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Alcohol Use and Secondary Prevention in Psychiatric Care

CHRISTINA NEHLIN GORDH



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Abstract

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Although alcohol plays an important role in psychiatric morbidity, there is a general lack of strategies within psychiatric care to intervene at alcohol problems in an early stage (secondary prevention). The aim of this thesis was to increase knowledge of adequate forms of secondary alcohol prevention in psychiatric care.

The capacity of three brief screening instruments was investigated in a psychiatric outpatient sample (n=1811). The results indicate that the HED (heavy episodic drinking) screener, strongly recommended for health care settings, is not sufficiently sensitive in a psychiatric setting. Instead, the full AUDIT (Alcohol Use Disorders Identification Test) is recommended.

The knowledge and attitudes of psychiatric staff members to problem-drinking patients were studied and the effects of a three-hour training course were investigated. Confidence in self-perceived capacity to intervene in more severe alcohol problems was raised among all staff after training. Awareness of early signs of problem drinking was raised among psychologists and social workers. The therapeutic attitude of the psychiatric staff was higher when compared with primary care staff.

Two forms of brief intervention were delivered by clinical psychiatric staff. At 12 months, 29% of all participants had improved their drinking habits, moving from hazardous to non-hazardous level (21%) or from harmful to hazardous level (8%). In the improved group, mean AUDIT score was reduced from 11.0 points at baseline to 5.5 points. Differences in outcome between the two interventions could not be identified.

Nine high-risk drinking young female psychiatric patients were interviewed, focusing on reasons for excessive drinking and factors facilitating a change in drinking habits. Alcohol played an important role in the lives of the young women. It made them feel social and helped them deal with unbearable emotions. It was also used as a means of self-harm, representing the first stage in an escalating self-harm process. They expressed a need for help from their caregivers in addressing the underlying reasons for drinking.

Secondary alcohol prevention strategies including appropriate screening methods, staff training and the elaboration of tailored interventions are urgently needed in psychiatric care. The findings of this thesis can be used when forming such strategies.

Keywords: hazardous alcohol use, risk drinking, brief intervention, screening methods, staff training

Christina Nehlin Gordh, Uppsala University, Department of Neuroscience, Psychiatry, University Hospital, Akademiska sjukhuset, SE-751 85 Uppsala, Sweden.

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Supa klockan över tolv,
leva bland förryckta!
Jorden är mitt kammargolv,
solen är min lykta!
Jag bryr mig om ingenting,
blott att hjärnen löper kring,
löper kring,
löper kring,
löper kring,
löper kring,
intill dess hon domnar,
och jag fattig somnar.

Ur Fredmans sång nr 10, CM Bellman

List of Papers

This thesis is based on the following papers, which are referred to in the text by their Roman numerals.

- I Nehlin C, Fredriksson A, Jansson L (2012). Brief alcohol screening in a clinical psychiatric population: Special attention needed. *Drug and Alcohol Review*, 31, 538–543.
- II Nehlin C, Fredriksson A, Grönbladh L, Jansson L (2012). Three hours of training improve psychiatric staff's self-perceived knowledge and attitudes toward problem drinking patients. *Drug and Alcohol Review*, 31, 544–549.
- III Nehlin C, Grönbladh L, Fredriksson A, Jansson L. Brief alcohol intervention in a psychiatric outpatient setting: A randomized controlled study. Accepted for publication in *Addiction Science & Clinical Practice*.
- IV Nehlin C, Fredriksson A, Öster C. Young female psychiatric patients' reasons for excessive alcohol use: An interview study. Submitted.

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Abbreviations

ADHD	Attention-Deficit/Hyperactivity Disorder
AUDIT	Alcohol Use Disorders Identification Test
BI	Brief Intervention
DSM	Diagnostic and Statistical Manual of Mental Disorders
DUDIT	Drug Use Disorders Identification Test
ECA	Epidemiologic Catchment Area
HED	Heavy Episodic Drinking
ICD	International Statistical Classification of Diseases
NIAAA	National Institute on Alcohol Abuse and Alcoholism
RCQ	Readiness to Change Questionnaire
SAAPPQ	Short Alcohol and Alcohol Problems Perception Questionnaire
SUD	Substance Use Disorder
WHO	World Health Organization

Introduction

Alcohol plays an important role in psychiatric morbidity. Not only does alcohol use induce common psychiatric disorders such as mood or anxiety disorders (1, 2), but it also has an effect on both the course of the disorder and on the effect of treatment (3, 4). Conditions do not necessarily need to meet diagnostic criteria in order for co-existing problems to be present: Even moderate alcohol use has adverse effects on psychiatric problems (5-7).

Although co-existing psychiatric and drug/alcohol problems are common, clinical services are for the most part separated along mental health and alcohol and drug lines. Problematic alcohol use is underestimated in clinical psychiatric practice, and only a small portion of patients with alcohol-related problems are identified (8-11). There is also a general lack of strategies for detecting and intervening at hazardous drinking in psychiatric patients (12).

Co-occurrence of psychiatric and substance use disorders

Prevalence

A large number of studies in general populations have shown high co-occurrence of psychiatric and substance (alcohol and/or drug) use disorders (SUD). The American Epidemiologic Catchment Area (ECA) study was the first large-scale investigation of the co-occurrence of these conditions in the general population, in which over 20 000 interviews were performed (13-15). The ECA has generated numerous publications since 1984 and is still frequently cited. In the ECA study the researchers found a 29% lifetime prevalence of alcohol (22%) or drug (15%) disorders among persons with any lifetime psychiatric disorder. The corresponding rate was 13% (11+4%) among those with no history of psychiatric disorder; the odds ratio was 2.7 (13). Co-occurrence was especially high with antisocial personality disorder (83.6%), bipolar disorder (60.7%) and schizophrenia (47.0%). Co-occurrence was 32.0% with affective (mood) disorders and 23.7% with anxiety disorders. At the time of the investigation ADHD/autism spectrum disorders, now known to be prevalent, were not included.

Since the ECA study, studies in general population samples have consistently found a high co-occurrence of psychiatric disorders and SUD (2, 16-

19). In Sweden, population surveys have identified hazardous alcohol use as one of the factors most strongly associated with mental health problems (20).

Clinical studies in psychiatric settings reveal that alcohol abuse and dependence are prevalent among treatment-seeking persons. Among patients with depression, the median rate for current alcohol diagnoses is 16% and for lifetime alcohol problems 30% (21). Investigations of subdiagnostic alcohol use among psychiatric patients are scarce but indicate elevated rates of problem drinking (22, 23).

