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Psychiatric liaison consultations of patients without psychiatric illness in a general hospital in Germany: a retrospective analysis

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Summary The aim of the study was to explore the utilization of consultation-liaison psychiatric (CLP) service among nonpsychiatric patients in a general hospital. A retrospective analysis was conducted on all patients seen by the CLP in 2013. In 66 (5.9 %) of these 1112 consultations, no psychiatric diagnosis could be identified. These cases were analyzed by department of referral, assumed psychiatric symptoms, consensus with the symptoms found by the CLP, and recommended procedures. Assumed depressive symptoms, suicidal ideations and "difficult" behavior were the predominant reasons for CLP referrals. As the results suggest, CLP service was mostly "overprovided" because of uncertainty about the working areas of psychiatrists or overestimation of the severity of symptoms. These findings emphasize the importance to develop more precise guidelines for CLP services and that it could be worth striving for a more profound psychiatric training for nonpsychiatric physicians to achieve an optimal treatment for patients.

Keywords Consultation-liaison psychiatry · Psychiatric referrals · Nonpsychiatric diagnosis · General hospital

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Psychiatrische Konsile bei Patienten ohne psychiatrische Erkrankung in einem deutschen Allgemeinkrankenhaus

Zusammenfassung In dieser retrospektiven Analyse wurde die Anzahl von psychiatrischen Konsilen bei nicht psychiatrisch erkrankten Patienten in einem Allgemeinkrankenhaus ausgewertet. Hierfür wurden alle psychiatrischen Konsile aus dem Jahr 2013 aus einem Universitätsklinikum in Deutschland herangezogen. Bei 66 Patienten konnte keine psychiatrische Diagnose gestellt werden. Diese Fälle wurden hinsichtlich der Anforderungen, der angenommenen psychiatrischen Symptomatik, der vom Konsiliarpsychiater erhobenen Symptome und der Therapieempfehlungen hin untersucht. Insgesamt wurden 5,9 % von allen Konsilen bei nicht psychiatrisch erkrankten Patienten angefordert. Hauptgründe für diese Anforderungen waren eingeschätzte depressive Symptomatik, fragliche Suizidalität sowie „schwierige" Verhaltensweisen von Patienten.

Anhand dieser Ergebnisse lässt sich ableiten, dass Ärzte anderer Disziplinen möglicherweise das Behandlungsspektrum von Psychiatern und teilweise den Schweregrad von psychischen Symptome fehl einschätzen. Von daher wären präzisere Kriterien für die Anforderungen eines psychiatrischen Konsils sowie eine Optimierung der psychiatrischen Grundkenntnisse bei Ärzten anderer Disziplinen wünschenswert.

Schlüsselwörter Konsiliarpsychiatrie · Psychiatrische Überweisungen · Nicht-psychiatrische Diagnosen · Allgemeinkrankenhaus

Introduction

In most general hospitals, almost two-thirds of the patients report comorbid somatic and psychiatric disor-

ders [1, 2]. For that reason, an interdisciplinary approach is needed to connect and merge medical and psychiatric treatment. That connection is provided by the consultation-liaison psychiatry (CLP) service, acting as a mediator between the different medical departments and the psychiatry unit [1, 3, 4]. The CLP is called to evaluate and treat patients admitted to the hospital with acute or chronic medical disorders and comorbid psychiatric symptoms, prediagnosed psychiatric diseases as well as somatic symptoms of unclear origin [1, 3, 5, 6]. In addition, the CL psychiatrist is often requested to assess the capacity to consent in patients whose decision making might be impaired or who decline medical treatment [7].

There have been many studies on the need and utilization of CLP service in the last couple of years. Most of them demonstrate a severe lack thereof and report that up to two-thirds of patients in general hospitals do not receive the psychiatric consultation needed [1, 5, 8–10]. Furthermore, it has been well documented that a lot of psychiatric patients are initially seeking treatment in the general medical sectors and that early treatment of both medical and psychiatric symptoms drastically reduces morbidity and mortality, lowers costs for health care, and limits hospital stays [1, 3, 4, 10].

