



**ARG**  
ALCOHOL RESEARCH GROUP

**Single Episode of Harmful Alcohol Use  
Resulting in Injury: A Missed Opportunity  
for Brief Intervention in the Emergency  
Department**

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# BACKGROUND

- One of the public health strategies to reduce alcohol-attributable disease burden is to provide effective interventions targeting alcohol use in health services, including EDs and trauma centers, which are known to have a high prevalence of alcohol involvement in conditions presented at admission.
- The casual role of alcohol use in injuries is often unrecognized, particularly in absence of marked alcohol intoxication, and health professionals in busy EDs have little time for a detailed assessment of alcohol history and diagnosis of alcohol use disorders.

# BACKGROUND

- Episodes of alcohol use resulting in injuries cannot be identified in the absence of acute alcohol intoxication, dependence or harmful use, and alcohol-focused interventions cannot be routinely delivered, in spite of the ED serving as a window of opportunity for such interventions.

# Purpose of the Study

- To evaluate the extent to which injured patients admitted to the ED with an alcohol-related injury may go undetected, if signs of intoxication or withdrawal, a positive BAC or signs of alcohol dependence or harmful drinking are relied upon as indicators of alcohol involvement in the injury event

# Methods

- The Sample
  - Patients from 50 ED studies in 23 countries  
International Collaborative Alcohol and Injury Study (ICAIS) (ERCAAP, WHO, NIAAA, PAHO Collaborative Studies on Alcohol and Injury)
  - Probability samples of injured patients over the age of 18 arriving within 6 hours of the event
  - Overall completion rate: 82%
  - N=18,369 injured patients

# Methods

- Measures
  - BAC obtained at the time of ED admission
  - 25-minute interviewer-administered ERCAAP/WHO questionnaire:
    - Drinking within 6 hours prior to injury
    - Amount consumed
    - Causal attribution of injury to drinking
    - Usual frequency and 5+ drinking last year
    - Alcohol dependence (RAPS4)
    - Alcohol dependence/harmful drinking (RAPS4-QF)

# Methods

## Alcohol-related injury

- Drinking within six hours prior to injury – 18.8%
- Attributing a causal association of injury with drinking – 47.1% of those reporting drinking

# Methods

## Alcohol Dependence - RAPS4

- Guilt or remorse after drinking (**R**emorse)
- Not remember things after drinking (**A**mnnesia)
- Failed to do what normally expected (**P**erform)
- Drinking first thing in the morning (**S**tarter)
  
- One or more positive responses is positive



# Methods

## Harmful Drinking - QF

- Drinking once a month (**F**)
- 5 + drinks on one occasion in last year (**Q**)
- Positive responses on both is positive

## Alcohol Use Disorder – RAPS4-QF

- Positive responses on the RAPS-4 and/or QF

# RAPS4-QF positive and negative patients among those with an alcohol-related injury

	Any alcohol 6hr before injury (Total N=3,521)		
	RAPS4 Pos	RAPS4 Neg/QF Pos	RAPS4-QF Neg
	45.6% (1,641)	38.1% (1,311)	16.3% (569)
<b>Volume before injury</b>			
≤ 2 drinks	9.7	17.6	42.9
≤ 5 drinks, > 2 drinks	22.7	28.6	37.5
≤ 10 drinks, > 5 drinks	30.0	32.7	13.1
> 10 drinks	37.6	21.1	6.5
<b>BAC levels (%)</b>			
<0.01	15.2	25.2	36.9
≥ 0.01, <0.05	25.6	23.5	24.5
≥ 0.05, <0.10	18.8	19.8	17.3
≥ 0.10	43.4	31.6	21.3
<b>Drinking pattern last year</b>			
Freq < weekly, Never 5+	3.5	0	37.9
Freq ≥ weekly, Never 5+	4.6	0	44.9
Freq < weekly, 5+ < weekly	15.2	24.0	17.2
Freq ≥ weekly, 5+ < weekly	13.5	26.0	0
5+ ≥ weekly	63.2	50.0	0
<b>Gender</b>			
Female	15.3	18.5	31.4
Male	84.7	81.5	68.6
<b>Age</b>			
18-29	41.6	47.8	40.1
30-49	43.9	29.0	38.5
50+	14.6	13.2	21.4

# RASP4-QF positive and negative patients among those attributing a causal association of injury with drinking

	Attributing injury to drinking (Total N=1,606)		
	RAPS4 Pos	RAPS4 Neg/QF Pos	RAPS4-QF Neg
	52.4% (862)	37.3% (582)	10.3% (162)
<b>Volume before injury</b>			
≤ 2 drinks	7.0	13.6	39.8
≤ 5 drinks, > 2 drinks	18.4	23.9	41.5
≤ 10 drinks, > 5 drinks	31.9	36.3	13.6
> 10 drinks	42.7	26.2	5.1
<b>BAC levels (%)</b>			
<0.01	10.3	22.6	40.8
≥ 0.01, <0.05	23.4	24.0	18.3
≥ 0.05, <0.10	19.8	19.9	15.4
≥ 0.10	46.5	33.5	25.5
<b>Drinking pattern last year</b>			
Freq < weekly, Never 5+	3.8	0	40.6
Freq ≥ weekly, Never 5+	2.5	0	38.0
Freq < weekly, 5+ < weekly	15.5	22.2	21.4
Freq ≥ weekly, 5+ < weekly	9.1	20.6	0
5+ ≥ weekly	69.1	57.2	0
<b>Gender</b>			
Female	15.8	17.9	30.7
Male	84.2	82.1	69.3
<b>Age</b>			
18-29	38.8	46.6	46.4
30-49	45.6	39.6	36.3
50+	15.5	13.8	17.3

# Summary

- Among those reporting drinking prior to the event, 16% were negative for alcohol dependence/harmful drinking
- Among those reporting a causal association of injury with drinking, 10% were negative for alcohol dependence/harmful drinking
- Most reported 5 or fewer drinks prior to injury, with half of these reporting less than two drinks
- The majority had a BAC of  $< 0.05$  or negative
- Vast majority had no 5+ drinking occasions

# Summary

- A not unsubstantial proportion of patients (a third of which are female) are admitted to the ED with an alcohol-related injury from drinking relatively small amounts of alcohol, and with no history of heavy episodic drinking or other alcohol involvement

# Discussion

- The 11<sup>th</sup> revision of the ICD is currently underway, with a primary objective of improving the clinical utility of disease classifications
- One of the innovations in ICD-11 is inclusion of a new diagnostic category of “single episode of harmful use” of psychoactive substances, in an attempt to recognize and document episodes of substance use resulting in harm in the absence of harmful patterns of use or dependence

# Discussion

- The introduction of this new diagnostic category in the draft ICD-11 aims to facilitate identification of the causal involvement of substance use in health conditions and the provision of interventions in patients without clear clinical manifestations of intoxication or dependence.

# Conclusion

- Findings here underscore the clinical and public health relevance of a new diagnostic category of a single episode of harmful drinking as proposed in the 11<sup>th</sup> revision of ICD, and screening for those individuals who may benefit from a brief intervention in the ED, but who would otherwise go undetected