

# **Effectiveness and utilization of health insurance benefits in long-term analyses: Results of an empirical follow-up study on the effectivity of (Jungian) psychoanalysis and psychotherapy**

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## **1. Objective:**

Although psychoanalysis has gained widespread acceptance as a treatment modality in many countries, there are only very few empirical studies on its effectivity and long-term effect in the naturalistic care design provided by psychoanalysts and psychotherapists in private practice. The few studies on results research and follow-up of psychoanalysis are often of limited informational value due to methodological limitations, as for example recording instruments, treatment by training candidates or inadequate operationalization of success criteria (Kantrowitz et al. 1991, 1990c; Weber et al 1985, Wallerstein 1986, Bachrach et al 1991).

Most results on the effectivity of psychotherapy were gained from short-term psychotherapies on the basis of pre-post comparison (Leichsenring 2002). There are usually no follow-ups to check long-term effects (Smith, Glass and Miller 1980). Almost 92% of the results are obtained at the end of treatment (Shapiro et al. 1994). The reasons for this lack of empirical, and particularly long-term, follow-up data in psychotherapy research are manifold: Data for case-control studies are difficult to obtain, psychoanalysts are rarely motivated to check the quality of their treatment empirically and usually do not have the time for or the experience or the required knowledge of empirical psychotherapy research. The duration of psychoanalyses often poses a number of methodological problems like drop-outs or missing data. Moreover, there are confidentiality concerns as well as high costs and the difficulty of applying the criteria of a controlled study in the naturalistic setting of psychoanalysts in private practice.

With a view to documenting external validity, increasing importance is given to naturalistic study designs in psychotherapy research (Seligman 1995, Wampold 1997).

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A recent retrospective follow-up study on the long-term effect of psychoanalysis demonstrated important and long-lasting effects with regard to symptom reduction, personality, behavior, and experience (Leuzinger-Bohleber, Ruger, Stuhr, Beutel 2002).

In another study, follow-up examinations showed longer-lasting treatment effects in follow-up patients referred for psychoanalysis than in those referred for psychotherapy (Sandell et al. 1999).

In Germany, growing demands to contain health care expenditures led not only to fierce competition between the different schools in psychotherapy but also to competition between psychotherapy and other types of treatment offered in the health care system such as pharmacotherapy, social work or self-help groups.

Thus psychoanalysis has recently also been criticized from an economic perspective (Grawe 1994). Limited financial resources and increasingly restrictive handling of medical costs have therefore focused the attention of health care administrations on cost-utility considerations and the long-term stability of successful treatment. A study performed by Duhrssen in 1962 demonstrated the long-lasting effect of long-term psychotherapy by reducing health care utilization. This convinced health care providers of the beneficial effect of long-term psychotherapy and led to their assuming the costs for this type of therapy in 1967. Since then, this research approach has no longer been applied for long-term psychotherapy. A number of psychosomatic studies point out the long-term cost effectiveness of psychotherapy in somatic diseases as well (Deter 1986, Zielke 1993, summarized, Sobel 1995).

Given this background situation, a retrospective study initiated in 1994 received third-party funding to examine the effectiveness of Jungian Analyses and long-term psychotherapy<sup>2</sup>.

### **1.2. Aim of the study**

- 1.** Proof of effectivity of long-term analyses (> 100 hours) by private practitioners and evaluation of the stability of therapeutic results by a follow-up 6 years after termination of therapy.
- 2.** Evaluation of health care utilization in a pre-post comparison based data provided by the health insurance companies.
- 3.** Establishing audit research strategies in ambulant psychotherapeutic care areas as a measure of quality assurance.

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While being aware of the methodological limitations, we decided for reasons of feasibility within an acceptable temporal and financial frame, to use a retrospective, naturalistic multi-level design with a prospective approach for sick days and hospital days.

### ***1.3. Financing of psychotherapy/psychoanalysis in Germany***

We will provide some preliminary information to those not familiar with the German health care system and the examination method applied here for recording health care provider data as well as the retrospective assessment of diagnoses and severity of disease on the basis psychoanalysts' written applications for cost coverage.

Every patient in Germany is entitled to any treatment required and has a free choice of therapists. The physician or psychotherapist decides on the necessity for treatment. The entire working population in Germany has health insurance that covers the cost for both illness and temporary pay loss due to illness. A sick note or hospital admission is issued by the examining physician. Each health insurance provider documents the number of sick days, hospital days and corresponding diagnoses. For organizational and privacy reasons, health insurances report only the number of sick or hospital days taken, provided patients give their written consent. Health insurances do not release any other data necessary for assessing the illness behavior, as for example the frequency of visits to physicians, drug intake or medical utilization, since these are recorded on the basis of objective data and not patient-related in Germany. Conclusions on sickness behavior can nevertheless be drawn from comparing the frequency of sick and hospital days before and following therapy. The pre-post comparison of sick or hospital days is regarded as a direct outcome measure of psychotherapy (Dührssen 1962, Mumford 1984, Richter 1994).

The prerequisite for provider coverage of psychotherapy according to psychotherapy guidelines is a written detailed report (containing a description of symptoms, history of complaints, diagnosis, biography, psychodynamics, treatment plan, and assessment of prognosis).

These reports preceding the therapy written by therapists served as the basis for our retrospective classification according to ICD-10 and the assessment of the severity of disease before the start of treatment and the duration of indicating symptoms according to Schepank.

In a naturalistic follow-up, former patients can only be contacted through their former therapists, who have to request their written consent to participate in the study. Only after that has been obtained these patients can be contacted by mail for follow-up. This leads by default to a multi-layered selection of participating patients.

## 2. Design and method of examination

### 2.1 Survey of the data base:

- survey of the members of the German Society for Analytical Psychology (DGAP) (therapist, patient and setting characteristics)
- Documentation of basic patient characteristics by therapists of all cases closed by 1987/88
- Retrospective global assessment of finished therapy by therapists
- First applications for an expert: from those retrospective expert rating ICD-10 diagnosis, degree of impairment (DI), duration of indicating symptoms.
- Follow-up questionnaire
- Guiding principle-oriented follow-up interview by two independent psychoanalysts of the Berlin random sample
- Health insurance records of objective utilization of sick and hospital days

### 2.2. Therapists:

All participating therapists were psychoanalysts qualified according to the guidelines of the German Society for Psychoanalysis, Depth Psychology and Psychosomatic Medicine (DGPT) and the German Society for Analytical Psychology (DGAP).

“Psychoanalysis” or “psychodynamic psychotherapy” for the purpose of this study was defined as the treatment following a successful application of the patient to his health insurance for psychoanalysis or psychodynamic psychotherapy on the basis of the "psychotherapy guidelines" valid in Germany, supported by a qualified report of his psychoanalyst.

All members of the DGAP, the professional society of German Jungian psychoanalysts, were contacted by mail in 1994 and invited to participate in the study. More than three quarters (78%) responded and 24.6% agreed to participate in the study. The reasons given for declining to participate are listed in Table 1. More than 40% declined (actively or passively) to participate, another 15% of the therapists dropped out. The remaining sample (therapists and patients) is described in Table 2. Ultimately, less than one third of the patients recorded via basic documentation and about 16% of the potentially available therapists participated in the study.

## **Hier etwa einfügen Tab. 1 und 2**

The selection of participating therapists was controlled by sending questionnaire again to all DGAP members a second time (Westhoff et al., in preparation) on framework conditions as well as central therapist and setting criteria. This survey is based on 164 completed questionnaires derived from a response of 73.5% of altogether 223 psychoanalytically active members in March 1994. There were no significant differences between therapists participating in the follow-up and those who did not (see Table 3 ). This underscores the assumption that the participating therapists are representative of the total of Jungian psychoanalysts.

