



# Alcohol consumption habits among adolescents

Sarah Girstmair, Eva Stefanitsch, Beate Beer, Marion Pavlic

Institute of Legal Medicine, Innsbruck Medical University  
Muellerstrasse 44, A-6020 Innsbruck, Austria  
marion.pavlic@i-med.ac.at

Mass media report that alcohol consumption and binge drinking among adolescents have been increasing during the last decade

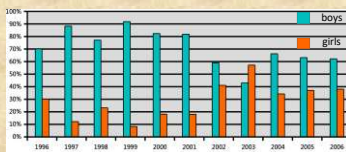
Two GMI studies evaluated drinking habits:

- 1) Retrospective analysis of blood and urine alcohol concentrations of adolescents admitted to hospital because of alcohol intoxication over a time period of 11 years
- 2) Poll among adolescents in bars on their alcohol consumption habits, and concomitant breath alcohol analysis



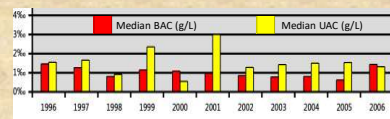
642 adolescents in hospital care because of alcohol intoxication

293 persons tested positive:  
192 (66%) boys,  
101 (34%) girls  
since 2001 significant increase of intoxicated girls

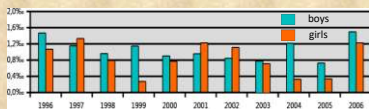


age 12-18 a:  
highest increase among 17 a group

BAC overall: 0.1-2.67 g/L  
median 0.9 g/L  
mean 1.01 g/L  
UAC overall: 0.1-5.2 g/L  
median 1.05 g/L  
mean 1.44 g/L

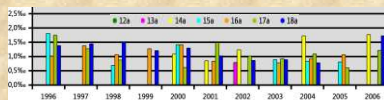


over the years no significant change in alcohol concentrations



Median BAC: overall no significant difference between girls and boys, slightly higher among boys

Very young intoxicated youths not observed until 2000



**Conclusions:** increase of the very young (12-14 a) increase among girls  
no difference in alcohol concentrations over the years  
**Drawbacks:** time point of sample drawing unknown  
circumstances unknown  
retrospective study – patient collective not representative

66 adolescents (33 m, 33f)  
**Poll** (incl. age, sex, social status, education, smoking, drug abuse) on **drinking habits**

**BrAC analysis** with Envitec Alkoquant 6020 device

Sober: 18% m, 15% f  
Mean BrAC: 0.34 mg/L

Mean age 16 a (none <14 a)  
50% smokers  
79% college education  
55% city residents  
26% additional drug abuse (mostly cannabis)

Favored beverages: beer & wine (97% m+f)  
spirits (67% m+f)  
mixed drinks (50% m+f)  
„Alcopops“ (30% m, 52% f)  
No alcohol: 15% (m+f)

First alcoholic drink at the mean age of 12 a  
17% (m+f) < 10 a



97% (m+f) know about legal limitations  
83% (m+f) don't care: „useless because of missing controls“

Alcohol consumption patterns  
- when going out (91% m, 79% f)  
- nice/happy atmosphere (76% m+f)  
- to get relaxed (27% m, 39% f)  
- boredom (0% m, 18% f)

76% m and 85% f are served alcoholic drinks in bars  
9% (m+f) experience regular age checks  
17% (m+f) never been asked for their age

49% m and 30% f think that the sweet taste of alcopops causes further alcohol consumption

Frequency of alcohol consumption  
> 3x a week: 9% m+f  
1-3x a week: 79% m, 64% f  
< 1x a week: 27% m, 12% f

39% m and 30% f drink alcohol until they feel drunk  
18% m and 24% f already experienced black-outs

**Abbreviations:**

GMI: Institute of Legal Medicine Innsbruck; BAC: blood alcohol concentration; UAC: urine alcohol concentration; BrAC: breath alcohol concentration; a: year; m: boy; f: girl