The Göttingen study of psychoanalytic therapy:

First results

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Results of a naturalistic study of the effectiveness of psychoanalytic therapy are reported. Outcome data are presented for a sample of N = *36 patients who were treated with psychoanalytic therapy. For a sample of* n = *23 of these patients, data for 1-year follow-up are available at present. According to the results, psychoanalytic therapy yielded significant improvements in symptoms (Symptom Checklist 90-R, SCL-90-R and rating of psychoanalysts), in interpersonal problems (Inventory of Interpersonal Problems, IIP), in quality of life (Questionnaire of Quality of Life, FLZ), in well-being (Questionnaire of Changes in Experience and Behaviour, VEV) and in target problems defined by the patients (Goal Attainment Scaling, GAS). Large effect sizes between 1.28 and 2.48 were found in symptoms (GSI of the SCL-90-R), interpersonal problems (IIP-total), quality of life (FLZ-total), well-being (VEV) and target problems (GAS). At 1-year follow-up, all improvements proved to be stable or even increased. The self-reported improvements in symptoms were corroborated by the ratings of the psychoanalysts. At the end of therapy, 77% of the patients showed clinically significant improvements. In the 1-year follow-up group, this was true for 80%. Further results are presented and discussed.*

Keywords: psychoanalytic therapy, effectiveness, naturalistic study, self-reported and observer-reported outcome, clinical sample

Contrary to short-term psychodynamic therapy and to psychodynamic ther of medium duration, for which studies demonstrating effectiveness even specific disorders are available (Crits-Christoph, 1992; Anderson and Lambert, 19 Leichsenring, 2001, 2002; Leichsenring and Leibing, 2003), there is a considera paucity of studies into the effectiveness of psychoanalytic therapy, in particular of stu of methodologically high quality in accord with the current standards of psychother research. Among the few studies that provide evidence for the effectiveness psychoanalytic therapy are those by Dührssen and Jorswieck (1965), Rudolf et (1994), Heinzel et al. (1998), Sandell et al. (1999, 2001) and Brockmann et al. (200

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In the study of Dührssen and Jorswieck (1965), a random sample of pati ($N = 125$), who were treated with psychoanalytic therapy of 150–200 sessi showed significant improvements compared to a randomly selected waiting group. The number of days spent in hospital was used as an outcome meas The results showed that the patients treated with psychoanalytic therapy also s fewer days in hospital than the randomly selected sample of patients of a very l health-insurance company (Allgemeine Ortskrankenkasse, AOK) for 5 years a the termination of therapy. The study demonstrated that psychoanalytic ther led to a reduction of costs in health services.

In the naturalistic study of Rudolf et al. (Rudolf et al., 1994; Manz et al., 19 psychoanalytic therapy, which was conducted at a frequency of 2–3 sessions week with an average number of 265 sessions, yielded large effect sizes (≥ 0 Cohen, 1988) with regard to improvement in anxiety, depression and som complaints (Rudolf et al., 1994). Clinically significant improvements were repo for 76% of the patients who were treated with psychoanalytic therapy (Rudo al., 1994). In a retrospective study by Heinzel et al. (1998), a random sar of $N = 633$ patients, who were treated, on average, with psychoanalytic ther of 216 sessions, reported significant and stable improvements with regar psychiatric and somatic symptoms as well as in the reduction in use of medicat doctor visits, days off from work and days spent in hospital. No difference outcome between individual and group therapy nor between different form psychoanalytic therapy (Freudian, Adlerian, Jungian) were found. The effect s especially in the cost-intensive variables were considerable: days spent in hosp decreased by 75%; days off work decreased by 70%.

Brockmann et al. (2001) studied the effects of psychoanalytic and long-t behavioural therapy in patients with depressive and/or anxiety disorders (accor to DSM-III-R). The therapies were conducted by therapists in private practice this study, psychoanalytic therapy of an average of 185 sessions led to signifi improvements in symptoms, in interpersonal problems, in individual goals an general well-being. For both forms of therapy, large (pre–post) effect sizes bot symptoms and in interpersonal problems were reported: at the 3.5-year follow psychoanalytic therapy achieved a large effect size of 1.37 in symptoms and in interpersonal problems. In both forms of therapy, improvements in interpers problems occurred later than improvements in symptoms. This is consistent the results reported by Lueger (1995) for short-term therapies. However, the res of the study by Brockmann et al. (2001) must be regarded as preliminary beca a considerable proportion of the psychoanalytic therapies (42%) had not yet b terminated at the time of publication.

Sandell et al. (1999, 2001) and Blomberg et al. (2001) studied the effect psychoanalytic therapy and long-term psychodynamic therapy. Psychoanal therapy was conducted with a frequency of 3–5 sessions per week ($N = 24$), lasted on average for 54 months and 642 sessions. Long-term psychodynamic ther was conducted at 1–2 sessions per week ($N = 100$) with an average duration o months (mean number of sessions was 233). Differences existing before ther were controlled for statistically. With the same baseline conditions, psychoanal

therapy achieved a large effect size of 1.55 with regard to the reduction of sympto
The corresponding effect size of psychodynamic long-term therapy was 0.60 (San
et al., 2001). The effects of psychoanalytic therapy increased during the first and
second year after termination of therapy by about one-third; in contrast, the eff
of long-term psychodynamic therapy decreased slightly during this period (San
et al., 1999). Furthermore, the authors investigated how many patients fulfilled
criteria of clinical cases in the applied self-report instruments. They found that, t
years after termination of therapy, more than 70% of the patients who were tre
with psychoanalytic therapy were no longer regarded as clinical cases; in the gr
of patients treated with psychodynamic therapy the corresponding percentage
55%. Using two other instruments somewhat lower effect sizes were found for t
psychoanalytic and psychodynamic therapy (Sense of Coherence Scale: 1.18
0.40; Social Adjustment Scale: 0.40 and 0.44).

