

Medical utilization and treatment outcome in mid- and long-term outpatient psychotherapy

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Abstract

Change in medical health care costs and hospital days in the course of mid- and long-term psychotherapy was investigated in relation to psychological and somatic outcome of the psychotherapeutic treatment. In this prospective, naturalistic longitudinal study, medical costs and number of hospital days over a 4-year period were determined for 176 participants on the basis of insurance claims files. In regard to somatic distress, psychotherapeutic treatment outcome had a significant impact on the reduction of medical costs beyond a strong influence of pretreatment medical costs. In addition, small negative correlations between age and session number with change in medical costs were found. Results are discussed in the context of the search for possible mechanisms and determinants of a medical cost offset in mid- and long-term outpatient psychotherapy.

Within the last 40 years, several studies (Chiles, Lambert, & Hatch, 1999; Mumford, Schlesinger, Glass, Patrick, & Cuerdon, 1984) have indicated that psychotherapy may lead to a reduction of medical health care costs (medical cost offset effect). The majority of these studies evaluated the offset effect in inpatient medical settings after psycho-educational treatment (Chiles et al., 1999), whereas outpatient, especially long-term, psychotherapy was rarely studied. One of the few exceptions was the pioneer study of Follette and Cummings (1967), who found no relevant offset in patients with more than eight sessions of psychotherapy. In addition, a more recent study (Sandell et al., 2001) found no substantial reductions (except for hospital days and psychiatric services) in patients in long-term, low-frequency psychotherapy and even a small increase in medical utilization for patients in long-term, high-frequency psychoanalytic treatment.

Contrarily, two retrospective German studies on long-term analytic (Jungian) psychotherapy and psychoanalysis reported a reduction in hospital days and frequency of physician consultations (Keller, Westhoff, Dilg, Rohner, & Studt, 2001; Leuzinger-Bohleber, Stuhr, Rüger, & Beutel, 2001). Furthermore, in a study of chronically ill patients, Schlesinger, Mumford, Glass, Patrick, and Sharfstein (1983)

found the highest cost offset in patients with 7 to 20 sessions.

Offset has been found to be more pronounced in patients with high pretherapy health costs (Massad, West, & Friedman, 1990). However, patients with high health service utilization immediately before therapy are not automatically chronic high utilizers. Several studies have reported an increase of medical costs in the time directly preceding the diagnosis of a mental disorder (Borus, Olendzki, Kessler, & Burns, 1985; Holder & Blose, 1992; “McDonnell Douglas Corporation’s EAP,” 1989).

Generally, the relationship between patient characteristics and cost offset has rarely been investigated. Nevertheless, two meta-analyses found cost offset to be more pronounced in older persons and children, and studies differentiating for severity of mental disorder reported a greater offset effect in patients with less severe disorders (Borus et al., 1985; Fiedler & Wight, 1989; Fraser, 1996).

Concerning mechanisms of cost offset, several possible pathways have been suggested whereby help-seeking behavior might be influenced by psychosocial factors (Fiedler & Wight, 1989; Friedman, Sobel, Myers, Caudill, & Benson, 1995; O’Donohue, Ferguson, & Cummings, 2002; Von Korff, Katon, & Lin, 1990). Most of these pathways (e.g., stress reduction, behavior change) imply that the

therapeutic effect on patients' somatic and psychological well-being eventually leads to a reduction of medical utilization. However, to our knowledge, the relationship of cost offset to the reduction of psychological or somatic distress has never been investigated.

Given the paucity of studies regarding the relation of cost offset to outcome of outpatient psychotherapy and other patient or treatment characteristics, and the important implications of such studies for reducing the cost of medical care, this study addressed the following questions: Is the change of medical utilization during the course of psychotherapy related to psychotherapy outcomes, especially to changes in somatic or psychological distress? Are there other characteristics of the patient (i.e., age, gender, pretreatment utilization, and distress) or the treatment (i.e., form of psychotherapeutic treatment and session number) that are related to cost offset?

Method

Participants

Participants were recruited from a major German health insurance company (Deutsche Krankenversicherung [DKV]). All insurees who requested information about reimbursement of outpatient psychotherapy (cognitive-behavioral therapy [CBT], psychodynamic psychotherapy [PD], or analytic psychotherapy) between fall 1998 and spring 2000 ($N = 3,804$) were informed about the planned study and asked for their permission to convey their postal address to the research group at the Center of Psychotherapy Research. Those who agreed ($N = 939$) were invited for the study and received a questionnaire (Time 1, or t_1) for themselves and another one for their therapist. At Time 2 (t_2 ; 1.5 years later), participants were asked to complete a follow-up questionnaire.

Because it was too expensive to collect utilization data from the whole sample, a random subsample of 200 patients was drawn from each form of therapy among those who entered the study before December 1999 and applied for either PD ($n = 402$) or CBT ($n = 236$). Of those 200 patients (100 for PD and 100 for CBT), 176 sent back their first questionnaire (t_1) and gave their written informed consent to participate; 144 participants returned the second questionnaire (t_2).

