



RESCueH

– A research programme addressing challenges critical to the quality of care for patients with alcohol use disorders

Anette Søgaard Nielsen, PhD
(Program Director)



Table of Contents

Introduction	1
<i>Background</i>	<i>1</i>
The Relay Study – recruiting patients to treatment	5
The Elderly Study – individualized treatment.....	8
The Self-Match Study – involving patients in treatment decisions	15
The Cue Exposure Study – preventing relapse after treatment	17
The Healthy Lifestyle Study – it isn’t enough to just remove alcohol	20
The organization of the RESCueH-studies/UCAR	24
<i>Collaborating Danish treatment institutions in 2017 (RESCueH-studies, only).....</i>	<i>25</i>
<i>International collaborators in The RESCueH studies in 2017</i>	<i>25</i>
New and future projects and studies, initiated at UCAR in 2017:	26
<i>Derivative studies within the rationale: Better recruitment of patients to treatment, as only a minority of alcohol-dependent drinkers currently receive treatment:</i>	<i>26</i>
<i>Derivative studies within the rationale: Matching treatment to individual needs, reflecting the heterogeneity of alcohol-dependent patients:.....</i>	<i>26</i>
<i>Derivative studies within the rationale: Greater patient involvement in treatment, as active involvement in treatment decision processes is essential for compliance:</i>	<i>27</i>
<i>Derivative studies within the rationale: Preventing relapse, as return to harmful drinking is a common problem: ...</i>	<i>28</i>
<i>Derivative studies within the rationale: Encouraging a healthy lifestyle, which will improve compliance in treatment and prevent relapse:.....</i>	<i>28</i>
<i>A new, additional focus area, within the rationale: Sufficient treatment of co-occurring somatic illnesses may increase the survival rate among patients suffering from alcohol use disorder alone or in combination with mental disorders.....</i>	<i>29</i>
<i>Miscellaneous</i>	<i>29</i>
Research publications (UCAR) and other research and dissemination activity	30

Introduction

The RESCueH Alcohol Research Program was launched 3rd of June 2013. This annual report from the Unit of Clinical Alcohol Research (UCAR), University of Southern Denmark, describes the progress and results from Research Program, achieved in 2017. A status of the organization around the projects will also be described.

Background

With the series of studies in the **RESCueH** Alcohol Research Program, we aim to improve the prognosis for patients with alcohol use disorders by developing strategies to identify, treat and reduce relapse in patients with alcohol problems:

1. **The Relay Study**

Rationale: Better recruitment of patients to treatment, as only a minority of alcohol-dependent drinkers currently receive treatment.

2. **The Elderly Study**

Rationale: Matching treatment to individual needs, reflecting the heterogeneity of alcohol-dependent patients.

3. **The Self-Match Study**

Rationale: Greater patient involvement in treatment, as active involvement in treatment decision processes is essential for compliance.

4. **The Cue Exposure Study**

Rationale: Preventing relapse, as return to harmful drinking is a common problem.

5. **The Healthy Lifestyle Study**

Rationale: Encouraging a healthy lifestyle, which will improve compliance in treatment, prevent relapse and support rehabilitation.

The Relay Study – recruiting patients to treatment

The **Relay Study** tests a new model for referring patients. It is a multicentre study involving hospitals in both urban and rural areas and was conducted in hospital departments that have a high number of patients with alcohol-related diseases.

Purpose of the study

We hypothesize that the Relay Model is more effective and less costly than standard methods with regard to referral of alcohol-dependent patients from hospital to specialized treatment.

Design and original plan

In a randomized controlled design, the Relay Model is compared with Referral as Usual over a follow-up period of one year. Consecutive patients, admitted to the departments of gastroenterology, neurology and orthopaedic Surgery at Odense University Hospital (urban area) and Aabenraa Hospital (rural area), who screen positive for excessive use of or positive for alcohol dependency using the Alcohol Use Identification Test (Audit), are enrolled in the study. The primary outcome comprises the health care costs in the year following the intervention. The secondary outcome is social costs, and criminal justice cost, and the number of patients beginning specialized treatment for alcohol use disorder after discharge from the general hospital. Data are collected from registers and databases and merged using the Danish Civil Registration system.

Interventions

The Relay Model: In the experimental intervention, a therapist from the alcohol treatment clinic meets the patient before discharge. If the patient has screened positive for excessive drinking, the therapist will offer a motivational talk and brief advice concerning the possibility of cutting down. If the patient has screened positive for alcohol dependence, the therapist explains the significance of continuing outpatient aftercare and presents an "attendance contract". This contract includes information about the prognosis for alcohol disorders and options for attending outpatient care. The patient is given an appointment at the alcohol treatment clinic and is recommended to place the contract in a prominent place at home.

Referral as Usual: In the standard intervention, the hospital staffs encourage the patient to cut down or seek treatment for alcohol use disorder after discharge. The hospital personnel call the alcohol treatment clinic, and the patient is given an appointment and a meeting card. Standard intervention is intervention as usual.

Progress of the study

A pilot study on the screening procedure was carried out on one of the participating departments at Odense University Hospital (Department O) during October 2013, and the full study was initiated on all five participating departments 1st of November 2013. Enrolment of patients from the rural hospital ended in October 2015. Enrolment at the departments of gastroenterology, and orthopaedic Surgery at Odense University Hospital ended in June 2016. The data collected from the patients has been cleaned and is ready for analysis in spring 2017. Data from the registers, describing costs of subsequent use of alcohol treatment, health care, social services etc., data from the National Register on Alcohol Treatment was collected in winter 2017.

Preliminary findings

In the Relay Study 6,102 adult patients were admitted to the uptake area of the alcohol clinics; of these 2,568 patients were excluded and a total of 3,534 patients completed the lifestyle questionnaire. Of these 609 patients scored 8 points or more in the AUDIT test and were thus included in the study. The control group consisted of 333 patients and the intervention group of 276 patients.

In our study sample, we identified a total of 36 patients who, 6 months after discharge from somatic hospital, had attended alcohol treatment centres (secondary outcome). Of these, 22 patients (8%, CI: 4.8;11.2) were in the intervention group and 14 (4%, CI: 2.0;6.4) were in the control group. We found the unadjusted odds ratio for the entire sample to be 2.008 (95 CI: 1.007;4.003) when comparing the intervention group with the control group. For the entire sample, we found a statistical difference in the odds ratio of showing up for alcohol treatment 6 months after discharge ($p=0.048$). When stratifying the sample into those with hazardous drinking, where patients in the intervention group received motivational interviewing and those with alcohol dependence where patients in the intervention group further received a referral to the alcohol treatment centres, we found that for patients with hazardous drinking there was a statistically significant difference between the groups with higher odds for showing up for alcohol treatment 6 months in the intervention group ($p=0.024$). However, for patients with alcohol dependence there was no significant difference between the two groups ($p=0.974$).

Currently, the analysis of primary outcome, comprising health care costs in the year following the intervention, is being performed. The findings are expected to be published in the summer 2018.

Publications from the study so far

Schwarz AS, Bilberg R; Bjerregaard L; Nielsen B; Sjøgaard J; Nielsen AS. **Relay model for recruiting alcohol dependent patients in general hospitals- A single-blind pragmatic randomized trial.** BMC Health Services Research, 2016; 16:132, DOI 10.1186/s12913-016-1376-8

Hellum R, Bjerregaard L, Nielsen AS. **Factors influencing whether nurses talk to somatic patients about their alcohol consumption.** Nordic Studies on Alcohol and Drugs, 2016;33:415-436,

Schwarz A-S, Nielsen B, Nielsen AS. **Lifestyle factors in somatic patients with and without potential alcohol problems.** Journal of Public Health, DOI 10.1007/s10389-017-0885-1

Spin off publications:

Schwarz AS, Nielsen B, Nielsen AS. **Changes in profiles of patients seeking treatment and treatment outcomes in Denmark following policy changes.** Journal of Public Health, DOI 10.1007/s10389-017-0841-0

In preparation:

Schwarz A-S, Nielsen B, Sjøgaard J, Nielsen AS. **Inpatients with alcohol problems who show up in alcohol treatment 6 months after discharge**

PI, coordination of study and PhD-students

Professor Bent Nielsen (UCAR)

Assistant Professor Randi Bilberg (coordination)

Research Assistant Rikke Hellum

Professor Jes Sjøgaard (supervisor)

PhD student Anne-Sophie Schwartz

Associate Professor Anette Sjøgaard Nielsen (supervisor)

The Elderly Study – individualized treatment

The **Elderly Study** aims to improve the prognosis for a particular patient group by tailoring treatment to match individual needs.

Purpose of the study

The study will evaluate new methods for treating 60+ year old patients with alcohol use disorders.

Design

The Elderly study is designed as a randomized controlled trial with two arms and conducted in three different drinking cultures. Consecutive patients, aged 60+ years, seeking treatment for alcohol use disorders at three facilities in Denmark (Odense, Aarhus and Copenhagen), two facilities in Germany (Dresden and Munich) and a single treatment facility in the US (Albuquerque) are enrolled in the study. The patients are randomized to either (A) *Standard treatment* or (B) *Extended treatment*.