Luborsky et al. (2001) reported significant improvements in symptoms, attit
towards self, sexual adaptation and social functioning for a sample of $N = 17$ pati
after psychoanalytic therapy. The improvements correspond to large effect si
They are between 0.94 and 1.01 with a mean effect size of 0.98 (calculation
Leichsenring, from the data in Luborsky et al., 2001).

Results of a retrospective study of patients who received psychoanalytic treatn
have been presented by Leuzinger-Bohleber et al. (2003). Slightly more than 5
of the sample received psychoanalysis proper; the remaining patients recei
psychoanalytic psychotherapy (Beutel et al., 2004). Patients retrospectively repo
significant improvements in well-being and other aspects of quality of life (
self-esteem, relationship to others). Furthermore, the authors reported a signifi
reduction in both days of sick leave and in medical consultations when compa
the time 1 year before and 1 year after treatment (Beutel et al., 2004).

The results of Dührssen and Jorswieck (1965), Rudolf et al. (1994), Heinzel e
(1998), Brockmann et al. (2001), Sandell et al. (1999, 2001) and Leuzinger-Bohl
et al. (2003) come from naturalistic studies (effectiveness studies). Effectiver
studies have high clinical representativeness (Shadish et al., 2000). In spite of this, t
are excluded as methods providing evidence that a therapy works by the Task F
of the American Psychological Association (APA). According to the APA, this
only be demonstrated by randomised controlled studies (RCTs) (see Chambless
Hollon, 1998; Chambless and Ollendick, 2001). However, the exclusive use of R
has been questioned recently (e.g. Seligman 1995; Roth and Perry, 1997; Persons
Silberschatz, 1998; Fonagy, 1999). The crucial argument against controlled stu
('efficacy studies') is formulated by Seligman as follows: 'The efficacy stud
the wrong method for empirically validating psychotherapy as it is actually d
because it omits too many crucial elements of what is done in the field' (1995, p. 9
Thus, the alleged strengths of controlled studies, especially randomisation, can
out to be their central weakness, because they create artificial conditions that
not representative of clinical practice. A combination of the elements of natural
and controlled studies seems to be necessary: studies of actual practice includ
prospective pre- and post-assessments and the use of standardised and valid
diagnostic instruments (Seligman, 1995; Guthrie, 2000).

and the time therapy began. After termination of therapy, the psychoanalysts fi
out a short observer-rating form developed by our research group referrin
the outcome of therapy. On a 5-point-scale they rated the changes in sympto
object relations, working capacity, capacity to enjoy and the capacity to deal
conflicts.

Therapy integrity and adherence

After termination of each therapy, therapists filled out a questionnaire w
referred to the psychoanalytic process and to the interventions applied.
questionnaire was developed by our research group and will be describe
another publication.

Patients

Assessments referred to changes in symptoms, interpersonal relations, ge
well-being, quality of life and individually formulated target problems.
instruments for which reliability and validity had been demonstrated were
(see Table 1).

Table 1 — Assessment methods used

Assessment	Method name	Abbreviation used in this paper	Source
Symptoms	Symptom checklist	SCL-90-R	Derogatis et al. (1 Franke (1995)
Interpersonal problems	Inventory of interpersonal problems	IIP	Horowitz et al. (19
General well-being (experience and behaviour change)	VEV questionnaire	VEV (Veränderungsfragebogen des Erlebens und Verhaltens)	Zielke and Kopf-Mehnert (1978)
Quality of life change	Fahrenberg questionnaire	FLZ (Fragebogen zur Lebenszufriedenheit)	Fahrenberg et al. (1986)
Target problem	Modified goal attainment scaling	mGAS	Kiresuk and Lund (1979)

At the beginning of therapy, we asked the patients to write down the three probl
from which they suffered the most at that time. The patients rated the extent to w
they suffered from each problem on a 5-point-scale, ranging from 0 (not at all)
(could not be worse). At each assessment time-point, the average of the ratin
the three problems was calculated and used for statistical analyses.

Patient sample

At present, results for $N = 36$ patients who have terminated psychoanalytic the
are available. The sample consists of 25 women and 11 men. The mean age i
years ($SD = 8.63$).

The patients suffered predominantly from chronic psychiatric disorders
93% of the patients, target symptoms had lasted for more than 2 years prior t
start of psychoanalytic therapy. The social status of these patients was asse
using a 5-point-scale of Kleining and Moore (1968) and Müller (1975) ran
from 1 (lowest, e.g. worker without vocational training) to 5 (highest, e.g. me

doctor, business manager). The mean social status score was 3.69 (SD = 0.
A total of 6% of patients had a social status score of 2; 29% a score of 3; 5
a score of 4; and 9% a score of 5. According to these results, one-third of
sample consisted of skilled workers and 'middle' white-collar workers (scor
and 3), and two-thirds of patients in 'higher' white-collar workers (scores 3
4). At present, n = 23 of the 36 patients have reached the time-point for the 1-y
follow-up. For these 23 patients we will present data for the 1-year follow
In order to test if the sample of the 23 patients for whom follow-up data w
available are representative of the original sample of N = 36 patients, we teste
those 13 patients who were included at baseline (pre-therapy), but for whom
do not yet have follow-up data differ from the 23 patients for whom follow
data are available. For this purpose a multivariate analysis of variance (MANC
was performed. No significant differences were found with regard to any of
outcome measures at baseline (Wilk's lambda, Λ = 0.86, F = 1.05, df = 4,
p = .40). This was also true with regard to age, gender, and other social
demographic variables (Λ = 0.92, F = 1.31, df = 2, 32, p = .28; gender: χ^2 = 0
df = 1, p = .44).

