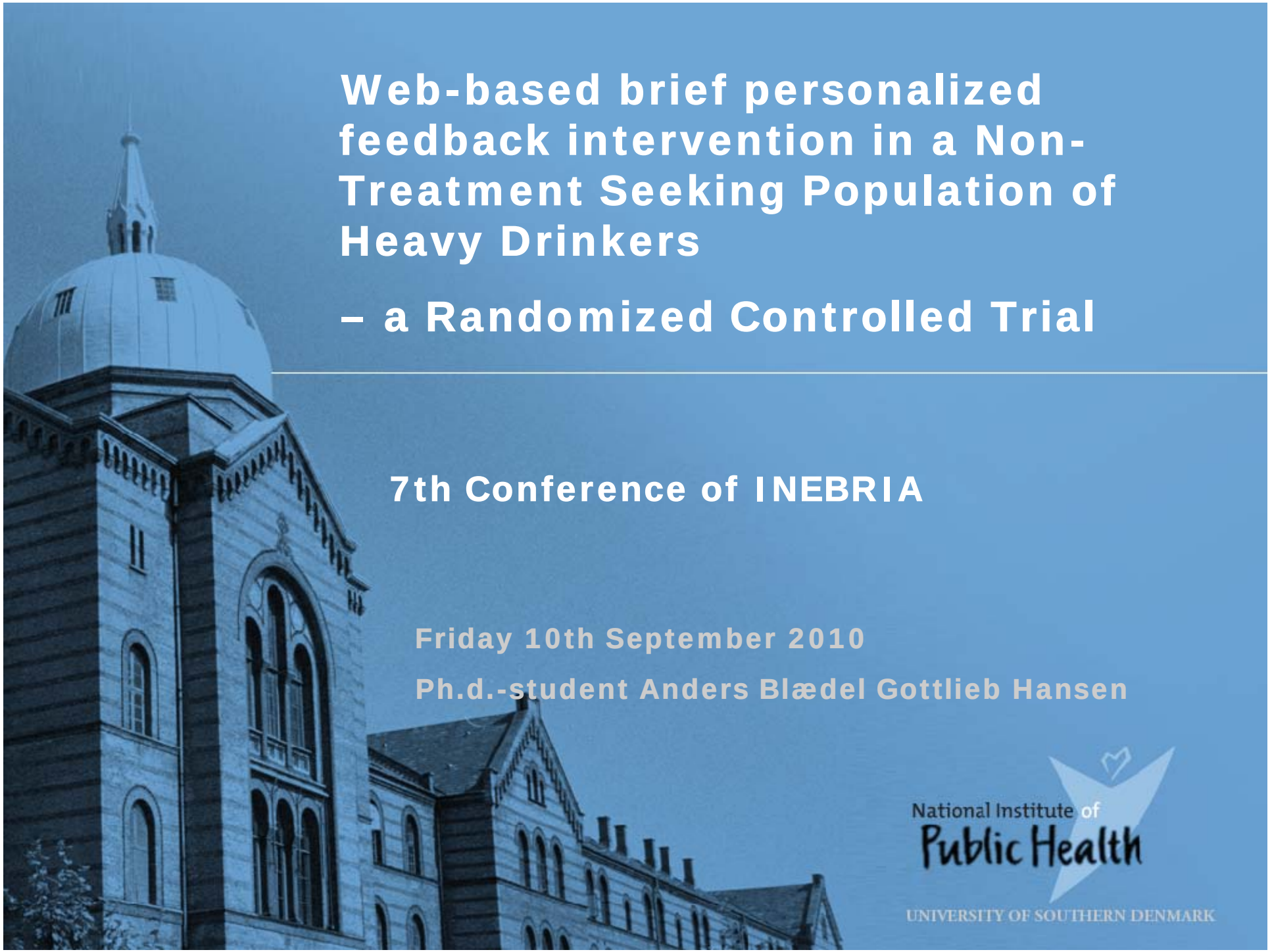


Web-based brief personalized feedback intervention in a Non-Treatment Seeking Population of Heavy Drinkers