Why conditions co-occur

The relationship between psychiatric disorders and SUD appears to be of mutual influence and may change over time (24). In a review by Schuckit (4), four major explanations for the co-occurrence of psychiatric disorders and SUD were identified:

1. The co-occurrence appears by chance alone or as a result of the same, negative predisposing factors (e. g. stress, childhood environment, genetic factors).
2. The one condition leads to the development of the other. For instance, high doses of alcohol may unmask a latent predisposition for depression. Similarly, a psychiatric disorder, e. g. mania, may increase the risk for heavy and repetitive alcohol or drug intake that continues when the psychiatric condition remits.
3. The patient tries to diminish problems associated with the psychiatric disorder by the use of alcohol or other substances. For instance, patients with anxiety disorders may experience momentarily alleviation of their problems when drinking and thus develop long-term alcohol problems.
4. Substance-induced, temporary psychiatric pictures as a consequence of intoxication or withdrawal.

A common belief within psychiatric care is that alcohol and drugs are primarily used for self-medication purposes. However, Mueser, focusing on patients with severe mental illness, argues that there is only weak support for this hypothesis (25). Research has not found evidence that specific substances alleviate specific symptoms or that patients with more severe symptoms are more likely to abuse alcohol/drugs. Mueser points out that severely ill psychiatric patients are supersensitive to the effects of alcohol/drugs and that antipsychotic medications make patients more vulnerable to those effects.

To provide theoretical understanding to working with addiction, West presents a synthetic theory (26). He suggests that addiction is a symptom

rather than a unitary disorder. Addiction, he asserts, is associated with underlying pathologies involving abnormally strong impulses, abnormal emotional states or abnormal mechanisms for restraint. Those pathologies are sometimes present independently of the addictive behaviour, but pathology can also arise from a susceptibility of the individual to the effects of the addiction or the drug. According to West, sometimes the individual's environment causes the individual to succumb to addiction (26).

Social factors related to psychiatric disorders such as unemployment and interpersonal problems may trigger the development of SUD and contribute to the origin of co-existing problems.

On a general level, it has not been established whether psychiatric problems precede alcohol problems or vice versa, although attempts have been made to make this distinction (16, 17, 27, 28). The classic question of the "chicken and the egg" is complex and includes a number of possible combinations of causal factors.

The organisation of treatment services

Although co-existing psychiatric and substance use problems are common, treatment services are predominantly separated. In Sweden this separation is made not only along mental health and alcohol/drug lines but also, in case of substance use, along health care and social service lines. Treatment services tend to focus on their speciality and to consider one problem secondary to another (29).

Classification of drinking levels

Hazardous alcohol use

Alcohol use does, beside pleasure, generate negative social and medical consequences. These negative consequences occur not only in the presence of a diagnosed alcohol use disorder. Hazardous alcohol use is a term for a drinking pattern that increases the risk of harmful consequences for the user, e. g. alcohol-related disorders and bodily harm due to violence or accidents (30). Equivalent expressions are risky drinking, excessive alcohol use, problem drinking and at-risk drinking. The concept usually refers to weekly consumption over certain levels and/or frequency of binge drinking. Levels vary between countries and are commonly presented in the form of "standard drinks". In Sweden a standard drink contains 12 grams of alcohol. Hazardous drinking is defined as 9 standard drinks or more per week for women and 14 or more for men. Four or more standard drinks in one occasion for women, five for men, is also considered hazardous drinking in many coun-

tries, including Sweden (31). In practice, levels may of course vary substantially between individuals.

Binge drinking

The term binge drinking, equivalent to heavy episodic drinking (HED), is a term for drinking with the primary intention of getting intoxicated over a short period of time. It is commonly defined as four or more standard drinks on one occasion in women and five or more standard drinks in men. Such a drinking pattern is particularly associated with increased risk of complications, such as violence, suicide attempts and development of more severe alcohol problems (32, 33). Binge drinking is also associated with increased risk of non-recovery from common psychiatric disorders such as anxiety and depression (34).

Alcohol use disorder diagnoses

There are two major classification systems in use that provide diagnostic criteria for substance (alcohol and other drug) disorders. ICD-10 (International Statistical Classification of Diseases and Related Health Problems, version 10) is sanctioned by WHO and is used mainly for statistical purposes within the health care system. DSM-IV (Diagnostic and Statistical Manual of Mental Disorders, version 4), published by the American Psychiatric Association, is widely used within psychiatry and research. The two systems use similar criteria although the two differ on exact wording. ICD-10 classifies “harmful use” as a pattern that is causing physical or mental damage to health. In DSM-IV, the corresponding term is “abuse”, defined as a maladaptive pattern leading to one or more specified negative consequences during a 12-month period. Such consequences include failure to fulfill work or school obligations, putting self or others at risk and continuing substance use despite negative consequences. “Dependence” is most precisely described in DSM-IV. It is defined as a maladaptive pattern of substance use that includes three or more specified symptoms during a 12-month period. The symptoms are:

1. Tolerance
2. Withdrawal
3. The substance is often taken in larger amounts or over a longer period than was intended
4. There is a persistent desire or unsuccessful efforts to cut down or control substance use
5. A great deal of time is spent in activities necessary to obtain the substance, use the substance or recover from its effects

6. Important social, occupational or recreational activities are given up or reduced because of substance use
7. The substance use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused by or exacerbated by the substance

The current DSM-IV is under revision and a detailed proposal for DSM-5 has been presented. In the draft, one single term (“Alcohol use disorders”, mild, severe or moderate) is proposed to replace “abuse” and “dependence” (35).

Secondary prevention

In health care, three forms of prevention strategies are commonly referred to: primary, secondary and tertiary. Primary prevention aims to prevent health problems or diseases from developing in the first place. Secondary prevention aims to detect and intervene in health problems that have not yet developed into diagnosable disorders. Tertiary prevention is directed at persons who have a disorder in an attempt to prevent further deterioration. Secondary prevention of alcohol problems covers the methods used for early detection and treatment of individuals with excessive alcohol consumption. At early stages of problem drinking, interventions can be brief and yet effective (36). The majority of excessive drinkers do not seek treatment until their condition is severe. Secondary alcohol prevention efforts are thus applicable in a number of societal settings, e. g. primary care, hospital care, occupational/student healthcare and social services (12).

