Is brief motivational intervention effective to reduce alcohol use and related consequences among young men voluntary to receive it?

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Background

- Alcohol use constitutes the greatest risk factor for mortality and morbidity among adolescents and young adults in established market economies
  (Rehm, Taylor, & Room, 2006)

- Early adulthood set the stage for future alcohol use problems (Gotham, Sher, & Wood, 2003; Schulenberg & Maggs, 2002)

  → important moment to conduct preventive actions

- Brief motivational interventions (BMI) has shown promising results for young people
  (Tevyaw & Monti, 2004; Grenard, Ames, Pentz, & Sussman, 2006; Toumbourou et al., 2007)

Background

- Most studies in college/university settings or medical settings

→ Not delivered to a large, unbiased population

- Countries with mandatory army conscription: opportunity to conduct universal preventive actions

- In Switzerland :
  - virtually all non-institutionalized men are called for conscription at age 20
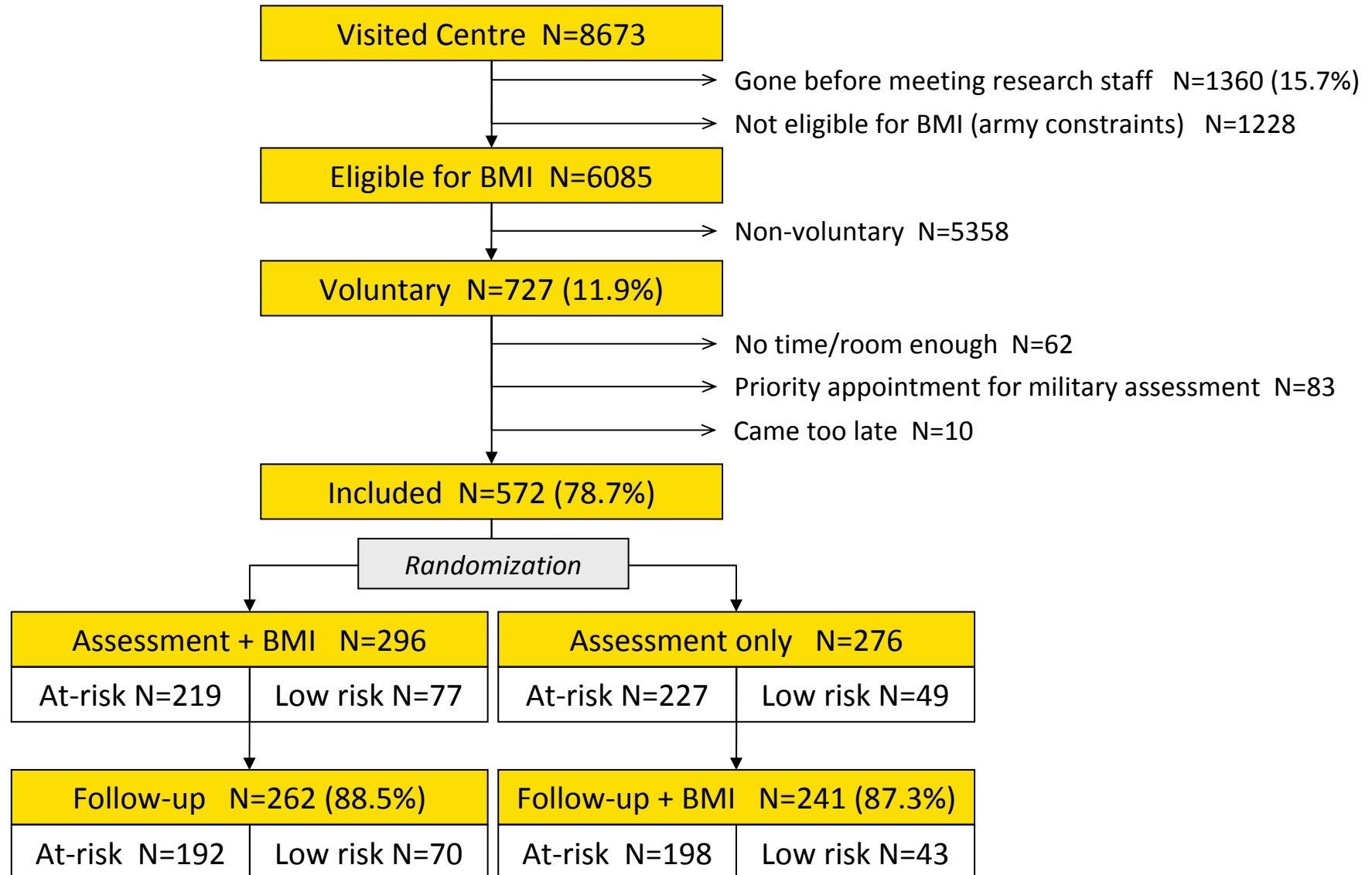 - minimizing social status / educational bias