– a Randomized Controlled Trial

7th Conference of INEBRIA

Friday 10th September 2010

Ph.d.-student Anders Blædel Gottlieb Hansen

National Institute of Public Health

UNIVERSITY OF SOUTHERN DENMARK

Background: The Liberal Danish Alcohol Culture

Øllet udtrykker i en dansk kontekst noget fredeligt, frit, folkeligt og fornøjeligt.
(Ill.: Svikmøllen 77. årg., 1991, af Flemming Aabech)

Research group and funding

Becker, Ulrik; Chief Physician, MD, Dr. Med.Sci; Hvidovre Hospital, University of Copenhagen; Copenhagen

Nielsen, Anette; M.Sc.Phil., Ph.D.; University of Southern Denmark, National Institute of Public Health, Center for Alcohol Research; Copenhagen

Grønbæk, Morten; MD, PhD; University of Southern Denmark, National Institute of Public Health, Center for Alcohol Research; Copenhagen

Tolstrup, Janne; Master of human biology, PhD; University of Southern Denmark, National Institute of Public Health, Center for Alcohol Research; Copenhagen

- The study has received funding from The Danish National Board of Health

Background: Why web-based interventions?

- Approx. 860.000 heavy drinkers in Denmark

  Hvidtfeldt, U.A. et al. National Institute of Public Health 2008.

- Has the opportunity of reaching large numbers of individuals who are otherwise unwilling, not ready or not motivated to seek help
- Involves no clinical contact
- Can be conducted anonymously
- Can be accessed without limitations of distance

  Sobell et al. Alcohol Clin Exp Res 2002; Bendtsen et al. Addict Behav 2006; Kypri et al. Addiction 2004; Rooke et al Addiction 2010

Heavy drinking: definition

- Weekly alcohol consumption above the Danish sensible drinking limits

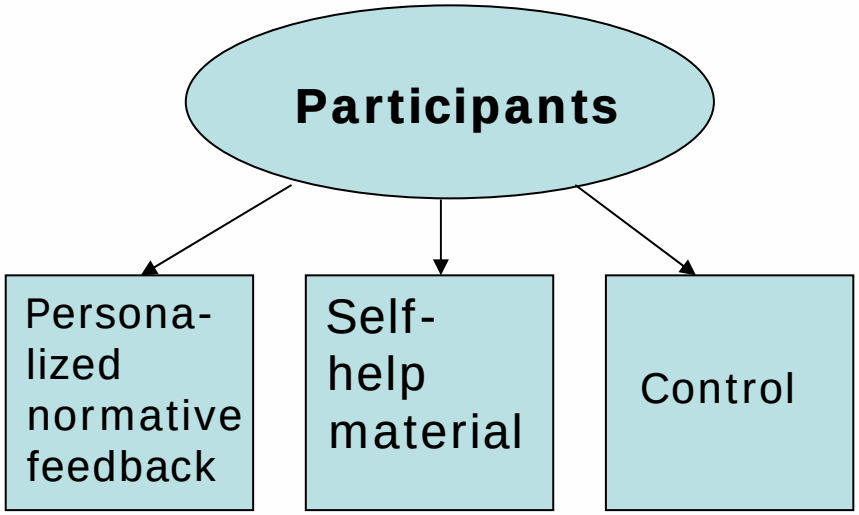
- 14 units = 168 grams of alcohol for women
- 21 units = 252 grams for men

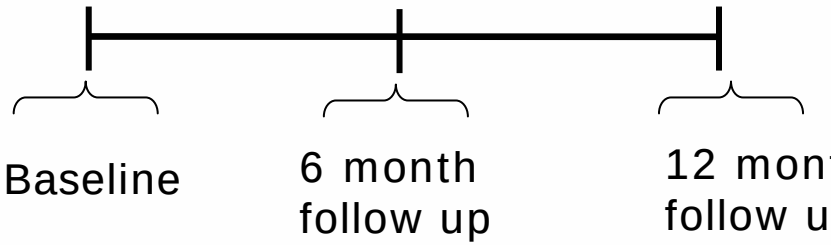
- 1 standard drink = 12 grams of pure alcohol