Interventions

(A) *Standard Treatment* comprises four sessions of Motivational Enhancement Therapy over four weeks. This intervention is likely to be offered, typically, in general practice, or possibly to the intervention offered at specialized treatment centres which lack experience with this patient group. In the present study, the intervention in this arm is considered to be standard treatment, although the intervention is far briefer than treatment typically offered alcohol depended patients seeking treatment in specialized treatment institutions.

(B) *Extended treatment* is the experimental intervention in the present study and comprises four sessions of Motivational Enhancement Therapy over 4 weeks, followed by up to 8 sessions of Community Reinforcement Approach specifically designed to target the needs of elderly (CRA-Elderly). The CRA-Elderly encourages sobriety by helping the patient create routines and activities that are meaningful to the patient and reward staying sober. Particular focus is given to establishing sober social networks and to coping with aging.

All patients are interviewed at treatment start (baseline), after 4 weeks, 12 weeks, 6 months and 12 months using structured interview instruments.

Primary outcome

Percentage of patients with abstinence or controlled use (maximum daily alcohol intake equivalent to $BAC \leq 0.05\%$) in the last 30 days at 6 months after start of treatment

Hypothesis

We expect that 50% of patients in MET treatment and 60% of patients in the MET+CRA will have a good clinical outcome as defined in the hypothesis by the end of treatment.

1. Fifty percent of the patients randomly assigned to a brief outpatient behavior therapy program (Standard treatment; 4 sessions of MET) will show a clinically significant improvement of their drinking pattern between onset, end of treatment and 6-month follow-up.

2. Patients randomly assigned to a more intensive outpatient behavior therapy (Extended treatment, MET plus CRA-S) will show greater improvement of their drinking pattern between onset, end of treatment and 6-month follow-up. A clinically significant difference in outcome is defined as at least a 10% greater rate of abstinence or drinking in a controlled manner in treatment group 2 compared to group 1.

Progress of the study

Intervention and data collection

The Danish site began enrolling patients in the pilot study mid-January 2014. The German site and the US site began enrolling patients 1st of March 2014. The enrolment of patients ended on the 31st of March 2016 at the German sites, at the US site and in Copenhagen and in Aarhus. Enrolment ended on the 30th of April 2016 in Odense, and the interventions offered to the last participants ended in August 2016. All the follow up interviews were finalized in autumn 2017. Data was cleaned winter 2017. We realized during the data cleaning process of baseline data, that information on all DSM V criteria was missing for some of the patients enrolled in the early stages of the study. Regrettably, this led to the exclusion of 11 patients, for whom it was not possible to give a DSM V diagnosis. Hence, the final number of participants in the study is 693.

Preliminary findings

Table 1 presents a few baseline data from each country. The data suggest a few interesting differences between cultures, although some of the differences may be explained by differences in recruitment procedures. In contrast, although statistically significant differences are found, some of the differences are not big in absolute terms and may therefore not be clinically relevant.

Table 1	Danish site N=341	American site N=149	German site N=203	p-value *
Males (%)	64,2	59,7	52,2	0,02
Mean age, years (SD)	65,1 (4.1)	65,2 (5.2)	66,5 (4.8)	<0.01
Marital status:				
Married/partner (%)	44.6	39.9	56.7	<0.01
Separated/single (%)	46.3	54.4	32.5	
Widower (%)	9.1	6.7	10.1	0.42
Employment status:				
Full/part time work (%)	15.3	28,2	23.7	<0.01
Retired (%)	62.8	50.3	71.4	<0.01
Alcohol measures				
Number of drinking days, mean¹, (SD)	14.9 (10.5)	21.0 (10.5)	22.7 (9.1)	<0.01
Days with binge drinking, mean¹, (SD)	11.8 (10.2)	15.0 (12.0)	15.6 (12.2)	<0.01
Alcohol Dependence, mean (SD)²	12.2 (5.9)	12.2 (7.2)	6.1 (3.8)	
Major depressive episode (%)⁵	9.7	8.7	4.9	NS
Social phobia (%)⁵	1.2	1.3	0	NS

¹ Last 30 days prior to treatment start, binge drinking defined as drinking more than 60 grams of pure alcohol per day

² Alcohol Dependence Scale, missing information on 15 participants

³ PEN-scale, missing information on this scale from 3 participants

⁴ Drinker Inventory of Consequences -2R, sum of all items except control item 5, 15, 25, 35 and 45. Total score may range between 0 and 135.

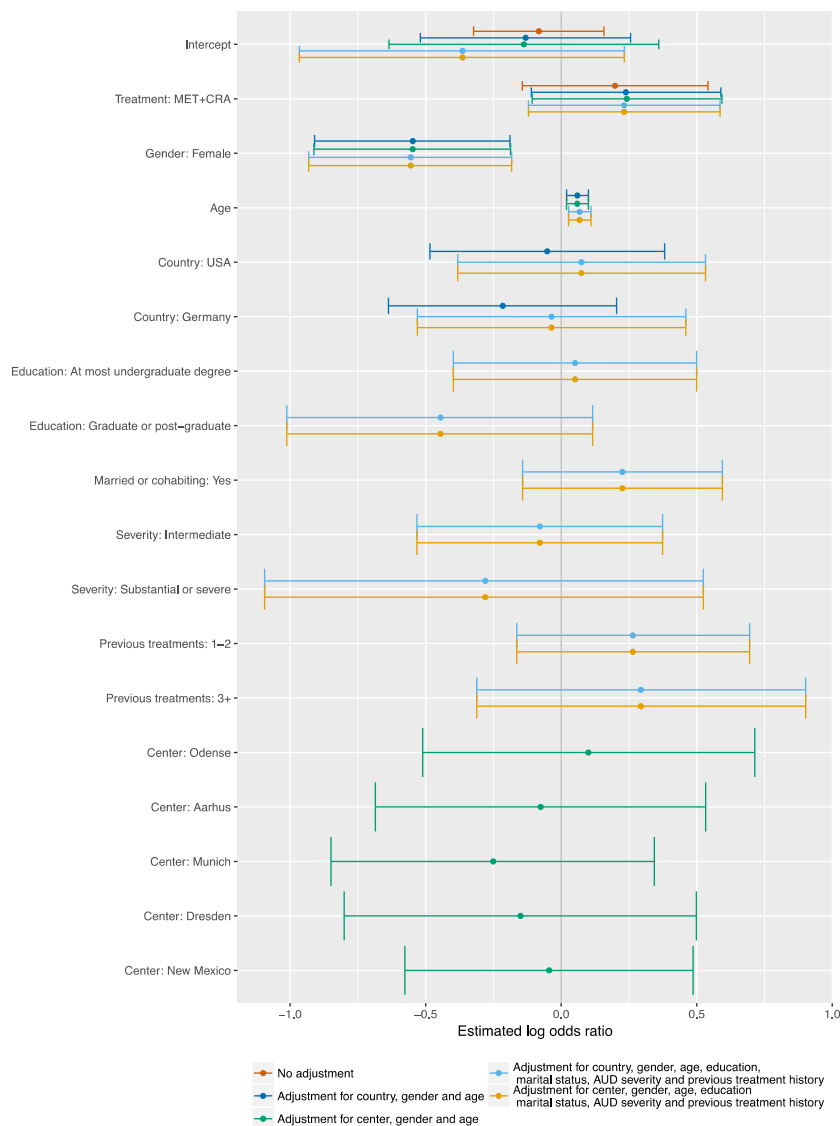
Missing information on this scale from 32 participants

⁵ Screening positive according to MINI

*Fisher's exact test when comparing proportions, and Kruskal-Wallis equality-of-populations rank test when comparing equality of median. Means are reported in the table for easier reading.

At 26 weeks following inclusion in the study, 49,1% among the patients randomized to Standard treatment (4 sessions, MET) met the criteria for treatment success, compared to 52,7% among the patients randomized to extended treatment (4 sessions MET + 8 sessions CRA-S). Hence, the clinically relevant difference between the two treatment options at minimum 10% points was not achieved. As it can be seen from the full model, shown in figure 1, there are not only no differences in outcome between treatment methods, but neither between countries.

Figure 1



The only factor in the model with significant impact on treatment outcome is gender. When controlling for all other factors, women have a significantly worse prognosis than men. This finding is rather surprising, and we are currently planning further studies to learn more about the impact of gender in relation to treatment outcome.

The overall conclusion of the Elderly study is that relatively brief treatment is possible with good and comparable results in both Europe and USA. The primary outcome paper is in progress and will be submitted in Spring 2018.

Sub-studies in the Elderly-Study:

A PhD-study has been carried out at the Danish site by Jakob Emiliussen, focusing on why some elderly start drinking late in life. The PhD-study recruited informants among the Danish participants in the Elderly Study. Participants, who did not start drinking excessively until after the age of 60, were asked for an extra qualitative interview. The main findings were that after a lifelong unproblematic (at times heavy) use of alcohol, it seemed that using alcohol as a coping strategy was one of the main factors in very late-onset alcohol use disorder among the participants. The participants expressed how they experienced a marked loss of identity when they had no activities to fill up their time after retirement. Social activities involving alcohol were also closely related to very late-onset alcohol use disorder. The study concludes that loss of identity, coping with physical and psychological problems, an overarching societal and social culture surrounding alcohol and the interrelationship between social life, alcohol use and heavy drinking are important factors that need to be addressed clinically and preventively, and specifically for individuals experiencing very late-onset alcohol use disorder (Emiliussen, Andersen & Nielsen, 2017). Jakob Emiliussen defended his thesis, based on qualitative data from the Elderly Study, in spring 2017.