## **Hier etwa einfügen Tab. 3**

### **2. 3. Patients:**

Inclusion criteria:

- Treatment by trained psychoanalysts who are members of the DGAP
- Completing or dropping out of therapy in 1987 or 1988
- Exclusion of training cases
- Patient consent

Based on their first applications to the psychoanalytical expert for health insurance funding and process recordings, the participating therapists documented all cases completed during the time from 1.1.87-31.12.1988 (including dropouts) in a basic questionnaire with respect to clinical, sociodemographic and setting characteristics before the start of therapy and gave a global assessment of the success of therapy on completion.

Based on pretherapy applications to health insurances for funding purposes, a retrospective ICD-10 diagnosis was issued by two trained experts in a consensus rating, and illness severity at the start of therapy was determined on the basis of the impairment severity score (ISS) according to Schepank (1987, 1994). Trained experts rated the severity of symptom-related mental, psychosocial and physical impairment on a 5-point scale (0-4) and added the values of the three scales. This summation value ranges between 0-12 (no - maximum impairment).

In 1994, 111 former patients were included in the study who had finished their psychoanalysis or psychotherapy in 1987 or 1988, returned the completed follow-up questionnaire and

consented to participate in the study. The first standardized part of the follow-up questionnaire contained questions on sociodemographic characteristics, reason for therapy, treatment course, relationship to analyst, self-assessment scales on current health and complaint status, professional and family relations, interpersonal problems, quality of life, personality structure and utilization of health insurance benefits as well as standardized questionnaires: symptom checklist SCL-90R (Derogatis 1978, Franke 1995), change questionnaire on experience and behavior (Zielke and Kopf-Mehnert 1978), Giessen test (Beckmann, Brähler & Richter 1991), questions on satisfaction with one's life and sociodemographic data (IHRES) (Gerdes and Jäckel 1992). The influence of life events was checked with a special questionnaire (ILE, Siegrist 1983). Another section of the questionnaire dealt specifically with comparing the above scales to the pretreatment status. In a free text section, the patients described in their own words changes and the importance of therapy for planning their lives.

In 33 cases (the Berlin regional random sample), two independent psychoanalysts carried out a psychodynamic interview based on guidelines in order to assess and document the current health status and treatment results.

Moreover, health insurances recorded objective data on sickness behavior (sick days and hospital days) for the period of 5 years before and 5 years after therapy. For different reasons, the random sample size for comparing these periods decreased to 47 sick days and 58 hospital days. However, these two subgroups do not differ from the total random sample with regard to sociodemographic data, clinical pretreatment data or success criteria at follow-up.

A systematic selection effect when recording the follow-up random sample (n=111) can be largely excluded by comparing the sociodemographic and clinical characteristics of participating and nonparticipating patients based on the basic documentation (n=351) of all cases concluded in 1987/88. There were no difference between the two groups (Table 4).

**Hier etwa einfügen Tab. 4**

### **3. Results**

#### ***3. 1. Pretreatment status***

##### **Duration of indicating symptoms before treatment**

At the time of starting their therapy, 34% of the patients had had indicating symptoms for more than 10 years and 11% for 5-10 years.

##### **Diagnoses according to ICD-10**

A personality disorder was diagnosed in 17% of the patients, 46% were assessed as suffering from an affective disorder according to ICD-10 (Table 5).

**Hier etwa einfügen Tab. 5**

##### **Influence of life events**

The questionnaire on retrospective patient assessment and importance of life events (ILE, Siegrist 1983) did not confirm any influence of life events on individual outcome criteria.

##### **Expert assessment of pretreatment disease severity (ISS according to Schepank)**

The emotional, psychosocial or physical function disorders were above the clinical cut-off values in 96% of the patients. The mean impairment severity of the total sample was 6.8 according to the described retrospective expert assessment. The clinical cut-off value for caseness is 5.0 or higher (Schepank 1987, 1994). Thirteen percent of the random sample had a score of 9 or higher at the start of treatment, which is considered an indication for inpatient treatment. Figure 1 shows the frequency distribution of the pretherapy impairment severity score.

**Hier etwa einfügen Fig. 1**

### **3. 2 Results at follow-up**

#### **Sociodemographic data of patients**

The sociodemographic data of the follow-up random sample are shown in Table 6. The average age of the follow-up patients was 44.5 years (27-69); more than 2/3 (69.1%) were women. The number of unmarried or separated patients was 26%, 17% had higher education, 4% were workers and 62% employees or civil servants. There were statistically significant differences with a representative random sample of the general population adapted for age and gender (IHRES, Gerdes and Jäckel 1992): the follow-up random included a greater number of patients who were divorced or separated, did not work for health reasons, or underwent training or were employed, but fewer workers, self-employed or housewives. Also, there were more patients with higher education levels.

**Hier etwa einfügen Tab. 6**

#### **Characteristics of the follow-up random sample**

The average time between end of treatment and follow-up examination was almost 6 years. With a mean treatment time of less than 3 years, the study participants were on average 10 years older at follow-up than at the start of the study. However, this also leads to an increased illness risk. Seventy-six percent of the participants had completed psychoanalysis with a mean number of 193 hours and a length of 3 years; 63% of the analysis patients had more than 100 therapy sessions. 17.5% of the participants dropped out of therapy at different times. This relatively high number of dropouts in the total random sample was assessed as a "confidence variable". We concluded from this that the therapists did not only include their supposed successful patients in the study (see Table 7).

**Hier etwa einfügen Tab. 7 und 8**

#### **Selection of self-assessment results at follow-up**

Compared with their situation before treatment, 70-94% of the former patients reported good to very good improvement of their psychic and physical state, satisfaction with their lives and job, partner and family relations, and general social functional level. A selection of the

examined variables are shown in Table 7. The 5-7 level scales were combined to form 3 scales.

### **Hier etwa Tab. 9 einfügen**

#### ***Health status:***

At follow-up, 51 % rated their health as good or very good, another 37% as satisfactory, which means that 88% were satisfied with their health at that time. Only 9.9% were less satisfied and 1.8% complained of poor health.

#### ***Indicating symptoms***

70.3% report that they no longer suffered from the problems and complaints that had led to psychoanalysis, or that they had at least significantly improved, 22.5% felt their problems had improved somewhat and 7.2% reported that they were unchanged or had become worse.

#### ***Physical condition***

Two-thirds (65.7%) rated their physical health as better or much better than before therapy and nearly one quarter (24.2%) as unchanged..

In half of the cases (50.5%), physical illness was one of the reasons for seeking therapy. Some of these conditions were ulcerous colitis, backpain, gastrointestinal symptoms, migraine, heart pain. These physical complaints were now reported to be no longer present in 29% of the cases, respectively to be improved or greatly improved in 54% (10% were unchanged and 6.5% had deteriorated).

#### ***Mental state***

The mental state was reported to have improved or greatly improved by 94% (93.7%) and to be unchanged by more than 5% (5.4%).

Patients ranked various aspects of life according to their degree of approval: therapy had the best effect on self-esteem and self-confidence, followed by basic mood, mental state, general satisfaction with their lives and performance. The study participants were least satisfied with their sexuality, physical appearance and leisure time activities.

Compared to the time before therapy, 68% were satisfied or greatly satisfied with their performance, 23% reported no change and 6.5% were less satisfied.

***Importance of therapy for improved enjoyment of life and way of life***

In 80.2%, therapy was considered important or very important for improving their enjoyment of life and current life style, in 13.5% of average importance and in 5.4% of little importance (0.9% missing).

**Clinical significance of changes in health, life satisfaction - compared to the general population (Ires, Gerdes and Jäckel 1992) and existential orientation**

***Health:***

A comparison of our health data with a representative random sample of the general population, as done by Gerdes and Jäckel (1992 ), shows that 88.3% of our random sample's assessment of their health was in the normal range at follow-up (within the 75th percentile), i.e. the rating of 88.3% of our random sample matched that of 75% of the reference random sample; 11.7 % were "atypical" or "very atypical" compared to 25% of the reference random sample.