Considering the apparent importance of CLP, it seems crucial to adequately use such a scarce but necessary service. Consequently, it seems not only important to examine where CLP is underutilized but also to investigate where and when it is overprovided and therefore not used to its full potential where needed. Accordingly, some studies have suggested that CLP service might sometimes been redundantly called for patients who actually are not in need of psychiatric consultation [3, 7, 8, 11]. In a study by Krautgartner et al. [8], it was shown that among all the patients of nonpsychiatric hospital departments that received psychiatric consultations, more than one-third were not in actual need of a psychiatric consultation as judged by research psychiatrists based on the patients' need for further diagnostic assessment or specialized treatment. Christodoulou et al. [3] even proposed that at times, CLP service is mainly called because of the patients' problematic behavior toward physicians and staff. The study further proposed that this leads the overwhelmed medical staff to rather transfer those patients to psychiatry as it often appears to be the only way to deal with patients' disruptive behavior. And in addition, Umapathy et al. [11] estimated that even some of the requests for assessment of capacity were made because the attending medical staff had difficulties to manage a patients' behavior. An even though assessment of capacity is an important part of the CLP service. In accordance with the general principles of psychiatric service planning [8, 12, 13], this raises the question: How often is CLP service in general hospitals used for patients that report or show symptoms that would not need CLP service and what other factors could be influencing CLP referrals?

Consequently, the aim of the present study was to explore the utilization of psychiatric consultation-liaison service among nonpsychiatric patients in various medical wards of a general university hospital in Germany. The focus of this retrospective analysis was to first sort cases by department of referral, assumed psychiatric symptoms, consensus with symptoms found by the CLP service as well as procedures recommended by the consultant psychiatrist. Second, we wanted to examine the utilization of the CLP service for patients without psychiatric diagnoses and to explore in which cases psychiatric consultation was referred redundantly and which variables led to possible cases of overprovision. To our knowledge, there has not been any other study specifically investigating the frequency and utilization of psychiatric liaison consultation for patients without psychiatric diagnoses.

Material and methods

The present naturalistic study and retrospective analysis was conducted on the CLP service at the University Hospital of Charité Campus Benjamin Franklin (CBF) in Berlin, Germany. The CBF is a university hospital with about 1200 beds and 36 departments. The psychiatric department is not directly located there but the CBF provides a CLP service covering all departments of the hospital. The reviewed patient population consisted of all 1112 patients for whom psychiatric consultation was requested from January 2013 to December 2013. The liaison consultations were done by senior psychiatrists who attended to the patients at the various departments they were treated at primarily.

Because the aim of the study was to explore the utilization of CLP service among nonpsychiatric patients, only patients for whom no psychiatric diagnosis could be assessed at the time of the consultation were included in this analysis. Therefore, patients with adjustment disorders and patients suffering from chronic psychiatric disorders—even in a stable state—were excluded from the present study. The assessment of the nonpsychiatric diagnoses was done by the attending senior psychiatrists according to the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition although no standardized interview was implemented, as this was a naturalistic sample [14]. Patients were identified as having no psychiatric diagnosis when the assumed symptoms could neither be detected nor confirmed by the attending CL psychiatrist or when the reported symptoms were beneath the clinical threshold and did not fulfill the requirements for a psychiatric diagnosis. All psychiatric consultations were recorded on specially devised clinical consultation forms which contained demographic information, primary cause of treatment, referring department and reasons for referral in addition to details of the psychiatric evaluation, recommended treatment and medication as well as follow-up suggestions. The obtained data were analyzed by descriptive statistical methods using means and standard deviations. Statistical analyses were performed with SPSS for Windows, version 21 [15].

Results

In 2013, a total of 1112 psychiatric liaison consultations were requested. Out of these consultations, 66 patients (5.9 %) were identified as having no psychiatric diagnosis by the consultant psychiatrist. In all, 59.1 % (39 cases) of these 66 patients were women and the median age was 58 (SD = 18.04; range 18–93). There were no significant differences regarding the differences between assumed and actual symptoms for age or gender, respectively.