Three additional sub-studies initiated within the Elderly Study as PhD-studies and pre-graduate studies:

The PhD-study *Factors influencing the effect of therapy for alcohol use disorders – a study of duration, quality of treatment and research assessments*, focusing on the general factors of treatment and their impact of treatment outcome, was initiated in 2016. PhD-student Lotte Kramer is expected to finalize the study in 2019.

The PhD-study *Epidemiology of older adults with problematic drinking habits* will, by means of register-data on the Danish participants in the Elderly study and on healthy controls, explore the sociodemographic background of older adults, to understand which subgroups, if any, have a higher risk of heavy drinking and AUD, and what effect heavy drinking has on morbidity and mortality rates. In addition, the PhD-study will investigate the prognosis of older adults suffering from alcohol use disorder, compared to older heavy drinkers and to older adults, who perform sensible drinking. The study was initiated in 2017, and PhD-student Anna Mejldal is expected to finalize the study in 2020.

The PhD-study *Alcohol Use Disorder: self-reported alcohol intake – elucidating characteristics on outpatients aged 60 years and older who underreport alcohol intake* will assess the association between underreporting alcohol consumption and effect of treatment for alcohol use disorders, and identify parameters associated with increased risk of underreporting patients based on hair

analysis and collected data from the Elderly study. The study was initiated in 2017, and PhD-student Dorthe Grüner Nielsen is expected to finalize the study in 2020.

The pre-graduate study *Elderly with relief/reward drinking patterns: characteristics and treatment outcomes* will compare the effect of MET to MET+CRA, among elderly individuals (60+ years) with a relief or reward driven drinking pattern, differentiated into clinical subgroups. Thus, the study will be investigating whether treatment outcomes vary per differentiated subgroups regarding two different treatment approaches. Pre-graduate student Peter Schøler is expected to finalize first part of the study in the summer 2018, and to continue as PhD-student on the second part and derivative studies.

Publications from the Elderly study so far

Andersen K, Bogenschutz MP, Bühringer G, Behrendt S, Bilberg R, Braun B, Ekstrøm CT, Forchimes A, Lizarraga C, Moyers TB, Nielsen AS. **Outpatient treatment of Alcohol Use Disorders among subjects 60+ years. Design of a randomized controlled trial conducted in three countries (Elderly-study).** BMC Psychiatry (2015) 15:280 DOI 10.1186/s12888-015-0672-x.

Schmidt LK, Bojesen AB, Nielsen AS, Andersen K. **Duration of therapy – does it matter? A systematic review and meta-analysis of the duration of psychosocial treatment for alcohol use disorders.** Journal of Substance Abuse Treatment 2018; ;84 57–67

Emiliussen J, Morrison A. **Alcohol use and generational masculinity:: An interdisciplinary approach.** Nordisk Alkohol- & Narkotikatidskrift. 2017;34(4):314-329. Tilgængelig fra, DOI: 10.1177/1455072517709654

Emiliussen J. **Commentary on Halonen et al. (2017): Pondering the latent class trajectories of retiring older adults.** Addiction. 2017;112(7):1171–1172. Tilgængelig fra, DOI: 10.1111/add.13848

Nielsen AS, Bilberg R, Andersen K. **Self-assessed stress level among elderly seeking treatment for alcohol use disorder. A descriptive study.** Conference paper. Conference: Volterra conference. Alcoholism and Stress - Alcoholism and Stress. A framework for future treatment strategies. Maj, 2017

Emiliussen J, Nielsen AS, Andersen K. **Identifying Risk Factors for Late-Onset (50+) Alcohol Use Disorder and Heavy Drinking: A Systematic Review,** Substance Use & Misuse, 2017; DOI: 10.1080/10826084.2017.1293102

Emiliussen J, Nielsen K, Nielsen AS. **Why do some older adults start drinking excessively late in life? - results from an Interpretative Phenomenological Study.** Scandinavian Journal of Caring Sciences, 2017, doi: 10.1111/scs.12421.

Emiliussen J, Nielsen AS, Andersen K. **How do older adults with very late-onset alcohol use disorder define alcohol problems? - Results from an interpretative phenomenological study.,** Alcoholism Treatment Quarterly. 2017;32(2):151-164. DOI: 10.1080/07347324.2017.1288480

Emiliussen J, Andersen K, Nielsen AS. **How does family pressure, health and ambivalence factor into entering alcohol treatment? Results from an interpretative phenomenological inquiry into the experiences of people aged 60 and older with alcohol use disorders.** *Nordic Studies on Alcohol and Drugs*. 2017;34(1):28-42.

Publications submitted:

Behrendt S; Braun B; Bilberg R; Bühringer G; Bogenschutz M; Nielsen AS; Mejdal A; Andersen, K. · **Characteristics of DSM-5 alcohol use disorders among treatment-seeking older adults: results of the international clinical trial “Elderly Study”.** Submitted, *Sucht*

Petersen AH, Ekstrøm CE. **dataMaid: your assistant for documenting supervised data quality screening in R.** *Journal of Statistical Software*, in review.

Publications currently in preparation:

Andersen K, Bogenschutz M, Bühringer G, Ekstrøm CT, Behrendt S, Braun B, Bilberg R, Petersen AH, Mejdal A, Nielsen AS. **The Elderly Study: Primary outcomes.** (Working title)

Nielsen AS, Behrendt S, Bilberg R, Bogenschutz M, Braun B, Bühringer G, Andersen K. **Self-perceived stress and social support among treatment seeking +60 year old individuals, suffering from Alcohol Use Disorder: Exploring the alcohol-stress link.**

Tarp KH, Nielsen B, Andersen K, Nielsen AS. **The impact of severity on treatment outcome among older female alcohol use disorder outpatients: A naturalistic case-control follow-up study**

Schmidt LK, Andersen K, Nielsen AS, Moyers TB. **Lessons learned from measuring fidelity with the Motivational Interviewing Treatment Integrity code (MITI 4).**

Braun B, Behrendt S, Bilberg R, Piontek D, Kraus L, Bühringer G, Bogenschutz M, Nielsen AS, Andersen K. **The individual treatment goal influences drinking quantity after treatment in older persons with alcohol use disorder: results of the randomized controlled Elderly-study**

Mejdal A, Nielsen AS, Andersen K, Møller S. **Searching for taxa in older adults suffering from and seeking treatment for alcohol use disorder– a latent class analysis** (working title)

Schmidt LK, Nielsen AS, Andersen K, Moyers TB. **Lessons learned from measuring fidelity with the Motivational Interviewing Treatment Integrity code (MITI 4).**

Schmidt LK, Nielsen AS, Moyers TB, Andersen K. **The quality of MI measured by MITI 4 and effect on use of alcohol**

Presentations

Schmidt LK, Mød forskeren og bliv testet – Quality of Life. *Psykiatriens forskningsdag 2017:*

Schmidt LS, Nielsen AS, Moyers TB, Andersen K, **The Quality of MI Measured By MITI 4 And Associations With Use Of Alcohol** (Poster, preliminary results). *International Conference on Motivational Interviewing, Philadelphia 2017*

Schmidt LS, **The MITI project.** *European Association of Substance Abuse Research Conference 2017*

PhD- and pre-graduate students within the Elderly Study

Jakob Emiliussen, Phycologist. Thesis defended in 2017.

Lotte Kramer Schmidt, MD. PhD-study in progress.

Anna Mejldal, MSc. PhD-study in progress.

Dorthe Grüner Nielsen, MD. PhD-study in progress.

Peter Næsborg Schøler, Medical student. Pre-graduate study in progress. PhD-study in planning.

Inspiration and sparring group for the project

Primo 2017, Jakob Emiliussen had a 4 weeks' research stay at Kings College in London.

Medio 2017, Lotte Kramer Schmidt visited Psychiatric department, NYU Lagone Health, New York.

PIs, coordination of study and PhD-students

Principal Investigators: Professor Kjeld Andersen, UCAR (Danish site), Professor Michael Bogenschutz, NYU Langone Medical Center and MD Snehal Bhatt, New Mexico School of Medicine (US site), Professor Gerhard Bühringer, Technische Universität Dresden and Institut für Therapieforschung (German site).

Overall coordination: director Anette Søgaard Nielsen.

Local Coordinators: Randi Bilberg (DK), Silke Behrendt (G), Barbara Braun (G), Christine Lizzaraga (US)

The Self-Match Study – involving patients in treatment decisions

The **Self-Match Study** is the first of its kind to investigate the effects of ‘self-matching’ treatment for alcohol disorders versus assignment by a clinical expert.

Purpose of the study

The study will compare the effects of patient-led versus expert-led treatment choice in terms of compliance in the treatment programme, alcohol consumption and patient satisfaction with treatment for alcohol use disorder.

Design

The study is a randomized controlled study with two arms: (A) an experimental arm, involving patient self-matching to treatment, and (B) treatment as usual, involving expert assignment to treatment. Consecutive patients aged 18-60 years who, either at presentation or after detoxification, wish to start treatment at the Alcohol Treatment Clinic in Odense, will be enrolled. The patients will be interviewed at baseline and 6 months after treatment start. Enrolment of patients is expected to begin in spring 2017.