Sample

- Swiss army recruitment centre at Lausanne

- All French-speaking men at age 20

- Only men (women = only volunteer)

- Young men invited to **voluntary** take part to the BMI

  → test the effectiveness of BMI in "real world" settings

  → unlikely that in real life people not willing to receive counseling will be amenable to a counseling session

Procedures

- No screening to detect at-risk drinkers
  - blind the army
  - investigate low risk drinking reinforcement

- Analyses conducted separately for
  - at-risk drinkers subgroup (a posteriori defined as binge [6+] once a month or more)
  - low risk drinkers subgroup (binge less than once a month)

Trial profile

Visited Centre N=8673

→ Gone before meeting research staff   N=1360 (15.7%)

→ Not eligible for BMI (army constraints)   N=1228

Eligible for BMI N=6085

→ Non-voluntary N=5358

Voluntary N=727 (11.9%)

→ No time/room enough N=62

→ Priority appointment for military assessment N=83

→ Came too late N=10

Included N=572 (78.7%)

Randomization

Assessment + BMI N=296		Assessment only N=276	
At-risk N=219	Low risk N=77	At-risk N=227	Low risk N=49

Follow-up N=262 (88.5%)		Follow-up + BMI N=241 (87.3%)	
At-risk N=192	Low risk N=70	At-risk N=198	Low risk N=43

Brief motivational intervention

- Single face-to-face 20-minute intervention
- Motivational interviewing techniques and spirit
- Optional strategies:
  - Reinsure about confidentiality, ask permission
  - Gather information
  - Decisional balance
  - Evoke hypothetical change
  - Explore importance, ability, and confidence
  - Elicit commitment and identify an eventual change project

Brief motivational intervention

- Single face-to-face 20-minute intervention

- Motivational interviewing techniques and spirit

- Optional strategies:
  - Reinsure about confidentiality, ask permission
  - Gather information
  - Decisional balance on maintaining low risk drinking
  - Evoke the future (increase?, decrease?)
  - Explore importance, ability, and confidence
  - Elicit commitment to maintaining low risk drinking

Baseline characteristics – At-risk subgroup

	BMI group	Control group	p value
	N=219	N=227	
Education: obligatory school only (vs further), n (%)	104 (47.5)	129 (57.1)	0.04
Professional status - Employed, n (%)	39 (17.8)	48 (21.3)	0.10
- In training, n (%)	170 (77.6)	174 (77.3)	
- Inactive, n (%)	10 (4.6)	3 (1.3)	
Living environment: Urban area, n (%)	112 (51.6)	99 (43.8)	0.10
# drinks/week, mean (SD)	13.2 (12.0)	11.7 (9.9)	0.34
# binge/month, mean (SD)	4.3 (3.5)	3.8 (3.2)	0.12
# alcohol-related consequence (12 possible), mean (SD)	3.5 (2.1)	3.4 (2.3)	0.38
AUDIT score >=8, n (%)	174 (79.5)	168 (74.0)	0.17
Have >=1 person with alcohol problems in the family, n (%)	42 (19.3)	45 (19.8)	0.88
Importance to change (VAS 1-10), mean (SD)	2.8 (2.0)	2.9 (2.2)	0.49
Readiness to change (VAS 1-10), mean (SD)	4.0 (3.0)	3.9 (3.2)	0.50
Confidence to change (VAS 1-10), mean (SD)	7.8 (2.6)	7.6 (3.0)	0.63
Daily tobbaco use, n (%)	97 (44.3)	94 (41.4)	0.54
Cannabis use > 1x/week, n (%)	44 (20.1)	42 (18.5)	0.67

Baseline to 6-month follow-up differences At-risk subgroup

	BMI group	Control group	p value
	N=192	N=198	
# drinks/week, mean (SD)	-0.4 (13.1)	0.7 (19.1)	0.90
# binge/month, mean (SD)	-0.7 (3.2)	-0.8 (3.8)	0.61
# alcohol-related consequence (12 possible), mean (SD)	-0.2 (1.7)	-0.3 (1.7)	0.71
AUDIT score >=8, n (%)	-7 (-3.6)	-10 (-5.1)	0.75
Importance to change (VAS 1-10), mean (SD)	-0.4 (2.0)	-0.6 (2.1)	0.80
Readiness to change (VAS 1-10), mean (SD)	0.1 (4.0)	-0.2 (4.2)	0.78
Confidence to change (VAS 1-10), mean (SD)	0.5 (2.8)	0.4 (3.3)	0.55
Daily tobbaco use, n (%)	-1 (-0.5)	3 (1.5)	0.51
Cannabis use > 1x/week, n (%)	0 (0.0)	0 (0.0)	1.00

Regression models – At-risk subgroup
(negative binomial regressions)

Outcome: Drinks per week at follow-up

(adjusted for drinks/week at baseline, and for education, professional status and living environment)