Diagnoses

The distribution of ICD-10 (Dilling et al., 1993) diagnoses in the sample
patients treated with psychoanalytic therapy is given in Table 2. These IC
10 diagnoses were given by the treating psychoanalysts in their applica
for therapy addressed to the patients' health insurance company. A sample
patients with heterogeneous diagnoses according to the ICD-10 diagnoses
treated as is typical for a private psychoanalytic practice. The majority of
patients suffered from more than 1 psychiatric disorder: in 82% of the patie
3 or more psychiatric diagnoses according to ICD-10 were given by the trea
psychoanalyst. The average number of ICD-10 diagnoses was 3.2 (SD = 1.
The distribution of ICD-10 diagnoses in the patient sample is given in Tabl
Because of the (relatively high) comorbidity, multiple diagnoses are possi
Affective (depressive) disorders and personality disorders were most frequ
with a percentage of 69%. In second place are the phobic disorders (50
followed by the somatoform disorders (36%), obsessive-compulsive disor
(28%) and non-organic sexual functional disorders (17%). Neither the ICD
nor the DSM-IV includes categories for disturbances in interpersonal relati
The ICD-10 contains only the global category Z63.0 (problems in the relatio
the (marital) partner). Severe disorders in close interpersonal relations (Z6
were diagnosed in the majority of patients (88%) (see also Kreische, 19
Disturbances in interpersonal relations can best be assessed by ICD-10 or DS
IV through the diagnosis of personality disorder, but only if the necessary crit
are fulfilled. The ICD-10 and the DSM-IV also do not include categories for
different forms of dysfunctions of working capacity (e.g. problems in beginn
or finishing a task). Working capacity dysfunctions were clinically diagnc
by the treating psychoanalysts in their application for therapy addressed to
patients' health insurance company in 42% of the patients.

Table 2 — Distribution of ICD-10 diagnoses in the sample of *N* = 36 patients treated with psychoanalytic therapy

Disorder type (Multiple diagnoses possible)	ICD-10 diagnosis, clinical diagnosis	Proportion of total sample (%)	Proportion of patients wi comorbid disorders (%
Affective (depressive)	F32–F34	69	88
Phobic	F40	50	100
Other anxiety	F41	25	100
Obsessive-compulsive	F42	28	100
Reaction to severe stress and adjustment	F43	17	100
Somatoform	F45	36	100
Other neurotic	F48	8	100
Eating	F50	8	100
Non-organic sexual dysfunction	F52	17	100
Personality	F60–F61	69	100
Problems in relationship to (marital) partner	Z63.0	88	100
Working capacity dysfunction	—	42	100

The high rate of comorbid disorders is also shown by the data in Table 2: in 88% the patients with the diagnosis of a depressive disorder, another comorbid psychia disorder was diagnosed (e.g. a somatoform disorder, anxiety disorder, obsess compulsive disorder).

All other psychiatric disorders did not occur as isolated disorders at all, only together with other psychiatric disorders: for anxiety disorders, somatof disorders, personality disorders, obsessive-compulsive disorders, eating disord adjustment disorders and non-organic sexual dysfunction, the rate of (any) comor disorder was 100% (Table 2). The association between specific psychiatric in f of rates of comorbidity are given in Table 3.

Table 3 — Rates of comorbid disorders (%) in the total sample (*N* = 36)

Disorder type		Disorder type				
		Depressive	Anxiety	Obsessive-compulsive	Somatoform	Persona
		F32–F34	F40–F41	F42	F45	F60 - F
Depressive	F32–F34		33	22	22	19
Anxiety	F40–F41			17	14	19
Obsessive-compulsive	F42				11	8
Somatoform	F45					14

The problem of control groups: Mean expected changes in control groups

For studies of psychoanalytic therapy or long-term psychodynamic therapy is not possible to compare outcome with data of an untreated control group both ethical and practical reasons (Seligman, 1995; Sandell et al., 1999, 20 Blomberg et al., 2001). An equally credible non-psychoanalytic compari condition cannot be realised for several years either (Seligman, 1995). Howe the problem of a control condition can be solved tentatively by assessing h much change occurs in patients who are in need of psychotherapeutic treatm

but have not received it. These data are provided by the control conditi of randomised controlled studies. For this reason, Leichsenring and Rab (2004) performed a meta-analysis, which included the data of control group randomised controlled studies of psychoanalytic and psychodynamic therap total of 26 studies was identified which provided the necessary data. The con groups of these studies included untreated waiting-list patients and pati who had received a 'treatment as usual' (TAU, no specific psychotherapy, treatment by family doctors). As the untreated control groups and TAU gro did not differ significantly with regard to the average changes that occur the data of untreated patients and of TAU were aggregated (Leichsenring Rabung, 2004). In doing so, an average effect size of $d = 0.12$ ($SD = 0.19$) found meta-analytically for the changes that occurred in untreated patient in patients who received TAU. An effect size of 0.12 represents a small ef (Cohen, 1988). Accordingly, few changes occurred in patients who were in n of psychotherapy, but did not receive it.

For several reasons, the value reported by Leichsenring and Rabung (20 can be regarded as representative for psychoanalytic and psychodynamic thera first, calculation of the expected value is based on the data of a large sampl patients ($N = 740$). Second, most of the psychiatric disorders usually treated psychoanalysis and psychotherapy are included (Leichsenring and Rabung, 20 Third, the average effect size of 0.12 corresponds very well to the value of reported by Grawe et al. (1994) for $N = 111$ studies. Grawe et al. (1994) did focus on control groups of psychoanalytic or psychodynamic therapy, but asse the average change in control groups of all forms of (psycho)therapy. The v found by Leichsenring and Rabung (2004) does not differ significantly from value reported by Grawe et al. ($p = .93$). Fourth, the mean expected change fo by Leichsenring and Rabung (2004) did not show a significant correlation with duration of the waiting period or TAU. Thus, the value seems to be appropriate both short and long periods of time.

Data for the effect sizes of control groups may function as reference dat which the results of other (e.g. open) studies can be compared. They may s as a substitute for a control group. It would then no longer be necessary to col such data repeatedly in each new study. Like norms of psychological tests, th data only have to be updated from time to time. *If the effect size of a given s significantly and substantially exceeds the average control group effect, it is unlikely that this effect can be attributed to other influences than the applied f of psychotherapy.* Thus, the proposal made by Leichsenring and Rabung (20 contributes to the improvement of the internal validity of effectiveness stud Furthermore, this procedure would also save considerable costs: the expe associated with establishing a control group drops; the necessary sample sizes reduced to 50%; and the expense of screening procedures and diagnostic assessm can be reduced considerably.