Requesting departments

Table 1 shows that 19.7 % ($n = 13$) of these patients for whom a psychiatric consultation was required came from surgery departments of the hospital, closely followed by 15.2 % from the neurology department ($n = 10$), and 12.1 % each from cardiology ($n = 8$) and hematology ($n = 8$). Approximately 9 % of the patients seen by the liaison service came from gastroenterology ($n = 6$) followed by various other departments.

Primary reason for treatment

The second column of Table 1 shows the primary reason for treatment. Cancer treatment (19.7 %, $n = 13$), surgery related treatment (19.7 %, $n = 13$), and neurological conditions (16.7 %, $n = 11$) were the three most frequent reasons for primary treatment, followed by 12.1 % for nephrological diseases ($n = 8$) and 7.6 % for symptoms of unclear origin ($n = 5$) as well as various other medical conditions.

Assumed symptoms

As the third column in Table 1 shows, assumed depressive symptoms were the most frequent reason for CLP requests (30.3 %, $n = 20$), followed by 13.6 % of consultations concerning assessment of assumed suicidal ideations or behavior ($n = 9$). Of the 66 CLP requests, 12.1 % ($n = 8$) were for patients who were described as “difficult” and had shown assumedly aggressive, disruptive, incompliant, or disinhibited behavior or had previously been diagnosed with a psychiatric disorder. Furthermore, 12.1 % ($n = 8$) of requests were about assessment of capacity to consent and/or decisional capacity of patients and 9 % ($n = 6$) for anxiety symptoms. In 6 % ($n = 4$) the CLP service was requested because of assumedly inexplicable symptoms such as character change or impairment of consciousness. Further 6 % were about assumed psychosomatic symptoms and another 6 % about possible treatment of the assumed depressive symptoms through antidepressant medication as well as one request about inefficacious pain medication. In all, three CLP requests were initiated for assumed psychiatric diagnoses and in two cases the request for psychiatric consultation was not clear.

Consensus between assumed and actual symptoms

For 34 cases (51.5 %), the assumed symptoms or psychiatric diagnosis described in the CLP request could not be confirmed by the consultant psychiatrist because 19.7 % of the patients reported that they never had them ($n = 13$) and 22.7 % simply showed an adequate reaction to the diseases they had or the situations they were in ($n = 15$). Furthermore, in four cases the described symptoms were possibly enhanced by personality traits but did not fit any assumed disorder and in two cases patients had the diagnosis in the past but showed no current symptoms. In 12 cases (18.2 %), the symptoms that the liaison consultation was requested for were no longer reported or drastically reduced because they were related to a medical diagnosis or a certain situation. In two (3 %) cases, the assumed symptoms were originated in the lack of a comprehensive explanatory consultation and the reported symptoms in two (3 %) other cases were triggered by dissatisfaction with treatment or staff. Additionally, eight (12.1 %) patients showed symptoms that did not relate to any psychiatric diagnosis. Of the eight (12.1 %) patients whose capacity to consent and/or decisional capacity was assessed, none had an impairment of capacity but had refused treatment to seek other treatment ($n = 3$), were lacking information ($n = 1$), were displeased with the staff or medical treatment ($n = 2$), or wished to self-discharge against medical advice ($n = 2$). Furthermore, none of the nine (13.4 %) consultations concerning assessment of suicidal tendencies were suicide attempts or plans but rather temporary weariness of life caused by pain or the primary disease ($n = 4$) as well as accidents ($n = 5$)—two of them linked to alcohol abuse.

Recommended procedure

For 26 (39.4 %) patients, no further psychiatric intervention was necessary. In 11 cases (16.7 %), the consultant psychiatrist made recommendations regarding possible change in or addition to current medication treatment (pain medication, sleep inducing medication or benzodiazepines (“to calm down,” if needed). In seven (10.1 %) cases of patients whose symptoms could not be explained through a psychiatric diagnosis, additional neurological testing, and exploration of the patients’ medical history to further distinguish the patients’ behavior from his/her personality was recommended by the consultant psychiatrist. For five patients (7.6 %) further comprehensive explanatory consultation concerning their medical treatment was recommended because patients’ symptoms were related to their uncertainty concerning further treatment or they refused treatment altogether. Additionally, five (7.6 %) patients could be transferred to another department because the assumed suicidal behavior was believably denied, four (6 %) patients received a recommendation for medical, counseling, or geriatric outpatient treatment and for four patients (6 %) nursing

