Brief Alcohol Intervention For Hazardous Drinkers Admitted to the Emergency Department:

A randomized controlled trial

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Background

- Brief alcohol intervention (BAI) reduces hazardous drinking in various medical settings, particularly in primary care (Saitz et al, 2006; Bertholet et al, 2004).
- Emergency department (ED) admission offers an opportunity to conduct BAI, but its efficacy in this setting is controversial.

Published BAI studies involving ED patients

Several studies suggest some efficacy of BAI with ED patients **on drinking outcomes**

- Chafetz et al, 1962
- Bernstein et al, 1997
- Wright et al, 1998
- Anti-Poiuka et al, 1998
- Gentillelo et al, 1999
- Monti et al, 1999
- Smith et al, 2003
- Spirito et al, 2004
- Bazargan-Hejazi et al, 2005

Additional studies suggest some efficacy of BAI with ED patients **on alcohol-related outcomes** (reduction alcohol-related accidents…)

- Bernstein et al, 1997
- Monti et al, 1999
- Forsberg et al, 2000
- Johnston et al, 2002
- Nordquist et al, 2005

Only **5 randomized controlled** BAI studies evaluated the efficacy of BAI in ED, 2 of them found beneficial effects on drinking outcomes

- **Smith et al, 2003**
- **Spirito et al, 2004**
- Monti et al, 1999
- Chafetz et al, 1962
- Dauer et al, 2006