Of the 176 participants, 84 (47.7%) were male and 92 (52.3%). At study entry, participants ranged in age from 17 to 72 years ($M = 43.3$, $SD = 11.1$); 77 (43.8%) were married, and 123 (69.9%) had higher levels of education ("Abitur"). Main diagnoses (and International Classification of Diseases [ICD-10]

codes) were as follows: 21.9%, depressive episode (F32); 9.6%, recurrent depressive disorder (F33); 15.1%, persisting mood disorder (F34); 16.4%, phobic or other anxiety disorder (F40/41); 19.2%, stress or adjustment disorder (F43); 4.8%, somatoform disorder (F45); and 4.8%, a personality disorder (F6).

Measures

Health care expenditures. Information about total health care costs and hospital days was made available by the DKV from computerized, aggregated records of insurance claims. Because all available utilization data dating back to up to 2 years before the start of psychotherapy were included, periods of 4 half-years (HY) before the start of therapy (HY-4, HY-3, HY-2, HY-1) and 4 half-years after the start of psychotherapy (HY+1, HY+2, HY+3, HY+4) were covered. Cost data were assessed at one time (July–August 2002), and DKV consecutively (after about 5 years) deletes insurance data. Thus, the amount of missing data increases from HY-1 to HY-4 because utilization data of participants with an early study intake did not reach as far back as of those who were recruited later. Change of insurance company (entry or exit during the assessment period), variations in tariff,¹ and refunding of health insurance contribution² were other reasons for data loss. Patients' entire outpatient and inpatient medical costs, including psychotherapy costs (i.e., the costs claimed by the practitioners, not the costs for the insurance company, which vary depending on patients' tariff) were obtained. For organizational reasons, costs of medication could not be included. No further information was available about the kind of service or diagnosis associated with cost data.

Costs of psychotherapy. DKV provided information about form of psychotherapeutic treatment (CBT vs. PD), its costs (euros per session), and total number of reimbursed sessions.

Medical costs. These were determined by subtracting the costs of psychotherapeutic treatment from the total health care costs (as described previously). Information about total costs, psychotherapy costs, and medical costs in the scrutinized periods is given in Figure I; further analysis pertains only to medical costs.

Hospital days. These refer to the total number of days associated with inpatient stays during a given half-year.

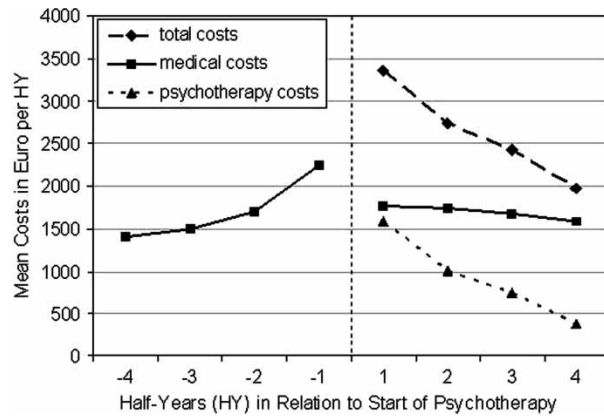


Figure 1. Mean medical, total, and psychotherapy costs before and after start of psychotherapy.

Distress. Psychological distress was assessed with the German adaptation (EB-45; Lambert, Hannöver, Nisslmüller, Richard, & Kordy, 2002) of the Outcome Questionnaire-45 (OQ-45.2; Lambert et al., 1996), a multiple-choice self-report instrument tapping into three areas of psychological functioning: (a) symptom distress, (b) interpersonal functioning, and (c) social role performance. In this study, the overall sum score of all 45 items was used.

Somatic distress was measured with the Giessener Beschwerdebogen (GBB-24; Brähler & Scheer, 1995), a self-report inventory consisting of 24 items assessing somatic complaints such as headache, back pain, heart problems, and dizziness for which a sum score was calculated.

Both the EB-45 and the GBB-24 are widely used instruments with good psychometric properties (Brähler, Schumacher, & Brähler, 2000; Haug, Puschner, & Kordy, 2004). Psychotherapy outcome was operationalized as change in psychological or somatic distress defined as the difference score on EB-45.2 and GBB-24 from t_1 to t_2 .

Mean EB-45 intake score (t_1) was 70.9 ($SD = 20.7$, $N = 173$), and from t_1 to t_2 participants improved on average by 13.8 points ($SD = 19.2$, $N = 140$). According to the reliable change index (RCI) for psychological distress, calculated on the basis of Jacobson, Follette, and Revenstorf (1984), 45.7% of the patients showed reliable improvement, 47.9% showed no reliable change, and 6.4% reliable deterioration. Mean GBB-24 intake score was 27.0 ($SD = 14.7$, $N = 174$), and average reduction from t_1 to t_2 was 7.3 points ($SD = 10.7$, $N = 137$). RCI calculation showed reliable improvement in somatic distress for 24.8%, no reliable change for 74.5%, and reliable deterioration for 0.7% of the participants.

