

# Outpatient Emergency Admissions to a Child and Adolescent Psychiatry Hospital, and Following Immediate Hospitalization

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## Abstract

**Objective:** The aim of this study was to provide data on child and adolescent psychiatric emergencies focusing on factors leading to immediate hospitalization.

**Method:** A half-year sample consisting of 306 consecutive outpatient emergencies at a large general child and adolescent psychiatric hospital in Germany was examined.

**Results:** 85.3% of the presented patients were aged 13 years or older. 54.6% of the emergencies were presented outside usual working hours. The number of emergencies was higher on weekdays compared to weekends/holidays ( $p < .001$ ) and higher during school year weekdays compared holidays ( $p < .01$ ). Self-harm (80.1%) was the main reason for presentation. 45% of male, but only 13% of female patients were presented for potential dangerousness to others. Immediate hospitalization following the emergency contact was more common in 65.2% outside usual working hours, compared to 40.1% at regular hours ( $p < .001$ ). Persons in charge of legal custody present at the emergency contact made treatment alternatives to immediate admission more probable outside regular working hours ( $p < .001$ ). Among patients not being hospitalized, 65.5% were offered at least a second contact to the outpatient department of the clinic and 16% were assessed to need help from the youth welfare system.

**Conclusion:** Emergencies to child and adolescent psychiatry show a complex pattern. Hospitalization depends not only on psychopathology, but also on contextual non-psychiatric factors (German J Psychiatry 2013; 16(1): 1-6).

**Keywords:** Child and adolescent psychiatry, out-patient emergencies, hospitalization, admission factors, crisis intervention

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## Introduction

Data on child and adolescent psychiatric emergencies and factors leading to subsequent hospitalization are still limited, due to the fact that at least up to the last decade a lack of emergency beds was deplored (Worral & O'Herlihy 2001) or adolescents were admitted to adult psychiatry due to non-available appropriate services (Park et al. 2011). Peterson et al. (1996) examined risk factors for child psychiatric emergencies. Presentation on school year weekdays, being female and being older were

associated with suicidality. Being younger and male was associated with aggressive and oppositional presentation. Risks for hospitalization included presentation during the school year. Gutterman et al. (1993) stated that suicidal behaviour does not predict hospitalization, but suicidality combined with harmfulness to others. Gutterman (1998) showed that psychotic or affective disorders combined with harmfulness make hospitalization more probable. McNicholas et al. (2010) reported that children with deliberate self-harm and suicidal ideations were presented to a pediatric accident and emergency service in Ireland in 80% outside normal working hours. Edelsohn et al. (2003) pointed out

that 40% of pediatric psychiatric emergencies were for non-urgent reasons, indicating that there are considerable unmet mental health needs for children and adolescents. Blondon et al. (2007) stress that the child and adolescent psychiatric emergency situation often bear an important social component. In their retrospective study comparing samples from 1992 and 2002, the number of patients increased dramatically; major depression was the first diagnosis in 1992 (24.2%) and 2002 (35.8%). Hospitalization occurred in 34.2% in 1992 compared to 19.8% in 2002, but the absolute numbers remained stable. Worrall et al. (2001 & 2004) deplore inappropriate admissions of juveniles to adult psychiatry wards due to scarce capacities of child and adolescent psychiatry services.

In the present article, we analyzed outpatient emergencies at a large general child and adolescent psychiatry hospital in Germany, serving a region of about 4 million inhabitants

## Method

*Sample.* All 306 out-patient emergencies (half-year sample in 2005) were included. The outpatient emergency service is in charge of patients under the age of 18 for twenty-four hours a day (all-hour emergency access).

*Procedure.* Doctors on duty filled out a questionnaire at the time of contact with the patient, continually performing the study. Missing data was filled in within two weeks' time.

*Parametrization.* Besides general data like age and gender of the patients, special items were analyzed such as: ways and time of access to the outpatient emergency contact, reasons for presentation, reasons for subsequent immediate hospitalization, first diagnosis according to ICD-10, and alternatives to immediate admission to inpatient care. Diagnoses given were those at the time of the emergency contact and not after discharge from hospital.