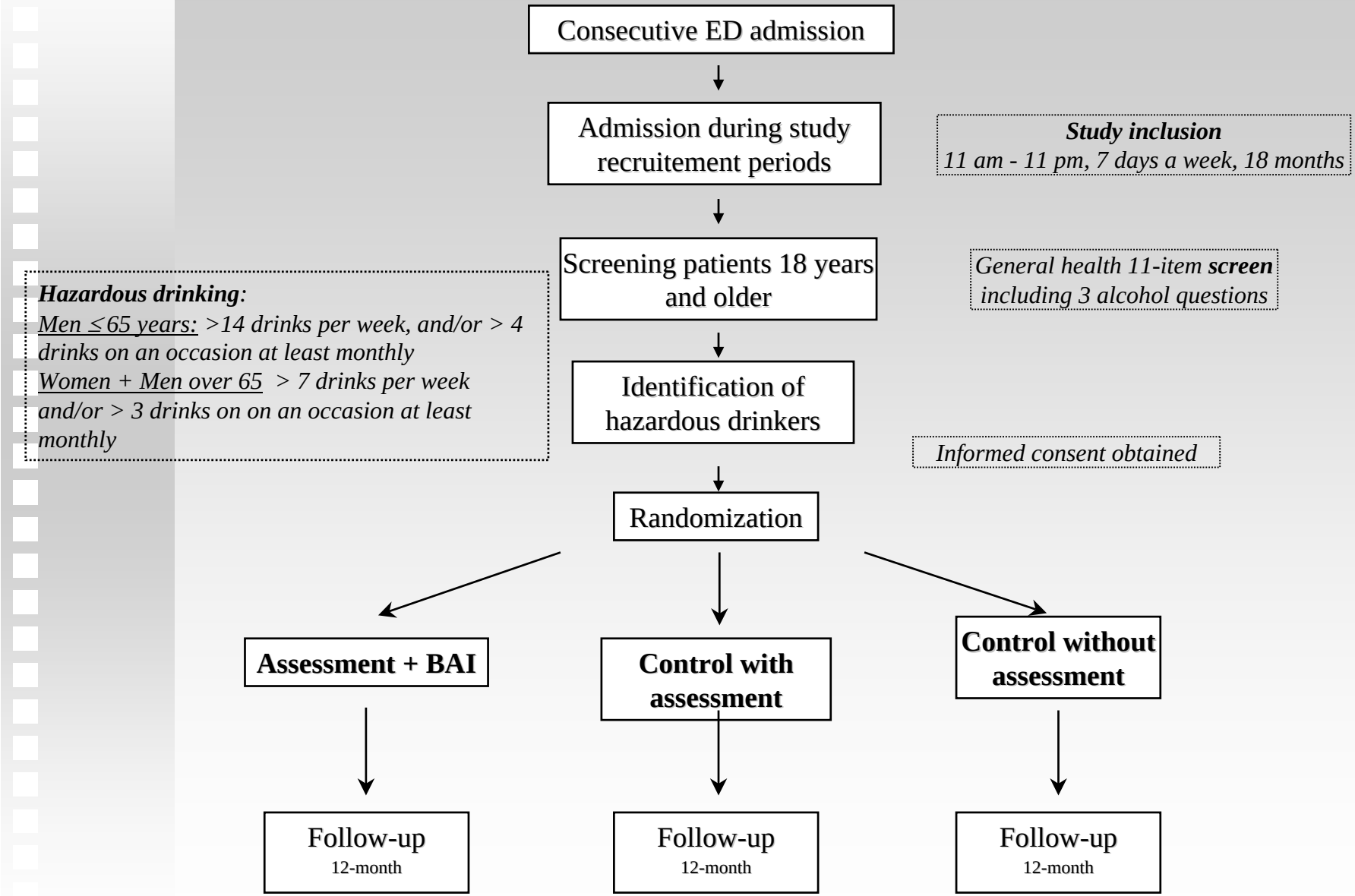
Limitations of published studies

- High refusal rates
- Low statistical power
- Control groups receiving more attention than standard care
- Most studies found positive outcome to some extent in the control group

Study objectives

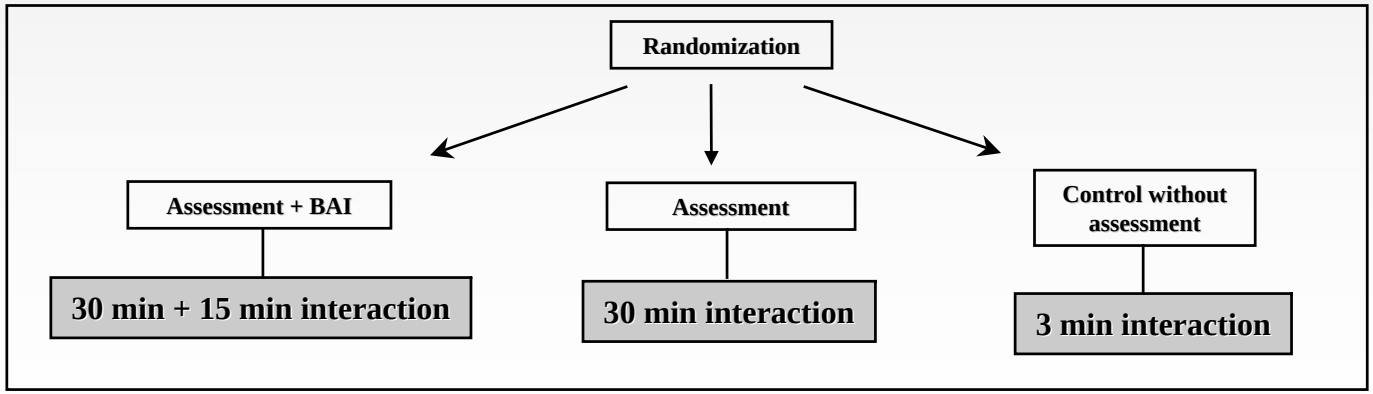
1. To test the efficacy of BAI for patients admitted to the ED in modifying hazardous drinkers drinking pattern.
2. To test whether the often-found parallel reduction of alcohol use in control groups is due to the effect of assessing alcohol use and related problems acting like a minimal intervention.

Study Design



Research assistants

- 7 baseline research assistants (6 master-level psychologists and 1 ED nurse) conducted screening, assessment and BAI.
- Training included a 2-day workshop on motivational interviewing and a 7-day BAI and research procedures training.
- 3 different follow-up research assistants conducted follow-up telephone interviews.



