Regular Article

Psychotherapy and Psychosomatics

Psychother Psychosom 2007;76:339–346
DOI: 10.1159/000107561

Short-Term Psychotherapeutic Interventions for Somatizing Patients in the General Hospital: A Randomized Controlled Study

Axel Schweickhardt Astrid Larisch Michael Wirsching Kurt Fritzsche

Department of Psychosomatic Medicine and Psychotherapy, University Hospital Freiburg, Freiburg, Germany

Key Words
Somatization · Psychotherapy, general hospitals · Reattribution model · Randomized controlled study

Abstract
Background: Treatment acceptance and motivation for psychotherapy of somatizing patients in the general hospital is low. ***Methods:*** Patients (n = 91) fulfilling the criteria for somatization were randomized into an intervention group (n = 49) and a control group (n = 42). The patients in the intervention group attended 5 psychotherapeutic sessions based on the modified reattribution model. The patients in the control group received psychoeducational reading material. The primary outcomes were motivation for psychotherapy and contacting a psychotherapist after discharge. The secondary outcomes consisted of changes regarding somatoform symptoms, emotional distress and quality of life. ***Results:*** Patients from the intervention group were significantly more motivated for psychotherapy (p = 0.001) than patients from the control group. At the 3-month follow-up, 42% of the patients from the intervention group had contacted a psychotherapist, compared to 20% of the patients from the control group (p = 0.045). At the 6-month follow-up, however, the ratio of patients having contacted a psychotherapist had changed to 44 and 29%, respectively, and was no longer significant. The intensity of somatoform symptoms and the anxiety symptoms decreased and mental functioning improved significantly over time for patients from both groups. ***Conclusions:*** Short-term psychotherapeutic interventions for somatizing patients in general hospitals have a moderately better effect on motivation for psychotherapy and contacting a psychotherapist than psychoeducational reading material alone. Future studies should attempt to prove the effectiveness of short-term psychoeducational interventions for somatizing patients in the general hospital.

Introduction

Previous studies have shown that about 50% of all medical inpatients fulfill criteria for medically unexplained symptoms [1] and that 10–20% have a somatoform disorder [2–4]. More than a third of all patients with somatoform disorders who participated in the Catchment Area Study [5] reported having been hospitalized during the previous year, compared to only 12% of all patients without any somatoform disorders. Since patients with somatizing behavior by definition have no psychological attribution to the symptoms, treatment acceptance and motivation for psychotherapy is low and the early treatment dropout rates are up to 55% [6, 7]. However, high acceptance of psychotherapy and more psychotherapeutic expectations of treatment have a positive influence on the long-term treatment outcome [8]. This is why psychotherapeutic interventions during the patient's

KARGER

Fax +41 61 306 12 34
E-Mail karger@karger.ch
www.karger.com

0033–3190/07/0766–0339$23.50/0

Accessible online at:
www.karger.com/pps

Kurt Fritzsche, MD
Department of Psychosomatic Medicine and Psychotherapy
University Hospital of Freiburg, Hauptstr. 8, DE–79104 Freiburg (Germany)
Tel. +49 761 270 6871, Fax +49 761 270 6885
E-Mail kurt.fritzsche@uniklinik-freiburg.de

hospitalization become the key to success. If diagnostic and psychotherapeutic interventions are part of the somatic therapy, they are much more likely to be accepted [9].

The primary goal of these interventions for somatizing inpatients should be to increase their motivation for psychotherapy. The following factors are considered relevant to increased motivation [10, 11]: severe suffering, hope for improvement or complete recovery, low illness benefit, desire for self-reflection, readiness to change perception and behavior, interest in information about the therapy, independent therapy efforts, positive overall attitude regarding psychotherapy and little concern regarding possible social consequences (e.g. stigmatization). The main goal of our study was to find out if the factors mentioned above can be positively influenced by psychotherapeutic interventions helping the patient better understand his physical symptoms by taking the symptoms seriously, providing him with additional information regarding the psychophysiological interactions and discussing psychosocial stress [12–15].