***Satisfaction with life***

Satisfaction with life was recorded on 8 scales (work situation, living situation, financial situation, leisure time, familial situation, relations with neighbors, friends, acquaintances, with life in general). A compilation of all 8 yielded the subsequent "average" satisfaction with life compared to the general random sample:

69.2% of the patients examined here were within the 75th percentile, i.e. the range of the representative random sample from the general population.

***Clinical significance of global state***

The general global state of the participants at different time points was recorded on a six-point scale ranging from very poor to very good. 60.4% (N=67) of the study random sample rated their pretreatment state as very poor. Six years after the end of treatment, 86.6% (N=56) described it as very good or quite good. Another 31.5% (N=35) described their pretreatment state as poor and 85.7% (N=30) of these as very good, good or quite good at follow-up.

90% agreed (very true or true) that therapy had helped them.

87.3% agreed that they coped better with life after therapy and 85.5% agreed that therapy was a still ongoing process.

8.8% reported that therapy had not helped, 6.3% of these felt that it was due to the therapeutic method, 5.4% the demeanor or personality of the therapist, 8.1% their own personality, and 5.4% to external events or influences.

### **Success and duration of treatment (Figure 2)**

This figure gives the sum value of 3 global assessments (0-100) of patients on successful treatment and shown as a function of the duration of treatment.

These included:

- 1) Degree of improvement of symptoms leading to therapy.
2. Extent to which psychotherapy or psychoanalysis was helpful
3. Current mental state.

There was a statistically significant correlation with the duration of treatment ( $p < 0.05$ ): The longer the therapy, the more successful the patients rate it, even 6 years after completion. According to these criteria, long-term therapy appears to be more successful than short-term therapy. This result is comparable to the findings of the Consumer's Report study by Seligman (1995) and to the results obtained by Sandell (1996).

**Hier etwa einfügen Fig. 2**

### **Overall therapeutic success from the therapist's and patient's viewpoint**

The former therapists' gave the following global assessment of the patients' state at the end of therapy 6 years later:

Therapist: 64.9% good, 29.7% moderate, 5.4% unchanged or worse global state. Patients: 70.3% improved, 22.5% moderate, 7.2% unchanged or worse.

### **Results of psychometric tests at follow-up**

*Giessen Test:*

The standardized mean values of the Giessen test scales (T values) for age and gender were within the calibration random sample (two SD of  $T = 50$ ). A clinically relevant disorder was not detected at follow-up (Table 9).

**Hier etwa Tab. 9 einfügen**

*CBE (change of behavior and experience)*

CBE is a 42-item change-sensitive, standardized self-description instrument. The items are negative and positive comparative statements on previous psychotherapies. The values are added up to a total score ranging from extreme deterioration (=42) to extreme improvement (=294).

Values below 149 represent deterioration, above 187 improvement.

The total patient group had a score of 200.4. This confirmed at the 0.1 significance level that the total group perceived positive changes of experience and behavior. Comparison with a 2-year follow-up of an inpatient behavioral therapy group (Zielke 1993) yielded similar values for the total value and the number of patients with positive or negative changes (Table 10).

**Hier etwa Tab. 10 einfügen**

#### *Severity of symptoms (SCL-90 R)*

At follow-up 6 years after therapy, there were no psychopathological characteristic values in the Global Severity Index (GSI) of SCL-90R or subscale scores. Even compared to other clinical random samples, the random sample that was strongly disturbed before therapy with regard to the diagnostic spectrum and severity of illness now had values comparable to the normal random sample on all subscales. Figure 3 shows the mean values of the GSI of SCL-90R in the normal random sample, follow-up random sample and other clinical diagnosis groups (Figure 3).

**Hier etwa Fig.3 einfügen**

#### **Pre-post comparison of the impairment severity score (ISS) in the Berlin regional random sample (N=33)**

Significantly decreased ( $p < 0.01$ ) illness severity (Schepank's illness severity score) was observed in the pre-post comparative third-party assessment of the current illness status by clinical interviews carried out by independent interviewers at the follow-up examination of a partial random sample of  $n=33$  patients (Berlin regional random sample). There was a calculated effect level of 2.1 (Figure 4).

### **Utilization of health insurance benefits based on patient information**

Only subjective data from patients can be used here, since insurance providers record no patient-related but only data on drug consumption and the number of attended appointments with their doctor.

#### *Intake of psychopharmaceuticals*

Psychotropic drug intake was substantially reduced in the posttherapeutic phase (Figure 5). An increasing percentage of patients took fewer psychopharmaceuticals than before therapy, the total number of patients taking drugs regularly decreased considerably.

Fifty percent of the participants took fewer drugs at follow-up than before therapy (about 40% unchanged or not applicable). About 70% now take no sleeping pills, painkillers or tranquilizers, 25% occasionally and 5% regularly.

#### *Frequency of physician visits (Figure 6):*

More than half of the patients report a clearly reduced frequency of physician visits compared to the time before therapy. Only 8.1% report more physician visits and in about 40% the number of visits remains unchanged during the year before follow-up (this percentage includes patients who did not consult a physician before or after therapy).

#### *Comparison of the frequency of physician visits with two representative studies*

There is no increase in the number of physician visits in the year before follow-up compared to the number of general practitioner visits in two representative studies (Schacht 1989, Hoffmeister, 1988). The frequency of physician visits is listed separately according to gender (Figure 7).

### **Hier etwa Fig 7 einfügen**

### **Pre - post comparison of sick days and hospital days based on objective insurance provider data**

#### *Sick days one year before and one year after therapy*

The average number of 24 sick days/patient in the year before therapy decreased by 66.6% to 8 days ( $p=0.54$ ) in the year after therapy.

*Sick days for the total period of 5 years before and 5 years after therapy*

There was a 50% decrease in the average number of sick days/year for the total prevalence period of 5 years before and 5 years after therapy. Starting with a mean of 16 sick days/year 5 years before therapy, this number was reduced by 50% to 8 sick days/year ( $p=.057$ ) 5 years after therapy (Figure 8).

**Hier etwa Fig. 8 und 9 einfügen***Hospital days 1 year before and 1 year after therapy*

Comparable results were obtained for the number of hospital days: the average number of 8 hospital days/patient in the year before therapy dropped to 1 day/patient in the year after therapy, corresponding to a reduction of 87.5% ( $p= .037$ ) (Figure 9).

*Hospital days 5 years before and 5 years after therapy*

Comparing the two 5-year prevalence periods before and after therapy shows a 50% reduction from a mean of 3.7 hospital days/year to 1.8 days/year per patient or 51.4% ( $p=.173$ ).

*Comparison of sick days with mean values from Barmer Ersatzkasse (health insurance provider)*

Fifty-eight percent of the participants were insured by "Ersatzkassen". It thus seems justified to compare the statistical data from Barmer Ersatzkasse (BEK), which we consider representative for the random sample examined. A comparison of administrative provider data with the statistical mean of all working members (voluntary insurance and mandatory insurance) one year before and the year after therapy yielded the following figures for the years relevant to the study (1987/88). In this context, our random sample had to be projected from the reference number of 100 insured.

In the pretherapy year, the sick days/100 cases<sup>3</sup> (1,456 days/100 patients) in our random sample clearly exceeded the 1985 mean values of BEK members for the reference year "one year before therapy" (BEK statistics: 1,083 sick days/100). The pretherapy sick leave periods of our study population were also clearly longer than those of the mean BEK members with mandatory insurance. However, in the year after therapy, the sick days taken in our random sample were considerably lower than the provider mean for the same reference year (820 vs. 1,229 days). The reduction of the sum of sick days/100 cases of 1,456 days/100 cases in the pretherapy year to 820 days/100 cases in the year after therapy corresponds to a decrease of

43.7%. Similar values were obtained for the average number of sick days per case: In our random sample, the average number of 41.6 sick days/case in the year before decreased to 13.5 sick days/case in the year after therapy, or 67.5%. The insurance average for the year before therapy (1984/1985) was 16 days and 15 days for the reference year "after therapy" (1988/1989) (Figure 10).