Table 1 Psychiatric consultations of patients with no psychiatric disorders

Department	Primary reason for treatment	Assumed symptoms	Actual symptoms (no psychiatric diagnosis)	Recommended procedure
Traumatology and surgery ($n=13$)	Fall of a window ($n=1$)	Refusing proposed intervention	No impairment of decisional capacity	Transfer to other clinic against medical advice
	Operation after accident ($n=2$)	Refusing proposed operation	No impairment of decisional capacity	No psychiatric intervention necessary
		Refusing proposed operation	Received insufficient information	Comprehensive explanatory consultation
	Thoracic drainage therapy ($n=1$)	Refusing proposed intervention. Self-endangerment?	No impairment of capacity to consent	Self-discharge against medical advice
	Polytrauma in pelvic region and lumbar spine ($n=1$)	Difficulties in pain medication treatment. Psychological problems with accident?	Pain was burdening but is gone, no other symptoms	Mirtazapin for 1 week as sleep medication, slowly increase pregabalin as pain medication
	Spinal paralysis after traffic accident ($n=1$)		Positive attitude toward paralysis, adequate reaction to accident	No psychiatric intervention necessary
	Femoral neck fractures ($n=1$)	Assumed suicidal ideations	Mood swings but no suicidal tendencies	Recommended nursing care after discharge
	Lumbar pain ($n=1$)	Refusing proposed operation	No impairment of capacity to consent	Recommended nursing care after discharge
	Ulkusperforation ($n=1$)	Assumed abuse for pain medication, difficult behavior, no compliance	Believable pain after operation, no evidence for abuse	Recommended to increase analgesics
	Operational procedure ($n=1$)	Intensive Nightmares medication?	Doesn't mind nightmares, adequate reaction to current health problems	No psychiatric intervention necessary
	Found in tub after 3 days ($n=1$)	Lack of drive	Age-adequate drive, no symptoms	Tests for possible cognitive deficits
	Dialysis patient ($n=1$)	Refusing proposed intervention	No impairment of capacity to consent	No psychiatric intervention necessary
	Cerebral aneurysm ($n=1$)	Assumed depression with aggressive behavior	No lowered mood, says to be annoyed not aggressive	No psychiatric intervention necessary
Neurology ($n=10$)	Parkinson's disease ($n=2$)	Assumed depressive symptoms, cognitive deficits	Doesn't feel depressed, surprised by CLP	Discontinue trazedon, doxepin (0-0-0-4 mg) as sleep medication and ibuprofen for pain treatment recommended
		Affect incontinence, lethargy	Possibly isolated lethargy, occasional mood swings	2 mg reboxetin against the lethargy
	Foot extensor paresis ($n=1$)	No physical cause could be found	Compulsive personality traits, many burdens, no psychiatric symptoms	Inquiring medical history from parents
	Paraesthesias ($n=1$)	Assumed Anxiety/panic disorder	No anxiety reported	Possibly outpatient treatment, e.g. counseling for stress regulation if considered helpful by the patient
	Syncopations ($n=1$)	Assumed panic symptoms	Patient has never had panic attacks	No psychiatric intervention necessary
	Unsteady gait ($n=1$)	Assumed depressive symptoms	Financial problems, do depression	Supportive talk
	Mnemenic and cognitive deficits, loss of consciousness ($n=1$)		Problems at work environment, somewhat lowered mood	No psychiatric intervention necessary
	Middle cerebrospinal fluid pleocytosis, no viral agent (n = 1)	Character change, mood swings	Unclear origin but no evidence for psychiatric symptoms	No psychiatric intervention necessary
	Unable to get off the floor for 3 days ($n=1$)	Pathological laughter, disinhibited behavior	Histrionic personality traits, possible alcohol abuse and sleep apnea	Outpatient treatment for sleep apnea syndrome
	Stroke ($n=1$)	Assumed inadequate and manic behavior	Histrionic personality	No psychiatric intervention necessary