Introduction & Aim

- Danish Health Examination survey (2007 – 2008): 54,158 persons were screened for heavy drinking
- Web-based questionnaire
- To determine whether a web-based personalized feedback and web-based self-help material resulted in lowering of self-reported alcohol use in a non-treatment seeking population of heavy drinkers

Methods





Randomized controlled trial (non-blinded)

Participants was allocated to either:

An intervention group receiving web-based personalized normative feedback

An intervention group receiving web-based self-help material

A control group receiving nothing

Outcome measure: reduction in weekly alcohol consumption

How did it work?

1. People received an invitation letter inviting them to participate in a National Health Examination Survey (DANHES)
2. Participants completed a Web-based questionnaire
3. An automated screening process identified heavy drinkers
4. Heavy drinkers received an e-mail inviting them to participate in an intervention study
5. By clicking on a link in the e-mail invitees were directed to a web page explaining them about the intervention study
6. When joining the study participants were automatically randomized and immediately directed to a web page presenting them to the interventions or control

Core features of the web-based personalized normative feedback

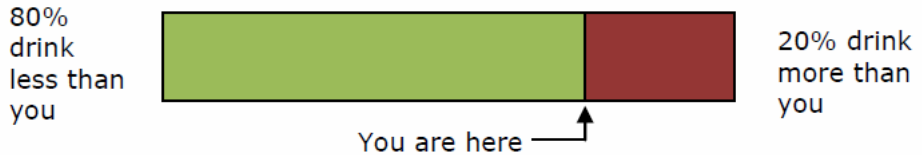
KOST RYGNING ALKOHOL MOTION

Dear Anders B Gottlieb Hansen

Thank you for taking the time to participate in the study. Your replies from the DANHES questionnaire show that you drink 26 units per week.

Your alcohol consumption therefore exceeds the sensible drinking limits recommended by the National Board of Health. As a man you are advised not to drink more than 21 units per week.

Many people do not realize how their alcohol consumption compares to that of the rest of the population. You drink more than 80% of the population in Ærø Municipality, see the figure below:



If your alcohol consumption exceeds 21 units per week you have an increased risk of a number of harmful effects on your health, such as damage to the liver, gastrointestinal system, high blood pressure, sleep disruptions, memory problems and a number of cancers. A high alcohol consumption may also affect your family, your work and your economy.

You may, therefore, consider reducing your consumption to below the sensible drinking limits

- Information about health consequences of heavy drinking
- A graph comparing weekly alcohol consumption with that of the average population

Why Personalized Normative Feedback?

- Norms are important!

  - People compare their own habits to that of people around them
  - If no discrepancy → change is unlikely to occur