Patient characteristics. Information on age, gender, and socioeconomic status (SES) was taken from the first patient questionnaire (t_1) and diagnostic infor-

mation (ICD-10, chapter F) from the first therapist questionnaire.

Procedures

Cost offset was operationalized as change in utilization (i.e., medical costs and hospital days) from the half-year period before (HY-1) to the fourth half-year period after the start of psychotherapy (HY+4). Thus, for both cost offset and outcome (see prior discussion), a period of 1.5 years lay between the pre- and postmeasurement.

Because the distribution of costs and hospital days remained substantially skewed even after exclusion of extreme outliers ($>15,000$ €/half-year), nonparametric procedures were applied. Difference in utilization from HY-1 to HY+4 was tested using the sign test (one-tailed) and differences by form of treatment using the Kolmogorov-Smirnov test for two samples. Spearman's correlation was used to analyze the relationship of cost offset with psychological and somatic outcome of the psychotherapeutic treatment, initial psychological and somatic distress, age, session number in the 1.5 years after start of psychotherapy, and utilization in HY-1.

Treatment

Of the 176 participants, 90 were in PD and 86 in CBT. The mean number of psychotherapy sessions during the 1.5 years after the start of treatment was 33.7 ($SD = 16.1$) and differed substantially by form of treatment (PD: $M = 38.3$, $SD = 16.6$, range = 8–127; CBT: $M = 28.9$, $SD = 14.2$, range = 5–82), two-sample $t(174) = 4.04$, $p < .001$. During the 1.5 years after intake, 83 (47.2%) participants terminated their treatment. Compared with participants treated for longer than 1.5 years, early terminators showed a higher degree of somatic distress at t_1 , two-sample $t(169) = -2.60$, $p = .010$, better psychological and somatic outcome of the psychotherapeutic treatment, EB-45: $t(138) = -2.41$, $p = .017$; GBB-24: $t(135) = -2.65$; $p = .009$, and lower session number during the 1.5 years after starting psychotherapeutic treatment, $t(174) = -3.89$, $p < .001$. No differences were found in costs and hospital days in HY-1, change in costs and hospital days from HY-1 to HY+4, initial psychological distress, and age.

Results

Medical Utilization Before and After the Start of Psychotherapy

Mean medical costs continually increased with augmenting rates before the start of psychotherapeutic

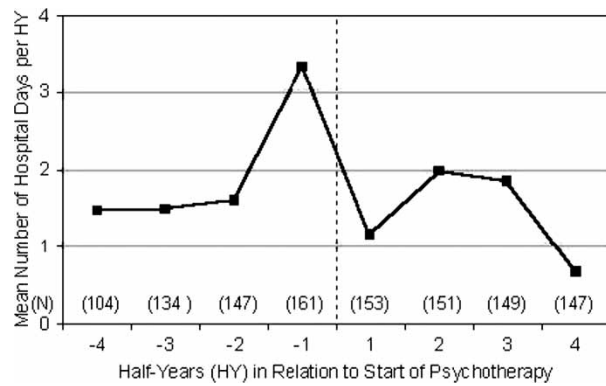


Figure 2. Mean number of hospital days before and after start of psychotherapy. (The number of participants for whom cost data were available in the scrutinized periods is given in parentheses.)

treatment and decreased thereafter (see Figure I). In the case of hospital days, this pattern was even more pronounced, with a sharp decline immediately after the start of treatment (Figure II).

When comparing costs in HY-1 and HY+4 directly, medical costs decreased by 26.3%, from 2,183.36 € ($SD = 2491.29$) in HY-1 to 1,609.44 € ($SD = 1,951.62$) in HY+4 (sign test: $Z = -1.55$, $N = 135$, $p = .121$). Hospital days showed a 78.7% decrease, from 3.33 ($SD = 10.35$) in HY-1 to 0.71 ($SD = 4.11$) in HY+4 ($Z = -2.63$, $N = 135$, $p = .009$).

Treatment Outcome, Pretreatment Costs, and Cost Offset

Although correlations between change in medical costs (CMC) and change in hospital days (CHD) with psychological outcome were not statistically significant, small positive correlations between CMC and CHD with somatic outcome were found (Table I). However, because the correlations of CMC and CHD with pretreatment utilization costs (HY-1) were considerably higher (see Table I), we carried out partial correlations controlling for HY-1.

This led to higher correlations between CMC with both outcome variables (see Table I), but only the one with somatic outcome was statistically significant. In contrast, the relationships of both outcome variables with CHD decreased to about 0.