Brief intervention

The method of intervening for alcohol problems in an early stage is usually referred to as “brief intervention” (BI). Such interventions usually consist of (1) a screening procedure, normally by means of a printed or computerised self-report questionnaire. (2) If a hazardous or harmful alcohol use is identified, the person is offered short (5-30 minutes) feedback on the result and personalised information about possible consequences. Written information is commonly offered. Any information or advice should be given in a non-judgmental manner, with the aim of assisting the individual to cease or reduce alcohol use. Motivational interviewing (MI) principles are commonly recommended as a theoretical base for BIs (37). (3) In case of higher levels of hazardous/harmful alcohol use, a follow-up session is recommended.

Stepped care

BI may be used within the frame of a stepped care model. The idea of stepped care is that first-line treatment, such as screening and simple advice, is sufficient for many people and that more intensive treatment should be reserved for those who do not benefit from low-intensity treatments. In a stepped care model, patients receive the simplest, least intensive treatment first. Progress is closely monitored and if response to treatment is unsatisfactory, the intensity should be increased or the focus of treatment changed altogether (8). Stepped care approaches to treatment have been applied to mental health as well as alcohol problems (38-40).

Brief interventions: Settings

Most BI implementation and research efforts have focused on primary care settings (41). Other common settings for BI are emergency departments, hospital wards and occupational/student health care. There is a growing interest in computerised forms for screening and feedback on drinking habits, particularly in the emergency department setting. Reports from BI efforts in psychiatric care are scarce and so far only few studies have been published (23, 42-44).

The effectiveness of brief interventions

Meta-analyses show effects of BIs at high cost-effectiveness although effects generally are relatively small (41, 45-48). The interventions reduce drinking levels and the amount of alcohol-related injury, especially in non-dependent excessive drinkers. The effects are clear in men but not proven in women.

Extended versions of BIs such as longer duration of counselling or group therapy have little additional effect (42, 47, 49, 50).

The duration of the effects of BI is mainly up to one year. At a 10-year follow-up, reductions in drinking behaviour cannot be identified (48).

Although the number of studies from psychiatric settings is small, those few investigations show promising results in terms of lowered drinking rates and reduced hospitalisation (23, 42-44, 51).

The effectiveness of BIs has been demonstrated, but implementation has proven a challenge (52). Staff attitudes and lack of time are commonly reported hurdles.

The mechanisms that lead the risk-drinking person to change drinking habits after a BI are unclear. The screening procedure itself may reduce hazardous/harmful drinking (53-55). It has also been demonstrated in primary care and emergency care settings that very brief interventions are as efficient

as more extensive ones (41, 47, 49, 56). It is plausible that the BI works simply by pointing out a potential problem, which stimulates the risk-drinking persons to contemplate and change their drinking habits. Most excessive drinkers who reduce their drinking, including persons with more advanced alcohol problems, change their drinking patterns without help or treatment (57). The BI may serve as a trigger for such self-change processes.

Self-change/Natural recovery research

Since the mid- 1980s, there has been a rapid growth of studies examining the process of self-change/natural recovery from addictive behaviours, defined as recovery without the assistance of professional help or self-help groups (58, 59). The research area covers different substances and different degrees of severity of addictive problems. In a Swedish study, the majority of natural recoverers were persons with less severe forms of alcohol problems (60). Still, natural recovery is common even among dependent individuals. Natural recovery is as prevalent among persons with co-morbid psychiatric disorders as among those without such disorders (61).

Environmental factors play an important role in the process of natural recovery. Reactions to problematic alcohol use are of great importance, both from individuals and from society. Public campaigns that problematise alcohol, easy accessible screening procedures and non-intrusive interventions are examples of societal promoters for self-change. In this perspective, psychiatric care facilities that observe and react to early stages of problem drinking can be expected to initiate self-change in their patients.

Aims of the thesis

The overall aim was to increase knowledge of adequate forms of secondary alcohol prevention in psychiatric care.

The specific aims of the thesis were:

- To investigate the capacity of three brief screening methods (HED screener, AUDIT-3 and AUDIT-C) to detect hazardous drinking in a psychiatric outpatient sample (paper I).
- To study the knowledge and attitudes of psychiatric staff members to problem-drinking patients. To determine whether a 3-hour training course is sufficient to improve knowledge and therapeutic attitudes (paper II).
- To investigate the effects of two variants of brief intervention in psychiatric outpatients (paper III).
- To explore young female psychiatric patients' reasons for excessive alcohol use and identify factors that they perceive would facilitate a change in drinking habits (paper IV).

Methodology

Setting and procedure

This research project has been conducted at the Division of Psychiatry at Uppsala University Hospital (catchment area 330 000 inhabitants). All patient data were collected among patients visiting the six outpatient units at the clinic of General Psychiatry and the psychiatric outpatient unit in Enköping, which is run by the entrepreneur Närpsykiatri i Enköping AB. Data from staff were collected among employees at the clinics of General Psychiatry and Psychosis/Forensic Psychiatry and at the outpatient unit in Enköping.

For study I, data were collected during a three month period in autumn 2009. A questionnaire was administered to consecutive patients visiting the six outpatient units at the clinic of General Psychiatry. At each outpatient unit, the receptionists were instructed to distribute a questionnaire to each patient. After filling in the questionnaire, the patient handed it to the caregiver who forwarded it to the author of this thesis. The questionnaire included alcohol and drug items specified under *Instruments*. Additional data collection took place in Enköping during three months in spring 2010. Those data were not included in the analysis in paper I. A flow chart of the data collection process for studies I and III is presented in Figure 1.

For study II, data were collected at the opening of a three-hour training course for psychiatric staff and at a follow-up session two months later. The same questionnaire was used at baseline measurement and follow-up. Fifteen training courses were held, all by the same trainer (i.e. the present author). In all, 139 persons (91.4% of all outpatient staff) completed the questionnaire at baseline. At follow-up, 115 participants of the original 139 completed the questionnaire, resulting in a follow-up rate of 83%. Only data from responders who completed both questionnaires were included in the analysis.

In study III, clinical psychiatric staff were engaged in the collection of data. Based on the AUDIT results in study I, the drinking level of each patient was established by the author and risk-drinking patients were singled out. The caregiver of the risk-drinking patient was instructed in writing to invite the patient to participate in the study. Signed written consents were collected and randomised to the intervention group by the author. Thereafter, the patient's caregiver was handed a written instruction how to proceed at the forthcoming consultation. From September 2009 to June 2010, 167 risk-

drinking patients who gave their written consent were included in the study. After randomisation, 150 of them were still available and willing to participate. Follow-up data at 6 and 12 months were collected primarily by mail. Non-responders received one reminder and, if needed, one phone call from additional research staff. At the 6-month follow-up, 126 (84%) of the original 150 risk-drinking patients could be reached while at the 12-month follow-up 107 of 150 (71%) completed the questionnaires.

