

What Kind of Patients Receive Inpatient and Day-Hospital Treatment in Departments of Psychosomatic Medicine and Psychotherapy in Germany?

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Keywords

Inpatient treatment · Day-hospital · Diagnosis · Psychotherapy · Psychosomatic medicine

Abstract

Introduction: Germany is one of the few countries with a medical specialty of psychosomatic medicine and psychotherapy and many treatment resources of this kind. **Objective:** This observational study describes the psychosomatic treatment programs as well as a large sample of day-hospital and inpatients in great detail using structured diagnostic interviews. **Methods:** Mental disorders were diagnosed according to ICD-10 and DSM-IV by means of Mini-DIPS and SCID-II. In addition to the case records, a modified version of the CSS-RI was employed to collect demographic data and service use. The PHQ-D was used to assess depression, anxiety, and somatization. **Results:** 2,094 patients from 19 departments participated in the study after giving informed consent. The sample consisted of a high proportion of “complex patients” with high comorbidity of mental and somatic diseases, severe psychopathology, and considerable social and occupational dysfunction including more than 50 days of sick leave per year in half of the sample. The most frequent diagnoses were depression, somatoform and anxiety disorders, eating disorders, personality disorders, and somato-psychic conditions. **Conclusions:** Inpatient and day-hospital treatment in German university departments of psychosomatic medicine and psychotherapy is an intensive multimodal treatment for complex patients with high comorbidity and social as well as occupational dysfunction.

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Introduction

The health care system in Germany provides a comparably high number of psychosomatic inpatient and day-hospital units. Most of these treatment facilities are located in hospitals and departments of psychosomatic medicine and psychotherapy, which in Germany represents a medical specialty in its own. In 2019, 275 specialized departments and hospitals provided 12,394 beds for inpatient treatment in psychosomatic medicine and psychotherapy [1]. Usually, these hospitals and departments offer inpatient/day-hospital treatment as well as consultation-liaison services for many other departments [2]. With the exception of acutely psychotic and severe organic brain disorders as well as severe substance-related

disorders, this specialty covers the entire spectrum of mental disorders, particularly, affective disorders, somatoform/functional disorders, eating disorders, trauma-related disorders, and somato-psychic disorders (e.g., heart and cancer diseases, diabetes) [3]. In contrast to outpatient treatment, inpatient as well as day-hospital psychosomatic treatment is characterized by its multimodal treatment setting, i.e., the combination of different therapeutic approaches for a treatment duration of 6–8 weeks on average [1]. Indications are (1) high complexity, severity, and chronicity of symptoms that need continuous medical observation, (2) presence of (comorbid) symptom patterns that prevent outpatient psychotherapy, (3) nonresponse to outpatient treatment, (4) lack of appropriate lay etiology and motivation for individual outpatient treatment, (5) somato-psychic or comorbid somatic disorders that require intensified medical treatment, moreover, (6) the necessity of an intensified multimodal treatment as well as (7) temporary separation from a pathogenic home environment, or finally (8) a lack of outpatient treatment facilities [4].

This naturalistic multicenter study was designed to assess effectiveness of psychosomatic inpatient and day-hospital treatment in the field. Here, we describe characteristics of the patient sample at baseline.

Materials and Methods

Study Design

The study was initially approved by the Ethics Committee of the medical faculty of the Ruhr-University Bochum on October 17, 2018 (ID: 18-6388, this approval was subsequently confirmed by the Ethics Committees of the participating universities), and was registered at the German Clinical Trials Register (www.drks.de; ID: DRKS00016412). Participants were recruited at inpatient and day-hospital units of 19 out of 23 German university departments of psychosomatic medicine and psychotherapy: Berlin, Bochum, Bonn, Cologne, Dresden, Düsseldorf, Erlangen, Essen, Freiburg, Gießen/Marburg, Göttingen, Hannover, Heidelberg, Mainz, Munich, Nuremberg, Rostock, Tübingen, and Ulm. After informed consent was obtained, patients eligible for the study were assessed by trained clinicians and completed a number of questionnaires.

Participants

Patients were recruited consecutively between January 2019 and December 2020. Every department recruited either for 1 year or until a number of 100 patients were attained. Inclusion criteria were age ≥ 18 years, sufficient knowledge of the German language, regular (nonemergency) admission for psychosomatic inpatient or day-hospital treatment. Exclusion criteria were acute psychotic disorder, clinically relevant organic brain disorder, and current substance dependency (excl. tobacco and prescribed medications).