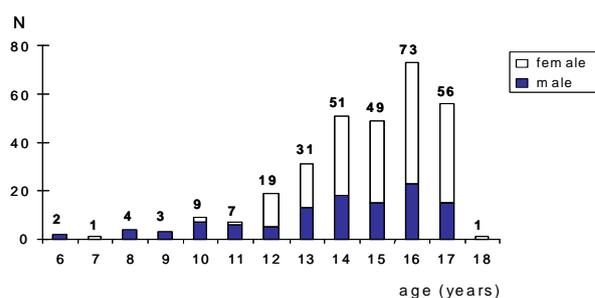
*Statistics.*  $\chi^2$ -tests were used for testing of single variables. Logistic regression (stepwise forward) models (Morgan et al., 2003), which control for spurious correlations and allow for the analysis of relationships in a more differentiated manner, were applied to find predictors for immediate hospitalization. Different models were calculated depending on the time of attendance (working days inside and outside usual working hours, weekend/holiday). The variables mentioned above were considered as potential predictors.

## Results

### Age and gender

36.3% of outpatient emergency patients were male, 63.7% were female. 85.3% of the patients were aged 13 years or older. Younger patients tended to be presented without any prior contact to the clinic, even without a prior telephone

**Figure 1: Age and gender distribution of the patients**



call by parents or other services. Up to the age of 11, most patients were male, from age 12 on about two third of them were female (see Figure 1).

### Time and days of presentation

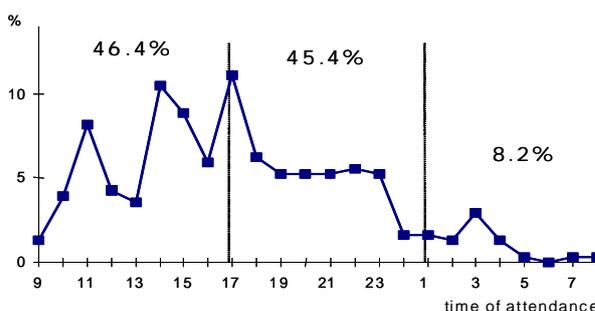
In about 54.6%, emergency presentations took place outside usual working hours between 17.00 pm and 9.00 am, with a continuous flow of patients up to midnight. During daytime, there was a peak in the late morning and early afternoon, possibly due to fixation of time by the doctor on duty during a prior notifying telephone call (see Figure 2).

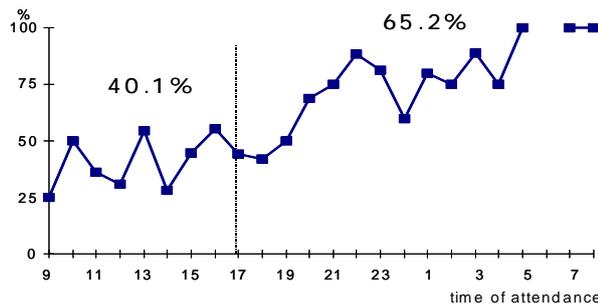
Emergencies were significantly more frequently presented on weekdays (Monday to Friday) with a mean of 2.0 emergencies per day, compared to weekends/holidays with a mean of 1.0 emergencies per day ( $p < .001$ ,  $\chi^2$ -test). They took place most frequently on weekdays outside school holidays (mean: 2.2 emergencies per day), compared to days during school holidays (mean: 1.4 emergencies per day,  $p < .01$ ,  $\chi^2$ -test).

### Reasons for presentation

Reasons for presentation (more than one answer possible) consisted in suspected self-harmfulness (including suspected suicidality) in 80.1% ( $N=245$ ), in suspected harmfulness to others in 22.6% ( $N=69$ ) and in psychopathologic signs other

**Figure 2: Time of attendance and percentage of patients presented**



**Figure 3: Time of outpatient emergency and percentage of patients admitted to inpatient treatment**

than the before mentioned such as psychotic or obsessive-compulsive symptoms, abuse, anxiety disorder, or conduct problems with no harmful aspect in 12.4% (N=38). Combined self-harmfulness and suspected harmfulness to others was seen in 11.1%, solely harmfulness to others in 11.4%. 45% of male patients, but only 13% of females were presented for reasons of harmfulness to others. Patients suspected to be harmful or dangerous to others tended to be male and to be being presented by police and/or with prior legal conditions.

### Predictors for immediate hospitalization

Immediate hospitalization followed the emergency contact in 54% (n=164). Immediate hospitalization was more common outside normal working hours between 5.00 pm and 09.00 am in 65.2% of all emergencies compared to 40.1% during regular working time ( $p < .001$ ,  $\chi^2$ -test; see Figure 3).

The different logistic regression models depending on time of day and weekdays vs. weekends/holidays revealed predictors related not only to psychopathology but also to contextual non-psychiatric factors (see Table 1): Being suspected to be dangerous to oneself as a reason for presentation made immediate admission to inpatient care more probable on weekdays ( $p < 0.05$ , logistic regression).