Table 1 (continued)

Department	Primary reason for treatment	Assumed symptoms	Actual symptoms (no psychiatric diagnosis)	Recommended procedure
Cardiology ($n=8$)	Coronary heart disease ($n=1$)	Aggressive behavior at night	Confused when woken	For restlessness at night, no Haldol, rather Melperon (if requested by the patient)
	Renal failure ($n=1$)	Assumed depressive symptoms	Health problems cause lowered mood but overall not depressed	Geriatric outpatient treatment
	Urosepsis with acute renal failure/reanimation ($n=1$)	Assumed affective disorder	Depressive symptoms reduced because patient is being discharged	No psychiatric intervention necessary
	Syncopations, unclear origin ($n=1$)	Assumed symptoms of dementia, unusual behavior, impairment of consciousness	Histrionic personality traits, no dementia, minor deficits in memory	DEMTEC, Medical history thru partner or family
	Endocarditis ($n=1$)	Refusing proposed operation and requested discharge	No impairment of capacity to consent or decisional capacity	Self-discharge against medical advice
	Pain in lumbar spine ($n=1$)	Assumed suicidal ideations and weariness of life	Strong pain causes sorrow but no suicidal tendencies	No psychiatric intervention necessary
	Bronchialcarcinom ($n=2$)	Assumed depressive symptoms	Isolation in rooms caused lowered mood but overall not depressed	No psychiatric intervention necessary
		Assumed depressive symptoms antidepressive medication?	Diseases caused momentarily lowered mood but overall not depressed	No psychiatric intervention necessary, recommended pain medication
Hematology ($n=8$)	Mammacarcinom ($n=1$)	Assumed anxiety symptoms	No anxiety or depressive symptoms	Recommended change in medication and more visitation thru e.g. hospital volunteers
	Multiple myeloma ($n=1$)	Assumed depressive symptoms	Patients feels weak and weary due to diseases but not depressed	No psychiatric intervention necessary
	Severe vitamin B12 deficiency caused by malnutrition ($n=1$)	Assumed severe mood dysfunction	Surprised by liaison consultation, no depressive symptoms	No psychiatric intervention necessary
	Myelodysplastic syndrome ($n=1$)	Assumed depressive symptoms	Being faced with diseases caused momentarily lowered mood but overall not depressed	No psychiatric intervention necessary
	Central nervous system lymphoma ($n=1$)	Assumed depression or adaptation disorder? Treatment options?	Being faced with diseases caused momentarily lowered mood but overall not depressed	No psychiatric intervention necessary
	Renal cell carcinoma ($n=1$)	Assumed personality disorder, not compliant with treatment	No impairment of capacity to consent, displeased with staff and treatment	Nursing care after discharge
	Acute leukemia ($n=1$)	Assumed PTSD	Sad after passing of husband, no PTSD	No psychiatric intervention necessary
Gastroenterology ($n=6$)	Pancreatic carcinoma ($n=1$)	Assumed depressive symptoms	Being faced with diseases caused anxiety but overall not depressed	Comprehensive explanatory consultation
	Liver cirrhosis ($n=1$)	Bipolar disorder in medical history, assumed depressive symptoms, shows disruptive and difficult behavior	Patient feels overwhelmed with disease and treatment options no signs of depression or mania	Lorazepam (0.25 mg, if necessary)
	Renal cell carcinoma ($n=1$)	Assumed depressive symptoms	Patient felt overwhelmed with disease, no depressive symptoms	No psychiatric intervention necessary
	Signet ring cell carcinoma ($n=1$)	Difficult behavior, incompliant	Patient overwhelmed with disease at times but no depressive symptoms	Nursing care after discharge
	Irritable bowel syndrome and migraine ($n=1$)	Circulation problems and flickering in front of the eyes after consuming food assumed psychotic symptoms?	No delusions, no psychiatric diagnosis	Recommended neurological consultation
	Tumor ($n=1$)	Assumed suicidal risk	Patient doesn't want to suffer but won't take her life, no impairment of capacity to consent	Comprehensive explanatory consultation; social services for further options