	IRR	Std. Err.	z	P>z	[95 Conf.	Interv.]
BMI (vs Control)	**1.01**	0.08	0.13	**0.90**	0.87	1.18

Outcome: Binge per month at follow-up

(adjusted for binge/month at baseline, and for education, professional status and living environment)

	IRR	Std. Err.	z	P>z	[95 Conf.	Interv.]
BMI (vs Control)	**1.06**	0.10	0.68	**0.50**	0.89	1.27

Outcome: # of consequences at follow-up

(adjusted for # of consequences at baseline, and for education, professional status and living environment)

	IRR	Std. Err.	z	P>z	[95 Conf.	Interv.]
BMI (vs Control)	**1.06**	0.06	1.02	**0.31**	0.95	1.19

Baseline characteristics – Low risk subgroup

	BMI group	Control group	p value
	N=77	N=49	
Education: obligatory school only (vs further), n (%)	39 (50.6)	25 (51.0)	0.97
Professional status - Employed, n (%)	12 (15.6)	12 (24.5)	0.08
- In training, n (%)	65 (84.4)	35 (71.4)	
- Inactive, n (%)	0 (0.0)	2 (4.1)	
Living environment: Urban area, n (%)	35 (45.5)	24 (49.0)	0.70
# drinks/week, mean (SD)	2.4 (2.9)	2.4 (2.2)	0.38
# binge/month, mean (SD)	0.0 (0.0)	0.0 (0.0)	1.00
# alcohol-related consequence (12 possible), mean (SD)	1.2 (1.4)	1.4 (1.7)	0.44
AUDIT score >=8, n (%)	6 (7.8)	5 (10.2)	0.64
Have >=1 person with alcohol problems in the family, n (%)	9 (11.7)	6 (12.2)	0.93
Importance to change (VAS 1-10), mean (SD)	2.2 (2.7)	1.6 (1.5)	0.79
Readiness to change (VAS 1-10), mean (SD)	4.0 (3.8)	2.8 (3.0)	0.06
Confidence to change (VAS 1-10), mean (SD)	8.3 (3.2)	8.2 (2.9)	0.72
Daily tobbaco use, n (%)	14 (18.2)	13 (26.5)	0.27
Cannabis use > 1x/week, n (%)	7 (9.1)	4 (8.2)	0.86

Baseline to 6-month follow-up differences Low risk subgroup

	BMI group	Control group	p value
	N=70	N=43	
# drinks/week, mean (SD)	0.4 (3.7)	1.7 (4.2)	0.04
# binge/month, mean (SD)	0.5 (1.4)	0.4 (1.4)	0.46
# alcohol-related consequence (12 possible), mean (SD)	0.0 (1.4)	0.2 (1.9)	0.73
AUDIT score >=8, n (%)	3 (4.3)	5 (11.6)	0.77
Importance to change (VAS 1-10), mean (SD)	-0.4 (2.0)	-0.3 (1.7)	0.87
Readiness to change (VAS 1-10), mean (SD)	0.0 (5.1)	-0.5 (3.8)	0.91
Confidence to change (VAS 1-10), mean (SD)	0.2 (3.4)	0.0 (3.2)	0.91
Daily tobbaco use, n (%)	3 (4.3)	4 (9.3)	na
Cannabis use > 1x/week, n (%)	0 (0.0)	0 (0.0)	1.00

Regression models – Low risk subgroup
(negative binomial regressions)

Outcome: Drinks/week at follow-up

(adjusted for drinks per week at baseline, and for professional status and readiness scale)

	IRR	Std. Err.	z	P>z	[95 Conf.	Interv.]
BMI (vs Control)	**0.67**	0.14	-1.97	**0.05**	0.45	1.00

1 - 0.67 = 33% less drinking in the BMI group

Outcome: Binge/mo

(adjusted for professional status and readiness scale)

	IRR	Std. Err.	z	P>z	[95 Conf.	Interv.]
BMI (vs Control)	**1.15**	0.67	0.25	**0.81**	0.37	3.59

Outcome: # of consequences at follow-up

(adjusted for # of consequences at baseline, and for professional status and readiness scale)

	IRR	Std. Err.	z	P>z	[95 Conf.	Interv.]
BMI (vs Control)	**0.77**	0.17	-1.22	**0.22**	0.50	1.18

Discussion

- BMI not effective for young men interested in receiving it and having a risky alcohol use pattern

- Young men in the at-risk subgroup had on average a relatively severe alcohol use pattern

→ maybe too severe for a 20-minute counseling session to have impact on it

Discussion

- BMI effective to help young men interested in discussing alcohol issues but having a low risk alcohol use pattern not to increase their alcohol use

→ Primary prevention effect

- To our knowledge, never investigated using BMI-type intervention

→ Promising but require further validation

Discussion

- Very large and heterogeneous population

→ maybe some effectiveness in other subgroups

- other alcohol/substances use criterion

- readiness to change

- socio-demographic status

- etc.

→ Need further evaluation

Thank you for your attention!

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