophrenias (n = 64–83)	Neuroses (n = 19–32)	Affective psychoses (n = 14–17)	Other (n = 8–23)	F	df	P
Medical after-care treatment recommendation (at discharge)[a]	$4.4 \pm 1.8^{1,2}$	2.1 ± 1.7^{1}	3.8 ± 2.2	1.9 ± 1.0^{2}	12.99	3/126	0.0000
Medical treatment duration (catamnesis)[b]	$1.6 \pm 0.5^{3,4}$	$1.1 \pm 0.3^{1,3}$	$1.6 \pm 0.5^{1,2}$	$1.1 \pm 0.3^{2,4}$	12.54	3/144	0.0000
Attitude toward medication (discharge)[c]	1.3 ± 0.6	1.4 ± 0.6	1.4 ± 0.6	1.4 ± 0.5	0.42	3/125	N.S.
Attitude toward medication (follow-up)[d]	3.1 ± 1.2	2.5 ± 1.2	2.8 ± 1.5	2.4 ± 1.6	1.38	3/101	N.S.
Duration of medical after-care treatment[e]	3.5 ± 1.0^{1}	2.9 ± 1.4	3.5 ± 1.2	2.6 ± 1.6^{1}	4.34	3/146	0.006
Regularity of medical after-care treatment[f]	3.2 ± 0.9^{1}	2.3 ± 1.2^{1}	3.1 ± 1.0	2.8 ± 1.2	4.93	3/135	0.003
Change of physician[g]	0.4 ± 0.7	0.2 ± 0.5	0.1 ± 0.4	0.3 ± 0.5	1.21	3/127	N.S.

[a] ≤ 3: less than 1 year; > 3: more than 1 year
[b] 1: less than 1 year; 2: continuously for 1 year
[c] 0: more rejecting; 2: convinced and cooperative
[d] 1: of very little help; 5: of very great help
[e] 1: ≤ 6 weeks after discharge; 4: continuously during catamnesis
[f] 1: < 1 ×/quarter; 4: 1 ×/8–14 days
[g] 0: none; 2: several times
[1,2,3,4]: Mean value differences in Scheffé test $P < 0.05$

(CGI). A trend in the affective psychoses and in the neuroses towards more intense prominence of the characteristic in the depressiveness scale (PDS-D) does not attain statistical significance between the groups. Only in the Aitken scales do the patients with affective psychoses rate themselves significantly poorer in their subjective feeling of well-being (SRS 131) as compared with the other diagnoses, and as significantly poorer in future orientation (SRS 35) in comparison with the schizophrenic patients.

In the AMP syndromes (see Table 3) differences in the 1-year follow-up (time III) arise only for stupor and the vegetative and depressive syndromes. Analogous to the self-assessment, the affective psychoses (stupor) and respectively the neuroses (vegetative and depressive syndromes) were rated the poorest here.

4. Intervening Treatment Variables

For the schizophrenic patients, oral neuroleptics were first with a prescription frequency of 74% and injectable depot neuroleptics second at 38% as the discharge medication after inpatient index-treatment. Antidepressants at 71% came before lithium at 41% for the affective psychoses. For the neuroses, antidepressants likewise took precedence at 53% and were followed by oral neuroleptics at 12%. Conversely, for the group of other diagnoses oral neuroleptics at 21% came before the antidepressants at 16%. Whereas of the schizophrenic patients only 3% were without medication at discharge and of the affective psychoses not a single patient, there were 41% among the neuroses and 63% in the group of other diagnoses without medication.

With regard to the suggested duration of further treatment with drugs for those patients who were discharged under medication, the shortest treatment durations were recommended for the neuroses and other diagnoses (Table 7). Dichotomized into treatment recommendations of less than 1 year versus 1 year and longer, further treatment with drugs for at least 1 year was recommended for only 19% of the neuroses as compared to 78% of the schizophrenic patients. The patient's attitude toward the suggested further treatment with drugs was negatively tinged by the majority of 53% to 65% of the cases.