For study IV, 9 patients enrolled in study III were interviewed between February and April 2011. Inclusion criteria for the study were as follows: female, aged 18-27 years and having an AUDIT score from 10-19 at baseline or follow-up (i.e. hazardous or harmful use but not dependent). All patients in study III who fulfilled the inclusion criteria (n=23) were approached. Of those, 5 had moved to other cities or abroad and another 6 were not possible to reach by mail or phone. In all, 12 persons were contacted, of which 3 declined to participate.

Participants

During the investigation period 2160 patients, 1406 females (65%) and 754 males (35%), responded to the questionnaire package that was distributed in study I. The female-male proportions of the responders were in line with those of the whole stock of general psychiatric outpatients. The mean \pm SD age was 35.0 ± 13.5 years for females and 35.2 ± 13.5 years for males. In all, 28% of the females and 29% of the males reported drinking above hazardous limits.

Participants in study II were nurses, psychiatric aides, psychologists and social workers employed at the General Psychiatric or Psychosis/Forensic Psychiatry clinics or the outpatient unit in Enköping. The majority of the participants (79%) had worked five years or more in the field and 39% had previous experience in working with patients with alcohol problems. After their basic education, 22% had had four hours or more of training in alcohol-related issues.

Of the 150 participants in study III, 98 were females (65%) and 52 males (35%). The mean age for females was 28.4 ± 9.9 years and 34.9 ± 13.6 years for males. The females' mean AUDIT score at baseline was 10.6 ± 3.7 while the mean score for males was 12.0 ± 3.1 .

Mean age of the 9 female interviewees was 22.2 ± 3.5 years (range 18-27). The main diagnoses were: Anxiety (n=3), Depression (n=3), Bipolar (n=2) and ADHD (n=1). Seven of the interviewees were daily active in work or studies and two were unemployed. Their mean AUDIT score at baseline was 12.0 ± 2.9 and 13.1 ± 6.1 at the 12-month follow-up. They all had received a brief alcohol intervention but only one of them had reduced their drinking habits to below the hazardous level 12 months later.

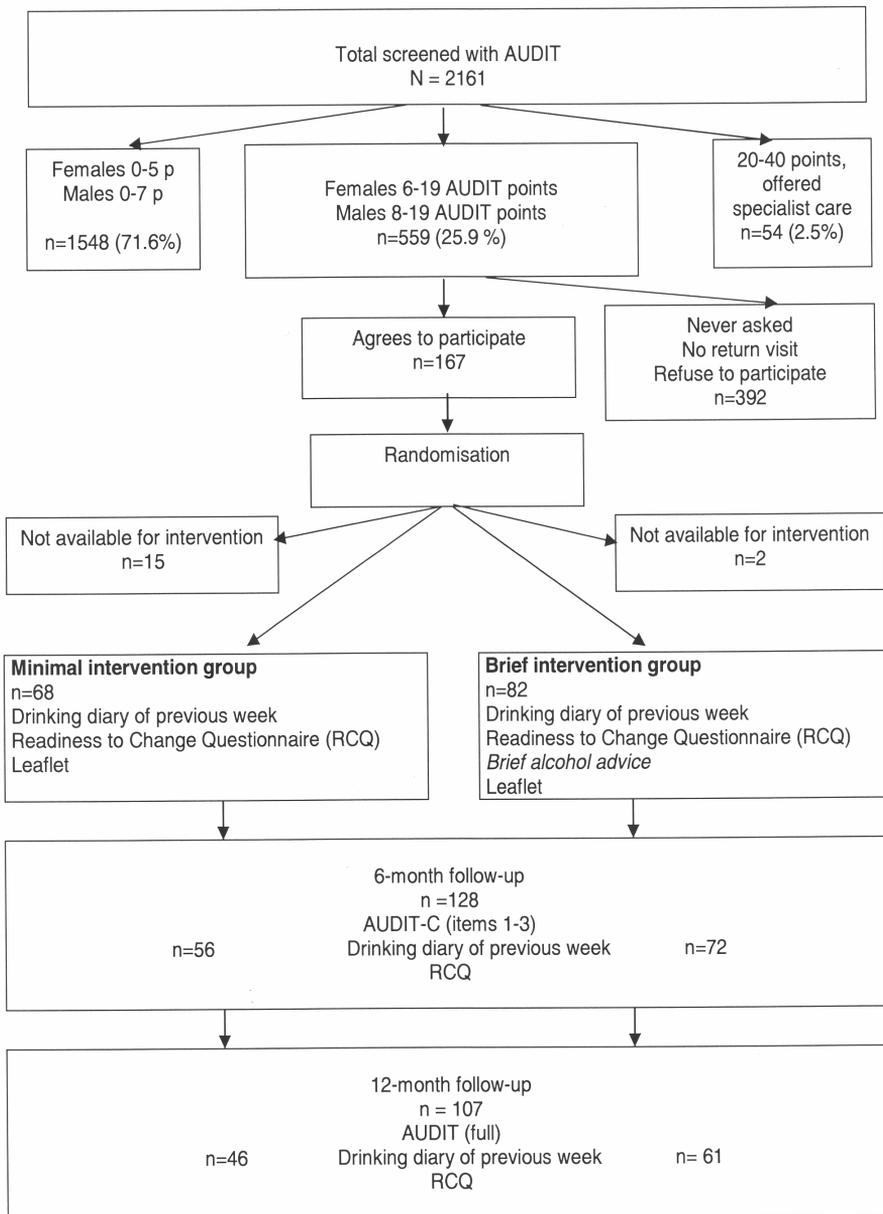


Figure 1. Overview of the data collection process for studies I and III.

Instruments

An overview of instruments used in studies I-III is presented in Table 1.

AUDIT

The AUDIT (Alcohol Use Disorders Identification Test) was developed during the 1980s from a WHO collaborative project as a simple method of early detection of hazardous and harmful alcohol use (62). Although originally designed as a screening tool for primary care settings, the AUDIT has come to use in many other areas such as national and regional epidemiological studies, web-based screening and intervention, emergency care units and hospital care (63). It has also been found useful for prediction of the alcohol withdrawal syndrome and as a measure of severity of alcohol problems (64-67).