Table 1 (continued)

Department	Primary reason for treatment	Assumed symptoms	Actual symptoms (no psychiatric diagnosis)	Recommended procedure
Nephrology ($n=5$)	Nephrological diagnostics ($n=1$)	Assumed comorbid depression	Patient feels overwhelmed with disease at times but overall no depressive symptoms	No psychiatric intervention necessary
	Chronic renal failure ($n=1$)	Aphasia, assumed depression	No clinical signs of depression	No psychiatric intervention necessary
	Hyponatremia ($n=1$)	Difficult behavior, Assumed panic attacks	Patients had never panic attacks but nightmares	No psychiatric intervention necessary
	Pneumogenic sepsis	Death of husband assumed depressive symptoms	Sad after passing of husband and scared of dialysis	Recommended to accompany patient to dialysis and 0.25 mg Lorazepam if necessary
	Terminal renal failure ($n=1$)	Death of wife	Mood is stable, no depressive symptoms	Medication to improve sleep (low-dose Doxepin (4–8 mg) or 12.5 mg Melperon (if necessary)
Intensive care ($n=5$)	Hypoglycemia after insulin overdose ($n=1$)	Assumed suicide attempt after death of husband	Suicidal tendencies believably denied	Wishes transfer to geriatric care department
	Multiple fractures after fall from balcony ($n=1$)	Assumed suicide attempt after argument with boyfriend	Suicidal tendencies believably denied, possible alcohol intoxication	No 24 h check up necessary, transfer to other department possible
	Dissection of Shelton catheter($n=1$)	Assumed suicide attempt?	Suicidal tendencies believably denied, plausible accident	Transfer to other department possible
	Hyponatremia that resulted in seizure ($n=1$)	Assumed suicide attempt thru overdose	Patient surprised by consultation, suicidal tendencies believably denied	Transfer to other department possible
	Multiple fractures after 10 m fall ($n=1$)	Assumed suicide attempt, Observation necessary?	Suicidal tendencies believably denied, possible alcohol abuse that caused accident	No 24 h check up necessary, transfer possible, neurological tests for memory deficits
Dermatology ($n=3$)	Ulcer ($n=1$)	Borderline diagnosis in medical history, break up, assumed ulcer manipulated	No Borderline symptoms, ulcer manipulation is speculative	No psychiatric intervention necessary
	Herpes Zoster ($n=1$)	Assumed depressive symptoms	Patient overwhelmed with disease at times, overall no depressive symptoms	No psychiatric intervention necessary
	Prediagnosed prurigio simplex and morbus darier, periprothetic fracture ($n=1$)	Assumed mood swings with self-mutilation	Overall no depressive symptoms	Recommended skills training if considered helpful by the patient
Rheumatology and clinical immunology (n = 2)	Severe lower abdominal pain, unclear origin ($n=1$)	Assessment of mental state	No neuropsychological symptoms	No psychiatric intervention necessary
	Unclear physical weakness, loss of control over movements ($n=1$)	Assumed dissociative disorder?	No dissociative disorder, narcissistic personality, hypochondriac symptoms	Possibly outpatient treatment, for example, counseling if considered helpful by the patient
Ophthalmology ($n=2$)	Tumor behind left eye ($n=1$)	Assessment of mental state	Patient overwhelmed with disease, calmer because of operation	No psychiatric intervention necessary
	Melanoma ($n=1$)	Anxious, wants to leave clinic	Patient overwhelmed with diagnosis	Comprehensive explanatory consultation
Otorhinolaryngology ($n=1$)	Postoperative hemorrhaging and bleeding ($n=1$)	Assumed panic attacks	Anxious but not panic attacks	Supportive talk, comprehensive explanatory consultation
Psychosomatics ($n=1$)	Atrophy, presyncope syndrome ($n=1$)	Dizziness, no memory of loss of consciousness	No personality changes, no psychiatric symptoms	Recommended neurological test
First aid unit ($n=1$)	Paresis of the right sight ($n=1$)	Assumed borderline syndrome	Borderline symptom traits, no conflicts that could have started the paresis	fMRI and possible change in medication

care after their discharge was either recommended or arranged. In all, three patients (4.5 %) could discharge against medical advice because the CLP service assessed no impairment of capacity to consent or make a decision. Finally, in two (3 %) cases the CLP provided a supportive talk and in one (1.5 %) case skills training if required by the patients was recommended.