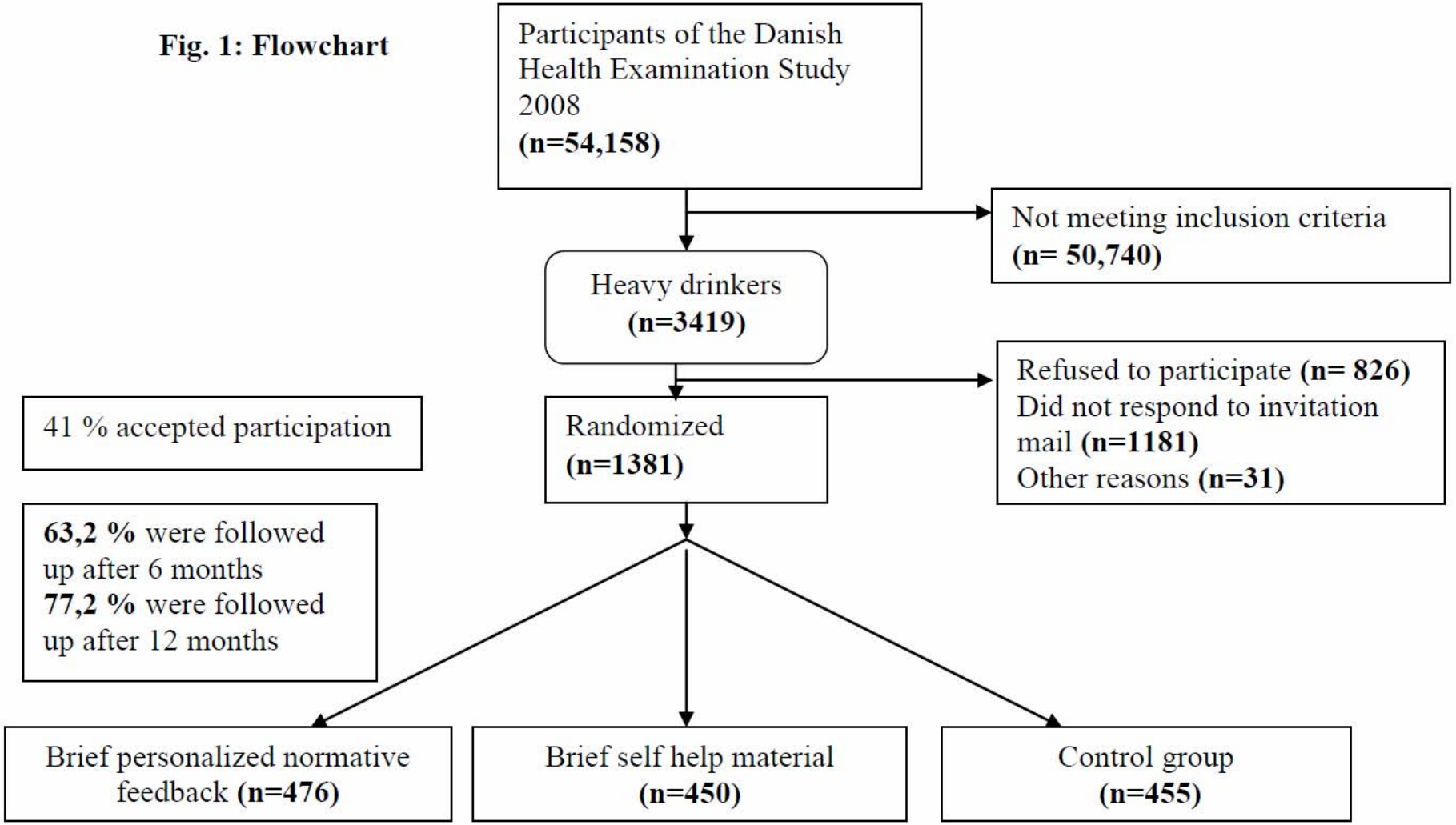
- Change is triggered by a perceived discrepancy between present and desired states

- By a comparison between one´s own drinking and other peoples actual drinking discrepancy becomes explicit

Miller: Motivational Factors in Addictive Behaviours 2006;
Neighbors et al.: Health Psychol 2006.

Flow-chart

Fig. 1: Flowchart



Results (intention-to-treat analysis n=1381)

Alcohol consumption at follow-up by study group

6 month	Standard drinks[#]
Self-help material	23,8
Normative feedback	22,2
Control	23,7
Difference	**- 1,5**

P=0,1803

12 month	Standard drinks[#]
Self-help material	21,7
Normative feedback	20,9
Control	21,9
Difference	**- 1**

P=0,469

Difference in alcohol consumption between baseline and follow-up

6 month	Standard drinks[#]
Self-help material	**- 3,8**
Normative feedback	**- 5,4**
Control	**- 2,9**

12 month	Standard drinks[#]
Self-help material	**- 6,1**
Normative feedback	**- 6,8**
Control	**- 4,8**

P=0,055 / P=0,200

[#] Number of self-reported drinks in a typical week

Resultats (completers analysis n=872/1066)

Alcohol consumption at follow-up by study group

6 month	Standard drinks#
Self-help material	21,9
Normative feedback	19
Control	21,6
Difference	**- 2,6**