The 10-item self-report questionnaire covers the domains of alcohol consumption (items 1-3), drinking behaviour (items 4-6) and alcohol-related problems (items 7-10). Each question is scored on a scale from 0 to 4 points, for a maximum total score of 40. In this thesis, non-hazardous drinking levels are defined as 0-5 points for females and 0-7 for males. 'Hazardous alcohol use' is defined as 6-12 points for females and 8-14 for males. Scores of 13-19 in females and 15-19 in males indicate 'harmful use'. Scores 20 or more indicate 'dependence'. The categorisation of drinking levels is based on WHO guidelines and on recommendations of lower cut-off points for females (68-70).

DUDIT

The DUDIT (Drug Use Disorders Identification Test) was developed by a Swedish research group in the mid-2000s as a parallel instrument to the AUDIT for identification of individuals with drug-related problems (71). The DUDIT comprises 11 items that correspond to the items of the AUDIT; the 11th item, which covers polydrug use (i.e. the use of two or more psychoactive drugs in combination), is placed in the consumption domain. The scoring follows that of the AUDIT (maximum score is 44 points). The suggested non-hazardous levels are 0-1 points for females and 0-5 points for males. Two points or more in females and ≥ 6 points in males indicate 'drug-related problems' (either substance abuse/harmful use or dependence). A person with ≥ 25 points is most probably dependent (72).

HED screener

The heavy episodic drinking (HED) screener is a single question that asks about the frequency of 4 or more drinks on one occasion for females and 5 or

more for males. Responses that indicate such a drinking frequency more often than once a month should initiate further investigation of the patient's alcohol habits and a brief alcohol intervention. The HED screener is commonly used in health care settings (73) and its use is mandatory at Uppsala University Hospital.

RCQ

The Readiness to Change Questionnaire (RCQ), originally designed for risk-drinking persons who do not seek alcohol treatment, was introduced in 1992 (74). The 12-item questionnaire is based on a theoretical model that has won great influence in the field of addictive behaviours, the stages of change model as defined by DiClemente and Prochaska (75). The model describes the process of change underlying an attempt to resolve an addictive problem, suggesting that different intervention strategies should be used for the different stages of the change process. According to the model, a person with an addictive problem moves from “pre-contemplation” through “contemplation” and “action” to “maintenance”. The movement through stages often involves a recycling process. The RCQ is commonly used to allocate stage of change as well as for outcome measurement (76, 77). The RCQ has been validated in a Swedish version (78). In the Swedish version, the stage “maintenance” is not included.

Drinking diary

Participants enrolled in study IV were asked to declare the number of standard drinks they had consumed per day during the previous week in a “drinking diary”. The drinking diary, often referred to as Time Line Follow Back (TLFB) is an often used method of assessing alcohol consumption levels and patterns (79). A drinking diary usually covers from two weeks up to six months. For pragmatic reasons, a drinking diary covering one week was used in this project.

SAAPPQ

The Short Alcohol and Alcohol Problems Perception Questionnaire (SAAPPQ) is a validated, 10-item questionnaire (80). It is designed to measure health professionals' therapeutic attitudes to problem drinking patients in five areas: Role adequacy, Role legitimacy, Motivation, Task-specific self-esteem and Work satisfaction. The Swedish version has been assessed for problem drinking (81).

Vignette assessment

Respondents were asked to estimate the level of severity and their perceived capacity to help a described patient on a 10-point (0-9) scale ranging from “No problem” to “Very severe problem” or from “No capacity” to “Very high capacity”. The vignette cases and the scoring used in the study were modelled from a questionnaire developed within a WHO project (82), but the vignette cases were modified. In the modified version, vignette cases described two psychiatric patients with moderate or more severe alcohol problems.

Table 1. Instruments used in studies I-III

	I	II	III
AUDIT	X		X
AUDIT-C	X		X
AUDIT-3	X		
Heavy Episodic Drinking (HED) screener	X		
Readiness to Change Questionnaire (RCQ)			X
Drinking Diary			X
Short Alcohol and Alcohol Problems Perception Questionnaire (SAAPPQ)		X	
Vignette assessment		X	

Quantitative analysis

All statistical analyses were performed using SPSS, versions 18 and 19. The following methods were used:

- Student’s t-test for comparison of group means.
- Independent samples t-test for differences in AUDIT score outcome between groups
- ANOVA General Linear Model (GLM), Repeated measures for measurement of change over time.
- Pearson’s χ^2 -test to test proportional differences between groups.

Qualitative analysis

To approach the subject from a different angle, qualitative research methods were applied in study IV. Qualitative research methods are widely used as a means to obtain an in-depth understanding of a problem. Such methods involve the systematic collection, organisation and interpretation of textual material derived from talk or observation (83). Qualitative research methods

generally aim for trustworthiness, expressed as adequate sampling and systematic data analysis rather than sample size. Through explicit description of the selection of interviewees and the analysis process, reliability of the coding and category development can be achieved. The transferability to other settings and groups, facilitated by appropriate quotations, is decided by the reader. Information gained from qualitative studies may be used directly with patients, e. g. as part of an interview scheme or as a basis for further studies with quantitative methods.

There are several approaches to qualitative content analysis, all of which aim to analyse the meaning of manifest text content (84). In study IV, content analysis was used following the principles suggested by Graneheim and Lundman (85). Analyses were performed in the following steps: (1) Interviews were listened to and read through several times by the researchers to acquire an understanding of the information given in relation to the aims of the study. (2) Sentences or paragraphs containing information relevant to the key questions were identified as meaning units. (3) Meaning units were condensed, abstracted and labeled with a code. (4) The codes were grouped into categories, representing responses to the key questions as expressed in a precise way or by words sharing similar connotations. (5) The categories were divided into subcategories representing different aspects of the category. The categorisation was discussed by the researchers until consensus was achieved.

Ethics

All studies in this thesis were approved by the Ethics Committee of Uppsala University (2009/042). The studies were performed according to the principles of the Helsinki Declaration, including the right of informed consent.

Results

Brief alcohol screening in a clinical psychiatric population (paper I)

A total of 1811 patients, 1176 females and 635 males, completed the questionnaire. Two-thirds (64.9%) of the patients were female, which is an equal proportion as in the whole stock of general psychiatric outpatients. When using the full AUDIT, 28.3% of the females and 31.3% of the males scored above the hazardous level. The HED screener, using the recommended cut-off, categorised only 17.2% of the females and 26.0% of the males as hazardous drinkers. A further analysis showed that 36 females and 9 males indicating heavy abuse or dependence were not detected by the HED screener (Figure 2). Sensitivity was low, especially for females (0.52) but also for males (0.58). Lowering the cut-off captured most problem drinkers but specificity was low when compared to the results of the full AUDIT (Table 2).