#### *Comparison of hospital days with average BEK values*

Regarding the sum of hospital days/100 cases, the initial value of our random sample greatly exceeds that of the insurance average (912 vs. 168) with a decrease to 116 days/100 cases for the year after therapy. This reduction of 87.3% is largely due to the reduced number of hospital cases in the year after therapy (19 to 4 correspond to a 79% reduction) and to a lesser extent to the duration of hospitalization (47 to 34 days/case) (Figure 11).

## **4. Discussion**

In a naturalistic study like ours, the therapists filter the selection of the random sample. However, a systematic falsification was largely excluded by the fact that the therapists' characteristics are checked by a DGAP survey conducted independently of this study. A return rate of 73.5% underscores that the recorded data are representative for the national organization of German Jungian psychoanalysts.

The random sample of follow-up patients does not differ from all base-documented cases with regard to central variables. Moreover, a systematic selection seems quite unlikely in view of the relatively high dropout rate of 17% (therapist assessment).

The average number of concluded cases per therapist and year in 1987/88 is in agreement with the data on the average number of concluded cases in 1994 recorded separately by the DGAP. Thus we can assume that both the participating patients and the therapists are largely representative of the average (Jungian) psychoanalytical practice in Germany.

A comparison of the sociodemographic data of our random sample with that of the general population by Gerdes and Jaeckel (1992) revealed a greater number of single or separated patients, employees, patients undergoing professional training, and patients who cannot work for health reasons. Although the reference random sample from the general population was

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<sup>3</sup> Insurance providers count a patient as several cases based on his/her number of sick leaves/year or inpatient treatments/year, i.e. the number of cases is usually higher than the number of patients.

adapted to the study random sample for gender and mean age, the age distribution range showed that the study random sample includes younger patients, explaining the greater number of single patients and those undergoing professional training and the smaller number of housewives in the follow-up random sample. Based on the data on hand, accepting psychoanalysis or psychotherapy continues to be easier for individuals with a higher education level.

According to the retrospectively assessed ICD-10 diagnoses, illness severity (ISS) and chronified initiating symptoms, the patients had rather severe psychopathological disorders which were no longer detectable after 6 years on average. The reliability of a retrospective diagnosis and assessment of illness severity which is based on therapist applications for funding is limited for methodological reasons. However, the data recorded at follow-up and, above all, the prospective data from health insurances point in the same direction. Our naturalistic approach does not make allowances for an untreated control group, for example a waiting list group. The literature repeatedly reports that a control group cannot be set up, since about 80% of patients on waiting lists initiate psychotherapy themselves already after one year (Sandell 1996, Rudolf 1991). The possibility of spontaneous remission has been refuted by the studies of Schmidt, Glass et al. 1980, Grawe 1994, Franz 1991.

In order to be able to still compare the follow-up findings with other random samples, we have also used standardized instruments or scales (standard values for the psychometric test and results of comparative self-assessments of patients with the calibration random sample - IRES scales). A comparison with these populations or other clinical groups demonstrated that our random sample evidenced no significant difference between the patients' self-assessments and the psychometric tests at follow-up.

We were able to statistically exclude an influence of life events on the treatment results.

The different outcome criteria from patient self-assessments yielded average success rates of 70% to over 90%. This may result from a systematic falsification of patients' memory, for example, out of loyalty toward the therapist to avoid cognitive dissonance. However, the results on different assessment levels point in the same direction. Patients' global assessment of therapeutic success is in relatively good agreement with that of former therapists, whose assessment was somewhat more conservative than that of the patients. Independent (psychoanalytical) experts examined the regional random sample of Berlin patients, which does not differ from the rest of the random sample in the main characteristics, and their

evaluation with criteria similar to those used in the patients' self-assessment disclosed no major discrepancy. Similar findings were obtained for health insurance utilization.

The objective data from health insurances revealed improvements in the health status and illness behavior, leading to markedly reduced medical utilization (sick days, hospital days, number of physician visits, drug intake) in the majority of patients even 5 years later and thus to a considerable cost reduction. These results are clinically very important, in view of the long prevalence period of 5 years which was not considered in most of the other comparable studies of this kind. Together with other clinical results already discussed, this is indicative of the long-term effect of psychoanalysis or long-term psychotherapy. Moreover, these findings are of major importance in terms of economics and occupational policies in view of the reduced health care utilization.

Similar results with respect to reduced sick leave and hospital days after psychotherapy were reported by Dührssen (1962) in a 5-year comparison of ambulant psychotherapy and by von Zielke (1993) for inpatient cognitive-behavioral therapy in a two-year follow-up. Also, Deter (1989) reported this effect when comparing asthma patients undergoing psychosomatic therapy with controls.

Cost-effectivity considerations as success criteria play an increasingly important role especially for health care administrations. We have shown in this retrospective study that psychotherapy evidently has a long-term effect on patients' utilization behavior. However, the uninterrupted recording of these data requires great care and a methodologically sound procedure for their interpretation. (Richter et al. 1994). A reduction of sick days or hospital days after psychotherapy is all the more important when considering that the study cohort was 10 years older at the time the study was performed and that there was thus an increase in the disease risk and the number of sick days or hospital days.

The fact that more than 75% of the patients examined here underwent long-term analyses provides empirical proof of effectivity for this rarely empirically examined therapy type that is still detectable after 6 years on average.

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**Table 1 Selection of participating therapists**

	<b>N</b>	<b>(%)</b>
Total number of contacted DGAP members (Adult psychoanalysts)	223	(100%)
No reaction	49	(22.0%)
Declined to participate	48	(21.5%)
Therapists, who agreed to participate but later refused or did not contact former patients	32	(14.4%)
Therapist with patients' written consent to participate in the study and complete documentation	35	(15.7%)
Only ongoing treatments during 1987/88	59	(26.4%)

**Table 2 Patient selection**

	<b>Therapists n (%)</b>	<b>Patients n (%)</b>
Total number of contacted therapists	223 (100%)	
Therapists who returned the participant questionnaire	174 (78%)	
Therapists with basic documentation of their completed cases in 1987/1988 (including dropouts)	55 (24.6%)	353 (100%)
Therapists who contacted their completed cases from 1987/88	42 (18.8%)	259 (73.4%)
Therapists, who had the patients' consent to participate in the study	35 (15.7%)	152 (43.1%)
Therapists and patients, from whom we obtained a complete follow-up questionnaire of completed cases in 1987/88	35 (15.7%)	111 (31.4%)

**Table 3 Comparison of participating and nonparticipating therapists**

**(Recording of the DGAP 1994)**

<b>Total number of DGAP members n=223 Responders n=164 (73.5%)</b>	<b>Participating n=54</b>	<b>therapists</b>	<b>Nonparticipating therapists n=110</b>	<b>sign.</b>
Mean age (SD)	51.8 SD (6.6)		53.4 SD (10.2)	ns
Gender; n (%)				
Female	28 (51.9% )		59 (55.1%)	ns
Male	26 (48.1%)		48 (44.9%)	
Basic profession; n (%)				ns
Psychology	29 (53.7%)		50 (45.5%)	
Medicine	17 (31.5%)		40 (36.4%)	
Other	8 (14.8%)		20 (18.2%)	
Mean experience in psychoanalysis (years)	16.1 SD (6.0)		15.9 SD (8.2)	ns
Mean ratio of improved patients who completed treatment in the last year (global assessment of the therapists; from 1= very good to 6= greatly deteriorated); mean (SD); %				ns
very good	1.38 (2.3); 24.5%		1.32 (2.3); 18.7%	
good	2.17 (1.8); 38.5%		2.84 (5.4); 40.3%	
moderate	1.26 (1.4); 22.4%		1.93 (3.8); 27.4%	
unchanged	0.74 (1.2); 13.2%		0.79 (1.8); 11.3%	
somewhat deteriorated	0.04 (0.2); 0.7%		0.06 (0.3); 0.9%	
greatly deteriorated	0.04 (0.2); 0.7%		0.1 (0.1); 1.4%	
Estimated mean ratio of unimproved patients in the last year; %	11.6%		9.3%)	(*)
Extent of Jungian orientation (5-point scale: completely - not at all); mean (SD)	2.4 (0.9)		2.2 (1.0)	ns
Teaching analyst status; n (%)	15 (28.8%)		24 (22.4%)	ns