A psychiatrist in private practice was recommended to perform the after-care treatment for a majority of between 63% and 71%. Our own outpatient clinics came second as the institution of after-care treatment for patients with schizophrenia (20%), with affective psychosis (29%) and neurosis (15%). As compared to that, the group of other diagnoses was referred to the family doctor second most frequently (33%). Referrals for psychotherapy were made predominantly only for neuroses (47%) and the other diagnostic group (25%). A referral to an after-care institution, such as Alcoholics Anonymous, was made almost exclusively in this latter group (46%).

If one compares these data to the catamnestic after-care treatment which acutally took place, the psychiatrist in private practice was also first as the main agent of treatment here with 58% to 68% for all diagnostic groups. Our own outpatient clinics came second for patients with a schizophrenic or an affective psychosis with 19% and 33% respectively. For the neuroses and other diagnoses the family doctor was second with 13% and 27% respectively. Relative to the main agent of after-care treatment, patients with neuroses and particularly other diagnoses were in after-care treatment for the shortest duration (Table 7). Of these, only 44% and 38% respectively were in continuous treatment (respectively 12% of the neuroses and 22% of the other diagnoses were not in treatment at all!) as compared to 70% and 79% respectively of continuously treated patients with a schizophrenic or affective psychosis. As for regularity of after-care treatment, patients with neuroses came to treatment significantly less frequently (in 34% less frequently than once in 3 months) than schizophrenic patients. Only 6% of the neurotic patients had availed themselves of continuous outpatient psychotherapy, 34% nevertheless occasionally. Only 23% of the group with other diagnoses had in fact been in after-care. There were no differences among the diagnostic groups with reference to frequency of change of treating agent.

As medical after-care treatment schizophrenic patients had taken oral neuroleptics continuously in 31% of the cases and depot neuroleptics continuously in 34% of the cases, and together had taken neuroleptics continuously over the 1-year period in 54% of the cases. If one brings this into relation with the recommendation for further treatment for more than 1 year, a compliance rate of just under 70% emerges.

Patients with affective psychosis took antidepressants continuously in 27% of the cases and lithium continuously in 33%. Patients with neuroses, on the other hand, took antidepressants continuously in only 6% of the cases. The group of other diagnoses did not take antidepressants continuously at all but took oral neuroleptics during the entire catamnestic period in 13% of the cases. In assessing the effect of the drugs the patient's attitude at the end of the catamnestic period was even except for the group of affective psychoses (only 35% positive; neuroses and other diagnoses respectively 53% and 50% positive) and rather more favorable (schizophrenic patients positive in 69% of the cases). A significant difference in attitude among the diagnostic groups did not emerge either. However, the experience with tranquilizers also enters into the rating of the neurotic patients; 9% had received tranquilizers continuously and 26% occasionally.

Discussion

The most important findings and the conclusions resulting from them are summarized in the following.

1. Surprisingly the four diagnostic groups do not differ significantly from one another in most of the variables regarding course outcome 1 year after index-discharge. The likewise absent difference regarding analogous social variables in the year previous to index-admission, such as "employment" and "social contacts," suggests that here it is a matter of relatively stable course of illness dimensions that are to a large extent independent of the diagnosis at least during the investigated period (Pietzcker and Gaebel 1983). Strauss and Carpenter (1972), who developed the "outcome" scale used here, came to very similar findings in a 2-year follow-up of patients with schizophrenia, affective psychosis or neurosis. The sole difference described there between schizophrenics and the entire group of nonschizophrenic patients in regard to readmission rate (higher for schizophrenic patients) is also found in our population ($P < 0.05$).

If one disregards the limited possibility of generalizing the findings due to the small number of cases in the nonschizophrenic diagnostic groups, the relatively brief catamnestic period could be responsible for the nevertheless extensive similarity of the course outcomes (evaluations of the findings of the 3-year follow-up study are in preparation). Thus catamnestic comparisons after 15 to 40 years between schizophrenias and affective psychoses (Bland and Orn 1982; Tsuang et al. 1979) show that schizophrenic psychoses appear the worst on all dimensions of the course of illness. Affective psychoses particularly those with a relapsing course, however, by no means produce only favorable course outcomes. The intervening influence of the catamnestic treatment is, however, not taken into consideration in these comparisons. Long-term studies of schizophrenic patients on long-term medication show, however, that between 40% and 60% of the patients have a favorable outcome in the outcome criteria used here (Gaebel et al. 1981). Finally, the variance in all of the outcome dimensions shows that there is no "one" course outcome of a specific diagnosis (Strauss and Carpenter 1972). Beyond this, however, the comparable duration of illness of all four diagnostic groups and the small number of first admissions in the study population (34%) underscores the selection of a rather chronic patient group, which could be important particularly with regard to the poor performance of the neurotic illnesses (Ernst et al. 1968).