Screening

- Cholesterol level
- Primary care physician
- Tobacco use
- Drug use
- Depression
- Immunization
- **Alcohol**
  - Quantity
  - Frequency
  - Frequency of heavy drinking episodes (♂ : > 4 drinks; ♀ [♂ > 65 +] > 3 drinks).

Assessment (except for control group w/out assessment)

Variables considered for these analyses were:

- Alcohol use questions of the screening
- Socio-demographic information
- AUDIT (score > 12 considered alcohol dependent).

Relevant variables were determined based on prior BAI studies suggesting that certain subgroups were more likely to benefit from BAI (age, gender, medical condition, alcohol dependence).

Brief Alcohol Intervention

Using an **empathic style** avoiding any confrontation

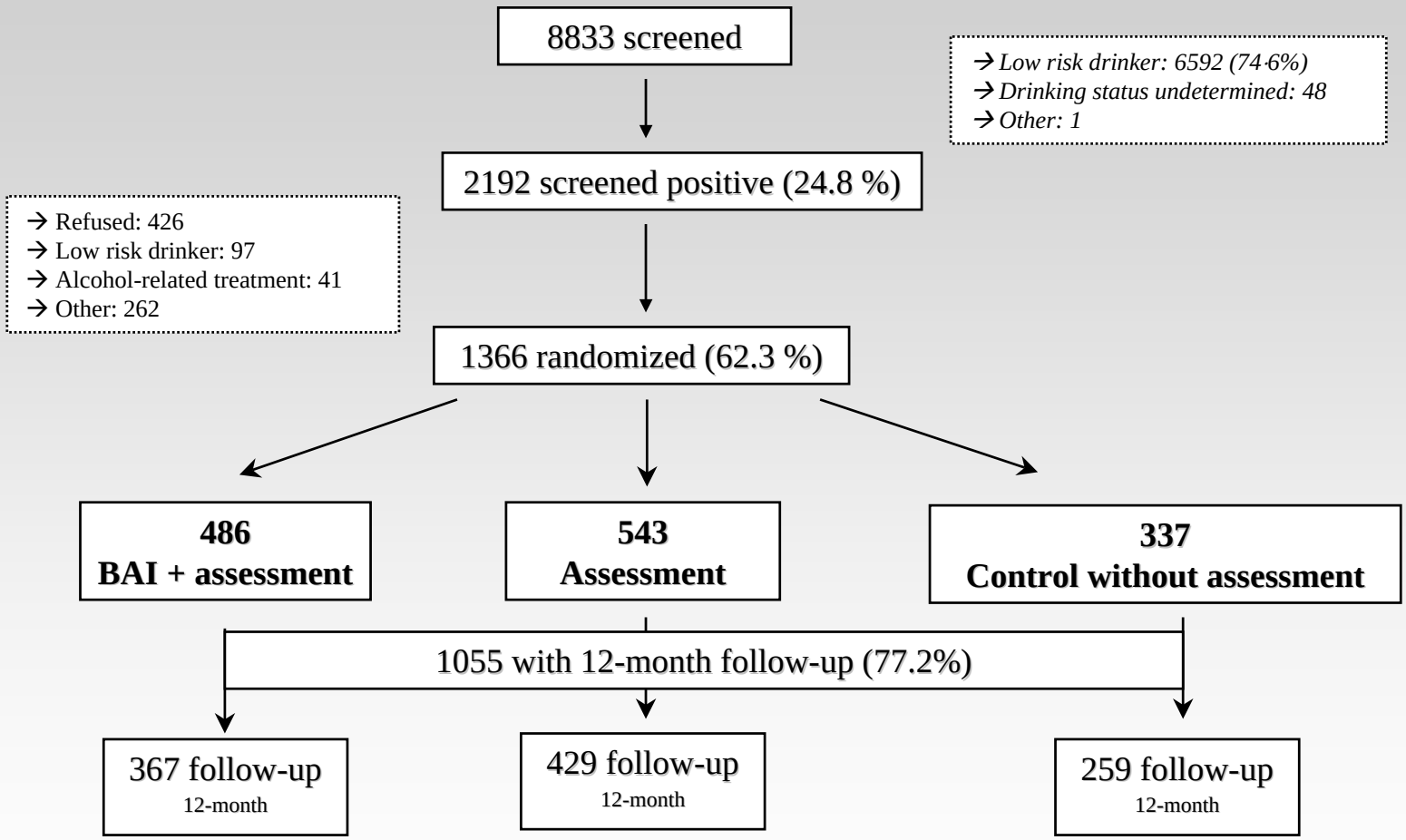
1. Thank for participation, reassure about confidentiality and assure that any decision about treatment belongs to the patient.
2. **Give feedback** about alcohol use.
3. **Ask patient to comment about feedback**. Ask permission and provide comment regarding the association between alcohol use and risk of injury or other medical conditions.
4. **Ask about the "pros" and "cons" of individual's alcohol use**.
5. **Ask about importance to change and readiness to change** on 1-10 scale.
6. **Ask what objective patient feels ready** to complete.
7. Depending on patient's own objective, **affirm patient's self-efficacy** to achieve his/her objective.
8. **Give a summary document** including patient's own:
   - ✓ AUDIT score (using data of the intake assessment)
   - ✓ Percentile AUDIT score compared to the general population
   - ✓ Objectives (timeframe, setting of drinking moderation…).