In this article, we used the average change in control groups assessed Leichsenring and Rabung (2004) as a substitute for a control group in addi to pre–post comparisons.

Statistical evaluation

For the statistical calculation, the Statistical Analysis System (SAS, 1988) was use

Results

Initial symptom severity

The initial symptom severity can be expressed by the GSI of the SCL-9(Before therapy, the mean GSI value of the 36 patients was 1.03 (Table 4). For normative sample of healthy subjects a GSI of $M = 0.33$ ($SD = 0.25$) is repo (Franke, 1995, $N = 1006$). Compared to this normative sample, the patients trea with psychoanalytic therapy showed a significantly higher symptom severity 8.89). According to Cohen (1988), this difference can be transformed into an ef size: The difference corresponds to $d = 1.51$, i.e. 1.5 times *SD*. It is nearly tv as large as an effect that is regarded as large by Cohen (1988; $d \geq 0.80$.) Tl the patients who were treated with psychoanalytic therapy had a high symp severity that clearly differed from healthy subjects.

Table 4 — Outcome of psychoanalytic therapy: Data before therapy, after termination and at 1-year follow-up

	Pre (N = 36)		Post (*N* = 36)		1-year follow up (*n* = 23)		Pre–post, *t*	Pre–post-effect size, *d*	Pre-follow up, *t*	Pre-follo effect siz
	M	*SD*	*M*	*SD*	*M*	*SD*				
SCL-90-R										
Somatic Complaints	0.64	0.59	0.40	0.45	0.33	0.35	3.09**	0.42	3.47**	0.61
Anxiety	0.99	0.67	0.37	0.46	0.37	0.61	6.20***	0.93	3.70***	0.93
Depression	1.55	0.76	0.50	0.48	0.50	0.64	8.69***	1.38	6.60***	1.38
Hostility	0.92	0.78	0.37	0.38	0.47	0.74	5.10***	0.71	2.87**	0.58
Obsessive	1.22	0.65	0.50	0.47	0.43	0.46	8.25***	1.11	6.88***	1.22
Paranoid	1.00	0.72	0.39	0.40	0.34	0.43	4.91***	0.85	4.22***	0.92
Phobia	0.53	0.61	0.11	0.17	0.12	0.15	4.19***	0.69	3.46**	0.67
Psychotic.	0.74	0.52	0.26	0.31	0.22	0.26	6.49***	0.92	5.26***	1.00
Social	1.28	0.75	0.53	0.46	0.48	0.52	6.49***	1.00	5.29***	1.07
GSI	1.03	0.47	0.40	0.34	0.38	0.40	9.36***	1.34	6.93***	1.38
IIP										
BC	10.56	4.78	8.45	4.35	8.26	5.16	2.82**	0.44	2.53*	0.45
DE	11.37	5.81	9.10	6.16	8.64	6.09	2.47*	0.39	2.84**	0.44
FG	16.69	6.88	11.91	7.21	11.01	6.62	5.08***	0.70	5.32***	1.00
HI	21.19	5.18	14.30	5.78	14.58	7.44	5.89***	1.33	5.51***	1.45
JK	18.46	5.19	14.02	5.49	12.50	5.56	4.15***	0.86	5.03***	1.35
LM	19.22	5.24	13.99	5.75	12.32	5.54	4.62***	1.00	4.62***	1.33
NO	13.35	4.88	10.47	4.98	9.54	6.36	3.60***	0.59	3.22**	0.88
PA	9.35	5.03	8.58	4.29	8.27	4.44	0.98	0.15	1.03	0.22
Total score	15.01	2.89	11.33	4.32	10.64	4.09	5.14***	1.28	5.79***	1.85
FLZ										
Total score	4.17	0.81	2.88	0.87	2.69	0.84	7.53***	1.55	6.34***	1.81
mGAS										
Total score	2.91	0.69	1.26	0.62	1.20	0.60	9.51***	2.39	8.84***	2.48
VEV										
VEV	—		188.71*		188.30*					

*$p < .05$; **$p < .01$; ***$p < .001$.

The mean total score of the 36 patients on the IIP (IIP-total) before therapy v 15.01 (Table 4). For the German normative sample of the IIP, an IIP-total of *M* 11.37 (*SD* = 4.33) is reported (Horowitz et al., 1994, p. 49, *N* = 1335). Compa to the normative sample, the patients treated with psychoanalytic therapy initially a significantly higher extent of interpersonal problems (t = 7.34). T difference corresponds to a large effect size of d = 1.24, that is, to >1 tir standard deviation. This difference is especially notable as the normative sam of Horowitz et al. (1994) does not only include healthy subjects, but also– nearly 50%—patients who were in psychotherapeutic treatment at the time assessment. The severity of interpersonal problems in the sample of our patie is high compared to other diagnostic groups as well: the extent of interperso problems before therapy expressed by the IIP-total of 15.01 corresponds to values reported for patients with personality disorders (Wuchner et al., 19 Horowitz et al., 1994). Our sample does not differ significantly from this gr of patients (t = 1.58). According to all of these data, the patients that were trea with psychoanalytic therapy can be regarded as being severely ill.

Outcome

Symptoms

Comparing the values before and after termination of psychoanalytic therapy, patients showed significant improvements on all SCL-90-R scales (Table 4). In m of the scales, large effect sizes according to Cohen (1988) were found ($d \geq 0.8$ The pre–post effect size in total symptom severity as expressed by the GSI is 1.34. Comparing the pre-therapy values of the 23 patients, for which 1-year foll up data were available, significant improvements on all scales of the SCL-9 were also found (Table 4). For these patients, the effect size for the GSI at 1-y follow-up is 1.38. Thus, the improvements found after termination were stable even increased at 1-year follow-up. Psychoanalytic therapy yielded large pre–p effect sizes ($d > 0.80$) concerning the following symptoms (Table 4): depressi obsessive-compulsiveness, anxiety in interpersonal contacts, anxiety, psych symptoms and paranoid thinking. These effects were also stable at 1-year follow (Table 4).