To illustrate the combined effect of pretreatment medical costs and somatic outcome on the course of medical costs, we categorized the sample into four groups: (a) high utilizers (medical costs >2000 € in HY-1) with reliable improvement in GBB-24 from t_1 to t_2 ; (b) high utilizers without reliable improvement in GBB-24; (c) low utilizers (medical costs <2000 € in HY-1) with reliable improvement in GBB-24 from t_1 to t_2 ; and (d) low utilizer without reliable improvement in GBB-24. Means and standard deviations of mean medical costs before and after the start of psychotherapy and sample sizes for the four groups are given in Table II. Figure III shows that overall medical costs of high utilizers markedly decline (sign test: $Z = -5.056$, $N = 69$, $p < .001$), whereas those of low utilizers increase ($Z = -2.931$, $N = 66$, $p = .005$). One also gets the impression that positive somatic outcome has a favorable effect on CMC (i.e., compared with the unimproved subgroups, improved high utilizers show higher reduction and improved low utilizers show less increase). However, these subgroup differences were not statistically significant (high utilizers: Kolmogorov-Smirnov $Z = 0.842$, $N = 53$, $p = .238$; low utilizers: $Z = 0.702$, $N = 49$, $p = .354$).

Relationship of Cost Offset With Characteristics of the Patient and the Treatment

Patients' age at study intake was positively related to CHD but not to CMC. After controlling for pretreatment utilization, age was not significantly related to CHD any more but showed a small negative correlation with CMC. Younger patients showed larger cost reduction (Table III).

Table I. Correlations^a (Spearman Rho) of Treatment Outcome and Pretreatment Costs With Change in Medical Costs and Hospital Days From HY-1 to HY+4.

Variable	Medical costs Δ				Hospital days Δ				<i>N</i>
	Bivariate		Partial ^b		Bivariate		Partial ^c		
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	
Utilization in HY-1	.70	.000	—	—	.85	.000	—	—	135
Outcome (psy) ^d	.05	.305	.15	.069	.01	.464	.05	.308	104
Outcome (som) ^c	.17	.041	.30	.001	.19	.028	.03	.369	102

^aOne-tailed.

^bControlled for medical costs in HY-1.

^cControlled for hospital days in HY-1.

^dChange in psychological distress from t_1 to t_2 .

^eChange in somatic distress from t_1 to t_2 .

Table II. Medical Costs Before and After Start of Psychotherapy in High Versus Low Utilizers in HY-1 With Reliable Versus No Reliable Improvement in GBB-24 From t_1 to t_2 .

Variable	HY-4	HY-3	HY-2	HY-1	HY+1	HY+2	HY+3	HY+4
Low utilizer, no reliable improvement								
<i>M</i>	1,303.78	1,300.16	1,317.04	764.19	1,493.43	1,220.26	1,444.05	2,016.93
<i>SD</i>	1,252.72	1,422.69	1,468.92	547.15	1,392.29	1,093.70	1,850.07	2,410.64
<i>n</i>	36	46	49	57	50	51	51	48
Low utilizer, reliable improvement								
<i>M</i>	684.13	790.87	1,561.37	762.80	859.77	789.63	970.54	1,038.63
<i>SD</i>	989.80	898.70	2,012.93	575.17	608.95	996.54	973.70	1,227.70
<i>n</i>	14	19	20	23	18	18	18	18
High utilizer, no reliable improvement								
<i>M</i>	1,278.33	1,948.96	2,092.74	4,509.94	2,871.56	2,600.23	2,198.84	1,313.61
<i>SD</i>	1,104.90	2,071.21	2,389.58	3,085.72	2,629.79	2,729.90	2,188.60	1,013.34
<i>n</i>	22	27	31	33	28	28	27	29
High utilizer, reliable improvement								
<i>M</i>	2,031.11	3,499.43	2,133.10	4,934.91	3,153.64	2,398.35	1,716.98	759.15
<i>SD</i>	2,324.63	4,578.28	2,328.88	2,207.08	3,072.37	3,069.88	1,840.62	997.90
<i>n</i>	5	8	9	9	8	8	8	7

Note. Low utilizer: medical costs in HY-1 ≤ 2000 €; high utilizer: medical costs in HY-1 > 2000 €.

Somatic distress at study intake showed a small positive correlation with CMC but not with CHD. No significant correlations between initial psychological distress and CMC or CHD were found. After controlling for pretreatment utilization (HY-1), no significant correlations of somatic or psychological distress at t_1 with CMC or CHD remained (Table II).

Although neither CMC nor CHD differed significantly by form of psychotherapeutic treatment (CMC: Kolmogorov-Smirnov $Z = 0.82$, $p = .500$; CHD: $Z = 0.49$, $N = 135$, $p = .970$, two-tailed), session number showed a small negative correlation with CMC after controlling for pretreatment medical costs (i.e., cost reduction was slightly more pronounced in patients with fewer sessions during 1.5 years after start of treatment).