Follow-up

The variable considered for these analyses were

- Alcohol use screening questions :
  - Quantity
  - Frequency
  - Frequency of heavy drinking episodes (♂ : > 4 drinks; ♀ [♂ > 65+] > 3 drinks)
- AUDIT

Results - Sample



Patients' characteristics

- 1366 patients, including 1064 men (78 %) and 302 women (22%)
- Mean age 38.7 (17.31) years
- 68 % Swiss
- 59 % employed
- 987 (72 %) trauma
- 379 (28 %) other surgery (general, urology neurosurgery, other)

Patients' Characteristics by Group at Intake

	Brief alcohol intervention	Control with assessment	Control w/out assessment	P value
N = 1366	**486**	**543**	**337**	
% Men	76.1	79.0	78.6	0.50
% 18-30	43.4	41.0	51.3	<.01
% Swiss	68.1	68.3	-	0.73
% Employed	59.3	59.1	-	1.00
# Days drinking per week (last 12-mo) (SD)	3.7 (2.4)	3.8 (2.5)	3.6 (2.4)	0.48
# Drinks per drinking occasion (last 12-mo) (SD)	4.3 (3.1)	4.0 (2.7)	3.9 (2.4)	0.24
# Heavy drinking episodes per mo (last 12-mo) (SD)	4.9 (7.4)	4.6 (7.1)	4.1 (6.3)	0.26
AUDIT score (SD)	9.4 (4.7)	8.8 (5.1)	-	0.06

Alcohol Use Characteristics by Group at Follow-up

	Brief alcohol intervention	**Control with assessment**	**Control w/out assessment**	P value
N = 1055 (77.2 %)	**367**	**429**	**259**	
12-month follow-up data				
# Days drinking per week (last 12-mo) (SD)	3.3 (2.3)	3.4 (2.5)	3.1 (2.4)	0.29
# Drinks per drinking occasion (last 12-mo) (SD)	3.5 (2.6)	3.4 (2.5)	3.4 (2.5)	0.63
# Heavy drinking episodes per mo (last 12-mo) (SD)	3.7 (6.0)	3.6 (6.3)	3.6 (6.4)	0.98
AUDIT score (SD)	7.5 (4.7)	7.0 (4.3)	7.3 (4.7)	0.32