We also assessed the percentage of clinically significantly improved patie according to Jacobson and Truax (1991). In this procedure, the number of patie who fall below a statistically defined cut-off score which distinguishes functional from the dysfunctional population is assessed (Jacobson and Tru 1991; Schauenburg and Strack, 1998). Patients who fall below this cut-off score regarded as clinically significantly improved. We applied this procedure to the S 90-R. Schauenburg and Strack (1998) reported a cut-off score of C = 0.57 for the of the SCL-90-R. For our patient sample, we assessed how many patients fell be this cut-off score at termination and at 1-year follow-up. According to the resu 77% of the 36 patients yielded GSI scores at termination of psychoanalytic ther which fell below the cut-off score, that is, they shifted from the dysfunctional re

to the functional realm of symptom severity. After 1 year, this was true for 80% the 23 patients for whom follow-up data were available.

Interpersonal problems

Except for one scale (PA: assured-dominant), significant changes on all sc of the IIP were found comparing the values before therapy with those a termination (Table 4). Large effect sizes ($d \geq 0.80$) were achieved in the follow interpersonal problems (Table 4): 'too unassured-submissive' (IIP-HI), unassuming-ingenuous' (IIP-JK), 'too warm-agreeable' (IIP-LM), 'too al introverted' (IIP-FG), 'too gregarious-extroverted' (IIP-NO). The large eff on the IIP-FG and IIP-NO scales added at the 1-year follow-up (Table 4). the IIP total score, the pre–post effect size is 1.28 (Table 4). Again, at 1-y follow-up ($n = 23$), significant changes were found on all scales except for PA scale. The effect size for the total score of the IIP is 1.84. Thus, the char achieved at termination were maintained or even increased. According to th data, the improvements in interpersonal problems increased between termina and 1-year follow-up by more than 0.50 times *SD*. In other words, the effect increased after termination by more than 40%.

Quality of life

In the FLZ questionnaire, significant changes in quality of life were found bot termination ($N = 36$) and at 1-year follow-up ($n = 23$). Here again, the effect s are large and increased at 1-year follow-up: at termination, the effect size is 1.5 1-year follow-up, 1.81.

Well-being

In the VEV questionnaire, significant improvements in well-being were repo by the patients both at termination and at 1-year follow-up ($M = 187.71$, S 13.55; $M = 188.30$, $SD = 11.96$, respectively).

Target problems

Significant changes were found in the extent to which the patients suffered f their initially formulated target problems (mGAS), both at termination and a year follow-up (Table 4). The effect sizes are very large: 2.21 at termination (36) and 2.67 at 1-year follow-up ($n = 23$). Thus, during the 1-year period betw termination and follow-up, the effect size was not only maintained, but also e increased.

Psychoanalysts' rating of outcome

At termination of treatment, the psychoanalysts rated 84% of their patient much improved or very much improved in terms of their target symptoms u the short observer-rating form developed by our research group. With regar their interpersonal capacities, the psychoanalysts rated 53% of the patients as m improved or very much improved. This was true for the capacity to work an

enjoy as well (55% each). With regard to their capacity to deal constructively
conflicts, the psychoanalysts rated 79% of their patients as much improved or
much improved.

Comparison with the mean expected changes in control groups

We then tested whether the effect sizes we found exceeded the mean expe
changes found in control groups. For this purpose we compared the effect s
found for psychoanalytic therapy with the mean value of change in control gr
found by Leichsenring and Rabung (2004, $M = 0.12$, $SD = 0.19$) by t-tests
independent samples. As can be seen in Table 5, the effect sizes at termina
and at 1-year follow-up exceeded the mean effect size in control gr
significantly (columns B and E). If the differences between the effect size
psychoanalytic therapy and the mean effect sizes of control groups are conve
into between-group effect sizes according to Cohen (1988), the difference
effect sizes between our sample of patients treated with psychoanalytic the
and the average control group are very large: between 9 and 19 times *SD* (T
5, columns C and F). *d* gives the difference between groups in units of stan
deviations. That is, the effect sizes yielded in our sample of patients treated
psychoanalytic therapy exceed the average change occurring in control gr
of studies of psychodynamic therapy by 9 to 19 times *SD*. It is very unlikely
these large differences can be attributed to spontaneous remission, regres
to the mean or other factors influencing outcome apart from psychoanal
therapy.

**Table 5 — Comparison of the effect sizes of psychoanalytic therapy (Psa)
with the average control group effect size ($M = 0.12$, $SD = 0.19$) found by
Leichsenring and Rabung (2004)**

Assessment method	A	B	C	D	E	F
	(Psa), *d* (*N* = 36, post)	(Psa vs control), *t* (post)	(Psa vs control) between group effect size, *d* (post)	(Psa), *d* (*n* = 23, follow-up)	(Psa vs Control), *t* (follow-up)	(Psa vs cont between gr effect size, (follow-up
SCL-90-R general severity index (GSI)	1.34	38.53***	10.19	1.38	31.80***	8.99
IIP, total score	1.28	36.63***	9.69	1.50	34.83***	9.85
FLZ, total score	1.55	46.42***	12.28	1.81	43.16***	12.21
mGAS, total score	2.39	71.68***	18.96	2.48	59.57***	16.85

*** $p < .001$

A: Pre–post effect size of psychoanalytic therapy

B: Comparison of the pre–post effect size of psychoanalytic therapy with the average effect size in cont
groups (Leichsenring and Rabung, 2004) by *t*-tests for independent samples

C: Between group effect size (Cohen, 1988): psychoanalytic therapy vs. mean control group

D: Pre – 1-year follow-up effect size of psychoanalytic therapy

E: Comparison of pre – 1-year follow-up effect size of psychoanalytic therapy with the average effect si
control groups (Leichsenring and Rabung, 2004)