In 20% emergencies took place without any prior notifying contact. These emergencies led to immediate inpatient care in 21%, compared to 62% of emergencies after a notifying telephone contact to the doctor on duty by a colleague, a psychotherapist, a social worker or family members ( $p < .05$ ). Outside regular working hours on weekdays, the presence of parents or persons in charge of legal custody during the emergency contact made treatment alternatives to immediate inpatient care more probable ( $p < .001$ ).

Factors including age and gender did not turn out as significant predictor variables for immediate hospitalization.

### Reasons for inpatient treatment

Patients taken into immediate inpatient care (n=164) were mostly admitted for reasons of suicidality with only a small percentage (17.7%) being assessed to show definite suicidality (see Table 2). Self-harmfulness as a reason for inpatient

**Table 1: Predictors for immediate hospitalization.** Different logistic regression models were calculated depending on the time of attendance

Factor	Weekdays 9:00 a.m.– 5:00 p.m.	Weekdays 5:00 p.m.– 9:00 a.m.	Weekend/ holidays
Age	n.s.	n.s.	n.s.
Gender	n.s.	n.s.	n.s.
Prior notification	Makes immediate hospitalization more probable		
	$p = 0.04$	$p = 0.02$	$p = 0.004$
Parent/person in legal custody present	n.s.	alternatives probable $p < .001$	n.s.
Voluntariness vs. brought by police	n.s.	n.s.	n.s.
Suspected self-harmfulness	Hospitalization more probable		n.s.
	$p = 0.01$	$p = 0.02$	
Suspected harmfulness to others	n.s.	n.s.	n.s.
Other psychopathological findings	n.s.	n.s.	n.s.

care was defined more precisely by the doctors as suicidality, as other forms such as self-injury would only lead to immediate inpatient care in special cases when combined with acute suicidality or an acute psychotic disorder.

The percentage of patients admitted to inpatient treatment differed, according to their first diagnosis (see Table 3). For diagnoses, which occurred only in a small number of patients, no reliable statistical results could be obtained.

Patients with depressive disorder (F32, F33), posttraumatic stress disorder (F43.1), and personality disorder (F60, F61) had a higher rate of inpatient admission compared to other patients ( $p < .05$ ,  $\chi^2$ -test). A lower rate of inpatient admission was observed in patients with acute stress disorder (F43.0,  $p < .05$ ,  $\chi^2$ -test) and hyperkinetic disorder (F90,  $p < .005$ ,  $\chi^2$ -test).

### Alternatives to immediate inpatient treatment

65.5% of the patients not being hospitalized immediately after the emergency contact were offered at least a second contact to our outpatient department, either to the doctor on duty or to the consultant as a second look, or for reasons of a thorough examination and consecutive treatment to the

**Table 2: Psychopathologic findings and reasons for admission to immediate inpatient treatment after outpatient emergency, more than one answer possible**

Definite reasons for immediate inpatient treatment	number	percentage
Definite suicidality	29	17.7 %
Suicidality not to be excluded	98	59.8 %
Other psychopathologic findings	32	19.5 %
Harmfulness to others	10	6.1 %
Harmfulness to others not to be excluded	24	14.6 %
Danger to run away	30	18.3 %

**Table 3: Percentage of inpatient admission after outpatient emergency according to first ICD-10 diagnosis and significance of non-admission/ admission (see text).**

First diagnosis	ICD 10	N	Inpatient treatment
Dysthymia	F34	1	0%
Anxiety disorder	F41	4	0%
Obsessive compulsive disorder	F42	2	0%
Pervasive developmental disorder	F84	2	0%
Acute stress reaction	F43.0	14	21.4%*
Hyperkinetic disorder	F90	35	28.6%**
Eating disorder	F50	10	40.0%
Schizophrenic psychosis	F20	8	50.0%
Dissociative or somatoform disorder	F44-48	4	50.0%
Impulsive disorder	F63.8	2	50.0%
Intellectual disability	F70	4	50.0%
Emotional disorder	F93	6	50.0%
Adjustment disorder	F43.2	64	51.6%
Conduct disorder	F91, 92	59	56.0%
Behavioral disorder due to brain disease	F07	3	66.6%
Depressive disorder	F32, F33	45	68.9%*
Substance abuse	F1	9	77.7%
Posttraumatic stress disorder	F43.1	14	78.6%*
Personality disorder	F60, F61	13	85.0%*
Transient or schizoaffective psychotic disorder	F23, F25	7	83.3%

p<.05, p<.005.

outpatient department as a regular and planned contact (see Table 4).