Table 1. Components of treatment

Treatment	Dose (hours per week)
Individual psychotherapy	1–2
Group psychotherapy (general or disorder-specific, e.g., eating disorder group)	2–4
Skills training	1–2
Body psychotherapy group	1–2
Relaxation group (autogenic training, Dr. Jacobson's progressive muscle relaxation)	1–2
Physical exercise groups	1–2
Psychoeducation	1
Creative therapies (art therapy, music therapy, dance therapy)	2–4

Treatment

Inpatient and day-hospital treatments at German departments of psychosomatic medicine and psychotherapy follow standards that have been developed clinically over the past decades, defined in several consensus-driven papers [3–5], and have shaped the official definitions and cost calculations of psychiatric and psychosomatic treatment of the German health care system [6]. These definitions require certain therapeutic components at a minimum dosage per week. The best practice models employed at the university hospitals usually comprise 6–8 weeks for the majority of elective inpatient or day-hospital treatments. The bio-psycho-social, integrated, and multidisciplinary treatment combines psychodynamic with behavioral and systemic therapeutic orientations as well as elements of trauma therapy (see Table 1 for the different components of the treatment). The complex multimodal treatment is delivered according to current German and international guidelines. The abovementioned components sum up to a high dose of 15–20 h of individual and group treatments/interventions per week. An interdisciplinary team of health care professionals is required to provide expertise; an intense exchange of information, experiences, and reflections on every individual treatment process as well as regular supervision of the therapeutic team are indispensable. A crucial factor of multimodal inpatient and day-hospital psychotherapy is represented by the so-called therapeutic milieu [7, 8]: every relationship, be it to a staff member or the group of fellow patients, can be utilized in a therapeutic way as it stimulates the (self-)reflection of the patient. Thus, due to mutual feedback and reflection the treatment process is continued beyond the active therapies almost all day long.

Instruments

Diagnostic Interviews

For valid diagnoses at baseline, two structured interviews were used. The German language Diagnostic Interview for Mental Disorders (Diagnostisches Interview bei psychischen Störungen - Mini-DIPS) is a structured interview for the assessment of all mental disorders similar to the Structured Interview for DSM-IV (SCID-I) [9]. In the German Mini-DIPS, diagnoses are assessed following DMS-5 criteria and afterward converted into ICD-10 diagnoses for convergence with the German health care system. The Mini-DIPS has been validated comprehensively and shows satisfactory reliability and validity [10, 11]; all raters received a 1-day Mini-DIPS training. The German version of the Structured Interview for DSM-IV Axis II (SCID-II) [12] was employed for the diagnosis of personality disorders. Interrater reliability of 22 raters was assessed for SCID-II diagnoses, and a Fleiss κ of 0.847 was found.

Demographic Data

Demographic data were collected in two different ways: general data (e.g., age and sex) were taken from the medical records, while more detailed information about service use as well as medication before admission was assessed by means of a questionnaire based on the Client Sociodemographic and Service Receipt Inventory (CSSRI-EU) [13, 14].

Questionnaire

A number of questionnaires were completed at baseline (T0), before discharge (T1), and after a follow-up period of 1 year (T2). Here, we report the baseline assessment with the Patient Health Questionnaire (PHQ-D) [15]. The instrument consists of three scales for depression (PHQ-9), anxiety (GAD-7), and somatization (PHQ-15).

Statistics

Descriptive statistics were used to characterize the sample in terms of demographic data, diagnoses, and psychopathology.

Results

During the recruitment period, 2,860 patients in inpatient or day-hospital treatment have been assessed for eligibility in the 19 centers, and 2,094 patients were included into the study. The departments differ in size (12–60 inpatients and day-hospital patients), but are quite similar with regard to their treatment programs and diagnostic foci. The number of patients recruited varied between the centers from 32 to 165. 1,342 (64.1%) patients were treated as inpatients, and 610 (29.1%) patients received day-hospital treatment (6.8% missing data). The mean duration of treatment was 53.8 (± 23.0) days (range: 2–238) for inpatient treatment and 46.5 (± 20.2) days (range: 1–147) for day-hospital treatment. Demographic data are shown in Table 2.