F: Between-group effect size: psychoanalytic therapy vs. mean control group (follow-up)

We also assessed which effects occurred at different times of psychoanalytic thera after 50 sessions, after 160 sessions, at termination, and at 1-year follow-up. For evaluation we used the total scores of the SCL-90-R (GSI), IIP, FLZ and mG (Table 6). According to these data, the effect sizes increased continuously on dimensions from 50 sessions to 160 sessions to termination and to 1-year follo up (Table 6). It is of note that the effect sizes in quality of life and in interperso problems were relatively low after 50 sessions (0.18, 0.36, respectively). Only a termination of therapy, large effect sizes were achieved in these dimensions (1. 1.18), which increased at the 1-year follow-up (1.43, 1.52). In other words, v regard to the target problems formulated by the patients, 60% of the effect that achieved at termination had already been achieved after 50 sessions. With reg to symptoms, this was true for 43%; interpersonal problems, for only 31%; and the quality of life, for only 13%. In all areas the effects achieved after 50 sessi were considerably lower than the effects that were achieved at termination therapy and at 1-year follow-up: not everything that can be achieved was achie after 50 sessions as was suggested by Grawe et al. (1994). This is at least true psychoanalytic therapy studied here.

Table 6 — Outcome of psychoanalytic therapy at different times: Effect sizes after 50, 160 sessions, at termination and at 1-year follow-up

Assessment method	After 50 sessions	After 160 sessions	At termination	At 1-year follow-up
SCL-90-R GSI	0.57	0.87	1.32	1.38
IIP total score	0.38	0.66	1.27	1.85
FLZ total score	0.18	0.65	1.36	1.43
mGAS total score	1.33	1.94	2.21	2.67

Correlations of changes in different areas of psychological functioning

We assessed correlations between the changes in the different areas of function (Table 7):

Table 7 — Pearson correlations between different dimensions of psychological functioning at termination and at 1-year follow-up

	IIP total score	FLZ total score	mGAS	VEV
Correlations pre–post (N = 36)				
SCL-90-R GSI	0.38*	0.48**	0.55***	0.37*
IIP total score		0.33	0.19	0.18
FLZ total score			0.74***	0.08
mGAS				0.25
Correlations pre–1 year follow-up (n = 23)				
SCL-90-R GSI	0.22	0.57**	0.56**	0.18
IIP total score		0.41*	0.03	0.15
FLZ total score			0.61**	0.13
mGAS				0.29

* $p < .05$; ** $p < .01$; *** $p < .001$

- Improvements in quality of life showed significant correlations at termina with improvements in symptoms and above all with improvements in indivi problems, but did not show significant correlations with improvement interpersonal problems or well-being (VEV, Table 7). Contrary to terminat quality of life showed significant correlations with improvements in interpers problems at 1-year follow-up (Table 7). Correlations with improvement symptoms and individual problems were maintained. Also at 1-year foll up, no correlations were found between improvements in quality of life improvements in well-being.
- At termination, improvements in well-being showed only significant correlati to improvements in symptoms. At 1-year follow-up, improvements in well-b had become independent of improvements in symptoms (Table 7).
- Both at termination and at 1-year follow-up, changes in interpersonal probl correlated significantly with improvements in symptoms and with improvem in quality of life.
- While improvements in interpersonal problems correlated significantly v changes in symptoms at termination, they had become independent of char in symptoms at 1-year follow-up (Table 7). As mentioned above, effect interpersonal problems even increased after termination (Table 4).
- Psychoanalyst's ratings of improvement in symptoms showed a signifi correlation ($r = 0.40$, $p = .02$) with improvements in symptoms as measure the GSI of the SCL-90-R at termination of treatment. Thus, the self-report of the SCL-90-R are corroborated by the psychoanalysts' ratings.

Discussion

To start with diagnostic considerations, the results presented here show that patients treated with psychoanalytic therapy were severely ill. It is apparent that th subjects did not look for only self-awareness or self-discovery in psychoanal therapy. The severity of the disorders is indicated by the extent of symptoms interpersonal problems before therapy, and by the relatively high rate of comor disorders: in the patients treated with psychoanalytic therapy, a mean of psychiatric disorders according to ICD-10 were diagnosed. In more than 80% the patients, 3 or more diagnoses according to ICD-10 were given. Patients v complex disorders were treated with psychoanalytic therapy, that is, the patients not suffer from isolated disorders. Furthermore, the patients suffered mostly f personality disorders and conduct disorders (69%) and, above all, they suffe from disorders in interpersonal relations (88%).[2] As the outcome data showed psychoanalytic therapy worked in these patients, this may be an important indica for psychoanalytic therapy also in the future, that is, patients with complex disor that show a high comorbidity associated with disturbances in the personality

[2]The description of the different personality disorders in the DSM-IV are essentially description of interpersonal problems (Benjamin, 1993). Patients with personality disorders show the most interpersonal problems in the IIP (Horowitz et al., 1994).

interpersonal dimension. According to this, psychoanalytic therapy may be regard on the one hand, as a broad spectrum therapy for the treatment of patients w multiple comorbid disorders. On the other hand, the effects of psychoanalytic thera are especially evident in the domains of personality functioning and interperso relations. The large, stable and even increasing effect sizes seen in the reduct of interpersonal problems after the termination of therapy are consistent with t assumption.

In the patients studied here, the form of psychoanalytic therapy applied achie large effect sizes in symptoms, interpersonal problems, quality of life, well-being a the target problems formulated by the patients themselves before therapy. The ef sizes proved to be stable at the 1-year follow-up. In some areas, the effect sizes e increased after termination. This is especially true for interpersonal problems. therefore observed the incubation effect that is expected in psychoanalytic thera after termination of therapy, improvement continued. This result is consistent w the results of Sandell et al. (1999) who found an increase in the effect sizes and increase in the difference towards psychodynamic therapy in the 2-year follow-u

The effect sizes reported here exceeded the mean expected change in con groups assessed by Leichsenring and Rabung (2004), both at termination and 1-year follow-up, significantly and substantially, that is, by several stand deviations. Furthermore, 77% of the patients shifted from the dysfunctional rea of symptoms to the functional realm and, at the 1-year follow-up, 80% had shif from the dysfunctional to the functional realm. These results speak clearly aga the conclusion that the effects that we found were due to spontaneous remissi regression to the mean or similar effects.