The significant differences between the affective psychoses and schizophrenias in heterosexual adjustment correspond to the well-known low social adjustment level of a number of schizophrenic patients (Bland 1982). In spite of this statistically poorer group performance of the schizophrenics, a therapeutically important variance becomes apparent. The schizophrenic patients with good heterosexual adjustment profit the most from continuous neuroleptic treatment (Gaebel and Pietzcker, in preparation).

2. Striking discrepancies in the self-ratings and observer-ratings apply primarily to the group of neuroses. Whereas at inpatient admission the neuroses were globally least often assessed as "ill," they, on the other hand, come off the highest in the depressive syndrome (corresponding to the high number of depressive neuroses) comparable to the affective psychoses. Despite this, the global improvement is rated as the slightest at discharge as compared to the affective psychoses, even though in the depressive syndrome, on the other hand, the neuroses have improved comparatively more. In spite of the marked similarity in the syndrome profile between depressive psychosis and neurosis (Gebhardt et al. 1981), which underscores the doubts of some authors about the construct validity of neurotic depression (Akiskal et al. 1978), the neurosis is apparently sooner looked upon as a "milder" illness. This is apparently also expressed in the shorter duration of inpatient treatment of the neuroses. Contrasting with this assessment is the distinctly negative self-rating at discharge with regard to depressive complaints, feeling of illness and pessimism about the future and negative assessment of the given clinic treatment.

Whereas some authors report a close correlation between self-assessment and objective data concerning course of illness for neuroses (Huxley et al. 1979), others emphasize a specific complaint behavior of neurotic patients, which does not bear any relation to the objective symptoms (Robin et al. 1980). An unfavorable self-rating nevertheless seems problematic as a precondition for discharge, whereby it is questionable whether different criteria are to be applied to neuroses than to other psychiatric illnesses on this point. By way of comparison it was possible to show that for schizophrenic patients a negative self-rating (extent of subjective symptoms) is an important predictor of relapse (Hogarty et al. 1979). This also holds true for comparatively shorter durations of inpatient treatment concerning a subgroup of chronically schizophrenic patients (Gaebel and Pietzcker 1983).

3. These findings bring into question the connection between the catamnestic treatment and the course outcome. To begin with, it is striking here that particularly neuroses, in contrast to schizophrenic and affective psychoses, were discharged without medication in 41% of the cases. The proportion of 53% neuroses discharged taking antidepressants corresponds approximately to the percentage frequency of depressive neuroses in inpatient treatment taking antidepressants (Gaebel 1984). In contrast to this the affective psychoses (predominantly depressive) were discharged taking antidepressants in 71% of the cases, which complies with the inpatient treatment frequency of unipolar endogenic depressions with antidepressants in 90% of the cases (Schmidt et al. 1983). On the other hand, the percentage of patients with a depres-

sive neurosis or psychosis treated with antidepressants by psychiatrists in private practice is more apt to be equal (Linden 1983). This apparently reflects different treatment concepts especially for neurotic depression. This discrepancy is also expressed in the varying durations recommended for further treatment with drugs. Only 19% of the neuroses were supposed to remain on medication for longer than 1 year as compared to 59% of the affective psychoses and 78% of the schizophrenias.

The question arises whether an adequate follow-up treatment with drugs was neglected with reference to the low number of symptom-free neurotic patients at the time of follow-up (only 14% were symptom-free as compared, for example, to 35% of the schizophrenic patients), and in relation to the antidepressant treatment occurring continuously in only 6% of the cases. On the basis of the high rate of relapse for depressive illnesses, the high proportion of chronic courses of 10% to 15%, and the proven prophylactic effectiveness of long-term antidepressant medication for unipolar depressions (Davis 1976; Klerman et al. 1974; Weissman et al. 1976; Weissman and Klerman 1977; Weissman et al. 1981) long-term antidepressant medication should be pursued more consequently subsequent to an acute illness. The high ratio of 35% of the neurotics treated with benzodiazepines either occasionally or continuously is noteworthy particularly in view of a proven lack of effectiveness of the benzodiazepines specific to depressions (Covi et al. 1974). The advice given upon discharge from inpatient treatment by those who conducted the treatment doubtlessly contributes in shaping the patient's further attitude.