(\*) p<0.1 (tendency)

**Table 4 Comparison of participating and nonparticipating patients based on the basic documentation of the therapists\***

	Total group	Participating patients	Nonparticipating patients	sign .
n	353	106	243	
Mean age (SD)				
At the start of therapy	34.4 (9.8)	34.4 (7.9)	34.4 (10.6)	ns
At the completion of therapy	37.2 (9.1)	37.3 (8.0)	37.2 (9.5)	ns
At the time of follow-up (1994)	43.1 (8.9)	43.5 (8.0)	43.0 (9.3)	ns
Duration of indicating symptoms (years)	7.5 (7.7)	7.3 (6.7)	7.6 (8.1)	ns
Type of therapy				
Psychoanalysis % (n)	73.8% (259)	76.6% (82)	72.5% (177)	ns
Psychotherapy.	12.8% (45)	15.9% (17)	11.5% (28)	ns
Group therapy	9.4% (33)	2.8% (3)	12.3% (30)	ns
Short-term therapy	4.0% (14)	4.7% (5)	3.7% (9)	ns
Dropouts % (n)	26.6% (89)	17.5% (18)	30.7% (71)	*
Duration of therapy (years) (n)	2.4 (161)	2.5 (53)	2.4 (108)	ns
Mean number of hours (SD)	151.2 (115.7)	158.7 (100.3)	148.0 (121.7)	ns
Change of therapist % (n)	6.6% (23)	4.7% (5)	7.4% (18)	ns
Personality structure % (n)				ns
Schizoid	12.4% (15)	8.3% (2)	13.3% (13)	
Depressive	54.1% (66)	54.2% (13)	54.1% (53)	
Compulsive	13.9% (17)	12.5% (3)	12.2% (12)	
Hysterical	12.3% (15)	12.5% (3)	12.2% (12)	
Mixed structure	5.1% (6)	4.2% (1)	5.1% (5)	
No data	2.5% (3)	1.0% (1)	1.6% (2)	
Diagnosis (adapted to the ICD-9)				
% (n) #				
Borderline syndrome	14.4% (38)	9.5 (7)	16.4% (31)	ns
Narcissistic neurosis	59.0% (180)	52.6% (50)	61.9% (130)	(*)
Functional physical symptoms	76.2% (237)	75.5% (71)	76.5% (166)	ns
Personality disorder	40.2% (111)	36.1% (30)	42.0% (81)	ns
Psychosomatic disease	26.0% (67)	25.7% (19)	26.1% (48)	ns
Physical disease	20.3% (55)	18.5% (15)	21.1% (40)	ns
Positive prognosis (therapist's assessment)	26.1% (82)	28.1% (27)	25.2% (55)	ns

# Multiple answers possible; significance: (\*) p<0.1 (tendency); \* p<0.05

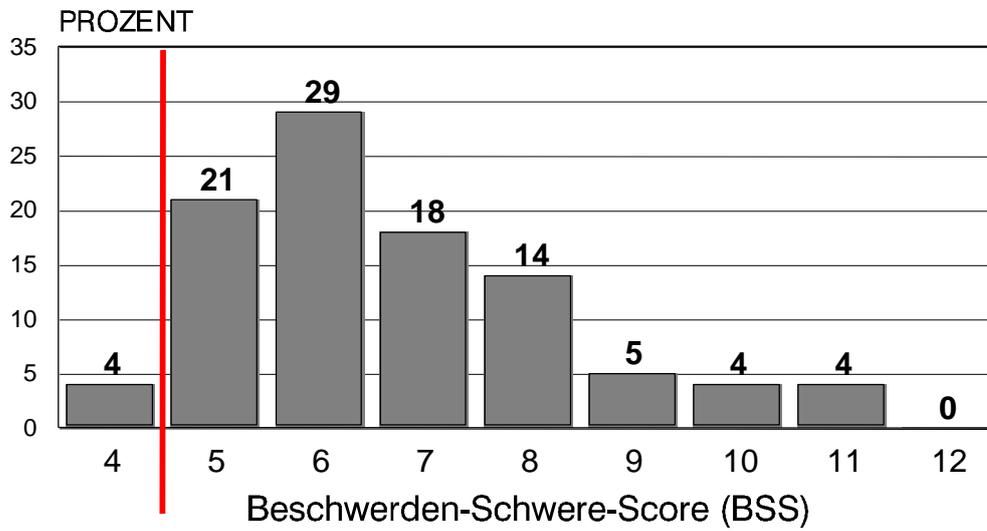
\* Basic documentation data is missing for 5 participating patients; thus, the number of participating patients is n=106 in the comparison of basic documentation data.

**Table 5 ICD-10 diagnoses before beginning treatment  
Retrospective expert rating based on the expert assessment applications n=100**

		<b>n</b>	<b>%</b>
	F31 Bipolar affective disorder	1.0	1.0
<b>F3</b>	<b>Affective disorders</b>		
	F32 Depressive episode	13	13.0
	F33 Recurrent depressive episode	13	13.0
	F34 Dysthymia	19	19.0
<b>F4</b>	<b>Neurotic and somatoform disorders</b>		
	F40 Phobic disorder	4	4.0
	F41 Anxiety disorder	10	10.0
	F42 Compulsive disorder	3	3.0
	F43 Stress reaction	3	3.0
	F45 Somatoform disorders	8	8.0
<b>F5</b>	<b>Behavioral disorders with physical symptoms</b>		
	F50 Eating disorder	3	3.0
	F52 Sexual disorder	3	3.0
<b>F6</b>	<b>Personality disorders</b>		
	F60 Specific personality disorders	17	17.0
	F61 Complex or other personality disorders	1	1.0
	F63 Abnormal behavioral characteristics	2	2.0

## Degree of impairment of somatic, psychic and social Function before therapy

Impairment severity score: BSS, Schepank 1994



N=99. Mean=6.84

**Figure 1**

**Table 6 Sociodemographic characteristics of the follow-up random sample compared to a representative random sample of the "general population" adapted for age and gender (IRES, Gerdes 1992)**

	<b>Study random sample n=111</b>	<b>Comparative sample n=473</b>	<b>random chiq.</b>
<b>Mean age (years)</b>	44.5 (4.8) Range 27-69	45.1 (3.3) Range 40-50	ns
<b>Gender</b>			
male	30.6% (34)	30.9% (146)	ns
female	69.4% (77)	69.1% (327)	
<b>Family status</b>			***
single	26.4% (29)	7.8% (37)	
married	48.2% (53)	76.7% (363)	
divorced	20.0% (22)	13.3% (63)	
widowed	1.8% (2)	2.1% (10)	
separated	3.6% (4)	0% (0)	
<b>Occupation</b>	n=111	n=463	***
Worker	3.7% (4)	14.8% (70)	
Employee	61.7% (66)	13.1% (62)	
Civil servant	14.0% (15)	17.3% (82)	
Self-employed	16.8% (18)	32.6% (154)	
Not employed	0.7% (4)	14.1% (82)	
No data	0% (0)	4% (23)	
<b>Employment</b>			***
Full-time	52.9% (55)	53.4% (249)	
Part-time	26.9% (28)	25.1% (117)	
Training	3.8% (4)	0.4% (2)	
Unemployed	1.0% (1)	2.4% (11)	
No employment for health reasons	8.7% (9)	1.9% (9)	
Homemaker	6.7% (7)	16.7% (78)	
<b>Education</b>			***
Secondary modern school	14.7% (16)	56.1% (265)	
Junior high school	20.2% (22)	23.7% (112)	
Advanced technical college	16.5% (18)	7.6% (36)	
Baccalaureate	17.4% (19)	11.7% (55)	
University degree	31.2% (34)	0.8% (4)	