The effect sizes for the improvement in symptoms reported here are of the sa magnitude as those reported by Sandell et al. (1999, 2001): this is true both the effect sizes in the GSI of the SCL-90-R (1.55 vs. 1.34 and 1.38) and for proportion of clinically significantly improved patients (70% vs. 77% and 80%) addition, Rudolf et al. (1994) found clinically significant improvements in 76% of patients. The effect sizes reported by Brockmann et al. (2001) for improvement symptoms are also of the same magnitude (1.37). The pre–post effect sizes repor by Brockmann et al. (2001) for interpersonal problems (1.19) are comparable w those reported here, but the effect sizes in interpersonal problems at the 1-y follow-up found in our study (1.85) exceed those reported by Brockmann et (2001).

According to the results, large and stable effects were achieved by psychoanaly therapy in our study in the following symptoms: depression, obsessi compulsiveness, anxiety in social contexts, anxiety, psychotic symptoms paranoid thinking. Rudolf et al. (1994) also found large effect sizes in depress and anxiety.

The psychoanalysts rated 84% of their patients as much improved or very m improved with regard to their target symptoms. In addition, a high percentage of patients were rated as much improved or very much improved with regard to th capacity to deal constructively with conflicts (79%). With regard to interperso capacities and the capacities to work and to enjoy, the psychoanalysts were m

sceptical concerning the success of their treatment rating only slightly more t
50% of their patients as much improved or very much improved (53% each).

Furthermore, our study showed that changes in different areas were achie
at different times of therapy: whereas in target problems 60% of changes
were achieved at termination were already achieved after 50 sessions, only 4
of the final effect was achieved after 50 sessions in symptoms. In interpers
problems, this was true for only 31% and concerning the quality of life for a m
13%. Improvements in quality of life and interpersonal problems especially seen
require longer times of therapy than improvements in target problems and sympto
This result is consistent with those of Lueger (1995) and Brockmann et al. (200

In all dimensions of psychological functioning studied, the effect sizes a
50 sessions were considerably lower than the effect sizes that were achieve
termination and at 1-year follow-up. Apparently, not everything that can be reache
therapy will be reached within 50 sessions. This is true at least for the psychoanal
therapy that we studied. This result contradicts the suggestion of Grawe et al. (19
according to whom after 52 weekly sessions, that is, after 1 year, patients on aver
have achieved the maximum effect. The results presented here refer to long-t
psychoanalytic therapy. Our data do not allow us to determine whether correspond
effects can be achieved more quickly using other forms of therapy or are achie
in a different sequence. However, several results from other studies also contra
the suggestion of Grawe et al. (1994), who derived their suggestions from the res
of Howard et al. (1986). As was demonstrated previously (Leichsenring, 1996),
results of Howard et al. (1986) are valid only for short-term therapies within
realm of 4 to 33 sessions. Furthermore, Howard et al. (1986) studied the percenta
of patients that achieved improvements, but not the extent of improvement. Howe
'improvement' does not mean that the patients had achieved the optimum outc
that they could have achieved (see also Howard et al., 1986, p. 163). Furtherm
the study of Howard et al. (1986) does not allow for predictions about patients
personality disorders, because these patients were not adequately represented in
sample studied. Especially in severe personal disorders, sufficient changes ca
expected only after longer therapy (Bergin and Garfield, 1994; Perry et al., 19
Leichsenring and Leibing, 2003). In a more recent study, Howard and co-work
differentiated between different kinds of symptoms, and they used the retur
normal functioning as a criterion of therapy success (Kopta et al., 1994): concer
character symptoms, which in most cases are associated with severe persona
disorders, 52 sessions were not sufficient for a considerable percentage of pati
to return to normal functioning. After 52 sessions not even 60% of the patients
returned to normal functioning, for specific character symptoms, this was true
less than 50% (Kopta et al., 1994, Table 5, p. 1013). Furthermore, improvem
in daily functioning (work, interpersonal relations) seems to require more sessi
than a change in symptoms (Howard et al., 1993; Kopta et al., 1994). This me
that the number of sessions assessed by Kopta et al. (1994) rather represents
lower limit of duration if not only symptoms are to be improved. In their m
analysis of the effects of psychotherapy in personality disorders, Perry et al. (19
estimated from their data the duration of therapy that is necessary for the patient

no longer fulfil the criteria of a personality disorder: after 1.3 years or 92 sessi this would be the case in only 50% of the patients, and only after 2.2 years 216 sessions this would be the case for 75% of the patients. In their meta-anal of the effects of psychodynamic and cognitive behavioural therapy in persona disorders, Leichsenring and Leibing (2003) also found a positive correlation betw the overall effect size and the length of treatment. However, the correlation was statistically significant due to the small number of studies.

With an average duration of 37 months and 254 sessions, the psychoanal therapies of our study were considerably shorter than the therapies in the st of Sandell et al. (1999, 2001), which lasted for 54 months and 642 sessions average. The mean number of sessions in our study corresponds quite well to study of Rudolf et al. (1994), who reported an average of 265 sessions. Accord to the results of Freedman et al. (1999), duration and frequency of therapy seen be differential factors that may have different meanings in different disorders. W regard to our study, future research is necessary to study the meaning of durat and frequency of therapy.

Presently it is not possible to make empirically founded statements about real relation between costs and benefits of different forms of psychotherapy. Stu in health economics that not only include the direct costs of therapy but also savings achieved by psychotherapy are necessary. Reductions of days in hosp and of the use of health services after psychoanalytic or psychodynamic ther have been demonstrated in several studies (Dührssen and Jorswieck, 1965; Hein et al., 1998; Guthrie et al., 1999). Thus, it is possible that longer therapies return the initially higher costs by a reduction in follow-up cost after therapy.