For AUDIT-3, two different cut-off levels were analysed. The sensitivity/specificity pattern closely followed that of the HED screener.

In females, the AUDIT-C had a high sensitivity (0.95) but low specificity (0.72) with the recommended cut-off point ≥ 3 for females. When raising the cut-off for females to ≥ 4 , specificity was improved from 0.72 to 0.89. In males, the sensitivity of the AUDIT-C reached only 0.75 whereas the specificity was 0.88 with the recommended cut-off point ≥ 5 for males.

Table 2. Comparisons of screeners, using the full AUDIT as a reference standard.

Screeners	Females n=1176		Males n=635	
	Sensitivity	Specificity	Sensitivity	Specificity
HED $\geq 1^*$	0.95	0.64	0.94	0.54
HED $\geq 2^*$	0.52	0.96	0.58	0.89
AUDIT-3 $\geq 1^*$	0.93	0.75	0.94	0.56
AUDIT-3 $\geq 2^*$	0.41	1.00	0.56	0.94
AUDIT-C $\geq 3/5^{**}$	0.95	0.72	0.75	0.88
AUDIT-C $\geq 4/5^{**}$	0.85	0.89	0.75	0.88

*Cut-off points, both sexes ** Cut-off points for females/males

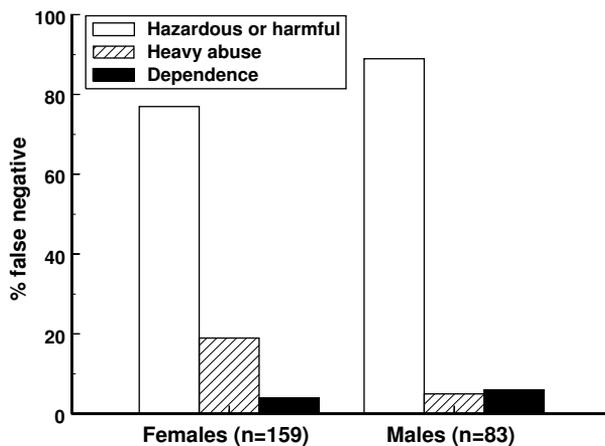


Figure 2. Self-reported drinking levels among patients categorised ‘non-hazardous drinkers’ with the HED screener.

Knowledge and attitudes among psychiatric staff to problem-drinking patients (paper II)

In all, 15 three-hour training courses were carried out. A total of 139 persons (91.4% of all outpatient staff, doctors not included) took part and completed the questionnaire at baseline. Of those, 115 (83%) completed the questionnaire at follow-up.

Confidence in self-perceived capacity to help a person with more severe alcohol problems increased in both medical (nurses and psychiatric aides) and non-medical (psychologists and social workers) staff groups after training. From a relatively high level, awareness of early signs of problem drinking increased further among non-medical staff after training.

At baseline, the medical staff were more therapeutically committed to working with problems drinkers than the non-medical staff (Table 3). After training, both staff groups perceived themselves as more role adequate than at baseline. Work satisfaction in working with problem drinking patients was raised among medical staff.

When compared with primary care nurses, the baseline therapeutic attitude of the psychiatric staff was higher on all subscales.

Table 3. Therapeutic commitment measured with SAAPPQ (mean scores at baseline and after training).

Variable	Medical staff (n=59)		Non-medical staff (n=57)	
	Baseline	Follow-up	Baseline	Follow-up
Role adequacy	4.75	5.34 ^A	4.21 ^b	4.77 ^A
Role legitimacy	6.16	6.09	6.16	6.29
Motivation	4.69	5.00	4.36	4.36
Task-specific self-esteem	4.64	4.84	4.32	4.42
Work satisfaction	4.46	4.92 ^a	4.21	4.19

Score range 1 - 7.

A= difference between baseline and follow-up $p < 0.01$; a = difference between baseline and follow-up $p < 0.05$.

b = difference between staff groups at baseline $p < 0.05$.

Brief alcohol intervention in a psychiatric outpatient setting (paper III)

In this study, 150 risk-drinking psychiatric outpatients received either a “minimal” (n=68) or a “brief” (n=82) intervention. The “minimal” intervention (about 10 minutes) consisted of feedback on drinking level, completion of questionnaires and a leaflet with advice on how to cut down on drinking. The content of the “brief” intervention (about 20 minutes) only differed in that it also included face-to-face brief advice on the impact of alcohol on psychiatric symptoms. Both types of intervention were delivered by the psychiatric caregiver.

At the 12-month follow-up, 29% (n=43) of all participants had improved their drinking habits, moving from hazardous to non-hazardous level (21%) or from harmful to hazardous level (8%). The group that improved their drinking habits reduced their mean AUDIT score from 11.0 ± 4.0 points at baseline to 5.5 ± 3.0 points at 12 months ($p < 0.01$) (Table 4). The “minimal” intervention was as efficient as the “brief” intervention and no difference in outcome could be identified between groups. The reported major strategy for reduced drinking was cutting down on the number of drinks per drinking day (AUDIT item no 2). In the whole studied sample there was a reduction of AUDIT score from mean 10.9 ± 3.5 at baseline to mean 9.8 ± 4.8 points ($p < 0.01$) at 12 months.

Further analyses indicated that participants in the improved group were more motivated to change their habits at baseline than participants in the non-improved group. At baseline, 58.5% (n=24) of persons in the improved group were contemplating change versus 31.1% (n=32) in the non-improved group. The improved group had a reduction in AUDIT-C scores already at the 6-month follow-up (baseline mean score 4.9 ± 1.6 points; 6-month follow-up 3.7 ± 1.7 points, $p < 0.01$).

Differences in outcome that were due to gender or psychiatric severity (as measured by number of psychiatric consultations) could not be identified.

Table 4. Drinking outcome and number of psychiatric consultations in the improved versus the non-improved group.

Variable	Improved n=43	Non-improved n=107
<i>Mean score full AUDIT</i>		
Baseline	11.0	10.9-
12-month follow-up	5.5 ^A	11.6
<i>Mean AUDIT-C score</i>		
Baseline	4.9	5.0
Six-month follow-up	3.7 ^A	5.1
<i>Mean number of drinks*</i>		
Baseline	4.5	7.1
12-month follow-up	4.1 n.s.	7.0
<i>Mean number of psychiatric consultations**</i>	13.4 ±11.5	12.6 ±13.8

* Previous week **within 12 months after baseline

A= p < 0.01

Young female psychiatric patients' reasons for excessive alcohol use (paper IV)

With the aim to explore young female psychiatric patients' reasons for excessive alcohol use, nine high-risk drinking patients were interviewed. A further aim was to identify factors that may facilitate changes in drinking habits.