Table 1. Schedule for psychotherapeutic sessions

First session
Extensive discussion of the complaints
Somatic and psychosocial medical history
Subjective health belief
Disclosure and feedback about the results of the tests
Discussion of frustrations and anger
Second session
Development of a mutual understanding of the illness:
• Explanation of psychophysiological interaction
• Symptom diary
• Exercises to increase body perception
• Exercises to recognize and differentiate emotions
Third session
Application to the patient's current life situation:
• Symptom diary
• Stress model
• Discussion of psychosocial conflicts
Fourth session
Family or couple therapy
Alternatively, in-depth review of topics previously covered
Fifth session
Closing: emphasis on resources
Motivation and referral to outpatient or inpatient professional psychotherapy

Hypotheses

1 After short-term psychotherapeutic interventions, patients have a higher motivation for psychotherapy and a higher percentage of them have a first contact with a psychotherapist after discharge than patients of the control group.
2 After short-term psychotherapeutic interventions, patients show more of a decrease in somatoform symptoms and emotional distress and more improvement in quality of life than patients of the control group.

Methods

Patient Eligibility Criteria

Using a broader definition of somatization [16], patients were screened with the Screening for Somatoform Symptoms (SOMS-2) [17] and the General Health Questionnaire (GHQ-12) [18]. The screening criteria for SOMS were 4 somatoform symptoms for men and 6 for women [19], and the cutoff for the GHQ was ≥ 2. Patients were consecutively included in the study if they tested positive for both questionnaires and if the attending hospital physician was not able to provide a clear physical explanation for the complaints.

Other inclusion criteria weree: persistent symptoms for at least 3 months, 5 or more annual doctor's visits or 2 hospitalizations during the past year as a result of the respective symptoms, 18–65 years of age and availability for at least 6 months. Criteria for exclusion were severe mental disorders, e.g. major depression with suicidal ideation, eating disorders, alcohol or substance abuse, an organic disease deemed responsible for most of the symptoms, psychotherapy – ongoing or completed during the past 3 years, pregnancy and low intellectual capacity. In addition, patients underwent a standardized diagnostic interview, the DIA-X [20, 21], a computerized version of the Composite International Diagnostic Interview [20].

Setting and Location

Data were collected in the Departments of Neurology (n = 51), Internal Medicine (gastroenterology, n = 23; rheumatology, n = 8; nephrology, n = 3; cardiology, n = 1), General Medicine (n = 1), ENT (n = 2) and Orthopedics (n = 2).

A research assistant visited the participating units 3 times per week and systematically examined all new patients. Patients with unexplained physical symptoms then underwent a screening process including the above-mentioned inclusion and exclusion criteria.

Interventions

Our treatment program is predominantly based on the reattribution model [12, 14], the World Health Organization training package for primary care physicians [22], cognitive behavioral techniques [23] and a psychodynamic approach [24–26]. A shortened version of this therapy approach has already been successfully implemented and evaluated by primary care physicians [27, 28]. Table 1 addresses the topics during the 5 psychotherapeutic

sessions. For more information, please refer to the manual regarding therapy goals, basic concepts and operationalization of the individual therapy steps during the 5 sessions, each lasting about 50 min [29]. The patients of the control group received psychoeducational reading material consisting of 9 pages describing the etiology, course and treatment recommendation of somatoform symptoms.

Therapy Adherence

All therapists are licensed psychotherapists (3 physicians and 2 psychologists) and have all been working with somatizing patients for several years. They received special training on how to use the manual. All therapeutic sessions were audio-taped and randomly reviewed by a trained research assistant. Excerpts of recorded sessions were compared and discussed in regular supervision sessions. This guaranteed fidelity of and adherence to the manual and uniformity of procedure. After each session, the therapist filled in therapy protocols listing the most relevant interventions. The following therapeutic interventions were used most frequently: subjective health belief (98%), verbalization of anger, frustration or disappointment (96%), empathy for physical complaints (93%), extensive discussion of the symptoms and experiences with the health care system (91%), somatic and psychosocial medical history (91%), disclosure and feedback about the results of the tests (82%), development of a mutual understanding of the illness by explanation of psychophysiological interactions (82%), images to foster perception and differentiation of emotions (56%), discussion of psychosocial conflicts (51%), symptom diary (44%) and relaxation exercises (36%).

