

SHORT REPORT

Alcohol levels in the emergency department: a worrying trend

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Background: Recent tabloid media articles have highlighted the trend of increasing alcohol intoxication among the young, particularly females. We compared all the alcohol levels sent from the emergency department of Belfast City Hospital over two 12-month periods, 4 years apart, to see if there were any changes in the pattern of levels or numbers of tests sent.

Methods: Patient details and alcohol levels for the periods 1 September 1999 to 31 August 2000 and 1 September 2003 to 31 August 2004 were obtained from our laboratories and entered into a database.

Results: The number of patients with blood alcohol levels >80 mg/100 ml rose from 526 to 1124, a rise of 113%. The number of patients with levels >480 mg/100 ml rose from five to 29, a rise of 480%. There were more intoxicated males in every age bracket in both study periods apart from under the age of 16, in which females were in the majority. The absolute number of intoxicated females almost doubled from 203 to 401. The proportion of females in both study periods, however, was similar—38.6% and 35.7%, respectively.

Conclusion: These results show a trend towards more intoxicated people presenting to the emergency department of Belfast City Hospital. Males continue to account for the majority of intoxicated patients.

A recent study found that 40% of emergency department admissions were alcohol related, rising to 70% after midnight.¹ Recent tabloid media articles have highlighted the trend of increasing alcohol intoxication among the young, particularly females. In the emergency department at Belfast City Hospital, blood alcohol level is routinely checked when alcohol ingestion is a possible contributor to the patient's clinical condition, for example, in all drug overdoses; if a patient's Glasgow Coma Scale is less than 15; and as a prerequisite for requesting a psychiatric assessment. We compared all the alcohol levels requested by the emergency department over two 12-month periods, 4 years apart, to see if there were any changes in patterns of levels or numbers of tests sent.

METHODS

Patient details and blood alcohol levels were obtained from the Biochemistry Information Management System of the regional biochemistry service for all samples sent from the emergency department between September 1999 and September 2004.

Results from the periods 1 September 1999 to 31 August 2000 and 1 September 2003 to 31 August 2004 were entered into a database.

Laboratory blood alcohol analysis was the only alcohol test available to emergency department doctors.

RESULTS

Total new attendances to the emergency department during the two study periods were 43 295 and 43 936, respectively, which shows a rise of only 1.48%.

The annual total number of alcohol tests sent to the laboratory increased from 825 to 2031, a rise of 146%. The number of patients with a level >80 mg/100 ml (above the legal driving limit and therefore regarded as being intoxicated) rose from 526 to 1124, a rise of 113%. This increase was reflected across the full range of alcohol levels, apart from at the extreme levels, as shown in fig 1.

The number of patients with alcohol levels greater than 480 mg/100 ml rose from 5 to 29, a rise of 480%.

There were more intoxicated males in every age bracket in both years, apart from the >16 age group, in which females were in the majority (table 1).

DISCUSSION

The number of intoxicated patients under the age of 26 rose from 97 to 261, a rise of 169%. The age bracket of 36–45 years accounted for the most intoxicated patients in both years.

The absolute number of intoxicated females almost doubled (from 203 to 401). The proportion of intoxicated females was similar at 38.6% and 35.7%, respectively.

The highest recorded level was 750 mg/100 ml. The age range of intoxicated patients was 9–99 years.

The number of psychiatric referrals for the two periods was identical—912 for both.

CONCLUSION

Significantly more blood alcohol tests are being sent to the laboratory compared with in 1999–2004, and these show a trend towards a rise in the number of intoxicated people presenting to the emergency department, and in particular a rise in those with extremely high alcohol levels.

There is an absolute increase in the number of females with high alcohol levels, although no increase in the overall proportion.

Table 1 Numbers of intoxicated patients by age group

Age	1999/2000			2003/2004		
	Total	Male	Female	Total	Male	Female
<16	11	5	6	26	10	16
16–25	86	48	38	235	132	103
26–35	120	72	48	206	140	66
36–45	169	105	64	341	216	125
46–55	59	32	27	203	140	63
56–65	33	26	7	58	45	13
>65	17	12	5	28	22	6
Unknown	31	23	8	27	18	9

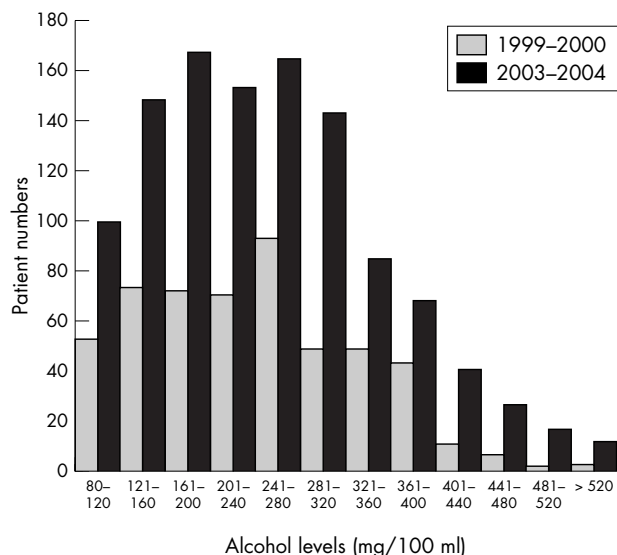


Figure 1 Alcohol levels 1999-2000 compared with 2003-2004.

This paper supports the impression that there are more intoxicated people presenting to emergency departments. We feel that alternative reasons for such increases in our department, such as more blood samples being sent off by nursing staff, would not account for such dramatic changes. The importance of ascertaining blood alcohol levels in the emergency department is increasingly being realised² now

that it has been shown that detection of alcohol misuse leads to improved standards of care for patients by the offer of brief intervention, with resulting reduced return rates.³ It may also influence intubation and head computed tomography rates.⁴

It is hoped that this article will stimulate the collection of such data from all UK emergency departments, led by British Association for Emergency Medicine guidelines.

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