Expected results

We expect that patients who choose their own treatment method will drink significantly less alcohol one year after treatment initiation than those who are assigned treatment by a clinical expert. We hypothesize that this will be due to improved adherence to the treatment programme among self-matched patients.

Progress of the study

Information material

Based on knowledge from a survey at the Danish alcohol treatment institutions and in collaboration with the staff from the Alcohol Treatment Center in Odense, the information material to be used by the patients as a foundation for the choice of treatment was developed and tested ultimo 2016 and primo 2017. The information material consists of both video presentations and written information.

Initiation of the study

The study began to enrol patients in May 2017. At the end of 2017, 155 patients were enrolled. So far, only 1 patient has refused to participate in the study. Enrolment is expected to continue until 400 patients are included. However, interim analysis will be performed when 200 patients are included and followed up. If the interim analysis shows that enough patients are included to determine whether or not self-match increases compliance in treatment, the enrolment of patients will be concluded.

Publications from the study so far

Nielsen AS, Ellermann AE. **Need to know and wish to know: What individuals find important to know about treatment for alcohol problems in order to be able to decide whether to start treatment or not.** Nordic Studies on Alcohol and Drugs, 2016;33;2:123-137

Publications submitted

Hell M, Nielsen B, Miller WR, Nielsen AS. A randomized controlled study of patients matching themselves to treatment options: The Self-Match Study

Publications currently in preparation

Inspiration and sparring group for the project

In the end of 2017, the PhD-student on the self-match study initiated a two-month research stay in the USA, visiting Palo Alto Medical Center, San Francisco, California and San Diego State University, School of Social Work, San Diego, California.

PI, coordination of study and PhD-students

Principal Investigator: Associate Professor Anette Søgaard Nielsen

PhD student Morten Hell

Supervisor: Professor WR Miller.

The Cue Exposure Study – preventing relapse after treatment

The **Cue Exposure Study** compares aftercare based on cue exposure treatment (CET) delivered either by a therapist or through a smartphone application with standard aftercare, with the aim of preventing relapse to harmful drinking.

Design

The study is a randomized controlled trial with three arms, of which two are experimental: (A) an experimental aftercare comprising 4 group sessions of CET (one session every two weeks), (B) an experimental aftercare comprising 1 individual session with instruction for a CET smartphone application + one individual follow-up session 8 weeks after discharge, (C) aftercare as usual comprising one individual follow-up session 8 weeks after discharge only, i.e. no CET. Consecutive patients aged 18-60 years, who finish standard treatment at the Alcohol Treatment Centre in Odense from the period 1st of May 2015 till Medio 2017, are offered participation and enrolled in the study. The patients are interviewed at baseline just before aftercare treatment and at 8 and 26 weeks after initiation of aftercare. Data collection includes relevant questionnaires and interview instruments.

Interventions

(A) Aftercare comprising therapist-led CET: The patients in this group participate in four 2-weekly group sessions, delivered by a therapist without the use of a smart phone.

(B) Aftercare based on a smartphone CET application: At the start of aftercare, the patients in this group attend an individual session where they will be instructed in the use of the smart phone software, and a further individual session after 8 weeks. The patients are asked to practice their skills for reducing cue reactivity on a regular basis.

(C) Standard aftercare: The patients in this group will attend an individual follow-up session 8 weeks after discharge from treatment. This session contains no CET.

Expected results

We expect that alcohol consumption 8 and 26 weeks after discharge from treatment will be lower in the experimental groups (A & B) than in the control group (C). We explore whether the experimental intervention (B) will be more cost-effective than the other interventions.

Progress of the study

The application for the smart phone was finalized in 2014, and presented to patients and therapists in order to receive feedback. Thereafter it was adjusted and tested again. Training of the therapist was performed at the beginning of 2015, and Dr Bodil Andersen, was attached as supervisor for the therapist throughout the study.

Patients who started primary treatment after 1st of February 2015 were offered participation in the study when they were 3 months into their treatment course and planned termination of treatment. Patients, who agreed to participate in the Cue Exposure aftercare study, were randomized to either CET based aftercare in groups, to CET by means of the application for smartphone, or aftercare as usual. Hence, the first patients were enrolled in May 2015.

The last patients offered participation in Cue Exposure Aftercare study were individuals starting primary treatment on the 30th of April 2017. They concluded their primary treatment in July, and were thereafter offered participation in the Cue Exposure Aftercare study. Hence, enrolment of the patients in the Cue Exposure study was concluded at the end of July 2017. A total of 164 patients were enrolled in the study. 148 (90%) patients completed the post-treatment assessment 8 weeks after beginning aftercare treatment, and the last 6 months follow data will be collected primo 2018.

Challenges

Throughout the study, fewer patients than expected sought treatment for alcohol problems; a tendency that was seen not only in Odense, but in Danish society as such. Furthermore, the refusal rate for participation in the study was higher than expected. Relatively many patients did not want aftercare treatment since they felt that they finalized treatment and were ready to try out the strategies they had learned through treatment by themselves.

Preliminary findings

During the inclusion period, a total of 323 patients, fulfilling the eligibility criteria, finalized primary treatment, and were offered to participate in the Cue Exposure aftercare study. A total of 159 declined to participate, and 164 (51%) were enrolled in the study and completed pre-aftercare assessment. A total of 153 (93%) individuals completed the post-aftercare assessment 8 weeks after beginning aftercare: 94% (n=51) in the CET in groups-arm, 91% (n=49) in the CET Smartphone-arm, and 95% (n=53) in the aftercare as usual- arm.

Approximately 70% of the participants in the Cue Exposure study were relatively well-educated having completed either vocational training, a bachelor degree at vocational academies or university colleges (≤ 4 years education) or a university degree or other higher education (> 4 years education) after finishing elementary school or high school. In addition, for approximately 50% of the sample, the source of revenue was employment income, and 10% were students receiving grants, state loans and employment income. Around 35% were pensioned, mainly due to retirement, and the rest of the sample was temporarily out of employment, on sickness benefits, unemployment benefits or cash assistance.

The pre-aftercare alcohol consumption measures indicated that the sample was successfully treated during the primary treatment course: 80% had achieved at sensible drinking, and 70% had achieved total abstinence. Among individuals who reported being non-abstinent (n=46) at the time for inclusion in the Cue Exposure aftercare study, the median number of drinking days was 3(IQR: 4.00), days with excessive drinking 1.5 (IQR: 2.00), and alcohol composite score 0.23(IQR: 0.22), measure by means of the Addiction Severity Index. In addition, the level of cravings ranged from low to moderate on the VAS, DAQ and OCDS-scales, and, accordingly, there was a very high degree of perceived self-efficacy. The use and perceived effectiveness of the USCS, assessed by means of the USCSQ, was high, particularly for: "thinking about the negative consequences of drinking" and thinking about the positive consequences of sobriety", which was expected given that the primary psychological treatment consisted of CBT.

Currently, we are awaiting the last data from the 26 weeks follow up to be able to calculate primary outcome of the aftercare study.

Publications from the study

Mellentin AI, Nielsen B, Nielsen AS, Fei Yu, Stenager EN. **A randomized controlled study of exposure therapy as aftercare for alcohol use disorder: study protocol.** BMC Psychiatry, 2016;16:112. DOI 10.1186/s12888-016-0795-8

Mellentin AI; Stenager E; Nielsen B; Nielsen AS; Yu F. **A smarter pathway for delivering cue exposure therapy? The design and development of a smartphone application targeting alcohol use disorder.** JMIR Mhealth And Uhealth, 2017 ;5(1):e5 doi:[10.2196/mhealth.6500](https://doi.org/10.2196/mhealth.6500).

Mellentin AI, Skøtt L, Nielsen B, Juhl C, Nielsen AS, Schippers G, Stenager E. **Cue Exposure Therapy for the Treatment of Alcohol Use Disorders: A systematic Review and Meta-analysis.**, 2017. DOI: [10.1016/j.cpr.2017.07.006](https://doi.org/10.1016/j.cpr.2017.07.006).

Publications currently in preparation

Mellentin AI, Nielsen AS, Fei Y, Nielsen B, Stenager E. **A smartphone application featuring cue exposure therapy as aftercare for alcohol use disorders: results from a randomized controlled trial**

PI, coordination of study, PhD-students

Principal investigator: Professor Bent Nielsen, UCAR.

Supervisors (study): Professor Elsebeth Stenager, Associate Professor Anette Søgård Nielsen

Supervisor (clinical): MD Bodil Andersen

Technical development of the application: Associate Professor Arne Bilberg, Associate Professor Fei Yu.

PhD student Angelina Mellentin

The Healthy Lifestyle Study – it isn't enough to just remove alcohol

The **Healthy Lifestyle Study** tests whether the addition of moderate physical training to standard treatment for alcohol dependency will increase compliance with alcohol treatment.

Design

The study was a randomized controlled trial with three arms: (A) Standard treatment + physical exercise on an individual basis, (B) Standard treatment + physical exercise in groups, or (C) Standard treatment alone. Consecutive patients, aged 18-60 years, starting treatment at the Alcohol Treatment Centre in Odense, were enrolled in the study. The patients were interviewed and tested at baseline, and after 6 and 12 months.