Alcohol played an important role in the lives of the interviewed females. The participants used alcohol for external, social purposes (wanting to take part in social life with peers) as well as for internal purposes (related to their psychiatric problems). The internal purposes were described most thoroughly. For these young females, using alcohol was a way of dealing with stress, depression, low self-esteem and other negative, unbearable emotions. Alcohol was also used as a means of punishment or self-harm, representing the first stage in an escalating self-harm process.

The participants were well aware of the negative effects of alcohol use on their mental and physical well-being. They wanted help from their psychiatric caregivers in focusing on reasons for drinking and help with how these

needs could be addressed in a more functional way. One of the interviewees expressed it in the following terms:

I don't think it is the drinking itself that they (psychiatric caregivers) should be treating. I think it's the attitude toward drinking...They should ask 'Why do you drink? What do you get out of it? How can you express that in a more productive way?' (229)

Discussion

The overall aim of the thesis was to increase knowledge of adequate forms of secondary alcohol prevention in psychiatric care. There is a strong association between psychiatric disorders and excessive alcohol use, and even moderate alcohol use may have adverse effects on illness course as well as treatment outcome in psychiatric patients. Strategies aimed at prevention of alcohol use disorders are therefore urgently needed.

Brief screening methods

The importance of alcohol screening measures being suitable for persons with psychiatric disorders is demonstrated in paper I. The commonly used HED screener, mandatory at Uppsala University Hospital, identified low rates of problematic drinkers in the psychiatric outpatient setting. In females, the HED screener was able to identify only half of the problem-drinking patients (Table 2), which is an unacceptably low rate. Lowering the cut-off level captured an unlikely large share of patients as hazardous drinkers, which questions the instrument's reliability in this group of patients. The HED screener is strongly recommended by several influential actors, including the organisation for Health-promoting Hospitals in Sweden and the National Institute on Alcohol Abuse and Alcoholism (NIAAA) in the USA, where NIAAA specifically recommends its use in psychiatric settings (86, 87). The results of paper I, however, question these recommendations for this particular group of patients.

The AUDIT-3, similar to the HED screener, is not as commonly used. In paper I, the instrument showed as poor screening capacity as the HED screener. The AUDIT-C, however, has been found both efficient and useful in previous studies and the cut-off levels of ≥ 3 points for females and ≥ 5 points for males, equal to general populations and somatic care populations, are recommended to detect risk drinking in persons with psychiatric problems (88). In paper I, the screening capacity of AUDIT-C with the recommended cut-off levels was on par with the full AUDIT for males, but specificity was low for females (0.72). Raising the cut-off level to ≥ 4 points for females approached the screening capacity close to that of the full AUDIT.

Excessive drinking is more prevalent in the presence of psychiatric disorders (13, 18, 89, 90). Patients with psychiatric disorders have also been more

reluctant to answer questions about substance use than other patient groups (91). It is likely that many of these patients feel that alcohol is important for them in terms of relief or self-medication. If they tend to conceal their drinking habits, they will probably be more inclined to do so when asked a single question than when taking their time to answer 10 questions.

Training needs for psychiatric staff

Systematic strategies to prevent and intervene in problematic alcohol use are urgently needed in psychiatric care. Such strategies, however, will not be implemented without psychiatric staff having good knowledge and positive attitudes to working with alcohol problems. The results of paper II indicate that psychiatric staff members are in many ways familiar with the adverse effects of alcohol use in their patients. Psychiatric staff are also more therapeutically committed to working with alcohol problems than primary care nurses (81). Considering this pre-understanding and the specific needs of psychiatric patients, training should be tailored for this staff group.

Three hours of such training was sufficient to raise self-confidence in helping patients with more severe alcohol problems. Furthermore, psychologists and social workers, staff members that are likely to be the main psychiatric caregiver for many patients, raised their awareness of early signs of alcohol problems after only three hours of training. Although some were reluctant during training, this staff group improved their ability to assess problem severity after the training.

Although results are encouraging, it is likely that long-term strategies for alcohol training are needed in order to maintain the competence.

Effects of brief interventions

Only a small number of studies have dealt with BI in the psychiatric setting (23, 42, 44). In accordance with the findings of those studies, the results of paper III indicate that BI may bring about positive changes in the alcohol habits of risk-drinking psychiatric patients. A BI of a very short duration (assessment, feed-back and an information leaflet) may be enough, as has previously been found elsewhere (42, 51). It is encouraging that as many as 29% of the patients reduced their drinking remarkably following a BI. Still, the overall reduction of AUDIT score in the studied sample was relatively small. This indicates that there is room for further elaboration of the BI to meet the specific needs of psychiatric patients. Given the special relationship between psychiatric disorders and alcohol it is likely that some psychiatric patients, in particular those with more advanced drinking habits, would benefit from a more profound intervention. Yet, the results of study III indi-

cate that the intervention only needs to be very brief to have a positive effect on some patients, in particular those who are already contemplating change.

The mechanisms involved in a change in drinking habits after a BI are unclear. As has been pointed out in previous studies, the assessment procedure itself may alter drinking behaviour (53, 92, 93). It is plausible that the BI works simply by pointing out a potential problem, which stimulates risk-drinking persons to contemplate change. Moreover, most problem drinkers (also those with co-existing psychiatric disorders) who change their habits do so without formal treatment (57, 61). The BI may serve as a trigger for such processes of natural recovery.

It is more common that natural recovery takes place in persons with lower levels of risk drinking (60). As the majority of risk-drinking psychiatric patients (80%) drink at hazardous and not harmful levels (94), the psychiatric caregiver is most likely to meet a patient in the risk-drinking group that is liable to benefit from a BI.

In study III, psychiatric caregivers of all professions performed both the screening and the interventions, which is normally carried out by research staff. The overall impression is that the caregivers found the interventions easy to perform and that they fit well in into the on-going psychiatric treatment. Only a small number of psychodynamically oriented psychologists opposed to using the interventions. It seems that BI may likely be implemented in the psychiatric outpatient setting, given that adequate staff training is provided.

