ORIGINAL ARTICLE

Alcohol related conditions represent a major psychiatric problem in emergency departments

B T te Wildt, C Andreis, I Auffahrt, C Tettenborn, S Kropp, M Ohlmeier

See end of article for authors' affiliations

Emerg Med J 2006;23:428–430. doi: 10.1136/emj.2005.028415

Correspondence to:
Dr Bert T te Wildt,
Department of Clinical
Psychiatry and
Psychotherapy,
Medizinische Hochschule
Hannover, Carl-Neuberg-
Straße 1, 30625
Hannover, Germany;
tewildt.bert@
mh-hannover.de

Accepted for publication
7 December 2005

Background: Alcoholism represents a huge socioeconomic burden in most developed societies.

Methods: In order to determine the impact of conditions associated with alcohol abuse on emergency care, in 2002 all patients with alcohol related pathology presenting to the emergency department (ED) of a large urban university hospital in Germany were assessed.

Results: Of 2194 patients seen by psychiatrists in the ED, the 613 cases associated with alcohol abuse represented the largest diagnostic group (30.7%). Within this group, alcohol intoxication was the most frequent diagnosis (71.4%). Patients with an alcohol related condition needed treatment by different medical specialties and required diagnostic procedures significantly more often and consequently stayed significantly longer in the ED than patients with other psychiatric presentations.

Conclusions: The generally underestimated problem of alcohol abuse in Germany demands an excessive amount of manpower and resources in EDs, where a high yet expensive standard of care is provided. Against this background, how far this burden can be reduced, both in EDs and in society in general, is discussed.

Alcoholism represents a widely underestimated socioeconomic burden in most developed societies. For example, in Germany alcohol is the most misused substance and causes the greatest medical and social burden in the adult population. An estimated 20 billion Euro are lost due to alcohol related disease and work deficit each year.¹ Point prevalence for alcohol abuse and dependency among the 82 million Germans ranges from 4% to 7%² with a lifetime prevalence of 13%.³ The average age of onset is 30 years; however, the rate of alcohol abuse among young people is constantly rising.⁴

Particularly in emergency departments (ED), medical professionals of all specialties are frequently confronted with both the psychiatric and physical complications of alcohol dependency. In Germany, emergency medicine is not a specialty but is performed by multi-professional interdisciplinary teams, involving psychiatrists, neurologists, surgeons, and internists. In the very busy ED of the Medical University of Hannover (MHH), serving a population of 141 000 people, psychiatry is the key discipline involved in alcohol related emergencies. However, all disciplines are affected by the amount of resources consumed by these patients. Therefore, the decision concerning whose turn it is to finally admit patients often leads to tensions between specialty teams. The presented audit was performed to provide solid ground for discussion and further measurements.

METHODS

Within the framework of a larger project assessing psychiatric emergencies in EDs, all alcohol related presentations to the ED of the MHH in the year 2002 were documented and analysed. Personal data were gathered from the hospital's routine basic documentation system. Figures concerning medical and psychiatric conditions were extracted from the doctors' notes. Information on diagnostic procedures and previous treatment was taken from the clinic's digital documentation system. The collected data were processed and analysed with SPSS, version 12.0. In order to examine the data in terms of significance, the χ^2 test and the Mann-Whitney U test were performed. The results are

discussed against the background of comparable international data.

RESULTS

In 2002 in the ED of the MHH, the most frequent psychiatric diagnoses (39.7%; 870 of a total of 2194 psychiatric patients) were F1 diagnoses due to substance abuse according to ICD-10 criteria for psychiatric conditions.⁵ Only 9.0% patients within the substance abuse group were seen for complications associated with illegal drug use. Thus, the 673 patients (30.7%) with an alcohol related condition represented by far the largest group within the psychiatric population (table 1).

Within the patient group with alcohol related disorders, alcohol intoxication (F10.0) was diagnosed in 71.4% of cases (table 2), followed by 12.5% with alcohol dependency (F10.2) and 12.4% with acute withdrawal (F10.3/4).

There was a significant gender difference ($p < 0.001$) within the group of alcohol related conditions with 476 male (70.7%) and 197 (29.3%) female patients, as opposed to the group with other psychiatric diagnoses, in which more patients were female (56.4%) than male (43.6%). With a range of 17–86 years, the mean age of 45.2 years (SD 11.2) of those presenting with alcohol related conditions was significantly higher ($p < 0.001$) than the mean age of the rest of the psychiatric population, which was 41.9 years (SD 16.8).