Interventions

All patients received standard outpatient treatment at the Alcohol Treatment Centre. The exercise programme was conducted 2 days a week for a total of 24 weeks. The programme consisted of brisk walking or running, where the duration and intensity of the exercise increased each week as the patients' fitness level improved. The exercise programme was led by a physical trainer. It was either carried out on an individual basis (experimental arm A) or in a group setting (experimental arm B). The third arm served as control.

Progress of the study

A pilot study was carried out in summer 2012. 10 patients participated in the pilot study. The pilot study showed that 6 out of the 10 patients, receiving treatment for alcohol dependence, were willing and able to run in groups on a regular basis, supported by running instructors. (Roessler et al., 2013). The randomized controlled trial started enrolling patients in mid-May 2013, and stopped enrolment in February 2015. 175 patients were enrolled, of which 62 were randomized by urn randomization into training in groups, 60 to individual training and 53 to control group. The follow-up rate at 6 months (collection of data for primary outcome) was 79% (137 patients) and 12 months' follow-up and 12 months 57% (100 patients).

Findings

Primary outcome: Alcohol intake

The primary outcome measure was defined as the proportion of patients who did not drink excessively six months after treatment start. Not drinking excessively was defined as being either abstinent or drinking moderately during the last 30 days prior to the follow up interview. Moderate drinking was defined as drinking a maximum of 14 and 21 standard units of alcohol per week for women and men, respectively, and a maximum of 5 standard units of alcohol on a drinking day (Recommendations of the Danish Health Authority), again during the last 30 days prior to follow up.

At the time for the six-month follow-up, all three groups showed a highly significant reduction in alcohol intake. No differences between the groups were found in the proportion of patients who drank excessively. Participants allocated to exercise and participants allocated to the control group were not significantly different from each other in relation to drinking outcome measured as consumed units of alcohol per month at follow-up. The number of days abstinent was increased, while the number of drinks per drinking day was decreased across the total sample.

A dose-response effect of exercise was found. The amount of alcohol intake in the intervention groups decreased by 4% [95% CI: 0.03 – 6.8%], $p=0.015$, for each increased exercising day. That is, the more days participants registered their exercise the less alcohol they consumed at follow-up.

Secondary outcome: Physical fitness

At baseline, women had a mean age, height, weight and VO_{2max} of 51 ± 11 years, 1.65 ± 0.09 m, 68.3 ± 12 kg and 28.2 ± 6.8 $mlO_2 \text{ min}^{-1}kg^{-1}$, while men had 43 ± 12 years, 1.79 ± 0.07 m, 83.1 ± 12.3 kg and 38.0 ± 9.3 $mlO_2 \text{ min}^{-1}kg^{-1}$. Physiological parameters measured during maximal treadmill running were: Treadmill running time (T_{max}), maximal heart rate (HR_{max}), maximal blood lactate concentration (BL) and respiratory exchange ratio (RER), Rate of Perceived Exertion (RPE) and VO_{2max} for the subgroup of patients completing both tests.

In the subgroup presenting for test of physical fitness, the individual group (IND) had changed their VO_{2max} after 6 months training by 5.7% ($p<0.05$), while there was no change in the other two groups (group training GR and control C) ($p>0.05$); however, all groups had decreased their alcohol intake highly significantly ($p<0.0001$). When using the definition of “excessive drinking” per the Danish Board of Health in terms of an average weekly consumption exceeding 14 and 21 units for women and men, respectively, the reduction in alcohol use implied that only 39 and 36% of the patients, respectively, from the group condition and individual condition were still presenting “excessive drinking” after the intervention, while there were 57% in C. The training intensity was $78.2\pm 6.9\%$ and time per training unit was 37.8 ± 9.6 min with no difference between IND and GR ($p>0.05$). Assuming data coming from patients using and downloading data from heart rate monitors, veridically reflected frequency in training, the average frequency was four or five times a month during the first month of the intervention, dropping to once or twice a month during the following 5 months ($p<0.05$).

Secondary outcome: Interpersonal problems

Another secondary outcome was the level of interpersonal problems, and the question whether the patients differed from the normal population at baseline. When comparing the participating patients with a healthy population, the patients achieved a significantly higher score on four of the eight subscales. The subscales, where the AUD-patients perceived to have significantly more interpersonal problems, were: vindictive ($p = <0.0001^{**}$), cold ($p = <0.0001^{**}$), socially avoidant ($p = <0.0001^{**}$) and non-assertive ($p = 0.048^*$).

Perspectives

The study is expected to be followed up by further studies using other kinds of physical activity and a more flexible approach regarding physical activity.

Conclusion of PhD-study

Sengül Sari defended her thesis, based on the Healthy Lifestyle study, in 2017

Inspiration and sparring group for the project

The project group behind Healthy Lifestyle study developed a strong collaboration with researchers from Oslo, in particular Prof. Egil Martinsen, Medicinsk Institut, Oslo Universitet (<http://www.med.uio.no/klinmed/personer/vit/egilwm/>), Prof. Thomas Clausen, Institute of

Clinical Medicine, Oslo Universitet, SERAF Norwegian Centre for Addiction Research, (<http://www.med.uio.no/klinmed/english/people/aca/thclause/>), and Ashley Muller, Medicinsk Institut, Oslo Universitet, SERAF SERAF Norwegian Centre for Addiction Research (<http://www.med.uio.no/klinmed/english/people/aca/ashley/>).

PI, coordination of study and PhD-students

Principal Investigator and project coordinator: Professor Dr. Kirsten K. Roessler, Department of Psychology, SDU.

Project co-supervisor: Assistant professor Randi Bilberg

PhD student: Sengül Sari. Defended thesis in May 2017.

Pregraduate student: Martin Mau, ongoing 2018

Publications from the study

Jensen K, Nielsen C, Ekstrøm C, Roessler KK. **Physical exercise in the treatment of alcohol use disorder (AUD) patients affects their drinking habits: A randomized controlled trial.** In press, Scandinavian Journal of Public Health (in press)

Roessler, KK, Mau, M, Ekstrøm, C **Interpersonal Problems of Alcohol Use Disorder Patients undergoing a Physical Exercise Intervention – a Randomised Controlled trial.** Nordic Psychology. 2018. Available from <https://doi.org/10.1080/19012276.2017.1418414>

Roessler KK, Bilberg R, Nielsen AS, Jensen K, Ekstrøm CT, Sari S. **Exercise as adjunctive treatment for alcohol use disorder: Results of a randomized controlled trial.** PLoS ONE 2017;12(10): e0186076. <https://doi.org/10.1371/journal.pone.0186076>.

Sari S, Muller AE, Roessler KK. **Exercising alcohol patients don't lack motivation but struggle with structures, emotions and social context: a qualitative dropout study.** B M C Family Practice. 2017;18. 45. Available from DOI: 10.1186/s12875-017-0606-4

Sari S, Bilberg RM, Nielsen AS, Jensen K, Larsen JP, Roessler KK. **Physical Activity Patterns in Patients with Alcohol Use Disorder.** Open Access Journal of Exercise and Sports Medicine. 2017;1(1).

Roessler KK, Bramsen RH, Dervisevic A, Bilberg RM. **Exercise based interventions for alcohol use disorder: A comment on motivational aspects of participation.** Scandinavian Journal of Psychology. 2016;58(1):23-28. Available from DOI: 10.1111/sjop.12334.

Roessler, KK. (2016). **Emotional experiences and interpersonal relations in physical activity as health prevention and treatment: a psychodynamic group approach.** I M. Raab, P. Wylleman, R. Seiler, A-M. Elbe, & A. Hatzigeorgiadis (red.), Sport & Exercise Psychology Research: From Theory to Practice. (s. 461-486). Kapitel 21. London: Elsevier Inc. DOI: 10.1016/B978-0-12-803634-1.00021-2

Roessler, KK, Bilberg R, Jensen K, Kjaergaard AS, Dervisevic A, Nielsen B. Exercise as treatment for Alcohol Dependence – A pilot study. Sports Science Review. 2013; 22(3-4). Available from <https://doi.org/10.2478/ssr-2013-0010>

Sari S, Bilberg R, Jensen K, Nielsen AS, Nielsen B, Roessler KK. **Physical exercise as a supplement to outpatient treatment of alcohol use disorders – a randomized controlled trial.** BMC Psychology 2013, 1:23, <http://www.biomedcentral.com/2050-7283/1/23>

Currently in preparation

Sari S, Bilberg R, Nielsen AS, Roessler KK **The Effect of Exercise as Adjunctive Treatment on Quality of Life for Individuals with Alcohol Use Disorder**

Mau M, Muller AE, Roessler KK. **The difference between relapse and near relapse. A qualitative investigation**

Nielsen AS, Nielsen B, Roessler, KK. **Are patients participating in a study on physical activity different from other alcohol patients – a short report**

Conferences in 2017

Sari S. **Exercise as adjunctive treatment for alcohol use disorder.** European Association of Substance Abuse Research Conference 2017

Sari S. **Exercise as adjunctive treatment for alcohol use disorder.** SSA Annual Conference

The organization of the RESCueH-studies/UCAR

Steering committee and International Advisory Group

A Steering Committee, a Research Office and an International Scientific Advisory Board have been established. The International Advisory Board consists of: Dean Ole Skøtt (SDU) (chair), CEO Kim Brixen (OUH), Research Vice Director Sissel Vorstrup (Lundbeckfonden), Research Director Anders Hede (Trygfonden), Medical Director Anders Meinert (Region of Southern Denmark), Professor WR Miller (CASAA, UNM), Professor Gerard Schippers (Amsterdam Institute for Addiction Research) and Dr. Gillian Tober (Leeds Addiction Unit).