Detailed data on diagnoses are displayed in online supplementary Table S1 (for all online suppl. material, see www.karger.com/doi/10.1159/000527881). The most frequent

Table 2. Demographic data

Mean age (SD), years	39.89 (14.20)
Gender, <i>n</i> (%)	
Female	1,424 (68.0)
Male	660 (31.5)
Missing	10 (0.5)
Marital status, <i>n</i> (%)	
Single	623 (29.8)
Unmarried with partner	431 (20.6)
Married/civil partnership	581 (27.7)
Divorced	252 (12.0)
Widowed	28 (1.3)
Missing	179 (8.5)
Education, <i>n</i> (%)	
No compulsory school	36 (1.7)
Compulsory school	160 (7.6)
Apprenticeship/vocational school	488 (23.3)
A-level	621 (29.7)
Academic	362 (17.3)
Still in school	47 (2.2)
Other	183 (8.8)
Missing	197 (9.4)
Employment, <i>n</i> (%)	
In occupational training	278 (13.3)
Housekeeping	65 (3.1)
Unemployed	411 (19.6)
Part time	267 (12.8)
Full time	675 (32.2)
Retired	217 (10.4)
Missing	181 (8.6)
Nationality, <i>n</i> (%)	
German	1,876 (89.6)
Others	123 (5.9)
Missing	95 (4.5)

diagnostic groups were depression (ICD-10: F32, F33, F34.1, F43.2) diagnosed in 1,729 patients (82.6% of the whole sample); 1,079 (51.5%) patients were diagnosed with one or more anxiety disorder (F40, F41), 896 (42.8%) with one or more somatoform disorder (F44, F45), 430 (20.5%) with an eating disorder (F50), 478 (22.8%) with PTSD or an acute stress reaction (F43.0, F43.1, F43.8, F43.9), and 858 (41.0%) patients had one or more personality disorder. The majority of participants received more than one axis I diagnosis (85%). At least one diagnosis of a somatic disorder occurred in 1,363 (65.1%) of the patients. The numbers of comorbid diagnoses per patient are shown in Table 3.

Service Utilization and Medication

During the year prior to admission, 70.6% of the patients had been hospitalized. Among them, 34.8% were treated at departments of psychosomatic medicine and

Table 3. Number of diagnoses per patient

	Axis I disorders, <i>n</i> (%)	Axis II disorders (personality), <i>n</i> (%)	Physical diseases, <i>n</i> (%)
0	59 (2.8)	1,236 (59.0)	731 (34.9)
≥1	2,035 (97.2)	858 (41.0)	1,363 (65.1)
≥2	1,782 (85.1)	381 (18.2)	929 (44.4)
≥3	1,324 (63.2)	157 (7.5)	684 (32.7)
≥4	886 (42.3)	54 (2.6)	478 (22.8)
≥5	540 (25.8)	17 (0.8)	339 (16.2)
≥6	315 (15.0)	10 (0.5)	235 (11.2)
≥7	152 (7.3)	1 (0.1)	167 (8.0)
≥8	84 (4.0)		107 (5.1)
≥9	35 (1.7)		69 (3.3)
≥10	10 (0.59)		54 (2.6)
11	2 (0.1)		

psychotherapy, 25.8% were treated at general psychiatric hospitals/departments, 15.2% were treated at psychosomatic rehabilitation hospitals, 29.2% had emergency unit treatments, and 48.1% were admitted to departments of other medical disciplines.

With regard to outpatient treatment, 73.2% of the patients reported having received individual psychotherapy, 45.4% of them had ten sessions or less, whereas 7.3% had more than 50 sessions. A psychiatrist was consulted by 63.2% of the patients, general practitioners by 88.3%, and other specialists by 70.8%.

Almost three quarters (72.6%) of the patients received medication of any kind. More specifically, about half of the patients were treated with psychotropic medication at admission. Most of them took antidepressants (41.3%) (online suppl. Table S2).

Sick leave during the year prior to treatment was reported by 75.6%, and the mean duration was 110.1 (± 119.6) days. Finally, 8.9% had applied for a disability pension, 1.7% were into a lawsuit to receive disability pension, and 5.7% already received it (online suppl. Table S3).

Psychopathology

Online supplementary Table S4 shows the stratified results of the questionnaire assessment of depression, anxiety, and somatization at admission. According to the severity subgroups provided by the questionnaire's scoring, more than 50% of the whole sample showed moderate or severe impairment in the domains of anxiety and depression, while 40% were severely impaired in the domain of somatization.

Discussion

This is the largest study describing a patient sample from German university departments of psychosomatic medicine and psychotherapy employing structured diagnostic interviews and questionnaire assessment. We found a considerable degree of social and occupational dysfunction: despite an average age of 40 years, only 28% of the patients were living in a partnership, 47% had high school or university degrees, and 58% were employed. Half of the patients reported more than 50 days of sick leave per year, and 16% were involved in or after the application for a disability pension.

A large proportion of the sample can be regarded as “complex patients” [16] with a high comorbidity. Almost two thirds of the sample had more than two axis I disorders, a quarter even five or more. Forty-one percent were diagnosed with a personality disorder, and two thirds of the patients had a somatic comorbidity. During the previous 12 months, more than 70% were hospitalized for mental disorders and almost 50% were treated as inpatients of somatic medicine. Almost three quarters were on any medication, and more than 40% received psychotropic medication.