Outcome Measures

Primary outcome measures: motivation for psychotherapy was evaluated with the Psychotherapy Motivation Questionnaire (FPTM) [11]. The FPTM consists of 26 items and 6 subscales: suffering emotional distress, hope for amelioration, denial of need for help, knowledge about psychotherapy, initiative, symptom-related benefits and a total score for overall motivation for psychotherapy (mean of the 6 subscales). Cronbach's α for all scales was between 0.74 and 0.80. The primary outcome measure was the total score. The dichotomous question 'Have you contacted a psychotherapist since your discharge?' was addressed in questionnaires at the 3- and 6-month follow-ups. More detailed categories as 'on a waiting list', 'contacted health insurance for preapproval for psychotherapy', 'started psychotherapy' and 'discontinued psychotherapy' were addressed to the patient who answered 'yes'.

The secondary outcome measures looked at changes regarding the number and intensity of somatoform symptoms (SOMS-7) [17], changes regarding emotional distress [Hospital Anxiety and Depression Scale (HADS), GHQ] [18, 30, 31] and quality of life (SF-12) [32, 33].

Sample Size

Due to the lack of studies regarding the effect of consultation-liaison services for somatizing patients, it was not possible to precisely determine the effect size. We had established a time frame of 2 years for the recruitment of patients and had calculated a sample size of n = 96 as the optimal sample size for the MANOVA and χ^2 statistics ($\alpha = 0.05$). The aim was to prove a weak to moderate effect ($f^2 = 0.08$) with a type II error of approximately 20%.

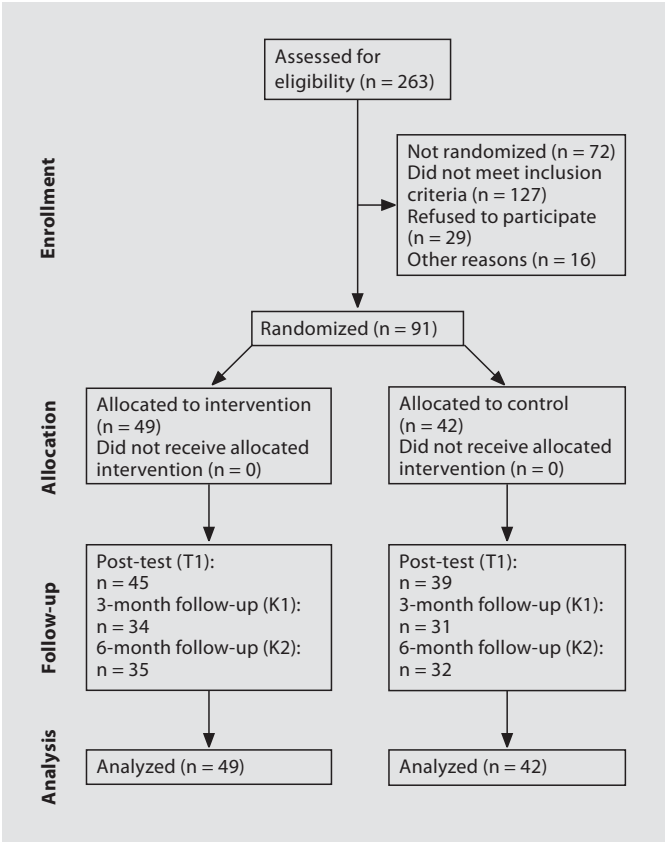

Fig. 1. Flowchart of patients.

We expected to include 96 patients. The minimum power to tolerate for this study was to prove an effect of $f^2 = 0.1$ with the same type II error level.

Randomization

Randomization was performed by an independent statistician. He was not aware of the therapy allocation or the details of the study design. Envelopes containing the allocation information were created in a random order. Patients who had fulfilled all inclusion criteria were assigned to the 2 different groups. Patients were not blinded due to the study conditions.

Informed Consent

The study was approved by the Ethics Review Committee of the Freiburg University. All patients gave their informed consent.