In spite of these altogether rather problematic courses of illness, the catamnestic "claim behavior" (or "committing behavior" of outpatient institutions) is slight with reference to inpatient psychiatric readmission for the neuroses and is the lowest—in spite of the high rate of relapse—for the affective psychoses. In contrast to this, for schizophrenic patients a relapse leads with great probability to an inpatient readmission (Bosch and Pietzcker 1975). In particular, however, for the group of patients with other diagnoses, which in the majority was composed of patients with alcohol problems, there was no medical after-care treatment given at all in 22% of the cases, and no after-care in 77% of the cases. The heightened "rate of diminishment" in this population has also been reported by other authors (Bell et al. 1983). As findings of Smart and Gray (1978) show, it possibly indicates drop-out rates specific to the treatment of individual patient groups. Through this, these findings emphasize a general aspect: the importance of an indication for various treatment measures which are adapted to the patients. For the group of depressive neuroses, such treatment alternatives are available in the form of antidepressant medication or types of problem-centered psychotherapy, so that patients can be supplied with a drug or a psychotherapeutic treatment in accordance with their choice (Gaebel and Linden 1984).

In summary, the findings show that the outcome of patients with schizophrenic psychosis is scarcely poorer in the 1-year period than that of the other diagnostic groups. The treatment data show a comparatively assured after-care treatment for the schizophrenic patients. Despite this, the rate of readmission is scarcely decreased in relation to the rate of relapse. After-care treatment does not appear to be similarly assured for patients with neuroses or particularly for those with alcohol problems. The comparatively poorer outcome (in relation to the "better" than expected performance of the schizophrenic patients) of these groups leads one to presume that a more consequential after-care treatment could lead to improvements here. Thus, one could consider whether the psychotherapeutically-oriented after-care treatment, which is usually more apt to be regarded as indicated, should be modified in individual cases in favor of a more "medically" oriented after-care treatment (Smart and Gray 1978). The high drop-out figures, which emerge in outpatient treatment when the patient's symptom-related assessment does not coincide with that of the physician, give food for thought. Here the patient experiences himself as more ill and, nevertheless, no medical help is offered (Chesney et al. 1983). It is decisive for therapy to approach the patient with forms of treatment considered correct theoretically (and desirably also scientifically evaluated). Additionally, however, treatment approaches should be modified in individual cases, if this promises to lead to the patient's first remaining within the care system.

References

Aitken RCB (1969) A growing edge of measurement of feelings. Proc Roy Soc Med 62:989–993

Akiskal HS, Bitar AH, Puzantian VR, Rosenthal TL, Walker PW (1978) The nosological status of neurotic depression. Arch Gen Psychiatr 35:756–766

Arbeitsgemeinschaft für Methodik und Dokumentation in der Psychiatrie (Hrsg) (1972) AMP: Manual zur Dokumentation psychiatrischer Befunde, 2. Aufl. Springer, Berlin Heidelberg New York

Bachrach LL (1982) Assessment of outcomes in community support systems: Results, problems, and limitations. Schizophr Bull 8:39–61

Bell V, Aschoff-Pluta R, Blumenthal ST, Lungershausen E, Vogel R (1983) Das Nachsorgeverhalten ersteingewiesener Patienten im Jahr nach ihrer Entlassung. Psychiatr Prax 10:24–27

Bericht über die Lage der Psychiatrie in der Bundesrepublik Deutschland (1975) Zur psychiatrischen und psychotherapeutisch/psychosomatischen Versorgung der Bevölkerung. Deutscher Bundestag, 7. Wahlperiode, Drucksache 7/4200

Bland RC (1982) Predicting the outcome in schizophrenia. Can J Psychiatr 27:52–62