The Steering committee consists of: Dean Ole Skøtt (SDU) (chair), Professor Aleksander Krag, (OUH), Research Vice Director Sissel Vorstrup (Lundbeckfonden), Research Director Anders Hede (Trygfonden), Medical Director Anders Meinert (Region of Southern Denmark).

Research Office

Director Anette Sjøgaard Nielsen (UCAR, SDU)
Professor Bent Nielsen (UCAR, SDU)
Professor Kjeld Andersen (UCAR, SDU)
Professor Jes Sjøgaard (UCAR, SDU)
Research secretary Annemette Munk Svensson (UCAR, SDU)

Overview of staff at the RESCueH studies (Danish Site, employed or associated), 2017

Director Anette Sjøgaard Nielsen (UCAR, SDU)
Research secretary Annemette Munk Svensson (UCAR, SDU)
Professor Bent Nielsen (UCAR, SDU)
Professor Kjeld Andersen (UCAR, SDU)
Professor Kirsten Kaya Roessler (Department of Psychology, SDU)
Professor Claus Ekstrøm (Section of Biostatistics, IFSV, KU)
Professor Jes Sjøgaard, (UCAR, SDU)
Assistant Professor Randi Bilbjerg (UCAR, SDU)
Data manager Lars Sjøgaard (OPEN, SDU)
Research assistant Anna Mejldal (UCAR, SDU)
Research assistant Regina Christiansen (UCAR, SDU)
PhD student Angelina Mellentin (UCAR, SDU)
Post doc Jakob Emiliussen (UCAR, SDU)
PhD-student Lotte Kramer, (UCAR, SDU)
PhD-student Anne-Sophie Schwartz (UCAR, SDU)
PhD-student Morten Hell (UCAR, SDU)
Research assistant Birgit Jensen (UCAR, SDU)
Pre-graduate student Martin Mau (Department of Psychology, SDU)
Pre-graduate student Peter Schøler (UCAR, SDU)
Dr. Kurt Jensen (Department of Sports Science)
Student Ayse Corap (UCAR, SDU)
Student Klara Capelle (UCAR, SDU)

Student Louise Bundsgaard (UCAR, SDU)
Student Sibel Yilmaz (UCAR, SDU)

Collaborating Danish treatment institutions in 2017 (RESCueH-studies, only)

The Alcohol Treatment Centre in Odense participating in all five studies: Relay Study, Elderly Study, Self-Match Study, Cue Exposure Study and Healthy Lifestyle Study.

The Alcohol Treatment Centre in Aarhus and the *Alcohol Treatment Centre in Copenhagen*, participating in Elderly Study.

The Alcohol Treatment Centre in Aabenraa, participating in Relay Study.

Gastrointestinal, neurological and orthopaedic departments at Odense University Hospital and Aabenraa Hospital, participating in Relay Study.

International collaborators in The RESCueH studies in 2017

The Elderly study:

Professor Gerhard Buehringer: Principal Investigator for the German site in the Elderly Study, and his team. The study intervention at the German site was conducted in the (1) Chair of Addiction Research, Technische Universität Dresden, and (2) Institut für Therapieforschung, Munich.

Professor Michael Bogenschutz: Principal Investigator for the US site in the Elderly Study, and his team. Dr. Snehal Bhatt took over the formal position as PI in the summer 2015. The study intervention at the US site was conducted in the First Choice Family Practice Clinics, New Mexico.

Associate professor Teresa Moyers, CASAA, University of New Mexico, who was supervising, training and monitoring treatment fidelity in the Elderly Study, is currently supervising phd-student Lotte Kramer Schmidt.

Professor Jo Neale, Kings College, London: supervised PhD-student Jakob Emiliussen during his research stay at Kings College, London

New and future projects and studies, initiated at UCAR in 2017:

Derivative studies within the rationale: Better recruitment of patients to treatment, as only a minority of alcohol-dependent drinkers currently receive treatment:

Alternatives to nagging, pleading, and threatening: A study on strategies to get loved ones to seek treatment for alcohol dependence. Like the Relay study, this study focuses on how to increase the likelihood that patients seek specialized treatment. The study is a cluster randomized controlled trial on methods to empower the relatives of problem drinkers who are reluctant to seek treatment, and help them motivate their drinking family member to change. Project group: Randi Bilberg (coordinator), Anette Søgaard Nielsen (PI), Kjeld Andersen, Claus Ekstrøm and Bent Nielsen. In 2017, the study was granted DKR 2,000,000 from Trygfonden, a research year for the phd-student from the Region Southern Denmark Psychiatric Research Foundation, and another research year for the phd-student from University of Southern Denmark.

Study on treatment barriers: Also, focusing on how to lower barriers for seeking specialized treatment for alcohol use disorder, this qualitative study will investigate patients suffering from AUD, but who, nevertheless, have refrained from seeking treatment. The study identifies informants in clinical settings (hospitals, GPs' surgeries), and encounter them in situations usually considered ideal for delivery of brief intervention aimed at treatment seeking. In a qualitative research design, the study aims at learning what thoughts drinkers have on treatment seeking, and what barriers they see. Postdoc Sengül Sari from Unit of Clinical Alcohol Research was granted DKR 669.487 from the Psychiatric Research Foundation in Region of Southern Denmark to perform the study. The project was initiated in June 2017.

Derivative studies within the rationale: Matching treatment to individual needs, reflecting the heterogeneity of alcohol-dependent patients:

Elderly Wellbeing and Alcohol: A Tricky Cocktail. The project is a natural next step from the Elderly Study. During observations, and qualitative interviews with staff, elderly and their significant others, the project will identify, describe and develop strategies to solve the ethical dilemmas and problems arising in relation to alcohol and elderly in nursing homes, and elderly with assisted living at home. The project group is Professor Søren Harnow Klausen (PI) from Institute of Cultural Science (IKV), Anette Søgaard Nielsen from Unit of Clinical Alcohol Research (UCAR), Jakob Emiliussen (UCAR), Regina Christiansen (IKV & UCAR) and Søren Engel (IKV). Velux Foundation granted the project DKR 5.020.680 in 2017, of which 1.300.000 is a sub grant for Unit of Clinical Alcohol Research.

ForensAlc: Patients suffering from both mental diseases and alcohol use disorder are both common and difficult to treat effectively, and the research in the field, performed so far, is limited. The National Clinical Guidelines suggest that both conditions are treated simultaneously, but since the treatment of alcohol use disorder is the responsibility of the local governments and the treatment of mental disorder is the responsibility of the regional governments, the treatment coordination is complicated. The present study will investigate the effect of adding elements from alcohol treatment, more specifically CRA-modules, to forensic psychiatric treatment. Hence, the ForensAlc study will tailor existing strategies to a new, specific and challenging patient group by integrating modules for treating alcohol use disorder in forensic psychiatric treatment. As with the Elderly study, the study will also develop relevant CRA-modules relevant to dual diagnosis patients. Both patients and staff will be involved in this process. In 2017, the study was first granted DKR 216,000 from the Psychiatric Research Foundation in Region of Southern Denmark to writing protocol and full application, and later in 2017 the full study was supported with DKR 376.000, also from the Psychiatric Research Foundation. The full grant application is currently under review in Lundbeckfonden and Helsefonden.

Psych-Alc. Patients suffering from both alcohol use disorder and depression or anxiety are common in the outpatient treatment for alcohol use disorder, offered by the local governments, and just as mentioned above, the treatment of depression and anxiety is the responsibility of general practice and the regional governments. Hence, the patients are relatively more difficult to treat effectively, compared to patients suffering from alcohol use disorder only. The present study will first test and choose a screening instrument that effectively can be used in the alcohol treatment institutions in order to identify patients suffering from depression or anxiety (phase 1) and develop and test a shared-care model that include treatment of both depression or anxiety *and* alcohol use disorder in an integrated treatment course (phase 2). Trygfonden has granted the study DKR 240.000 to perform phase 1 of the study.

Derivative studies within the rationale: Greater patient involvement in treatment, as active involvement in treatment decision processes is essential for compliance:

Blend-A. In the Blend-A, we investigate whether compliance in treatment increases if patients are more actively involved in the treatment process by blending face-to-face treatment with internet based modules. Hence, the Blend-A Study will evaluate effectiveness and compliance in a therapist-supported online intervention for alcohol use disorder blended with face-to-face consultations. Blend-A will be evaluated in alcohol treatment institutions in Denmark in a stepped-wedge randomized controlled design, allowing for comparison with face-to-face outpatient treatment as usual (TAU) by means of both current and historical controls. Blend-A will be led by

Unit of Clinical Alcohol Research, and performed in collaboration with Telepsychiatric Department and Research Unit and Sundhed.dk. Phase 1 was initiated in autumn 2017 and consists of translating the online intervention from Dutch to Danish, adjusting and pilot testing it. Phase 1 is funded by Tele-psychiatric department, Odense University Hospital, Sundhed.dk, UCAR and the alcohol treatment institutions in Kolding, Svendborg and Haderslev. While phase 1 is being performed, an application for funding of the full study (phase 2 and 3) is currently being prepared.