Statistical Methods

Data were collected by independent research assistants. Data control was performed on all outcome measures by way of data cleaning and 100% double data entry. The outcome was determined independently by one of the authors (A.S.). For the calculations, the researchers used SPSS release 11.5. Access version 7.0 was used for data entry. Statistical analysis included analysis of

Table 2. Sociodemographics

	Intervention group	Control group	p
Mean age ± SD, years	44.43 ± 13.329	49.22 ± 11.084	0.068 χ^2 = 0.508
Gender			
Male	15 (30.6)	12 (28.6)	
Female	34 (69.4)	30 (71.4)	
Marital status			0.771
Single	13 (26.5)	8 (19.0)	
Married/partner	29 (59.2)	26 (61.9)	
Divorced	6 (12.2)	5 (11.9)	
Widowed	1 (2.0)	3 (7.1)	
Occupational status			0.700
Employed, full-time	19 (40.4)	13 (31.7)	
Employed, part-time	9 (19.1)	8 (19.5)	
Retired	9 (19.1)	7 (17.1)	
Other	10 (21.3)	13 (31.7)	
Children			0.510
0	18 (36.7)	17 (40.5)	
1	7 (14.3)	9 (21.4)	
≥2	24 (49.0)	16 (38.1)	
Occupation			0.793
Pupil/student/vocational education	5 (10.2)	2 (4.8)	
Household	8 (16.3)	6 (14.3)	
Laborer	13 (26.5)	8 (19.0)	
Employee	20 (40.8)	21 (50.0)	
Executive	2 (4.1)	3 (7.1)	
Self-employed	1 (2.0)	2 (4.8)	
Education			0.661
Secondary school	23 (46.9)	18 (42.9)	
Junior high school	16 (32.7)	12 (28.6)	
Grammar school (A-level)	10 (20.4)	12 (28.6)	
Nationality			0.544
German	46 (93.9)	38 (90.5)	

Values are numbers of patients (with percentages in parentheses).

variance for repeated measurement. Models for the whole period of observation (T0–K2) as well as contrasts between certain time points (e.g. T0, T1) were computed. The item 'contact with a psychotherapist' was evaluated and compared with a χ^2 test. An intention to treat approach was applied, using the last observation carried forward method.

Results

Flow of Participants

Of the 263 potential candidates, 136 patients fulfilled the inclusion and exclusion criteria. Of the 127 patients who had to be excluded at this stage, 26 were excluded due to ongoing or completed psychotherapy, 11 due to severe organic diseases and 90 for other reasons, e.g. symptoms had not been occurring for the required length of time, less than 5 doctor's visits in the previous year, insufficient intellectual or communication capabilities, outside of the age requirements and alcohol and/or drug abuse. Twenty-nine patients refused participation and 16 were discharged prior to randomization (fig. 1).

A total of 91 patients was included in the study. The intervention group (IG) consisted of 49 patients and the control group (CG) of 42. The most common reasons for missing data were refusal to participate (n = 7) or inability to contact the patients (n = 17).

Patients of the intervention group received on average 4.2 sessions (SD = 1.3).

Table 3. Changes in psychotherapy motivation for all 4 assessment times (general linear model)

FPTM	Effects	F	d.f.	p	f^2	Group	n	T0	T1	K1	K2
Suffering	time × group	1.56	3	0.205	0.051	I	49	2.153	2.168	2.015	2.087
	time	0.62		0.604	0.021	C	42	1.982	1.857	1.935	1.863
Hope	time × group	1.07	3	0.365	0.036	I	49	2.978	3.128	2.976	3.071
	time	0.91		0.438	0.031	C	42	2.946	2.994	2.968	2.863
Denial	time × group	0.62	3	0.602	0.021	I	49	1.946	1.784	1.861	1.751
	time	2.75		0.047	0.087	C	42	1.655	1.548	1.619	1.624
Knowledge	time × group	2.83	3	0.043	0.089	I	49	1.994	2.232	2.345	2.327
	time	4.54		0.005	0.135	C	42	2.200	2.124	2.331	2.298
Initiative	time × group	1.70	3	0.173	0.055	I	49	1.917	2.051	2.056	2.245
	time	3.67		0.015	0.112	C	42	1.976	1.917	2.066	2.143
Benefits	time × group	0.52	3	0.669	0.018	I	49	2.031	1.990	2.010	2.019
	time	0.26		0.857	0.009	C	42	1.913	2.000	2.000	2.066
Total score	time × group	6.33	3	0.001	0.179	I	49	2.515	2.634	2.557	2.659
	time	1.84		0.146	0.060	C	42	2.587	2.587	2.622	2.577

f^2: small effect ≥0.02, medium effect ≥0.15, large effect ≥0.35.