Recommended alternatives to immediate inpatient care included outpatient psychotherapy, outpatient medication, as well as inpatient treatment at some future time after preparation. 16% of those not being hospitalized were assessed to need aid by the youth welfare care system.

## Discussion

In our half-year analysis of outpatient emergencies, about 50% of the patients were admitted to inpatient care for reasons of further assessment with 'suicidality not to be excluded' being the most frequent reason for inpatient admission. We saw an association between the frequency of emergencies and periods without school lessons, comparable to data from North America (Peterson et al. 1996).

### Factors affecting hospitalization

Presence of parents apparently promotes other solutions than inpatient treatment, as alternative solutions can be realized. Without a person in charge of legal custody for the patient under age, the doctor on duty might be forced to

**Table 4: Alternatives to immediate hospitalization, more than one answer possible**

Alternatives to hospitalization	N	percentage
Reattendance to doctor on duty	22	15.5%
Reattendance to consultant of the clinic	25	17.6%
Reattendance to consultant in private practice or to another outpatient department	18	12.7 %
Regular reattendance to the outpatient department of the clinic	54	38.0 %
Recommendation to attend psychotherapy	14	9.9 %
Recommendation to medication	12	8,5 %
Recommendation to inpatient treatment after preparation	37	26.1 %
Recommendation to inpatient treatment in adult psychiatry	1	0.7 %
Solely recommendation to inpatient youth welfare foster care	13	9.2 %
Directly transferred to inpatient youth welfare care	6	4.2 %
Recommendation of outpatient youth welfare care	4	2.8 %

decide in favor of inpatient admission. Inpatient treatment is at hand after an escalation, with nobody present to take responsibility for the young patient presented to the doctor on duty. Without parents present, information about family resources and the patient's actual situation is missing quite often.

Emergencies might tend to take place outside regular working hours as other services are closed then – or patients could not be helped sufficiently by pre-treating services during daytime on first consultation, and are therefore admitted to the hospital's emergency department at some later time of the day.

Prior notification by telephone might serve as a filter against pseudo-emergencies, but also as a first aid consultation, offering other solutions than an immediate outpatient emergency. In future research, telephone contacts leading to no further consultation of the emergency service should be included.

Some statistical findings such as self-harmfulness not being a predictor for inpatient treatment on weekends and holidays, compared to on workdays, should be analyzed further. On weekends alternative services are closed, so addressing the outpatient department might meet different reasons and thresholds at such time.

### Self-harm and borderline diagnosis

Although about 80% of our patients were presented with assumed self-harmfulness, borderline personality disorder diagnosis is not frequent among patients immediately admitted to the hospital. Healy et al (2002) reported that half of the attenders of an inner London child and adolescent mental health emergency service, presented after an episode of deliberate self-harmfulness had no serious mental health problem. According to ICD-10, child and adolescent psychi-

atrists should be reluctant to definitely diagnose a borderline personality disorder and should therefore use other diagnoses like adjustment disorder or depression to classify psychopathologic findings at least in the emergency situation. For reasons of usually quite difficult handling on the ward, borderline adolescents are treated as outpatients if possible, or in a non-emergency inpatient setting which should be well prepared.

## Topics for future research

The role of alternative services handling psychopathologic emergencies with children and adolescents and being available on weekdays compared to weekends, should be examined in a special design. Hillen & Szaniecki (2010) showed that more referrals to an out-of-hours service were made when daytime liaison services were closed. Goldstein et al. (2007) assumed that recidivism in emergency services among child and adolescent psychiatry patients might be part of a continuum of care for patients already in treatment or, on the other hand, may reflect a lack of available or appropriate care in community settings. Future samples should include data on recidivism and readmission to emergency evaluation, as well as readmission to inpatient care.

## Conclusions

The outcome of outpatient emergencies in child and adolescent psychiatry does not only depend on reasons for presentation and diagnostic findings, but also on contextual factors such as day and time of presentation and accompanying persons. Some findings from American studies were confirmed in this German sample - such as a higher hospitalization rate outside holidays. Concerning clinical aspects, the findings provide evidence that only a 24 hour emergency service in child and adolescent psychiatry meets the needs of patients and their families.

Data from multicenter studies on outpatient emergencies in child and adolescent psychiatry are still missing. Such data would allow a comparison between different services and their modalities to manage acute crisis in young severely ill psychiatric patients.

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