Derivative studies within the rationale: Preventing relapse, as return to harmful drinking is a common problem:

Use of Virtual Reality in treatment for alcohol dependency. WP in the Baltic Sea Programme Project, Baltic Game Industry. This study will be building on the experiences from the Cue Exposure study. In 2016, UCAR was invited to be partner in a in an EU-Interreg grant application, more specifically in WP4 on use of Virtual Reality (VR) in the treatment of alcohol dependence. The application was granted funding from the EU in 2017, and the WP4 on use of VR will be initiated in autumn of 2018. Within this work package partners will collaborate closely to develop a clinical tool in VR with the goal to reduce relapse rates in alcohol addicted patients. The PI on the study is Prof. Simone Kühn, Universitätsklinikum Hamburg-Eppendorf (UKE), and Max Planck Institute, Berlin. UCAR was granted 104.025 € as Danish partner. The study on use of VR in treatment for alcohol use disorder is a natural next step from the Cue Exposure Study, and will be performed as a postdoc study at UCAR.

Derivative studies within the rationale: Encouraging a healthy lifestyle, which will improve compliance in treatment and prevent relapse:

Creative Writing workshops – a Southern Denmark University Lighthouse project. The medical school at University of Southern Denmark has, in collaboration with Odense University Hospital, given priority to narrative medicine to increase the medical staff's ability to communicate with patients. However, narrative medicine also includes uses of literature and creative writing workshops as supplementary means to rehabilitation. Therefore, after a successful pilot test (Phase 1), UCAR, together with Institute of Cultural Science, University of Southern Denmark, applied SDU Lighthouse for funding to develop and further test the use of creative writing workshops as a rehabilitating supplement to treatment for alcohol dependence to prevent relapse, and to increase the individuals' quality of life (Phase 2). The Lighthouse application was granted DKR 499.400 in 2017, and the phase 2 study on creative writing workshops will be initiated in 2018. The project group behind the project is currently applying Trygfonden for additional funding of the study.

A new, additional focus area, within the rationale: Sufficient treatment of co-occurring somatic illnesses may increase the survival rate among patients suffering from alcohol use disorder alone or in combination with mental disorders

Psychiatric Cardiovascular Screening trial. Due to the extremely high mortality rate among individuals suffering from alcohol dependency, psychiatric illness and, in particular, both conditions, this study will identify individuals among these patient groups at high risk for cardiovascular diseases and liver diseases and initiate preventive medical treatment. Furthermore, the study will identify patients with a high oxidative stress level and identify treatment methods (oxidative matching). The study is in its planning phase. A full grant application will be submitted to Lundbeck Foundation and additional funding sources in the autumn 2018.

Miscellaneous

Alcohol and Culture. A network, consisting of researchers from the humanities, epidemiology and the clinical world, held a workshop on alcohol and culture in November 2015. Based on the discussions on the workshop, the network wrote papers for a special edition of the Nordic Journal of Alcohol and Drug about Alcohol Culture. It was published in 2017. Funding: Nice Welfare, University of Southern Denmark. Professor Anne-Marie Mai and Associate Professor Anette Sjøgaard Nielsen (eds). Dissemination of project, results and alcohol treatment related topics in 2016

Research publications (UCAR) and other research and dissemination activity

Published in 2017

Emiliussen J, Morrison A. **Alcohol use and generational masculinity:: An interdisciplinary approach.** Nordisk Alkohol- & Narkotikatidskrift. 2017;34(4):314-329. Tilgængelig fra, DOI: 10.1177/1455072517709654

Emiliussen J. **Commentary on Halonen et al. (2017): Pondering the latent class trajectories of retiring older adults.** Addiction. 2017;112(7):1171–1172. Tilgængelig fra, DOI: 10.1111/add.13848

Schmidt LK, Bojesen AB, Nielsen AS, Andersen K. **Duration of therapy – does it matter? A systematic review and meta-analysis of the duration of psychosocial treatment for alcohol use disorders.** Journal of Substance Abuse Treatment 2018: ;84 57–67

Sari S, Bilberg R, Jensen K, Pilegaard J, Roessler KK, Nielsen AS. **Physical activity patterns in patients with alcohol use disorder.** OAJ Exercise and Sports Medicine. 2017, 1(1): 004.

Hell ME, Andersen K, Nielsen AS. **Is the Danish version of MATE feasible? A pilot study on feasibility and adequacy.** Journal of Dual Diagnosis, October 2017, DOI 10.1080/15504263.2017.1386810

Roessler KK, Bilberg R, Nielsen AS, Jensen K, Ekstrøm CT, Sari S. **Exercise as adjunctive treatment for alcohol use disorder: A randomized controlled trial.** PLoS ONE 12(10): e0186076. <https://doi.org/10.1371/journal.pone.0186076>.

Schwarz AS, Nielsen B, Nielsen AS. **Changes in profiles of patients seeking treatment and treatment outcomes in Denmark following policy changes.** Journal of Public Health, DOI 10.1007/s10389-017-0841-0

Tarp K, Bojesen AB, Mejldal A, Nielsen AS. **Effectiveness of Optional Videoconferencing-Based Treatment of Alcohol Use Disorders: Randomized Controlled Trial.** JMIR Ment Health 2017;4(3):e38 URL: <http://mental.jmir.org/2017/3/e38/> doi:10.2196/mental.6713

Tarp K, Mejldal A, Nielsen AS. **Videoconferencing-Based Treatment of Alcohol Use Disorders: Analyses of Nonparticipation.** JMIR Formative Res 2017;1(1):e3 URL: <http://formative.jmir.org/2017/1/e3/> doi:10.2196/formative.6715

Nielsen AS, Mai A. **Alcohol and Culture: An introduction.** Nordic Studies on Alcohol and Drugs, 2017, Vol. 34(4) 285–288

Nielsen AS, Bilberg R, Andersen K. **Self-assessed stress level among elderly seeking treatment for alcohol use disorder. A descriptive study.** Conference paper. Conference: Volterra conference. Alcoholism and Stress - Alcoholism and Stress. A framework for future treatment strategies. Maj,

2017

Mellentin AI, Skøtt L, Nielsen B, Juhl C, Nielsen AS, Schippers G, Stenager E. **Cue Exposure Therapy for the Treatment of Alcohol Use Disorders: A systematic Review and Meta-analysis.** Clinical Psychology Review, 2017. DOI: [10.1016/j.cpr.2017.07.006](https://doi.org/10.1016/j.cpr.2017.07.006).

Tarp KHH, Nielsen AS. **Patient Perspectives on Videoconferencing-based Treatment for Alcohol Use Disorders.** Alcoholism Treatment Quarterly, 2017 jul 17. DOI: [10.1080/07347324.2017.1348785](https://doi.org/10.1080/07347324.2017.1348785)

Hellum R, Jensen SL, Nielsen AS. **Is training in creative writing a feasible treatment adjunct for clients suffering from chronic alcohol use disorder?** Nordic Studies on Alcohol and Drugs, 2017, Vol. 34(4) 299–313

Emiliussen J, Nielsen AS, Andersen K. **Identifying Risk Factors for Late-Onset (50+) Alcohol Use Disorder and Heavy Drinking: A Systematic Review,** Substance Use & Misuse, 2017; DOI: [10.1080/10826084.2017.1293102](https://doi.org/10.1080/10826084.2017.1293102)

Tarp KH, Nielsen AS. **Patient Satisfaction with Videoconferencing-based Treatment for Alcohol Use Disorder.** Addictive Disorders & Their Treatment, 2017; 16(2):70-79.

Emiliussen J, Nielsen K, Nielsen AS. **Why do some older adults start drinking excessively late in life? - results from an Interpretative Phenomenological, Study.** Scandinavian Journal of Caring Sciences, 2017, doi: [10.1111/scs.12421](https://doi.org/10.1111/scs.12421).

Mellentin AI; Stenager E; Nielsen B; Nielsen AS; Yu F. **A smarter pathway for delivering cue exposure therapy? The design and development of a smartphone application targeting alcohol use disorder.** JMIR Mhealth Uhealth 2017;5(1):e5) doi:10.2196/mhealth.6500

Emiliussen J, Nielsen AS, Andersen K. **How do older adults with very late-onset alcohol use disorder define alcohol problems? - Results from an interpretative phenomenological study.** Alcoholism Treatment Quarterly. 2017;32(2):151-164. DOI: [10.1080/07347324.2017.1288480](https://doi.org/10.1080/07347324.2017.1288480)

Emiliussen J, Andersen K, Nielsen AS. **How does family pressure, health and ambivalence factor into entering alcohol treatment? Results from an interpretative phenomenological inquiry into the experiences of people aged 60 and older with alcohol use disorders.** Nordic Studies on Alcohol and Drugs. 2017;34(1):28-42.

Accepted in 2017

Schwarz A-S, Nielsen B, Nielsen AS. **Lifestyle factors in somatic patients with and without potential alcohol problems.** Accepted, Journal of Public Health

Nielsen AS, Nielsen B. **Improving Outpatient Alcohol Treatment Systems: Integrating focus on motivation and Actuarial Matching.** Accepted, Alcoholism Treatment Quarterly.