Recruitment

Patients were recruited between June 2002 and May 2004. The last follow-up assessments were done in November 2004. The data were assessed 4 times: T0 at the beginning of hospitalization, T1 at the end of hospitalization, but at the most 2 weeks after T0, follow-up after 3 months (K1) and follow-up after 6 months (K2).

Baseline Data

The basic demographics of each group are shown in table 2.

There was no difference between the IG and the CG regarding the amount and intensity of somatoform symptoms, quality of life, emotional distress and motivation for psychotherapy compared to the baseline. About 5% of the patients were taking antidepressants and tranquilizers.

On average, the patients had seen a physician a total of 5.93 times (SD = 5.11) during the past 3 months and had been hospitalized 0.82 times (SD = 0.98). The patients had missed an average of 2.33 weeks of work (SD = 3.76).

We conducted diagnostic interviews with 60 patients (66 %). Unfortunately, we could not conduct interviews with all patients because of early discharge, refusal or inability to contact them. Fifty-five of the patients (92%) had a somatoform disorder, 24 (40%) were suffering from depression and 18 (32%) from an anxiety disorder. Some of the patients had more than 1 diagnosis. There were no differences between the 2 groups.

Primary Outcomes

Changes regarding Motivation for Psychotherapy. In the FPTM, we observed a significant interaction effect for the total score with a more pronounced increase in the IG. This difference was particularly pronounced from T0 to T1 ($F = 11.01$; d.f. = 1; $p = 0.001$; $f^2 = 0.110$) and from T0 to K2 ($F = 4.82$; d.f. = 1; $p = 0.031$; $f^2 = 0.051$). A similar effect was found for the subscale knowledge. In addition, there were decreases over time in denial and improvements over time for both groups in knowledge and initiative. Table 3 presents the changes for all 4 assessment points.

Contact with a Psychotherapist. Regarding contact with a psychotherapist, the assessment at the 3-month follow-up (K1) showed 41.5% (n = 17) of the patients in the IG had contacted a psychotherapist, compared to 20% (n = 7) of the patients in the CG ($p = 0.045$). At K2, however, the difference was no longer significant, since 1 additional patient from the IG and 3 additional patients from the CG had contacted a psychotherapist. The differentiation between the various categories (see Outcome Measures) did not show any significant differences between the 2 groups. More patients from the IG started an inpatient therapy (n = 7) compared to patients from the CG (n = 2).

Secondary Outcomes

There was no interaction effect between time and group for any of the instruments.

Table 4. Changes in secondary outcomes over 4 assessment times (general linear model)

	Effects	F	d.f.	p	f^2	Group	n	T0	T1	K1	K2
SOMS-7 frequency	time × group	0.31	3	0.816	0.011	I	49	12.76	11.98	12.02	12.76
	time	2.06		0.112	0.066	C	42	14.98	12.93	13.45	14.26
SOMS-7 intensity	time × group	0.77	3	0.510	0.026	I	49	0.531	0.472	0.491	0.528
	time	3.99		0.010	0.121	C	42	0.629	0.478	0.528	0.543
SF-12 physical	time × group	0.70	3	0.556	0.023	I	49	37.00	38.72	40.48	40.92
	time	2.64		0.054	0.084	C	42	36.83	37.12	38.24	37.68
SF-12 mental	time × group	1.54	3	0.209	0.051	I	49	41.21	41.42	44.37	45.38
	time	5.24		0.002	0.153	C	42	43.75	47.51	47.01	48.01
HADS anxiety	time × group	1.24	3	0.301	0.041	I	49	7.510	6.918	7.408	7.633
	time	4.31		0.007	0.129	C	42	6.310	5.643	5.929	6.357
HADS depression	time × group	0.20	3	0.894	0.007	I	49	7.286	6.388	6.714	6.755
	time	2.51		0.064	0.080	C	42	6.262	5.429	5.571	6.095
GHQ	time × group	1.70	3	0.173	0.055	I	49	4.674	4.694	3.653	3.388
	time	2.06		0.111	0.066	C	42	3.584	2.745	3.126	2.935

f^2: small effect ≥0.02, medium effect ≥0.15, large effect ≥0.35.