\* p<.05 \*\* p<.01 \*\*\* p<.001

**Table 7 Treatment characteristics of the follow-up random sample**

<b>Follow-up random sample n=111</b>	<b>mean</b>	<b>SD</b>
Mean age at follow-up 1994	44.5	(4.8)
Mean age at the start of treatment (years)	35.0	(8.8)
Mean age at the end of treatment	37.0	(8.0)
Follow-up period (years)	5.8	(0.79)
Treatment duration, range (0.3-8.3 years)	2.9	(1.7)
No. of treatment sessions (range 15-399)	161.9	(94.9)
Dropouts	17.5%	

**Table 8 Characteristics of therapy**

<b>Type of therapy</b>	<b>mean</b>	<b>SD</b>
	76%	
<b>Psychoanalysis</b>		
Treatment duration (0.3-8 J.)	3.0	(1.6)
No. of treatment sessions (range 17-399)	192.9	(88.9)
	16%	
<b>Psychotherapy</b>		
Treatment duration (0.8-8.3 J.)	2.4	(1.9)
No. of treatment sessions (range 30-200)	78.3	(40.5)
<i>Other types of therapy</i> (Group or short-term psychotherapy)	8%	

**Table 9 Patient's global self-assessment at follow-up compared to before treatment (excerpts)**

	<b>n</b>	<b>improved %</b>	<b>unchanged %</b>	<b>deteriorated %</b>
How have the indicating symptoms leading to treatment developed?	111	93	6	1
How would you estimate your emotional state now compared to before therapy?	111	94	5	1
How would you estimate your physical health now compared to before treatment?	111	66	24	10
How have the physical symptoms leading to therapy developed?	63	83	10	7
How satisfied are you with your relationship now compared to the start of therapy?	80	74	19	7
How satisfied are you with your working situation now compared to the start of therapy?	111	75	17	8
		<b>good to very good</b>	<b>moderate</b>	<b>poor</b>
How would you estimate your current health status ?	111	51	37	12

## Treatment success and duration

Improvement score from the sum of 3 subjective  
global assessments for treatment success

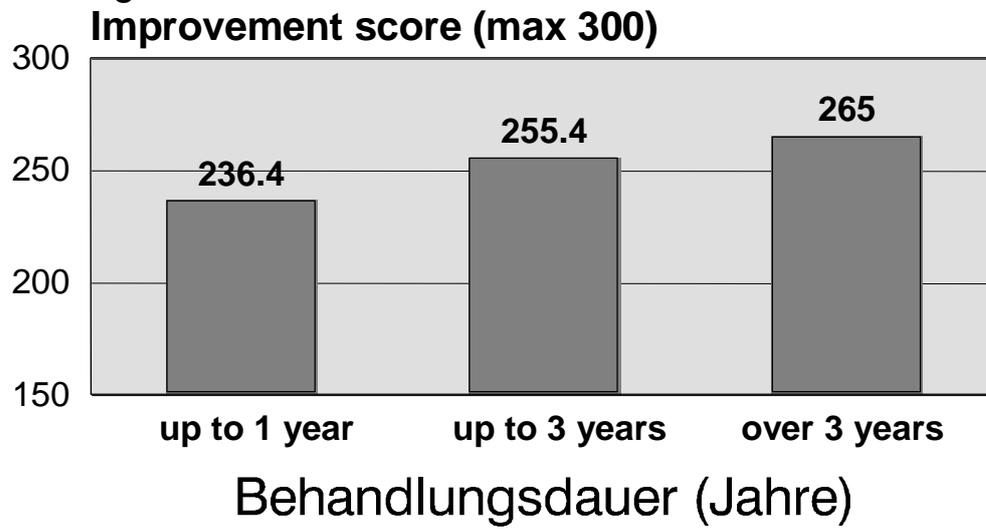
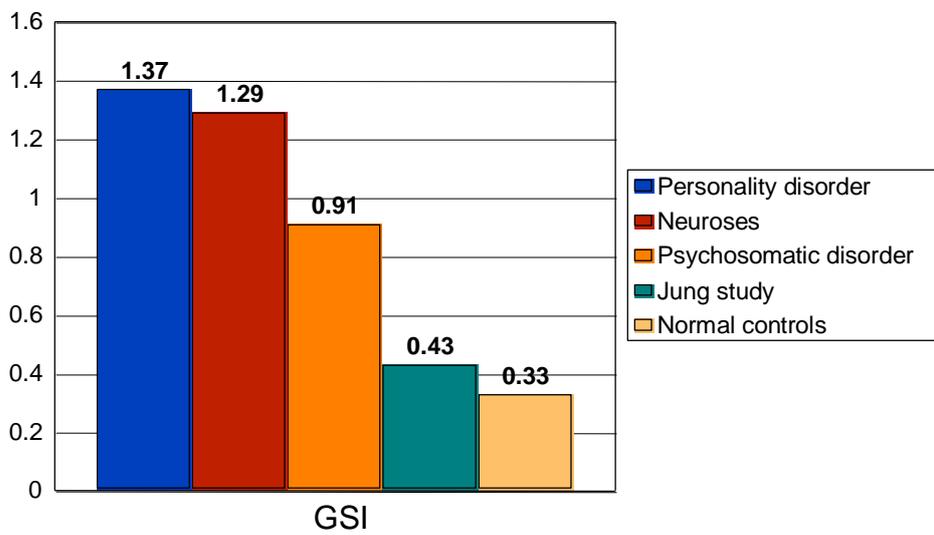


Figure 2

# Global Severity Index (GSI)

SCL-90R



Comparative data according to Franke 1995

Figure 3

**Table 9 Giessen test (T values)**

	<b>Mean</b>	<b>Std Dev</b>
Dominance	44.23	9.68
Social resonance	46.83	9.81
Controls	51.05	9.14
Transparency	51.27	11.40
Social potency	51.84	8.70
Basic mood	58.51	10.18

**Table 10 CBE change questionnaire of experience and behavior  
Follow-up (N=111) with inpatient VT-1-year follow-up (N=142, Zielke 1993)**

	<b>Follow-up</b>		<b>Control group</b>			
	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>		
<b>Positive changes</b> (change value>187)	78	70.3	105	73.9		
<b>Indifferent</b> or negligible change (change value>150 and <187)	31	27.9	34	24.0		
<b>Negative change</b> (change value<150)	2	1.8	3	2.1		
	<b>M</b>	<b>SD</b>	<b>p</b>	<b>M</b>	<b>SD</b>	<b>p</b>
<b>Mean change value</b>	200.4	24.3	p<0.01	210.7	32.1	p<0.01

# Impairment severity score

pre (GA applications) - post (follow-up interview)