Discussion

The present retrospective study tried to explore how the CLP service, an essential source in integrating both medical and psychiatric treatment in general hospitals, was utilized in a general university hospital in Germany. The main focus of the present study was to explore how often CLP service was provided for patients that retrospectively did not have any psychiatric disorders as well as to investigate which factors led to these CLP requests.

In 2013, of all 1112 CLP referrals at the University hospital Charité—Campus Benjamin Franklin (CBF), 5.9 % were requested for patients without a psychiatric disorder. This is in accordance with Krautgartner et al. [8] who similarly reported that of the patients with no need for psychiatric consultation, 5 % had actually received CLP service.

The present data showed that the majority of CLP requests for patients with no psychiatric disorder came from the surgery departments of the hospital. This is not consistent with previous findings which reported a vast underutilization of the psychiatric consultation-liaison service by major medical surgical units [4]. Interestingly though, half of these CLP request were done because patients refused the proposed intervention or operation—a problem that appeared above all at the surgery departments and an aspect that was not discussed in previous studies. However, this is in accordance with the findings of Ranjith et al. [7] who showed that 57 % of referrals assessing capacity to consent were for patients who had refused the proposed intervention.

Assumed depressive symptoms were found to be the most frequent reasons for CLP referrals. Interestingly, previous finding were rather ambiguous showing that less severe symptoms of depression or distress were either not recognized or overestimated as signs for depression by general practitioners [16–23]. This could be suggesting that the diversity of depressive symptoms not only leads to lack of recognition but might also lead to premature or unsubstantiated diagnoses.

The second major reason (13.6 %) for CLP requests were—similar to previous findings—assumed suicidal ideations or behavior [9, 24, 25]. Although none of the assumed suicidal ideations or attempts were confirmed as such by the patients, this area of CLP service is an essential part of psychiatric consultation and therefore rather over- than underprovided because of the high risks involved [4].

Furthermore, out of the 66 requests, 12 % were for patients who were described as “difficult” and had shown seemingly aggressive, incompliant or disinhibited behavior or had previously been diagnosed with a psychiatric disorder. Previous studies had reported that up to 12 % of all CLP referrals were done for noncompliant and “difficult” patients, more due to their behavior than for any specific psychiatric disorder [3, 8, 26, 27]. The present results reported a much lower rate (0.72 % of the total requests), but also showed that most cases described as “difficult” either had difficulties dealing with the consequences of their medical diseases or were unsatisfied with the medical treatment. None of them had any of the assumed psychiatric diagnoses and in all of the cases the problem could either be resolved or a compromise could be found. Additionally, Krautgartner et al. [8] showed that 8.3 % of the cases of overprovision were for patients with personality disorders. Although none of the patients included in this study had a personality disorder, four patients showed distinctive personality traits that probably led to the respective request as the behavior of these patients was described as “difficult” or “unusual.” This could further imply that some CLP consultations are requested due to the patients’ strenuous behavior rather than acute psychiatric symptoms. Moreover, the present finding are further in accordance with previous results showing patients who had been treated previously by psychiatric services were more often overprovided with CLP services then patients with no psychiatric medical history [8].

The CLP service also found in none of the corresponding eight CLP request an impairment of capacity but rather patients that wanted other treatment, were lacking information, were displeased with the treatment or wished to self-discharge. These findings are consistent with the data of previous studies [7], showing that CLP service often acts as a mediator between the patient and the respective practitioner.