Of 673 patients with an alcohol related condition, 386 (57.4%) had been treated for an alcohol related disorder at least once before in the ED. Patients with alcohol intoxication reappeared in the ED significantly more often ($p < 0.001$) than patients from all other diagnostic groups. The repeatedly presenting alcohol intoxicated patients also exhibited a significantly higher ($p < 0.001$) blood alcohol concentration (BAC; 0.27%) than those presenting for the first time (0.23%). Among the 673 patients with alcohol related disorders, the average BAL was 0.27% with a median BAC of 0.28% and a maximum BAC of 0.59%. An ECG, blood alcohol level measurement, blood investigation, and general physical examination were performed for all patients being admitted. Patients with alcohol related conditions needed to be seen by more medical specialists and underwent more

Table 1 Most frequent psychiatric diagnoses (F) in the ED in 2002

Diagnosis	ICD-10	n	%
Alcohol related disorders	F10	673	30.7%
Schizophrenia	F20	295	13.4%
Illegal substance abuse	F11–F19	197	9.0%
Depressive episode	F32–F33	174	7.9%
Acute stress reaction	F43.0	151	6.9%
Adjustment disorder	F43.2	109	5.0%
Borderline personality disorder	F60.3	102	4.6%
Schizoaffective disorder	F25	79	3.6%
Bipolar disorder	F30–F31	56	2.6%
Other psychiatric disorders	–	358	16.3%
Total	–	2194	100%

diagnostic procedures than other psychiatric patients, leading to a significantly longer time in the ED (table 3).

More than any other psychiatric group, patients with alcohol related disorders needed a somatic consultation (37.0% *v* 18.6%), usually by internists, neurologists, and/or surgeons (table 4). Mean length of stay was 137 min with a median of 125 min and a range of 10 min to almost 21 h; 27.6% of F10 patients were treated in the ED for more than 3 h.

Of the patients with alcohol related conditions (49.7%) seen by psychiatrists in the ED, 293 (43.5%) were finally admitted to a psychiatric ward. Two thirds were admitted to the MHH psychiatric unit (66.7%) and one third to other psychiatric hospitals (33.3%) in keeping with the hospitals' catchment area distribution. Admissions to other medical faculties were conducted in 21.1% of cases, mostly to internal medicine due to severe intoxication.

DISCUSSION

Although the sample contains patients from both urban and suburban districts and rich and poor areas, it may not be fully representative of Germany as a whole. However, in a comparable German audit, Pajonk *et al*⁶ identified a similar percentage (34%) of alcohol related cases among patients seen for a psychiatric condition in an ED. Although the findings can not be generalised globally, the frequency of patients presenting with alcohol related pathology in the ED is comparable to the situation in Great Britain, as shown by an audit which revealed that one third of ED attendees had consumed alcohol immediately before presentation and more than two thirds of attendances after midnight were alcohol related.⁷

In both Germany and Great Britain, alcoholism consumes a lot of medical and psychiatric resources compared to other psychiatric diagnoses. As highlighted by the presented data, the ED treatment of patients with alcohol related pathology compared to other psychiatric patients requires more physician time, greater involvement of different medical

Table 2 Specific diagnoses within the F1 group

Diagnosis	ICD-10	n	%
Alcohol intoxication	F10.0	478	71.4%
Alcohol abuse	F10.1	16	2.4%
Alcohol dependency	F10.2	85	12.5%
Alcohol withdrawal without delirium	F10.3	75	11.1%
Alcohol withdrawal with delirium	F10.4	9	1.3%
Alcohol psychosis	F10.5	4	0.5%
Amnesic syndrome (Korsakow)	F10.6	5	0.7%
Residual syndrome	F10.7	1	0.1%
All alcohol related conditions	F10.0	673	100%

disciplines, and more diagnostic procedures. However, this extensive and expensive approach results in a high standard of care. In the documented year 2002, no patient died because of an alcohol related condition either in the ED of the MHH or in the psychiatric unit.

In most cases of alcohol intoxication, an alternative to this elaborate treatment is police custody. The decision whether a patient has to be presented to a doctor is often taken by police officers. However, the medical threshold and the legal implications of this decision are somewhat arbitrary. Fatal complications of alcohol intoxication within or after discharge from police custody are not uncommon.^{8–10} Therefore, police custody cannot be substituted for hospitalisation.

Nevertheless, there is a need to facilitate the treatment of acute alcohol related diseases, which require a large amount of medical professionals' working time in EDs. This is especially true for psychiatric doctors, who in most developed countries are the key discipline to treat these patients.¹¹ In order to deal with patients properly and with empathy, psychiatrists have to accept alcoholism as an integral part of their work. However, many doctors find it unsatisfying to treat alcohol related conditions as they often do not accept that alcoholism is a disease and may have to carry a burden which is ignored by the rest of society. However, medical professionals working in ED perform a key function in detecting alcoholism and providing access to treatment as a couple of encouraging British studies have shown.^{12 13}

CONCLUSIONS

In practical terms, these data may encourage clinicians in EDs to work with protocols, as recommended by the Royal College of Physicians,¹⁴ that improve and facilitate the interdisciplinary treatment of patients with alcohol related pathology, while maintaining medical standards. Police custody is a safe enough substitute for hospital treatment, but might be reserved for less severe cases of intoxication. To meet medical and legal requirements, effort should be put into the development of criteria for deciding whether an intoxicated patient should be taken to an ED or into police custody. However, there will be no absolute guarantee of safety. It also has to be stated that alcohol abuse is not only a disease but also a matter of choice and self responsibility in

Table 3 Turnaround times, medical procedures, and consultations of patients with alcohol related disorders*

	F10 (n = 673)		Other F (n = 1521)		Two-tailed p
	Mean	SD	Mean	SD	
Turnaround times in the ED* (in minutes)	137.1	97.4	117.8	97.4	<0.001
No. of diagnostic procedures before admission	1.64	0.83	1.36	0.80	<0.001
No. of consultations of somatic disciplines	0.44	0.50	0.22	0.50	<0.001

*Turnaround times are time from arrival to departure/admission on ward.