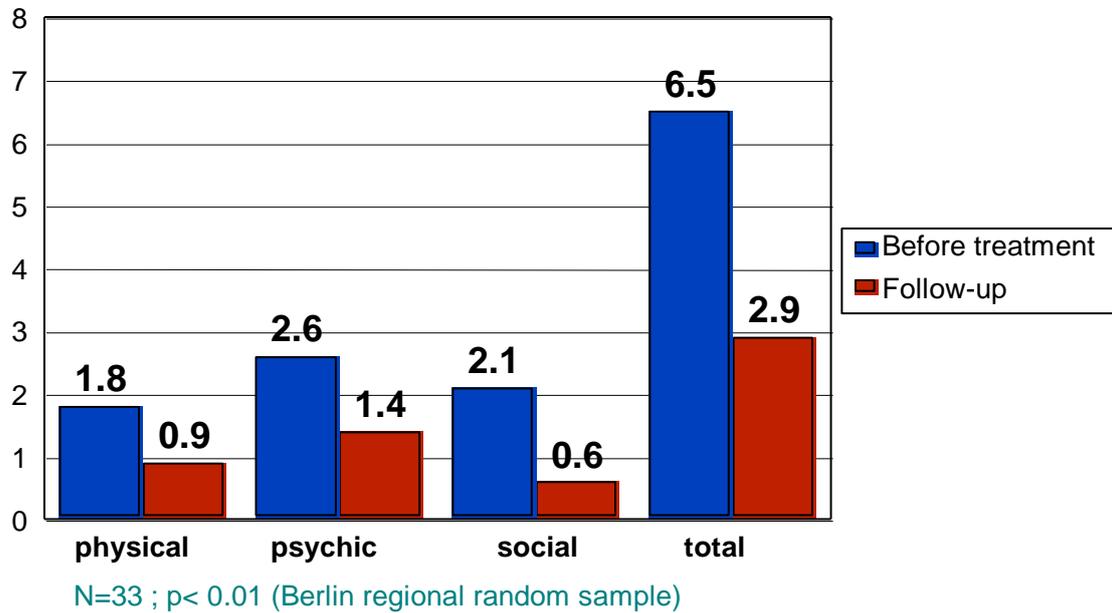
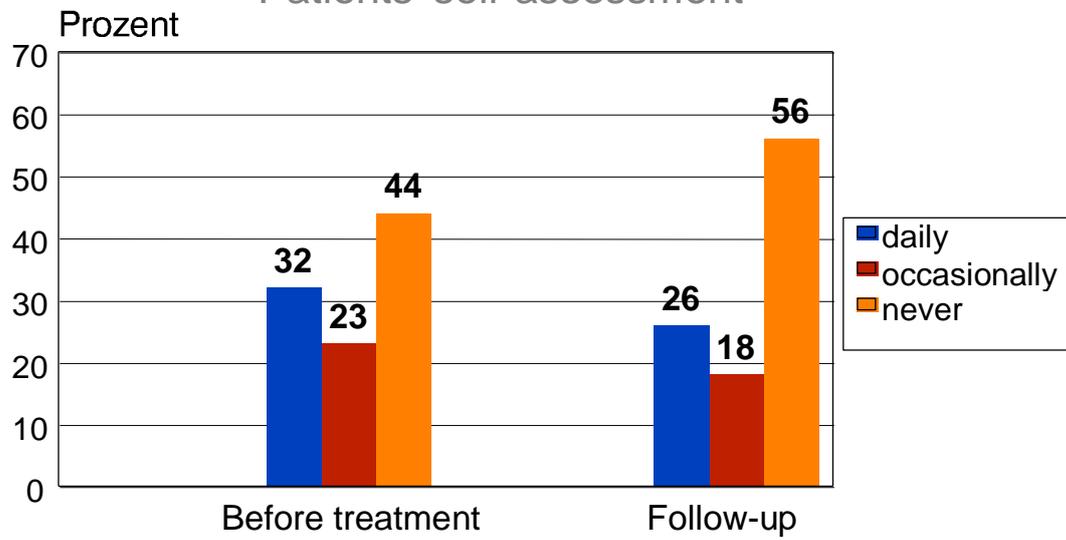


Figure 4

## Drug intake before treatment and at follow-up

Patients' self-assessment

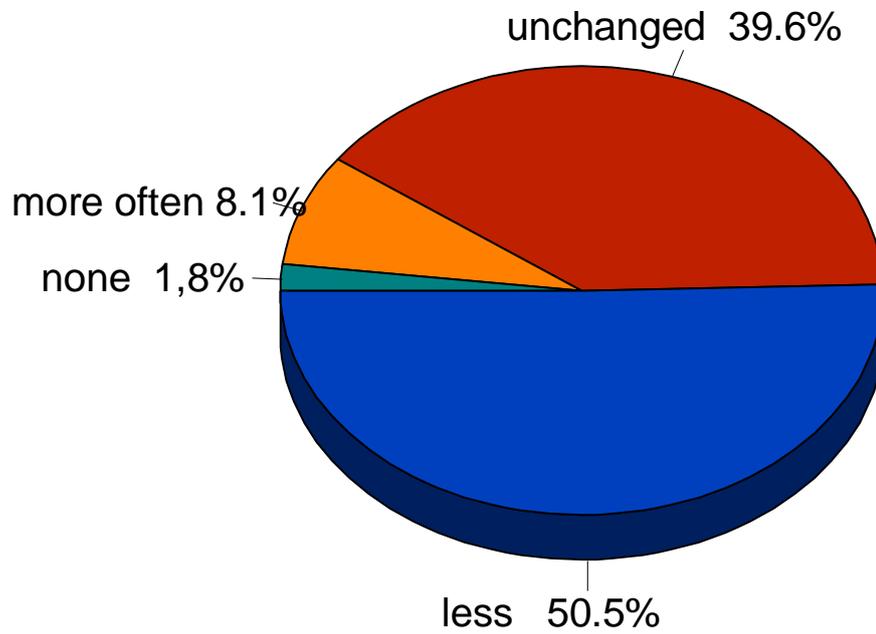


N=111

**Figure 5**

# Frequency of physician visits

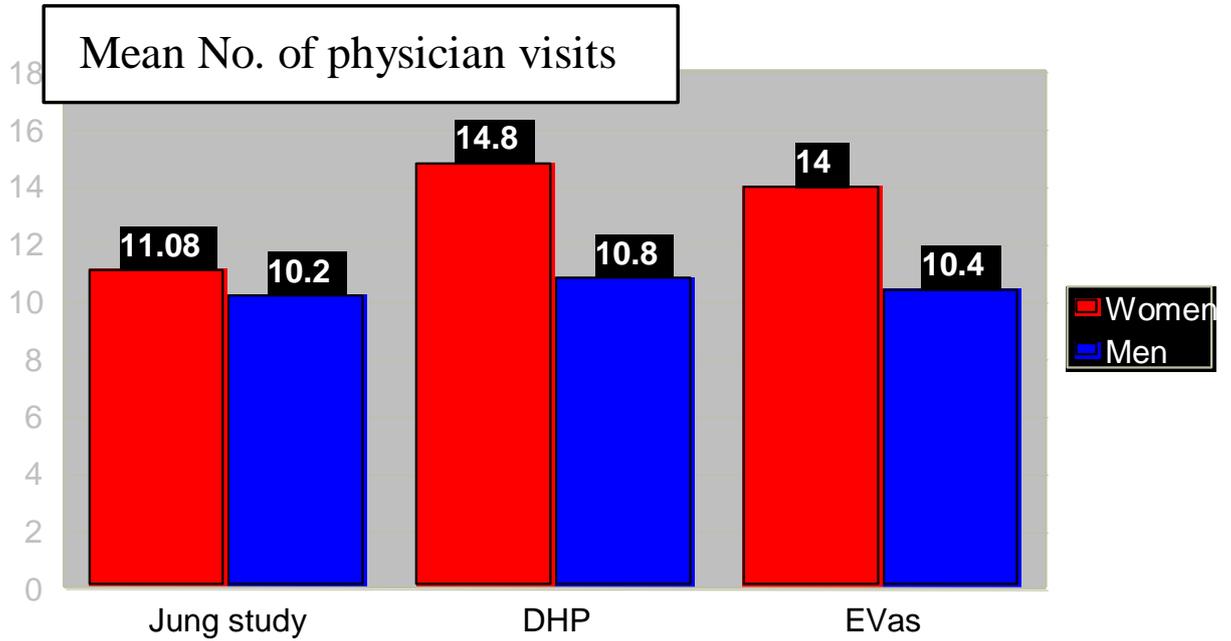
1 year before treatment and the year before follow-up