In light of these data, a priori definition of a clinimetric algorithm would have been desirable to define severity and complexity and to allow for comparison with other samples [16, 17]. In comparison, a very large German survey included more than 600,000 psychiatric treatment episodes. The main diagnoses were substance-related disorders (35%), depression (21%), psychotic disorders (18%), dementia (9%), as well as personality disorders, eating disorders, and adjustment disorders including PTSD (all <5%) [18]. In contrast, depression was most frequent in our study followed by anxiety disorders, somatoform disorders, personality disorders, PTSD, and eating disorders. Despite the different methodological approaches (the psychiatric survey did not include comorbidity), it seems obvious that the focus of general psychiatric hospitals and departments is on substance abuse, affective, and psychotic disorders, as well as dementia, i.e., ICD-10 F0-F3. Psychosomatic departments, on the other hand, primarily treat affective and somatoform disorders, eating disorders, and personality disorders, i.e., ICD-10 F4-F6. The broadest overlap can be found in depressive disorders.

The number of 65% of patients with somatic comorbidity is in the middle between 54% of a review from international studies [19] and 75% from an US study [20]. Both studies included samples from general psychiatry. These numbers might reflect differences in national health care systems.

Although one would expect that samples in psychiatric departments, which include more suicidal and psychotic patients, show higher rates of depression than patient samples in psychosomatic departments, our study does not indicate this. Beard and colleagues studied a large psychiatric sample in Boston. They found an average PHQ-9 score of 14.5 versus 14.8 in our sample [21]. The same is true for anxiety levels with an average GAD-7 score of 10.9 in the US sample compared to 11.6 in our sample [22].

Taken together, German university departments of psychosomatic medicine and psychotherapy treat complex patients with a high symptom severity, a considerable amount of social dysfunction, health care use, and high comorbidity of psychiatric and somatic illness. The focus is on affective disorders, somatoform disorders, eating disorders, PTSD, and personality disorders, as well as somato-psychic conditions. The treatments are long and very complex in terms of multimodal psychosocial interventions with a high dose of psychotherapy.

Statement of Ethics

The study was initially approved by the Ethics Committee of the medical faculty of the Ruhr-University Bochum on October 17, 2018 (ID: 18-6388, this approval was subsequently confirmed by the Ethics Committees of the participating universities) and was registered at the German Clinical Trials Register (www.drks.de; ID: DRKS00016412). All patients gave written informed consent for their participation in the study.

Conflict of Interest Statement

None of the authors has any financial conflicts of interest to declare. Regarding nonfinancial aspects, it is pointed out that all authors, except for Stephan Doering, are working at one of the German university departments of psychosomatic medicine and psychotherapy.

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Author Contributions

An initial conceptualization of the study design by Stephan Doering and Stephan Herpertz; Stephan Doering, Stephan Herpertz, Tobias Hofmann, Matthias Rose, Katrin Imbierowicz, Franziska Geiser, Ilona Croy, Kerstin Weidner, Jörg Rademacher, Silke Michalek, Eva Morawa, Yesim Erim, Per Teigelack, Martin Teufel, Armin Hartmann, Claas Lahmann, Eva Milena Johanne Peters,

Johannes Kruse, Dirk von Boetticher, Christoph Herrmann-Lingen, Mariel Nöhre, Martina de Zwaan, Ulrike Dinger, Hans-Christoph Friederich, Alexander Niecke, Christian Albus, Rüdiger Zwerenz, Manfred Beutel, Casper Roenneberg, Peter Henningsen, Barbara Stein, Christiane Waller, Karsten Hake, Carsten Spitzer, Andreas Stengel, Stephan Zipfel, Katja Weimer, Harald Gundel, and Henrik Kessler contributed to the planning of the details of the study design and logistics as well as to the data collection, contributed substantially to refinement of the paper, and gave approval of the final version. Data analysis was performed by Stephan Doering, Stephan Herpertz, and Hendrik Kessler. The same three authors wrote the first draft of paper.

Data Availability Statement

The European General Data Protection Regulation (GDPR) does not allow to share personal data of patients publicly (<https://gdpr.eu>). The Ethics Commissions of all of the study centers have approved the study under the condition that even the transfer of data from the German sites to the Austrian PI (Stephan Doering) can only take place according to specific security regulations. All baseline data generated in this study except for some specific questionnaire data are included in this article. Further inquiries can be directed to the corresponding author.

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