Nielsen B, Nielsen AS. **Outreach visits as a mean to ease the transition from inpatient detoxification at a mental health hospital to outpatient treatment for alcohol use disorder. A randomized controlled trial.** Accepted, Nordic Journal of Psychiatry

Emiliussen, J., & Rettie, H. **Impressions Practical Impressions of Applying IPA: From the Perspective of Novice Researchers (or, suggesting a seventh step to IPA),** Accepted, Nurse Researcher.

Roessler, KK, Mau, M, Ekstrøm, C **Interpersonal Problems of Alcohol Use Disorder Patients undergoing a Physical Exercise Intervention – a Randomised Controlled trial.** Accepted, Nordic Psychology.

Jensen K, Nielsen C, Ekstrøm C, Roessler KK. **Physical exercise in the treatment of alcohol use disorder (AUD) patients affects their drinking habits: A randomized controlled trial.** Accepted, Scandinavian Journal of Public Health.

Submitted 2017

Mellentin AI, Nielsen B, Mejldal A, Nielsen AS. **The impact of social phobia on alcohol treatment outcomes among outpatients: An observational cohort study.** Plos-one, in review

Emiliussen, J. & Christiansen, R. **Definitions of alcohol problems – Investigating language games in the use of alcohol related propositions,** Philosophy Psychiatry and Psychology, in review.

Hell M, Nielsen B, Miller WR, Nielsen AS. **A randomized controlled study of patients matching themselves to treatment options: The Self-Match Study.** In review, BMC Psychiatry.

Christiansen R, Christensen AMS, Bilberg R, Emiliussen J. **Empirical Case Study of Moral Responsibility.** Alcoholism Treatment Quarterly, in review.

Christiansen R, Christensen AMS, Bilberg R, Emiliussen J. **Conceptualizing Moral Responsibility related to Alcohol Use Disorder.** Alcoholism Treatment Quarterly, in review

Petersen AH, Ekstrøm CE. **dataMaid: your assistant for documenting supervised data quality screening in R.** Journal of Statistical Software, in review.

Books and book chapters in 2017

Hesse M, Thylstrup B, Nielsen AS. **Matching patients to treatments or matching interventions to needs. In: Handbook of drug and alcohol studies – social science perspectives.** Eds Torsten Kolind, Betsy Thom & Geoffrey Hunt. SAGE Publications, London, 2017, (p 287-301). ISBN 978-1-4462-9866-4.

Hellum R, Nielsen AS. **Kreativ skrivning som et tilbud i alkoholbehandlingen.** In Anders Juhl

Rasmussen (red): Læse, skrive og hele. En introduktion til narrativ medicin. University of Southern Denmark Studies. Syddansk Universitetsforlag, 2017 (p57-70). ISBN 978-87-408-3102-3

Nielsen AS, Becker U. **Alkoholmisbrug**. In Erik Simonsen & Bo Møhl. Grundbog i Psykiatri, 2. udgave. Hans Reitzels Forlag, København 2017, ISBN: 9768-87-412-6219-2

Oral presentations at workshops, conferences and meetings in 2017

Nielsen AS. **Alkoholforskningen aktuelt**. FLORs annual meeting, Middelfart, 2017.

Nielsen AS. **Hvad stiller vi op med patienten, der drikker?** Annual meeting for gastroenterologiske sygeplejersker, Vejle, 2017.

Nielsen AS. **Hvorfor drikker Jeppe?** KLs Ældrekonference, Kolding, 2017

Anna Mejldal: **What Predicts Readmission To Alcohol Use Disorder Treatment? A Registry Study Based On Survival Analysis**. European Association of Substance Abuse Research Conference 2017

Andersen K. **Alkohol og stigende alder - billigere og billigere at blive fuld**, part of Folkeuniversitetets series "Når jeg bliver gammel", Kolding

Andersen K. **Alkohol og stigende alder - billigere og billigere at blive fuld**, part of Folkeuniversitetets series "Når jeg bliver gammel", Odense

Nielsen AS. **Alkohol – i samfundet og i vores dagligdag**. Åbent Hus i Psykiatrien, Odense, 2017.

Nielsen AS. **Alkohol og stress**. Åbent Hus i Psykiatrien, Kolding, 2017

Nielsen AS. **Alcohol and Stress in the Elderly**. Alcohol & Stress conference, Volterra, 2017.

Tarp, K.: **Psykiatrisk Sygepleje - Ulighed, Tvang, Relation & Teknologi**. Workshop. CPS-konference 2017

Emiliussen J. **Why do some older adults start drinking late in life?** Poster-presentation, SSA Annual Conference 2017:

Emiliussen J.: **How do therapists experience providing manual based treatment?** European Association of Substance Abuse Research Conference 2017

Nielsen AS. **Når glassene bliver for mange. Hvordan passer vi på os selv?** Folkeuniversitetet, Odense

Andersen K & Emiliussen J. **Hvorfor begynder nogle først at drikke sent i livet?** Danish National Alcohol Conference, Copenhagen.

Sari S. **Exercise as adjunctive treatment for alcohol use disorder.** European Association of Substance Abuse Research Conference 2017

Sari S. **Exercise as adjunctive treatment for alcohol use disorder.** SSA Annual Conference

Tarp K. **Implementation of Community Reinforcement Approach and Contingency Management among Dual Diagnosis Forensic Outpatients in the Region of Southern Denmark.** European Association of Substance Abuse Research Conference 2017

Research stays

Phd-student Hannah Rettie, Wales, stayed at the Unit of Clinical Alcohol (UCAR) research in July

PhD-student Jakob Emiliussen from UCAR stayed at Kings College, London, in January/February

PhD-student Lotte Kramer from UCAR visited Psychiatric Department, NYU Lagone Health, New York, in July

Dissemination in general in 2017

Teaching and training

Nielsen AS. Teaching on the National Health Authorities' Alcohol Therapist Course (post graduate course), Denmark.

Nielsen AS. Teaching, Post graduate Course, General Practitioners

Nielsen AS is teaching on the National Health Authorities' Alcohol Therapist Course (post graduate course), Greenland.

Sari S. Workshop in the alcohol treatment institution in Svendborg: Findings of Healthy Lifestyle study.

Sari S. Workshop in the alcohol treatment institution in Odense: Findings of Healthy Lifestyle study.

Nielsen B, Nielsen AS, Schwartz AS. Workshop for the participating alcohol treatment institutions and hospitals: Preliminary findings of the Relay study.

Mellentin A, Nielsen B, Nielsen AS. Workshop in the alcohol treatment institution in Odense: Preliminary findings of Cue Exposure study.

Andersen K, Bilberg R, Nielsen AS. Workshop for the participating Danish alcohol treatment institution: Preliminary findings of the Elderly study.

Other engagements, relevant for dissemination and implementation

Anette Sjøgaard Nielsen is member of the Network of managers of alcohol treatment institutions in Denmark, and informs about the research findings on a regular basis.

Bent Nielsen develops clinical guidelines concerning alcohol dependence for the Psychiatric Hospital, Region of Southern Denmark.

Anette Sjøgaard Nielsen supplies the news letters from Alcohol and Society and from Alkopedia.dk with research findings to be distributed to the clinical world.

Lotte Kramer Schmidt & Anette Sjøgaard Nielsen gave a two-day training course for supervisors in the use of the MITI- 4 instrument (Coding of Motivational Interviewing-sessions)

Newsletters

UCAR sends out newsletters from the RESCueH-studies to practitioners and everyone else who have an interest.

Website

www.sdu.dk/ucar

www.alkopedia.dk (in collaboration with Alcohol & Society, and Trygfonden).

Masters dissertations in 2017

Louise Amalie Knopp Andersen & Sarah Græsbøll Munk: What treatment should be offered to indigenous people suffering from alcohol use disorder? (master of medicine)

Emil Bjerring Ahmad-Nielsen, Nicolai Gundtoft Andersen. Characteristics and addiction severity of treatment-seeking outpatients with alcohol use disorder (AUD), comparing patients with none, one or both parents having an AUD history. (master of medicine)

Hans Christian Bouziyane Lyngshøj & Sarah Bouziyane Lyngshøj. Sex differences in alcohol dependent patients. (master of medicine)

Sofie Fly Larsen. Differences between alcohol dependent patients who have or who have not been sexually abused. (master of medicine)

Katrine Baltzer Thygesen. The implementation of work ability assessment based on the international classification of functioning, disability and health, in Danish job centers (master of rehabilitation)

Sussi Glarø. Multidisciplinary team care in rehabilitation (master of rehabilitation)

Jakob Skaftnesmo Løge-Hagen og Alexander Sæle: Prævalens af depression blandt patienter med fibromyalgi: et systematisk review og meta-analyse (master of medicine)

Appointments etc.

Bent Nielsen was appointed advisor to the National Health Authorities, Greenland, in the planning of treatment for alcohol use disorder in Greenland (2016-2019).

Anette Søgaaard Nielsen is appointed member of the reference group for BRUS (a large, multi-site project aimed at supporting children and adolescents in families with problems with alcohol and substance)

Anette Søgaaard Nielsen is Chair of Alcohol & Society since 2011.