Discussion

Cost offset after two forms of subsidized outpatient psychotherapy (CBT and PD treatment) was found in

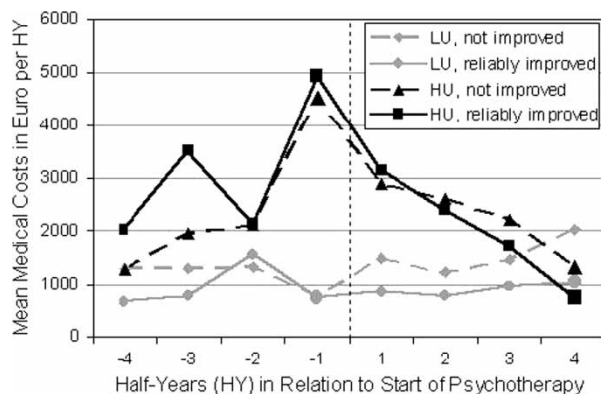


Figure 3. Medical costs before and after start of psychotherapy in patients with high (HU) vs. low utilization (LU) in HY-1, which had reliable improvement versus no improvement in GBB-24.

this study both for medical costs (excluding costs for psychotherapy) and hospital days; the latter showed an impressive (and statistically significant) reduction of 78.7%. Even though the reduction of medical costs did not achieve statistical significance, it is quite impressive in monetary terms: Before the start of treatment, participants' half-yearly medical costs were 2,183 €, whereas 2 years after the start of treatment these were reduced by 26.3% (574 €). However, there were impressive between-subject variations of medical costs as well: The reduction was mainly caused by the high utilizers (see Figure III).

The most interesting findings of this study concern the relationship between psychotherapy outcome and cost offset. Although improvement of somatic and psychological health has been repeatedly suggested as a causal factor for reduced utilization of medical services (Fiedler & Wight, 1989; Friedman et al., 1995; O'Donohue et al., 2002; Von Korff et al., 1990), up to now this hypothesis has not been investigated in the context of psychotherapy.

We found that improvement of somatic well-being was slightly related to a reduction in medical costs. This finding remained even after controlling for the influence of pretreatment health care utilization. However, no such relation was found for improvement of psychological well-being. In this context, it has to be noted that a relatively large part of the sample did not show reliable symptom improvement, especially in regard to somatic complaints.

Several other patient and treatment characteristics were analyzed in relation to a reduction of medical utilization. After controlling for the influence of utilization in HY-1, we found a small negative correlation with age; the reduction was higher in younger patients. This result is in contrast to previous

Table III. Correlations^a (Spearman Rho) of Patient and Treatment Characteristics With Change in Medical Costs and Hospital Days From HY-1 to HY+4.

Variable	Medical costs Δ				Hospital days Δ				<i>N</i>
	Bivariate		Partial ^b		Bivariate		Partial ^c		
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	
Psychological distress ^d	−.03	.383	−.11	.108	.01	.446	.01	.454	134
Somatic distress ^d	.24	.002	.03	.349	.11	.098	.00	.488	132
Session no. ^e	−.08	.188	−.21	.007	.01	.458	.03	.367	135
Age	.01	.442	−.23	.003	.18	.020	−.05	.295	135

^aOne-tailed.^bControlled for medical costs in HY-1.^cControlled for hospital days in HY-1.^dEB-45.2/GBB-24 score at t_1 .^eSession number during the 1.5 years after start of psychotherapy.

research (Chiles et al., 1999; Mumford et al., 1984). However, our study included neither children nor persons older than 65, who had shown a more prominent offset effect in the meta-analysis of Chiles et al. (1999). Both initial somatic distress and psychological distress were not related to change of health service utilization after controlling for pretreatment utilization. This finding is in contrast with prior studies reporting that cost offset mainly occurs in patients with less severe psychological distress (Borus et al., 1985; Fiedler & Wight, 1989; Fraser, 1996).

Furthermore, no difference in reduction of care utilization was found between the two forms of psychotherapy. Only number of sessions showed a small negative correlation with medical cost reduction. This is, patients with fewer sessions during 1.5 years after start of treatment displayed a somewhat larger cost reduction. However, in addition to the rather small size of this potential effect, one has to take into account that a smaller number of sessions was related to termination of treatment within 1.5 years, which also was related to better treatment outcome. Nevertheless, this finding relates to that of Follette and Cummings (1967), who found greater cost offset in patients with fewer sessions. Similarly, Sandell et al. (2001) found cost offset for lower dose psychotherapeutic treatments but not for psychoanalytic treatments with more sessions.

Overall, pretreatment health service utilization showed the strongest relationship with cost offset. Graphical exploration of Figure III revealed that a substantial reduction of medical costs only occurred in high utilizers. These patients showed a peak in utilization directly before the start of psychotherapy and also showed the highest costs earlier. They dropped back to their initial level of utilization quite rapidly after beginning of psychotherapy. This effect is not just due to regression to the mean, because

measurement error does not play an essential role in the assessment of medical costs.