P=0.012

12 month	Standard drinks#
Self-help material	20,1
Normativ feedback	19,6
Control	20,8
Difference	**- 1,2**

P=0.345

Difference in alcohol consumption between baseline and follow-up

6 month	Standard drinks#
Self-help material	**- 6,1**
Normative feedback	**- 8,9**
Control	**- 4,5**

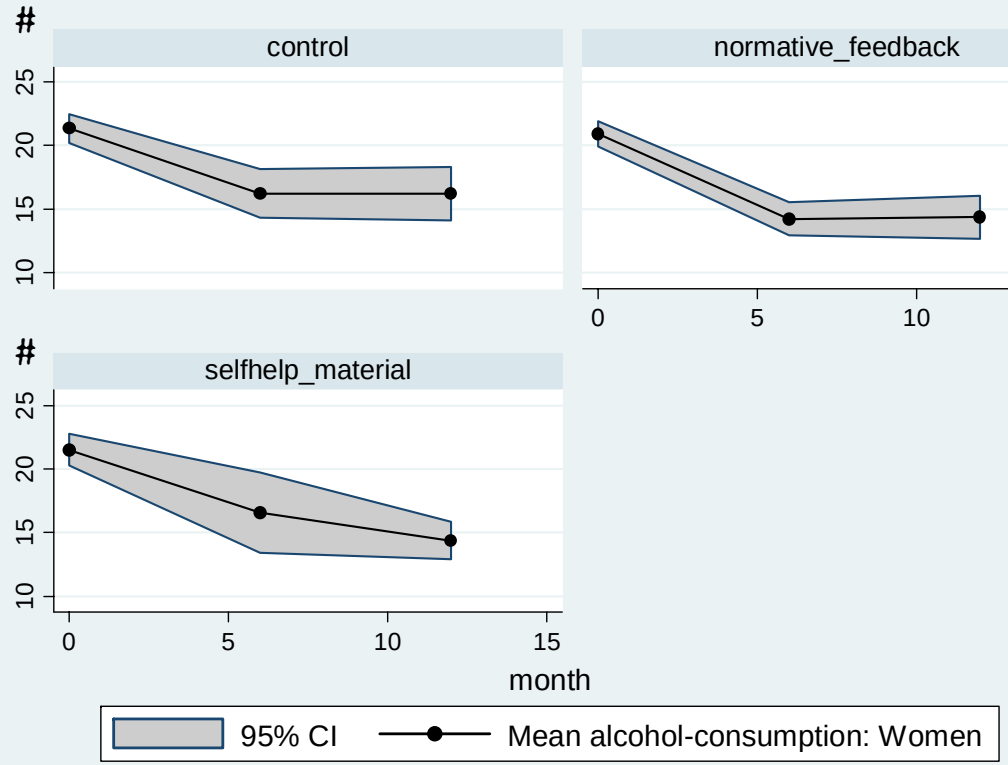
P=0.001

12 month	Standard drinks#
Self-help material	**- 7,3**
Normative feedback	**- 8,1**
Control	**- 5,6**