**Fig. 6**

# Number of physician visits in the last year

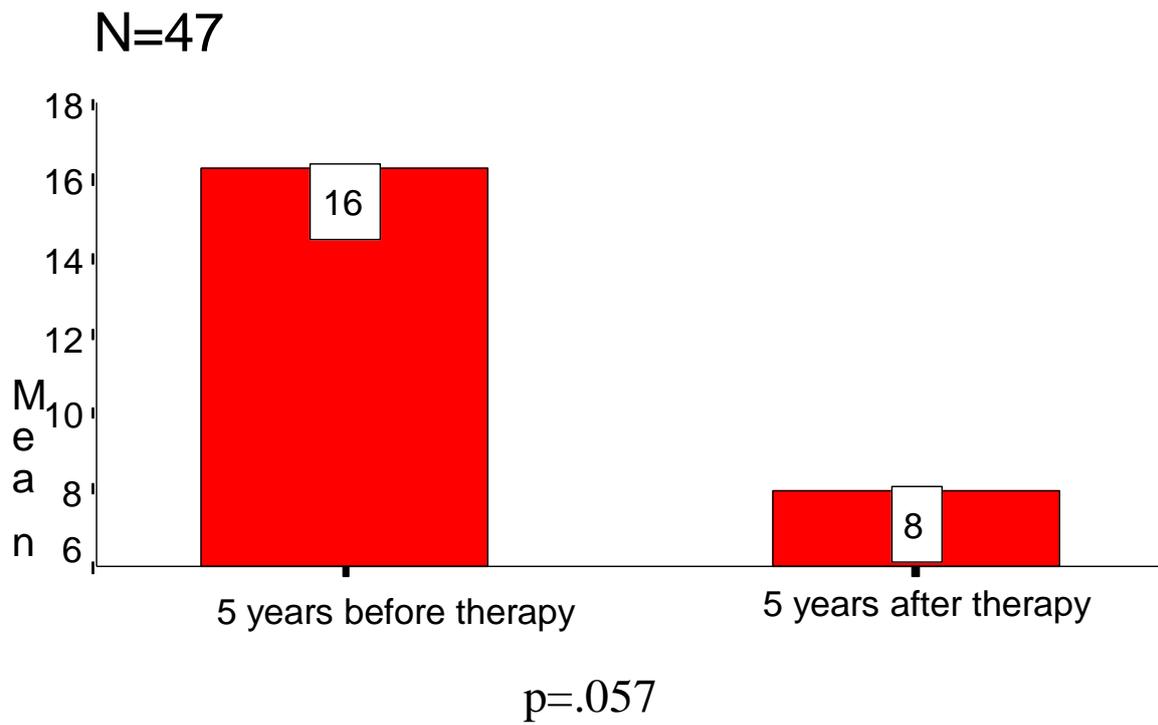
## Comparison of the DHP and EVas study



Jung study

**Fig. 7**

## Mean number of sick days 5 years before and after therapy



**Fig. 8**

## Mean number of hospital days 1 year before and 1 year after therapy

N=58

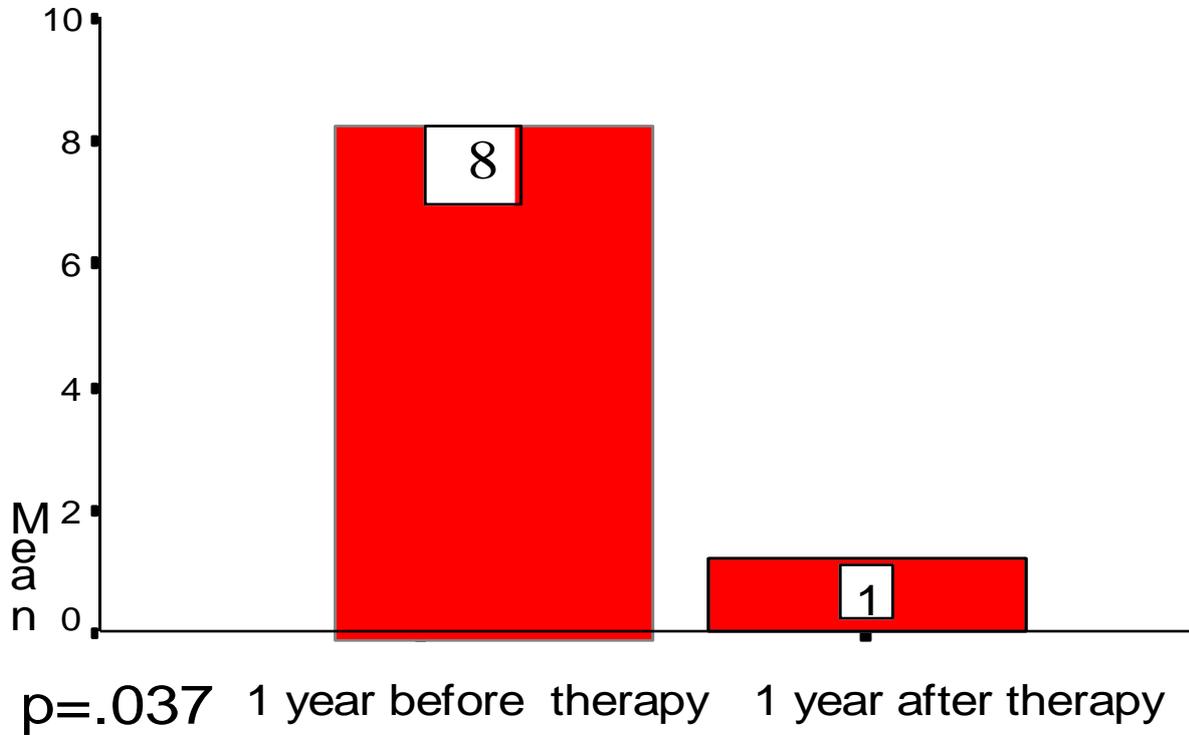


Fig. 9

**Table 11 Subjectively experienced changes in the CBE**  
 CBE change questionnaire of experience and behavior (according to Zielke 1993)

<b>Study group</b>	<b>M</b>	<b>S</b>
Project group (N=111)	200.42	24.3
Control group I <sup>i</sup>	222.22	34.5
Control group II <sup>ii</sup>	171.51	45.7

<sup>i</sup> Therapy group, N=45, Result after 9 months of treatment

<sup>ii</sup> Waiting group, N=45, Result after a 9-month waiting period for therapy

**Comparison of mean sick days 1 year before and 1 year  
after psychotherapy with the average of the  
Barmer Ersatzkasse (health insurance provider)  
Objective data of the insurer**

	Sum of sick days / 100	sick day cases/100	sick day duration (days)
1 yr before therapy	1456.1	61.4	41.6
1 yr after therapy	819.6	59.6	13.5
Average of the BEK 1985 ("pre")	1083	68	16
Average of the BEK 1989 ("post")	1229	83	15

Random sample N=47 projected for 100 patients

*Fig. 10*

**Comparison of the mean hospital days 1 year before  
and 1 year after psychotherapy with the average of the  
Barmer Ersatzkasse (health insurance provider)**

Objective data of the insurer

	Total hospital days / 100	HD cases/100	HD duration (days)
1 yr before therapy	912	19	47
1 yr. after therapy	116	4	34
Average of the BEK 1985 ("pre")	164	11	15
Average of the BEK 1989 ("post")	167	13	13

Random sample N=58 projected for 100 patients

**Fig.11**