A closer look at these subgroups suggests that only high utilizers who achieved a reliable improvement of their somatic well-being showed a reduction below their initial level (HY-4). The picture for low utilizers was similar: Although nonimprovers showed a slight increase of cost after a decline at the beginning of psychotherapy, the utilization costs remained stable and low after the decline at the beginning of psychotherapy. However, subgroup analyses taking into account both service utilization and somatic outcome were only obvious on visual inspection but did not achieve statistical significance.

The major limitation of the current study is the lack of information about help-seeking behavior. It remains unclear what kind of health services were no longer used after the start of psychotherapy because we do not have any information about the kind of services and the reasons for their use before, during, and after treatment. The observation of a control group of persons without psychotherapy could shed more light on the causal role of psychotherapy for health service utilization. Furthermore, it should be mentioned that data on costs of medication and indirect costs such as loss of productivity or substitution of income loss because of sick leave were not included.

However, this study is one of only a few that have examined cost offset after mid- and long-term outpatient psychotherapy. To our knowledge, it is the first to analyze the association of cost offset and mental health treatment outcome, and it is the only European study besides Sandell et al. (2001) in which direct health care costs, and not only hospital or disability days, were obtained from objective data sources (i.e., insurance claims).

Health care of high quality under narrow cost constraints is a challenge for health politics worldwide.

There is strong competition between providers of various health services. A possible cost offset of psychotherapy would not be a disadvantage for psychotherapy in stabilizing its position. However, although economics plays an essential role for service provision, it should not be forgotten that mental health is a value by itself. Generally, medical cost offset is only an incidental effect of psychotherapy (Cummings, 1999; Mumford & Schlesinger, 1987), especially for patients who suffer from serious psychological distress.

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Notes

- ¹ Change to a partial coverage (e.g., only for hospital stays), which means that all other utilization data were no longer available.
- ² As an incentive to reduce unnecessary service use, DKV, like other German private health insurance companies, provides this option for insureds with no health care claims during a given year. Thus, the actual utilization in this period is unknown, although it is probably low.

References

- Baltensperger, C., & Grawe, K. (2001). Psychotherapie unter gesundheitsökonomischem Aspekt [Psychotherapy under health-economic aspects]. *Zeitschrift für klinische Psychologie und Psychotherapie*, 30, 10–21.
- Borus, J., Olendzki, M., Kessler, L., & Burns, B. (1985). The “offset effect” of mental health treatment on ambulatory medical care utilization and charges. *Archives of General Psychiatry*, 42, 573–580.
- Brähler, E., & Scheer, J. W. (1995). *Der Gießener Beschwerdebogen (GBB) (Testmappe mit 2., ergänzter und revidierter Auflage des Handbuchs)* [The Giessen-Somatic Complaints List (GBB) with the 2nd and revised edition of the manual]. Bern, Switzerland: Huber.
- Brähler, E., Schumacher, J., & Brähler, C. (2000). Erste gesamtdeutsche Normierung der Kurzform des Gießener Beschwerdebogens GBB-24 [First standardisation of the short version of the Giessen-Subjective Complaints List GBB-24 in re-unified Germany]. *Psychotherapie Psychosomatik Medizinische Psychologie*, 50, 14–21.
- Chiles, J. A., Lambert, M. J., & Hatch, A. L. (1999). The impact of psychological interventions on medical cost offset: A meta-analytic review. *Clinical Psychology: Science & Practice*, 6, 204–220.
- Cummings, N. A. (1999). Medical cost offset, meta-analysis, and implications for future research and practice. *Clinical Psychology: Science & Practice*, 6, 221–224.
- Fiedler, J. L., & Wight, J. B. (1989). *The medical offset effect and public health policy: Mental health industry in transition*. New York: Praeger.
- Follette, W., & Cummings, N. (1967). Psychiatric services and medical utilization in prepaid health plan setting. *Medical Care*, 5, 25–35.
- Fraser, J. S. (1996). All that glitters is not always gold: Medical offset effects and managed behavioral health care. *Professional Psychology: Research and Practice*, 27, 335–344.
- Friedman, R., Sobel, D., Myers, P., Caudill, M., & Benson, H. (1995). Behavioral medicine, clinical health psychology, and cost offset. *Health Psychology*, 14, 509–518.
- Haug, S., Puschner, B., & Kordy, H. (2004). Veränderungsmessung in der Psychotherapie mit dem Ergebnisfragebogen (EB-45): Zur Validität und Sensitivität der deutschen Übersetzung des Outcome Questionnaire (OQ-45.2) [Assessment of change in psychotherapy with the EB-45: Validity and sensitivity of the German translation of the OQ-45.2]. *Zeitschrift für Differentielle und Diagnostische Psychologie*, XX, xxx–xxx.
- Holder, H. D., & Blose, J. O. (1992). The reduction of health care costs associated with alcoholism treatment: A 14-year longitudinal study. *Journal of Studies on Alcohol*, 53, 293–302.
- Jacobson, N. S., Follette, W. C., & Revenstorf, D. (1984). Psychotherapy outcome research: Methods for reporting variability and evaluating clinical significance. *Behavior Therapy*, 15, 336–352.
- Keller, W., Westhoff, G., Dilg, R., Rohner, R., & Studt, H. H. (2001). Wirksamkeit und Inanspruchnahme von Krankenkassenleistungen bei Langzeitanalysen: Ergebnisse einer empirischen Follow-up-Studie zur Effektivität der (Jungianischen) Psychoanalyse und Psychotherapie [Effectiveness and utilization of health care services in long-term analyses: Results of an empirical follow-up study on the effectiveness of (Jungian) psychoanalysis and psychotherapy]. *Analytische Psychologie*, 32, 202–229.
- Lambert, M. J., Burlingame, G. M., Umphress, V., Hansen, N. B., Vermeersch, D. A., Clouse, G. C., & Yanchar, S. C. (1996). The reliability and validity of the Outcome Questionnaire. *Clinical Psychology and Psychotherapy*, 3, 249–258.
- Lambert, M. J., Hannöver, W., Nisslmüller, K., Richard, M., & Kordy, H. (2002). Fragebogen zum Ergebnis von Psychotherapie: Zur Reliabilität und Validität der deutschen Übersetzung des Outcome Questionnaire 45.2 (OQ-45.2) [On the reliability and validity of the German Version of the Outcome Questionnaire 45.2]. *Zeitschrift für klinische Psychologie und Psychotherapie*, 31, 40–47.
- Leuzinger-Bohleber, M., Stühr, U., Rüger, B., & Beutel, M. E. (2001). Langzeitwirkungen von Psychoanalysen und Psychotherapien: Eine multiperspektivische, repräsentative Kataneseestudie [Long-term effects of psychoanalyses and psychotherapies: A multiperspective, representative catamnestic study]. *Psyche*, 55, 193–276.
- Massad, P., West, A., & Friedman, M. (1990). Relationship between utilization of mental health and medical services in a VA hospital. *American Journal of Psychiatry*, 147, 465–469.
- McDonnell Douglas Corporation's EAP produces hard data. (1989, August). *The Almacan*, pp. 18–26.
- Mumford, E., & Schlesinger, H. J. (1987). Assessing consumer benefit. Cost offset as an incidental effect of psychotherapy. *General Hospital Psychiatry*, 9, 360–363.
- Mumford, E., Schlesinger, H., Glass, G., Patrick, C., & Cuedon, T. (1984). A new look at evidence about reduced cost of medical utilization following mental health treatment. *American Journal of Psychiatry*, 141, 1145–1158.