P=0.095

Number of self-reported drinks in a typical week

Results (completers analysis): Women



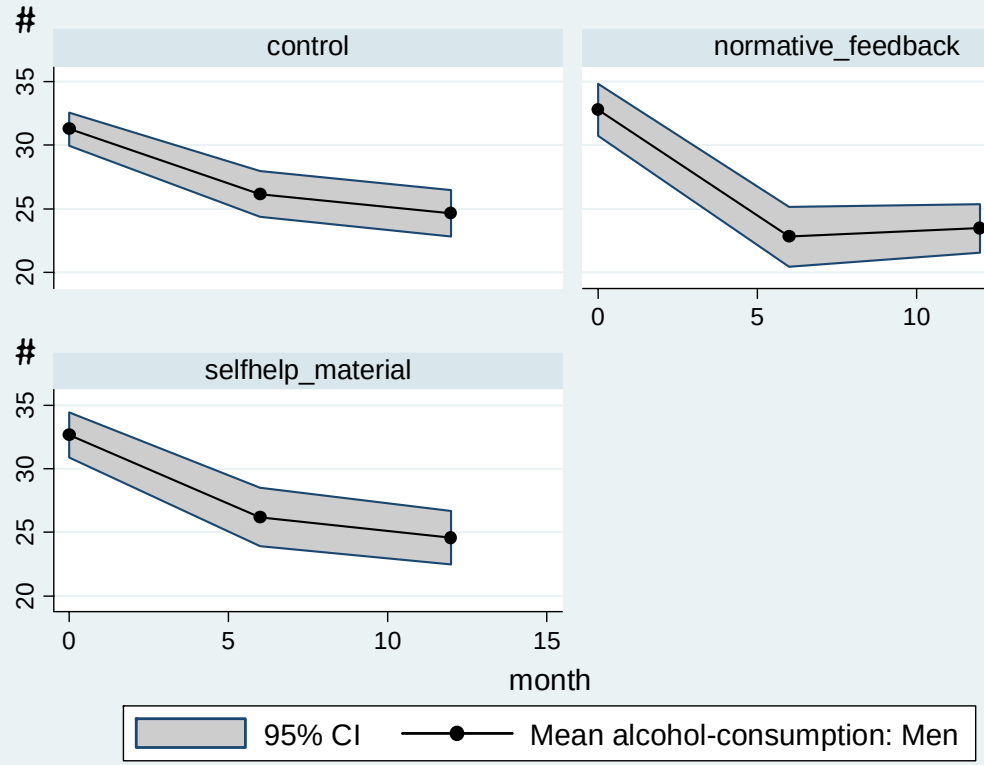
6 month (n=390)	Standard drinks#
Self-help material	16.6
Normative feedback	14.2
Control	16.2
Difference	**- 2**

12 month (n=468)	Standard drinks
Self-help material	14.4
Normative feedback	14.4
Control	16.2
Difference	**- 1.8**

Number of self-reported drinks in a typical week.

Non-significant P=0.482 / 0.317

Results (completers analysis): Men



6 month (n=482)	Standard drinks#
Self-help material	26.2
Normative feedback	22.8
Control	26.2
Difference	**- 3.4***

12 month (n=598)	Standard drinks
Self-help material	24.6
Normative feedback	23.5
Control	24.6
Difference	**- 1.1**

Number of self-reported drinks in a typical week.

*P=0.016 / 0.454

Reflections on feasibility

- **41 %** accepted to participate
- Many invitations did never reach their destination, due to spam filters, wrong e-mail adresses etc. (1181 did not respond to invitation)
- Some invitees reacted rather negatively to our intervention study
  (non-treatment seeking population)

Conclusions

- We found no clear evidence indicating that a brief web-based personalized feedback intervention or a self-help material intervention could lead to a reduction in self-reported alcohol consumption

- A completers analysis provides preliminary support for the efficacy of a personalized feedback intervention (only for men)

Discussion

Possible mechanism and explanations for the findings

- Highly motivated participants
- Non-blinded nature of the study
- Assessment effects (intervention effect of the research procedures)
- Regression to the mean
- Social desirability bias / Self-reported alcohol consumption

Moyer A, Finney JW. Outcomes for untreated individuals involved in randomized trials of alcohol treatment. *J Subst Abuse Treat* 2002; **23**: 247-52.

Kypri K. Methodological issues in alcohol screening and brief intervention research. Subst Abus 2007; 28(3):31-42

Implications for further research

- Normative personalized feedback may have a role in future web-based interventions

- Comparing the participant´s alcohol use with that of a demographically similar comparison group seems in our study to be crucial to efficacy

- A recent meta-analysis indicates that minimal-contact interventions that have fewer sessions and can be accessed from home may be as effective as high-cost labour-intensive interventions

  Rooke et al. Addiction 2010

- Another recent meta-analysis reports: "...inconsistent evidence on the effectiveness of electronic screening and brief intervention for alcohol use."

  Bewick et al. Preventive Medicine 2008