The intensity of symptoms decreased over time in both groups. Physical and mental functioning increased significantly from T0 to K1 and from T0 to K2. The anxiety and depression score decreased significantly from T0 to T1 and the GHQ scores decreased with a significant change from T0 to K1 (table 4).

Discussion

Interpretation

This is the first controlled randomized study examining the effectiveness of short-term psychotherapeutic interventions for somatizing patients in the general hospital. With regard to the primary goals, motivation for psychotherapy and contacting a psychotherapist, the group of patients who had received psychotherapeutic interventions fared slightly better than the group of patients who had only received psychoeducational reading material. Since it is absolutely typical of most somatizing patients to adamantly attribute their complaints to a physical illness and to reject psychotherapy, the motivational increase is of utmost importance.

With regard to the second hypothesis, there were significant changes in both groups over time regarding somatoform symptoms, quality of life, and emotional distress, but the group receiving psychotherapeutic interventions did not fare better than the control group.

This study is subject to several methodological limitations. First, the patients who refused to participate in the study may have been particularly persistent somatizers ('true somatizers') and thus difficult to motivate for psychotherapy. Second, it is possible that the psychotherapists differed slightly in the manner in which they conducted the therapy. We tried to minimize this possibility by training the therapists in the use of the manual prior to the interventions and by continuously supervising the manner in which they conducted the sessions. Third, because of the small sample size, there is little statistical significance for small outcome differences, which has to be considered as a type II error between the 2 groups. Fourth, missing data at 6-month follow-up for psychotherapy motivation and the secondary outcomes were up to 28.5% in the IG and 23.8% in the CG, which is within the range of the dropout rate (5–55%) in the reviewed studies.

Generalizability

This study was conducted with a representative sample consisting of somatizing patients from the psychosomatic consultation and liaison service, mainly from the internal medicine and neurology departments at a university hospital. The patients were consecutively recruited into the study.

Overall Evidence

In a small nonrandomized study of short-term cognitive behavioral therapy for hospitalized somatizing pa-

tients [15], the patients who had received cognitive behavioral therapy experienced a significant decrease in their physical complaints and were highly motivated for subsequent psychotherapy. Similar to our study, there were no significant differences regarding depression scores between the 2 groups. Two studies conducted in the framework of the psychosomatic consultation and liaison service found a rate of acceptance of recommendation for psychotherapy and start of psychotherapy of 40–50% [34, 35]. The percentage of somatizing patients within this population, however, was only approximately 30%. Follow-up assessments of a noncontrolled study regarding the effects of psychological treatment of somatizing patients at general hospitals [36] showed that 37.5% of the patients followed recommendations regarding psychotherapeutic-psychiatric therapy (psychiatrist, psychotherapist, psychosomatic clinic) within 3 years. It is surprising that a high percentage (29%) of the patients from the control group became involved in psychotherapy. It is possible that the diagnostic interview, the psychoeducational reading material and the filling in of the questionnaires also constituted an intervention for the control group, which clearly changed its attitude towards psychotherapy [37, 38].

The next step for research could be to include a specific treatment module for patients with comorbid depression and anxiety disorder [39–42]. Future studies should also attempt to prove the effectiveness of short-term psychoeducational interventions for somatizing inpatients to increase the treatment acceptance and the motivation for psychotherapy.

Acknowledgments

This clinical trial was supported by grants FR 1380/5-1 and 1380/5-2 from the German Research Association (Deutsche Forschungsgemeinschaft).

We are very grateful to the psychotherapists who worked on this study: Michael Lacour, MD, Gabriele Plietzsch, MD, and Christine Hoffmann, PhD. Furthermore, our sincere thanks go to Ruth Pfeiffer for her work on data management and analysis and Jens Zöllin for his work as a research assistant.