Today, psychoanalysis is confronted with challenges that have to be faced is to survive as a method of therapy (Kernberg, 1993, 2001; Streeck, 1994; Kan 1999). In his paper on biology and the future of psychoanalysis, Kandel (1999), example, emphasised how a lack of research threatens the future of psychoanaly With regard to effectiveness of psychoanalytic therapy, the results of this st and of the other studies of psychoanalytic therapy cited above are promising a re-evaluation of the Menninger Psychotherapy Research Project (Wallerst 1989), Blatt and Shahar (2004) addressed the question of the unique nat and effectiveness of psychoanalysis. According to their results, psychoanaly contributed significantly to the development of adaptive interpersonal capaci and to the reduction of maladaptive interpersonal behaviour, especially with m self-reflective patients. Supportive-expressive therapy, by contrast, only yiel a reduction of maladaptive interpersonal behaviour and only with depend unreflective patients.

The results showing the effectiveness of psychoanalytic therapy are consis with the results of more recent meta-analyses, which demonstrated the effectiver of psychodynamic therapy in depression and in (severe) personality disor (Leichsenring, 2001; Leichsenring and Leibing, 2003). With regard to treatment of depression, short-term psychoanalytically oriented therapy prove be as effective as CBT (Leichsenring, 2001) and at least as effective as CBT in treatment of (severe) personality disorders (Leichsenring and Leibing, 2003).

In Germany, several studies of the effectiveness of psychoanalytic psychodynamic therapy are being conducted that may answer some of the remain questions that are left open by this study: the Heidelberg Practice Study (Ruc et al., 2001), the München Process-Outcome Study (Huber et al., 2001), Frankfurt-Hamburg Study (Brockmann et al., 2001), as well as the Göttingen St of Psychoanalytic and Psychodynamic Therapy. Further studies of psychoanal and psychodynamic therapies are being conducted in Norway and Finland (Var 2002; Knekt and Lindfors, 2004).

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Translations of summary

Die Göttinger Studie über psychoanalytische Therapie: erste Ergebnisse. In der vorliegenden A werden die Ergebnisse einer naturalistischen Studie psychoanalytischer Therapie vorgestellt. Die Ergeb einer Stichprobe von N = 36 Patienten, die mit psychoanalytischer Therapie behandelt worden sind, we präsentiert. Für eine Stichprobe von n = 23 Patienten liegen gegenwärtig die Ergebnisse der 1-Jal Katamnese vor. Nach den vorliegenden Ergebnissen erreichte psychoanalytische Therapie signifik Verbesserungen in der Symptomatik (Symptom Checklist SCL 90-R and ratings of psychoanalysts interpersonellen Problemen (Inventar Interpersonaler Probleme, IIP), in der Lebensqualität (Frageb zur Lebensqualität, FLZ), im Wohlbefinden (Veränderungsfragebogen des Erlebens und Verhaltens, V und in den von den Patienten selbst definierten Ziel-Problemen (Goal Attainment Scaling, GAS). G Effekte zwischen 1.28 und 2.48 wurden gefunden in der Symptomatik (GSI-SCL-90-R), in interperson Problemen (IIP-Gesamt), in der Lebensqualität (FLZ), im Wohlbefinden (VEV) und in den Zielprobl (GAS). In der 1-Jahres-Katamnese waren alle Verbesserungen stabil oder nahmen sogar noch zu. Die den Patienten selbst berichteten Verbesserungen in der Symptomatik wurden durch die Einschätzu der Psychoanalytiker bestätigt. Bei Therapieende zeigten 77% der Patienten klinisch signifik Verbesserungen in der Symptomatik, in der 1-Jahres-Katamnese waren es sogar 80%. Weitere Ergeb werden präsentiert und diskutiert.

La investigación Gottïngen sobre terapia psicoanalítica: primeros resultados. En este artículo se inf sobre los resultados de una investigación naturalista sobre la eficacia de la terapia psicoanalítica. Se prese los resultados de una muestra de 36 pacientes que recibieron tratamiento de psicoterapia psicoanalítica dispone de los datos de un año de seguimiento para una muestra de 23 de estos pacientes. De acuerdo resultados, la terapia psicoanalítica produjo mejorías significativas en los síntomas (Lista de verificació síntomas 90-R, SCL-90-R y valoración de los psicoanalistas), en los problemas interpersonales (Inven de problemas interpersonales, IIP), en la calidad de vida (Cuestionario sobre calidad de vida, FLZ), bienestar (Cuestionario de cambios en la experiencia y conductas, VEV), y en los problemas de los obje deseados por los pacientes (Escala de obtención de metas, GAS). Se han obtenido resultados muy estima entre 1.28 y 2.48, en síntomas (GSI de SCL-90-R), en problemas interpersonales (IIP-Total), en calida vida (FLZ-Total), en bienestar (VEV), y en problemas de objetivos (GAS). Tras un año de seguimiento, t las mejorías demostraron ser estables e incluso haberse incrementado. La mejoría en los síntomas segú pacientes fueron corroboradas por las valoraciones de los psicoanalistas. Al final de la terapia, 77% d pacientes mostró una mejoría clínicamente significativa. Después de un año de seguimiento del grupo, resultados se extendían al 80% de los pacientes. Se presentan y discuten además ulteriores resultados

L'étude de Göttingen sur la thérapie psychanalytique : premiers résultats. Cet article rapport résultats d'une étude naturalistique sur l'efficacité de la thérapie psychanalytique. Des résultats présentés pour un échantillon de $N = 36$ patients traités par thérapie psychanalytique. Pour un group $n = 23$ de ces patients, des données d'un suivi de un an sont désormais disponibles. Selon ces résulta thérapie psychanalytique a apporté des améliorations significatives au niveau des symptômes (Symp Checklist 90-R, SCL-90-R, et évaluation de psychanalystes), des difficultés interpersonnelles (Inver