Finally, results regarding the consensus between assumed and actual symptoms showed that roughly one-fifth of the reported cases never had the symptoms the consultation was requested for. Furthermore, 13 of the nonpsychiatric cases showed an adequate not pathological reaction to the diseases they had or the situations they were in. Likewise, in 12 cases the symptoms that the liaison consultation was requested for were either no longer reported or were drastically reduced because these symptoms were more of an initial reaction to a diagnosis or a certain situation. These results too are in line with previous findings regarding mild depression and distress which reported that in roughly 12 % physicians incorrectly diagnosed a major depression although patients did not meet the criteria on a clinical diagnostic system [20].

In conclusion, multiple studies have reported that CLP assistance is a necessary but often underprovided service [1, 5, 8–10]. Therefore, it is imperative to utilize it to its full potential. For that reason this retrospective study aimed to explore the utilization of CLP service among nonpsychiatric patients as a marker of possible “overprovision” and consequently explore contributing factors. The present results showed that lowered or depressive mood, suicidal ideations, “difficult” or incompliant behavior

as well as refusal of proposed interventions were the most common reason for CLP requests although—with the exception of suicidal ideations and behavior—psychiatric expertise was not necessarily needed in most of these cases. Hence, leading to what could be considered as "overprovision" of the CLP service. The results further suggest that most of the overprovided psychiatric consultations were probably caused by either an uncertainty about the exact area of work of the CLP service or originated in an overestimation of the severity of certain symptoms by the attending physician. As previous studies have shown [4, 7, 8], due to lack of profound psychiatric education and training and limited interdisciplinary contact, many physicians of other medical areas are often uncertain about the working field of psychiatrist. Thus, it is a common assumption that the treatment of "difficult," incompliant, or emotionally afflicted patients falls to the CLP service. But as shown in the present results, "difficult" or incompliant behavior can very well simply be the result of a patients' lack of comprehension, anxiety, or misunderstanding rather than a psychiatric disorder. Similarly, many patients simply need some time to process a difficult diagnosis or require a more comprehensive explanatory consultation by their physician. Consequently, none of these factors necessarily call for a psychiatric consultation. But without proper knowledge on the working areas of psychiatry, it can be understandably hard to distinguish between "difficult" or emotionally charged and psychiatrically relevant behavior for many physicians. Yet, simply restricting the requesting of the CLP service is not the answer either as it could easily lead to the risk of possibly disregarding signs of comorbid psychiatric disorders. Therefore, the old "rule of thumb" that it is better to request the assistance of the CLP service one too many times than not enough, should not be discarded. But to use CLP service to its full potential, first more precise criteria need to be developed as possible guidelines for physicians and psychiatrists. Second, and in accordance with previous findings, a better and more profound training in psychiatric knowledge and assessment of psychiatric symptoms for nonpsychiatric practitioners of all medical fields could help to improve the current situation. This would not only serve to prevent further CLP overprovision but would additionally improve the recognition of psychiatric diagnosis especially in patients with subthreshold psychiatric symptoms as reported for some of the patients in the present study. Consequently, this could enhance and accelerate the treatment of psychiatric disorders as well as improve the medical treatment of psychiatric patients by more precisely catering to their requirements (e.g., providing a thorough medical consultation for patients with psychiatric disorders such as panic disorders).

One option to implement these suggestions could be an extended training for nonpsychiatric units given through workshops and seminars by current CL psychiatrists. And on a larger scale, it seems crucial that psychiatric knowledge becomes an essential and much more extended part in medical training. In the long run, this would not only majorly improve the treatment of comorbid psychiatric and physical disorders but might also lead to lowered cost for health care and a better provision of those patients in need of CLP series.

When interpreting these results, some limitations have to be considered. First of all, since this was a retrospective analysis, only data provided on the specially devised clinical consultation sheets could be used. As this is a naturalistic sample, some information was therefore missing. Furthermore, since only CLP requests from 2013 were included, the small number of cases presented does not allow for much generalizations of the studied population outside of similar general (university) hospitals in Germany where consultation-liaison service is sufficiently provided. Consequently, future studies should focus on finding further reliable criteria and factors leading to over- and under provision of CLP services as well as factors that improve the assessment of psychiatric and nonpsychiatric symptoms by physician for CLP referrals.

Conflict of interest

The authors declare that there is no conflict of interest.

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