- O'Donohue, W. T., Ferguson, K. E., & Cummings, N. A. (2002). Introduction: Reflections on the medical cost offset effect. In N. A. Cummings, W. T. O'Donohue & K. E. Ferguson (Eds), *The impact of medical cost offset on practice and research: Making it work for you* (pp. 11–25). Reno, NV: Context Press.
- Sandell, R., Blomberg, J., Lazar, A., Carlsson, J., Broberg, J., & Schubert, J. (2001). Unterschiedliche Langzeitergebnisse von Psychoanalysen und Langzeitpsychotherapien. Aus der Forschung des Stockholmer Psychoanalyse- und Psychotherapieprojekts [Different long-term results of psychoanalyses and long-term psychotherapies. From the research of the Stockholm Psychoanalysis and Psychotherapy Project]. *Psyche*, 55, 277–310.
- Schlesinger, H. J., Mumford, E., Glass, G. V., Patrick, C., & Sharfstein, S. (1983). Mental health treatment and medical care utilization in a fee-for-service system: Outpatient mental health treatment following the onset of a chronic disease. *American Journal of Public Health*, 73, 422–429.
- Von Korff, M., Katon, W., & Lin, E. (1990). Psychological distress, physical symptoms, utilization and the cost-offset effect. In N. Sartorius, D. Goldberg, G. Girolamo, J. Costa e Silva, Y. Lecrubier & U. Wittchen (Eds), *Psychological disorders in general medical settings* (pp. 159–169). Toronto: Hogrefe & Huber.

Zusammenfassung

In dieser Arbeit wurde untersucht, wie sich Gesundheitskosten und Krankenhaustage unter Psychotherapie mittlerer und langer Dauer verändern und in welcher Relation dies zu den Ergebnissen der psychotherapeutischen Behandlung in Bezug auf das psychische und körperliche Befinden steht. Für 176 Teilnehmer einer prospektiven, naturalistischen Verlaufsstudie wurden dazu die Gesundheitskosten und die Anzahl der Krankenhaustage über eine Zeitspanne von vier Jahren aus den Akten einer Krankenversicherung erfasst. Es zeigte sich auch nach Kontrolle des starken Effekts der Gesundheitskosten vor der Psychotherapie ein bedeutsamer positiver Zusammenhang zwischen der Veränderung körperlicher Beschwerden und der Änderung der Gesundheitskosten im Verlauf der psychotherapeutischen Behandlung. Weiter fanden sich niedrige negative Korrelationen zwischen Alter sowie Anzahl der Therapiesitzungen und der Änderung der Gesundheitskosten. Die Ergebnisse werden in Beziehung gesetzt zu Überlegungen über potentielle Determinanten eines Kostenvorteils von Psychotherapie mittlerer und langer Dauer.