Bland RC, Orn H (1982) Course and outcome in affective disorders. Can J Psychiatr 27:573–578

Bleuler M, Huber G, Gross G, Schüttler R (1976) Der langfristige Verlauf schizophrener Psychosen. Gemeinsame Ergebnisse zweier Untersuchungen. Nervenarzt 47:477–481

Bortz J (1979) Lehrbuch der Statistik für Sozialwissenschaftler. Springer, Berlin Heidelberg New York

Bosch G, Pietzcker A (1975) Nachbehandlung krankenhausentlassener schizophrener Patienten – Ergebnisse einer empirischen Untersuchung. Anhang zum Bericht über die Lage der Psychiatrie in der Bundesrepublik Deutschland, S 344–360

Carpenter WT Jr, Heinrichs DW (1981) Treatment-relevant subtypes of schizophrenia. J Nerv Ment Dis 169:113–119

Carpenter WT Jr, Heinrichs DW (1983) Early intervention, time-limited, targeted pharmacotherapy of schizophrenia. Schizophr Bull 9:533–542

Carpenter WT Jr, Stephens JH (1982) Prognosis as the critical variable in classification of the functional psychoses. J Nerv Ment Dis 170:688–691

Carpenter WT Jr, Heinrichs DW, Hanlon TE (1981) Methodologic standards for treatment outcome research in schizophrenia. Am J Psychiatr 138:465–471

Chesney AP, Brown KA, Poe CW, Gary HE Jr (1983) Physician-patient agreement on symptoms as a predictor of retention in outpatient care. Hosp Commun Psychiatr 34:737–739

CIPS—Collegium Internationale Psychiatriae Scalarum (1977) Internationale Skalen für Psychiatrie, Berlin

Covi L, Lipman RS, Derogatis LR, Smith JE III, Pattison JH (1974) Drugs and group psychotherapy in neurotic depression. Am J Psychiatr 131:191–198

Davis JM (1976) Overview: maintenance therapy in psychiatry: II. Affective disorders. Am J Psychiatr 133:1–13

Davis JM, Schaffer CB, Killian GA, Kinard K, Chan C (1980) Important issues in the drug treatment of schizophrenia. Schizophr Bull 6:70–87

Dilling H, Weyerer S (1978) Epidemiologie psychischer Störungen und psychiatrische Versorgung. Urban and Schwarzenberg, München Wien Baltimore

Ernst K, Kind H, Rotach-Fuchs M (1968) Ergebnisse der Verlaufsforschung bei Neurosen. Monographien aus dem Gesamtgebiete der Neurologie und Psychiatrie, Heft 125. Springer, Berlin Heidelberg New York

Freeman HL (1981) Long-term treatment of schizophrenia. Compr Psychiatry 22:94–102

Gaebel W (1984) Die Behandlung von neurotischen Erkrankungen mit Antidepressiva. Neuropsychiatria Clinica 3:15–26

Gaebel W, Linden M (1984) Kombination von Pharmakotherapie und Psychotherapy in der Behandlung depressiver Störungen. In: Baumann U, Berbalk H, Seidenstücker G (Hrsg) Klinische Psychologie – Trends in Forschung und Praxis, Band 6. Verlag H Huber, Bern Stuttgart Wien, S 186–210

Gaebel W, Pietzcker A (1983) Prognosegeleitete Indikation zur neuroleptischen Langzeitbehandlung schizophrener Patienten. Poster auf dem VII. Weltkongreß für Psychiatrie, Wien, 11.–16. 07. 1983

Gaebel W, Pietzcker A, Poppenberg A (1981) Prädiktoren des Verlaufs schizophrener Erkrankungen unter neuroleptischer Langzeitmedikation. Pharmacopsychiatr 14:180–188

Gebhardt R, Pietzcker A, Freudenthal K, Langer C (1981) Die Bildung von Syndromen im AMP-System. Arch Psychiatr Nervenkr 231:93–109

Griesinger W (1964) Pathologie und Therapie der psychischen Krankheiten. EJ Bonset, Amsterdam (Neudruck der Zweitauflage von 1867)

Hansell N, Willis GL (1977) Outpatient treatment of schizophrenia. Am J Psychiatr 134:1082–1086