References

1 Nimnuan C, Hotopf M, Wessely S: Medically unexplained symptoms – An epidemiological study in seven specialities. J Psychosom Res 2001;51:361–367.
2 Creed F, Firth D, Timol M, Metcalfe R, Pollock S: Somatization and illness behaviour in a neurology ward. J Psychosom Res 1990;34:427–437.
3 Hansen MS, Fink P, Frydenberg M, Oxhoj ML, Sondergaard L, Munk Jorgensen P: Mental disorders among internal medical inpatient: prevalence, detection, and treatment status. J Psychosom Res 2001;50:199–204.
4 Fritzsche K, Spahn C, Nübling M, Wirsching M: Psychosomatischer Liaisondienst am Universitätsklinikum – Bedarf und Inanspruchnahme. Nervenarzt 2006, e-pub ahead of print.
5 Swartz M, Landerman R, George L, Blazer D, Escobar J: Somatization disorder; in Robins LN, Regier D (eds): Psychiatric Disorders in America. New York, Free Press, 1990, p 228.
6 Kashner M, Rost K, Cohen B, Anderson M, Smith G: Enhancing the health of somatization disorder patients: effectiveness of short-term group therapy. Psychosomatics 1995;36:462–470.
7 Sumuthipala A, Hewege S, Hanwella R, Mann AH: Randomized controlled trial of cognitive behaviour therapy for repeated consultations for medically unexplained complaints: a feasibility study in Sri Lanka. Psychol Med 2000;134:905–911.
8 Timmer B, Bleichhardt G, Rief W: Importance of psychotherapy motivation in patients with somatization syndrome. Psychother Res 2006;16:348–356.
9 Lipowski J: Linking mental and medical health care: An unfinished task. Psychosomatics 1988;29:249–253.
10 Schneider W, Klauer T: Symptom level, treatment motivation, and the effects of inpatient psychotherapy. Psychother Res 2001;11:153–167.
11 Schulz H, Nübling R, Rüddel H: Entwicklung einer Kurzform eines Fragebogens zur Psychotherapiemotivation. Verhaltenstherapie 1995;5:89–95.
12 Goldberg DP, Gask L, O'Dowd T: The treatment of somatization: teaching techniques of reattribution. J Psychosom Res 1989;33:689–695.
13 Morris R, Gask L, Ronalds C, Downes-Graiger E, Thompson H, Goldberg D: Clinical and patient satisfaction outcomes of a new treatment for somatized mental disorder taught to general practitioners. Br J Gen Pract 1999;49:263–267.
14 Fink P, Rosendale M, Toft T: Assessment and treatment of functional disorders in general practice: the extended reattribution and management model – an advanced educational program for nonpsychiatric doctors. Psychosomatics 2002;43:93–131.
15 Ehlert U, Wagner D, Lupke U: Consultation-liaison service in the general hospital: effects of cognitive-behavioral therapy in patients with physical nonspecific symptoms. J Psychosom Res 1999;47:411–417.
16 Lipowski ZJ: Somatization: the concept and its clinical application. Am J Psychiatry 1988;145:1358–1368.
17 Rief W, Hiller W, Heuser J: SOMS, Screening for Somatoform Disorders – Manual to the Questionnaire (in German). Bern, Huber 1997.
18 Goldberg D, Paul W: A User's Guide to the General Health Questionnaire. Windsor, Nfer-Nelson, 1991.
19 Escobar J, Rubio-Stipec M, Canino G, Karno M: Somatic symptom index (SSI): a new and abridged somatization construct – prevalence and epidemiological correlates in two large community samples. J Nerv Ment Dis 1989;117:140–146.
20 World Health Organization: Composite International Diagnostic Interview (CIDI), Version 1.0. Geneva, World Health Organization, 1997.