Résumé

Le changement des coûts pour soins médicaux et des journées d'hospitalisation au cours de psychothérapies de durée moyenne et longue était investigué en relation avec le résultat du traitement psychothérapeutique sur le plan psychologique et somatique. Dans cette étude longitudinale prospective et naturaliste, les frais médicaux et le nombre de journées en hôpital étaient déterminés pour 176 participants et pendant 4 ans sur la base des fichiers de demandes des assurances. Par rapport au trouble somatique, le résultat du traitement psychothérapeutique avait un impact significatif sur la réduction des frais médicaux, allant au delà de l'influence forte des frais médicaux avant le traitement. En plus, de faibles corrélations négatives ont

été trouvées entre âge et nombre des séances, d'une part, et un changement des frais médicaux. Les résultats sont discutés dans le contexte de la recherche de possibles mécanismes et déterminantes d'une réduction des coûts médicaux par la psychothérapie ambulatoire de moyenne et longue durée.

Resumen

Se investigó la relación entre el cambio en los costos y días de internación del sistema de cuidado de la salud en el curso de psicoterapias de mediano y largo plazo y el resultado psicológico y somático del tratamiento psicoterapéutico. En este prospectivo estudio naturalístico longitudinal, se determinaron los costos médicos y el número de días de internación durante un periodo de cuatro años para ciento setenta y seis participantes obtenidos de una base de reclamos de seguro. Con respecto al distrés somático, el resultado del tratamiento psicoterapéutico tuvo un impacto significativo sobre la reducción de los costos médicos, aparte de la gran influencia de los costos médicos del pretratamiento. Además, se encontraron pequeñas correlaciones negativas entre la edad y el número de sesiones, y los cambios en los costos médicos. Se discuten los resultados en el contexto de la investigación respecto de posibles mecanismos y determinantes del balance del costo médico en la psicoterapia de mediano y largo plazo de pacientes ambulatorioa.

Resumo

Il cambiamento nei costi delle cure sanitarie e nei giorni di ospedalizzazione durante psicoterapie a medio e lungo termine è stato indagato in relazione all'esito somatico e psicologico del trattamento psicoterapeutico. In questa prospettiva, uno studio longitudinale naturalistico, sono stati determinati, sulla base di documenti richiesti dall'assicurazione, i costi medici ed il numero di giorni di ospedalizzazione per 176 partecipanti in un periodo di 4 anni. Riguardo alla preoccupazione somatica, l'esito del trattamento psicoterapeutico ha avuto un impatto significativo sulla riduzione dei costi medici al di là di una forte influenza dei costi medici pre-trattamento. Inoltre sono state trovate piccole correlazioni negative tra età e numero di sedute con cambiamento nei costi medici. I risultati vengono discussi nell'ambito della ricerca di possibili meccanismi e determinanti di un costo medico compensato nella psicoterapia ambulatoriale a medio e lungo termine.

Sommario

A mudança dos custos dos cuidados de saúde e de internamento ao longo da terapia de médio e longo termo foi estudada em relação aos resultados psicológicos e somáticos da psicoterapia. Neste estudo prospectivo, naturalista e longitudinal, foram determinados, com base nos ficheiros das companhias de seguros, os custos médicos e os dias de hospitalização de um período superior a quatro anos para 176 participantes. Relativamente, à perturbação somática os resultados do tratamento psicoterapêutico tiveram um impacto significativo na redução

dos custos médicos para além de uma forte influência nos custos médicos pré-tratamento. Além disso, foram encontradas pequenas correlações negativas entre a idade, número de sessões e mudança nos custos médicos. Os resultados são discutidos no contexto da busca de possíveis mecanismos e determinantes da diminuição dos custos médicos em psicoterapia de médio e longo termo.

摘要

本研究旨在以自然情境式的縱貫研究探討心理治療中期與長期患者，其醫療健康保健的花費和住院天數與心理治療心理和生理療效之間的關係。研究係針對 176 位研究參與者四年期間的醫療費用和住院天數，透過有申請保險給付的資料而進行研究。就身體病痛而言，心理治療治療效果除了對於治療前的醫療費用有強烈影響力之外，亦可以顯著降低醫療費用。此外，在年齡與治療次數和醫療費用的改變之間有微量的負相關。本研究提出應找出針對長期或中期非住院心理治療決定醫療費用的可能機轉或決定因素。