Table 4 Consultation liaison services and diagnostic procedures within the ED

Medical assessment	F10		All except F10	
	n	%	n	%
Psychiatric presentation only	424	63.0	1238	81.4
Presentation to an additional medical discipline	205	30.5	227	14.9
Presentations to two medical disciplines	44	6.5	56	3.7
Medical consultation	158	23.5	130	8.5
Surgical consultation	46	6.8	77	5.0
Neurological/neurosurgical consultation	59	8.8	98	6.5
Cerebral computer tomography	14	2.1	26	1.9
Other x ray	7	1.0	2	0.2
Toxicology	14	2.1	46	3.1
Total	673	(100%)	1521	(100%)

terms of risky behaviour. Moreover, the fact that medicine alone will never be able cure the individual's and society's loss due to alcoholism needs to be considered. Treatment would be more promising and satisfying if society acknowledged alcohol abuse as a major medical and economic burden. This "blind spot" might derive from the fact that most people drink alcohol but subconsciously fear becoming dependent themselves. So the presented data might also highlight the need for an awareness program to counteract the collective neglect of alcohol abuse. A ban on the promotion of alcohol, similar to the bans on tobacco advertising, could be one of many measures. As the alcohol industry increasingly focuses on young people,⁴ whose alcohol consumption has risen alarmingly, severe alcohol problems in the future are to be anticipated.

Authors' affiliations

B T te Wildt, C Andreis, I Auffahrt, C Tettenborn, S Kropp, M Ohlmeier, Department of Clinical Psychiatry and Psychotherapy, Medizinische Hochschule Hannover, Carl-Neuberg-Straße 1, 30625 Hannover, Germany

Competing interests: none declared

REFERENCES

- 1 **Bundesministerium für Gesundheit.** *Alkoholkonsum und alkoholbezogene Störungen in Deutschland.* Schriftenreihe des BMG. Baden-Baden: Nomos, 2000.
- 2 **Soyka M.** *Die Alkoholkrankheit - Diagnose und Therapie.* London: Chapman & Hall, 1995.
- 3 **Wittchen HU, Essau CA, von Zerssen D, et al.** Lifetime and six month prevalence of mental disorders in the Munich follow-up study. *Eur Arch Psychiatry Clin Neurosci* 1992;**241**:247-58.
- 4 **Holly A, Wittchen HU.** Patterns of use and their relationship to DSM-IV abuse and dependence of alcohol among adolescents and young adults. *Eur Addict Res* 1998;**4**:50-7.
- 5 **World Health Organisation.** *Tenth Revision of the International Classification of Disease. Mental and behavioural disorders. Diagnostic criteria for research.* Chapter V(F). Geneva: World Health Organisation, 1993.
- 6 **Pajonk FG, Bartels HH, Biberthaler P, et al.** Der psychiatrische Notfall im Rettungsdienst. *Nervenarzt* 2001;**72**:685-92.
- 7 **Cabinet Office.** Prime Minister's Strategy Unit. *Alcohol harm reduction strategy for England.* London: Cabinet Office, 2004.
- 8 **Copeland AR.** Deaths in custody revisited. *Am J Forensic Med Pathol* 1984;**5**:121-4.
- 9 **Giles HG, Sandrin S.** Alcohol and deaths in police custody. *Alcohol Clin Exp Res* 1992;**16**:670-2.
- 10 **Schmidt P, Dettmeyer R, Musshoff F, et al.** Zum plötzlichen Tod nach Entlassung aus dem Polizeigewahrsam. *Arch Kriminol* 1999;**203**:138-46.
- 11 **Karlovic D, Crnkovic D, Martinac M, et al.** The police often brings the persons intoxicated with alcohol to the urgent psychiatric examination. *Alcohol J Alcohol Relat Addict* 2003;**39**:93-104.
- 12 **Crawford MJ, Patton R, Touquet R, et al.** Screening and referral for brief intervention of alcohol misusing patients in an emergency department: a pragmatic randomised controlled trial. *Lancet* 2004;**364**:1334-9.
- 13 **Williams S, Brown A, Patton R, et al.** The half-life of the 'teachable moment' for alcohol misusing patients in the emergency department. *Drug Alcohol Depend* 2005;**77**:205-8.
- 14 **Royal College of Physicians.** *Alcohol - can the NHS afford it?* London: Royal College of Physicians, 2001.