Intake to 12-month Difference in Drinking Pattern

	Brief alcohol intervention	**Control with assessment**	**Control w/out assessment**	P value
N = 1055	**486**	**543**	**337**	
# Days drinking per week (last 12-mo) (SD)	-0.4 (1.8)	-0.4 (1.8)	-0.5 (2.0)	0.59
# Drinks per drinking occasion (last 12-mo) (SD)	-0.4 (2.5)	-0.5 (2.8)	-0.4 (2.7)	0.90
# Heavy drinking episodes per mo (last 12-mo) (SD)	-0.7 (7.0)	-0.7 (6.2)	-0.3 (6.8)	0.58
AUDIT score (SD)	-1.8 (3.8)	-1.9 (4.6)	-	0.94
% Changed to low-risk drinking at follow-up	**35.7**	**35.2**	**37.1**	**0.88**

12-month follow-up in subgroups

% changed to low-risk drinking at follow-up

N = 1055		Brief alcohol intervention	Control with assessment	Control w/out assessment	P value
% changed to low-risk drinking at follow-up	**N**	**367**	**429**	**259**	
	Men	31.6	33.0	33.1	0.92
	18-30 years	35.6	29.7	32.8	0.55
	31-50 years	30.6	33.6	36.9	0.63
	51-65 years	39.7	44.0	50.0	0.63
	66+	45.9	43.2	42.9	0.96
	AUDIT > 12	46.3	37.3	-	0.38
	Trauma	35.6	37.0	37.0	0.71

GEE models predicting change to low risk drinking at 12 month follow-up

N = 796	Odds-ratio	CI 95 %	Wald	P value
BAI	1.00	[0.74 – 1.33]	0.03	0.87
Men	0.56	[0.41 – 0.76]	14.18	< 0.001
18-30 years	0.96	[0.79 – 1.15]	0.22	0.64
51-65 years	1.47	[1.17 – 1.85]	10.72	0.001
66+	1.57	[1.06 – 2.35]	4.99	0.025
AUDIT > 12	1.54	[1.16 – 2.03]	9.24	< 0.01
Trauma	0.96	[0.74 – 1.24]	0.10	0.76
(Intercept)	0.74	[0.59 – 0.93]	6.69	0.01

- Covariates determined based on prior BAI
- GEE model adjusted for clustering of patients by intake research assistant

Discussion - Efficacy

BAI did not influence a change to low-risk drinking over the 12-month follow-up

- This null finding applied also for patients previously considered likely to benefit from BAI, i.e., non alcohol-dependent hazardous drinkers and young patients attending the ED after a trauma.
- Limitations to the efficacy of BAI observed may be explained by
  - The setting: a busy environment, noisy, frequent interruptions may hinder the empathic style of BAI
  - A large proportion of young patients with minor trauma who may be using ED as a primary care
  - A single intervention without booster session.

Discussion – Parallel reduction in control group

35 % initially hazardous drinkers changed to low-risk drinking at follow-up, also in control groups

- Two possible explanations for this finding:
  - a regression to the mean effect
    - May explain the reduction in alcohol use observed across all groups, but not the absence of an additional effect of BAI on drinking outcomes
  - an assessment effect
    - But the study suggests that the alcohol assessment at baseline did not influence drinking pattern over the 12-month follow-up (no difference in outcome between control groups)
    - A possible explanation may be that already very short, simple screening questions or expectation of follow-up were as efficient as more intense assessment

Conclusion

- BAI in ED did not influence hazardous drinking
- The reduction of alcohol use in control groups is not due to the effect of assessing alcohol use and related problems
- The positive outcome observed also in control groups may be explained either by a regression to mean effect and/or an effect related to the very short screening or to the expectation of the 12-month follow-up

Conclusion

- ED may be not be an appropriate setting for BAI
- ED may be more appropriate for screening and referral rather than for BAI itself, as suggested in earlier studies (Chafetz et al, 1962; Crawford et al, 2004)

Thank you!