Hogarty GE, Schooler NR, Ulrich R, Mussare F, Ferro P, Herron E (1979) Fluphenazine and social therapy in the aftercare of schizophrenic patients. Arch Gen Psychiatr 36:1283–1294

Huber G, Gross G, Schüttler R (1979) Schizophrenie. Eine Verlaufs- und sozialpsychiatrische Langzeitstudie. Monographien aus dem Gesamtgebiete der Psychiatrie. Springer, Berlin Heidelberg New York

Huxley PJ, Goldberg DP, Maguire GP, Kincey VA (1979) The prediction of the course of minor psychiatric disorders. Br J Psychiatr 135:535–543

Klerman GL, DiMascio A, Weissman M, Prusoff B, Paykel ES (1974) Treatment of depression by drugs and psychotherapy. Am J Psychiatr 131:186–191

Kraepelin E (1896) Lehrbuch der Psychiatrie, 5. Aufl. Barth, Leipzig

Lesser IM, Friedmann CTH (1981) Attitudes towards medication change among chronically impaired psychiatric patients. Am J Psychiatr 138:801–803

Linden M (1983) Nicht-endogene Depressionen in der Sicht niedergelassener Nervenärzte. Vortrag auf dem 10. Psychiatrie-Symposion der Pfalzklinik Landeck-Klingenmünster am 10. 06. 1983

Moore H, Kleining G (1960) Das soziale Selbstbild der Gesellschaftsschichten in Deutschland. Kölner Z Soziol Sozialpsychol 12: 86–119

Nie NH, Hull CH, Jenkins JG, Steinbrenner K, Bent DH (1975) SPSS—statistical package for the social sciences, New York

Pietzcker A (1983) Vom BMFT bewilligte Hauptphase einer multizentrischen Therapiestudie. „Optimierung der ambulanten neuroleptischen Behandlung schizophrener Patienten. Überprüfung von Prognosekriterien und Entwicklung von Kriterien zur differentiellen Indikation für verschiedene Behandlungsstrategien"

Pietzcker A, Gaebel W (1983) Prediction of "natural" course, relapse and prophylactic response in schizophrenic patients. Pharmacopsychiatr 16:206–211

Robin A, Copas JB, Freeman-Browne DL (1980) Problem areas and mental behavioral status in schizophrenia, neurosis, and depression. J Nerv Ment Dis 168:412–418

Schmidt LG, Niemeyer R, Müller-Oerlinghausen B (1983) Drug prescribing pattern of a psychiatric university hospital in Germany. Pharmacopsychiatr 16:35–42

Smart RG, Gray G (1978) Multiple predictors of dropout from alcoholism treatment. Arch Gen Psychiatr 35:363–367

Strauss JS, Carpenter WT Jr (1972) The prediction of outcome in schizophrenia. I. Characteristics of outcome. Arch Gen Psychiatr 27:739–746

Strauss JS, Carpenter WT Jr (1977) Prediction of outcome in schizophrenia. III. Five-year outcome and its predictors. Arch Gen Psychiatr 34:159–163

Strauss JS, Kokes RF, Klorman R, Sacksteder JL (1977) Premorbid adjustment in schizophrenia: Concepts, measures, and implications. Schizophr Bull 3:182–244

Tsuang MT, Woolson RF, Fleming JA (1979) Long-term outcome of major psychoses. I. Schizophrenia and affective disorders compared with psychiatrically symptom-free surgical conditions. Arch Gen Psychiatr 39:1295–1301

Weissman MM, Kasl SV, Klerman GL (1976) Follow-up of depressed women after maintenance treatment. Am J Psychiatr 133:757–760

Weissman MM, Klerman GL (1977) The chronic depressive in the community: Unrecognized and poorly treated. Compr Psychiatry 18:523-532

Weissman MM, Klermann GL, Prusoff BA, Sholomskas D, Padian N (1981) Depressed outpatients—Results one year after treatment with drugs and/or interpersonal psychotherapy. Arch Gen Psychiatr 38:51–55

Zerssen D von (1976) Die Paranoid-Depressivitäts-Skala. Beltz Test Gesellschaft mbH, Weinheim

Received May 10, 1984