21 Wittchen H, Pfister H: Diagnostisches Expertensystem für psychische Störungen (DIA-X). Frankfurt, Swets & Zeitlinger, 1990.
22 Sell HL, Srinivasa Murthy R, Seshadres Cumar K, Srinivasa K: A training package for the primary-care physician; in Sartorius N, Goldberg D, Girolamo de G, Costa e Silva J, Lecroubier Y, Wittchen U (eds): Psychological Disorders in General Medical Settings. Appendix III. Recognition and management of patients with functional complaints (psychosocial problems, ill-defined somatic complaints). Toronto, Hogrefe & Huber Publishers, 1990, pp 189–200.
23 Sharpe M, Peveler R, Mayou R: The psychological treatment of patients with functional somatic symptoms: a practical guide. J Psychosom Res 1992;36:515–529.
24 Guthrie E: Treatment of functional somatic symptoms: psychodynamic treatment; in Mayou R, Bass C, Sharpe M (eds): Treatment of Functional Somatic Symptoms. Oxford, University Press, 1995, pp 144–162.
25 Speckens AEM, van Hemert AM, Spinhoven P, Hawton KE, Bolk JH, Rooijmans GM: Cognitive behavioral therapy for medically unexplained physical symptoms: a randomized controlled trial. Br Med J 1995;311: 1328–1332.
26 Hamilton J, Guthrie E, Creed F, Thompson D, Tomenson B, Bennett R, Thompson R: A randomized controlled trial of psychotherapy in patients with chronic functional dyspepsia. Gastroenterology 2001;119:661–669.
27 Fritzsche K, Larisch A: Treating patients with functional somatic symptoms: a treatment guide for use in general practice. Scand J Prim Health Care 2003;21:132–135.
28 Larisch A, Schweickhardt A, Wirsching M, Fritzsche K: Psychosocial interventions for somatizing patients by the general practitioner: a randomized controlled trial. J Psychosom Res 2004;57:507–514.
29 Fritzsche K, Larisch A, Schweickhardt A: Short-term psychotherapeutic interventions for somatizing patients in general hospital (in German). Psychotherapeut 2005;50: 404–414.
30 Zigmond AS, Snaith RP: The Hospital Anxiety and Depression Scale. Acta Psychiatr Scand 1983;67:361.
31 Herrmann C, Buss U, Snaith RP: HADS-D – Hospital Anxiety and Depression Scale – Deutsche Version. Bern, Huber, 1995.
32 Ware JE, Snow KK, Kosinski M, Gandek B: SF-36 Health Survey. Manual and Interpretation Guide. Boston, Nisural Press, 1993.
33 Bullinger M, Kirchberger I: SF-36 Health Survey. Manual (in German). Göttingen, Hogrefe, 1998.
34 Jordan J, Sapper H, Schulz W: Zur Wirksamkeit des patientenzentrierten psychosomatischen Konsildienstes. Psychother Med Psychol 1989;39:127–134.
35 De Cruppé W, Hennch C, Buchholz C, Müller A, Eich W, Herzog W: Communication between psychosomatic C-L consultants and general practitioners in a German health care system. Gen Hosp Psychiatry 2005;27: 63–72.
36 Lupke U, Ehlert U, Hellhammer D: Effekte psychologischer Behandlung im Allgemeinkrankenhaus: Verlaufsuntersuchung an Patienten mit Somatisierungsverhalten. Psychother Med Psychol 1995;45:358–365.
37 Price JR: Managing physical symptoms: the clinical assessment as treatment. J Psychosom Res 2000;48:1–10.
38 Kolk A, Schagen S, Hanewald G: Multiple medically unexplained physical symptoms and health care utilization – outcome of psychological intervention and patient-related predictors of change. J Psychosom Res 2004; 57:379–389.
39 Van der Feltz-Cornelis C, van Oppen P, Adèr H, van Dyck R: Randomised controlled trial of a collaborative care model with psychiatric consultation for persistant medically unexplained symptoms in general practice. Psychother Psychosom 2006;75:282–289.
40 Denollet J, Strik JJ, Lousberg R, Honig A: Recognizing increased risk of depressive comorbidity after myocardial infarction. Psychother Psychosom 2006;75:346–352.
41 Rieckmann N, Burg MM, Gorin WW, Chaplin WF, Clemow L, Davidson KW: Depression vulnerabilities in patients with different levels of depressive symptoms after acute coronary syndromes. Psychother Psychosom 2006;75:353–361.
42 Bech P, Hansen HV, Kessing LV: The internalising and externalising dimensions of affective symptoms in depressed (unipolar) and bipolar patients. Psychother Psychosom 2006;75:362–369.