Reasons for excessive alcohol use

Excessive alcohol use in young psychiatric patients may develop into more severe co-existing problems. Because of high rates of risk-drinking (46.6%) among young female psychiatric outpatients in a previous study (94), this group of patients was selected for an interview study in paper IV.

The participants all pointed out the important role that alcohol plays in their lives and they were keenly aware of the negative aspects of their drinking behaviour. An important finding of paper IV is that excessive drinking is used as a form of self-harm and can be the first step in an escalating self-harm behaviour. The interviewees expressed a need for help from psychiatric caregivers in focusing on reasons for drinking and for help with how these needs could be expressed in a more functional way.

Studies that allow psychiatric patients to express experiences and emotions concerning alcohol or drug use in own words are scarce. In doing so, researchers have contributed with information of sometimes unexpected but valuable kind. Bradizza et al investigated high-risk situations for substance use (95). They found that severely mentally ill substance abusers experienced a number of unique high-risk situations that differed from substance

abusers without mental illness. Such high-risk situations included interpersonal conflicts and loss of appetite. Healey et al, interviewing bipolar patients (96) found that drug use helped patients to socialise with other people and to manage stress. They also found that bipolar patients trust their own drug experiences more than advice from staff, implying they will only take heed of advice if it fits with their own experience. Because psychiatric patients may have unexpected but important reasons for substance use, psychiatric practitioners need to engage in alcohol as well as drug habits in their patients. It is vitally important to observe and intervene in an early stage of problem development.

General discussion

The review of previous studies demonstrates that alcohol use and psychiatric problems are closely related. Excessive alcohol use is more common in the presence of psychiatric disorders, which may worsen the illness burden and undermine psychiatric treatment. The literary review also indicates that systematic action on alcohol problems among patients is generally given low priority within psychiatric care.

It is essential that psychiatric staff are aware of their patients' drinking habits, a view that was also emphasised by the interviewees in paper IV. One way of acquiring such awareness is by using appropriate questionnaires and being familiar with how to interpret them and to act on the results.

Careful screening and intervention strategies presuppose competent staff. Raising competence can be made with relatively small, tailored efforts within psychiatric care, where staff members to some degree are already inclined to address alcohol problems in their patients.

An important part of all psychiatric treatment involves the consideration of the patient's alcohol habits. Trained staff of all categories may screen and perform BIs in a simple manner, which is likely to result in improved alcohol habits, at least in some patients. In patients with excessive drinking psychiatric caregivers need to explore reasons for drinking as part of the treatment. A stepped care model in which patients who do not respond to BIs are provided a more intense treatment needs to be elaborated.

Methodological considerations

In this thesis, both quantitative and qualitative approaches were used, which deepens and broadens the understanding of the investigated phenomenon.

Another important feature is that the present studies were performed within a normal psychiatric setting. Psychiatric staff members of all professions were involved in the collection of data and delivery of interventions.

The strength of such an approach is that results are of a pragmatic character and that the methods used are easily transferable to similar settings. A limitation, however, is that it is more difficult to attain the standards of scientific stringency in the collection of data (paper I, paper III) and in the application of interventions (paper III). This issue was considered in the project design, where staff members were thoroughly informed about the project at meetings, during training or in writing. The staff that took part in study III were all handed written instructions on how to proceed with each patient.

When performing studies within the normal clinical setting, methods must be brief, comprehensible and non-intrusive to have a chance of being realized. For this reason, patient-administered self-reporting instruments were used. The result of the full AUDIT was used as the gold standard in study I. An independent measure such as a biological marker or an independent interview would have been desirable. On the other hand, biological markers are not appropriate for the measurement of hazardous drinking.

The participants in study I were all included on a consecutive basis during a specified period. The sample can therefore be considered representative for psychiatric populations in corresponding settings, i.e. adult general psychiatric outpatient settings that treat the most common psychiatric disorders, psychosis excluded.

In paper III the female participants were younger than in the whole clinical sample: mean age was 28.4 years as compared with 34.1 years in the whole sample. This age difference may have implications for the representativity of the results when transferred to female psychiatric outpatients in general. Still, in national surveys, as well as in our material, young females are more inclined to drink above hazardous levels than older females. In our material, mean age of risk-drinking females in the whole sample was 27.4 years. It is thus likely that young females will be over-represented when BI is applied within the psychiatric setting.

Conclusions and clinical implications

Excessive drinking as well as alcohol use disorders are common in psychiatric patients, which may worsen the illness burden and undermine psychiatric treatment. Still, secondary prevention strategies to avoid severe forms of co-existing problems are scarce. Screening methods, staff training, effects of interventions and patient-perceived role of alcohol have been studied in this thesis. The main conclusions are

- The HED screener is not sufficiently sensitive in the psychiatric setting. If a somewhat more extensive screening tool is used, the full AUDIT is recommended.
- Alcohol training for psychiatric staff should be tailored for the needs of this staff group.
- Three hours of training is sufficient to improve the psychiatric staff's self-perceived knowledge and therapeutic attitude toward problem-drinking patients.
- Brief alcohol interventions can be expected to reduce AUDIT score to some extent in risk-drinking psychiatric patients. The intervention may be very brief.
- To achieve higher reduction of risk-drinking, systematic follow-up of drinking habits and more profound forms of alcohol interventions need to be elaborated in psychiatric care.
- To help avoid the development of complicated co-existing problems, psychiatric caregivers need to be aware of the role of alcohol in the patient's life.
- Secondary alcohol prevention strategies in psychiatric care should include a stepped care approach in which screening, feedback and brief information is the first step.
- Within psychiatric care, a plan for secondary alcohol prevention is needed. The plan should include staff training.

Sammanfattning

Många personer med psykiska problem har ett särskilt förhållande till alkohol. Detta avspeglar sig bland annat i de stora undersökningar som har gjorts i normalbefolkningen, där förekomsten av alkoholproblem är speciellt hög bland personer som också upplevt psykisk ohälsa. Alkohol kan ge lättnad vid psykiatriska symtom, men också bidra till utvecklingen av psykisk ohälsa. Ett pågående risk- eller missbruk kan ha stor inverkan på hur de psykiska problemen utvecklas och hur den psykiatriska behandlingen fungerar. Det är därför särskilt viktigt att den psykiatriska vården är uppmärksam på sina patienters alkoholvanor och utvecklar strategier för olika former av problematiskt drickande. Sekundärprevention innebär att agera redan vid tecken på riskabelt drickande för att förhindra utvecklingen av mer allvarliga problem. Strategier för sekundärprevention saknas generellt inom psykiatrisk vård, och forskningen är sparsam på området. Syftet med avhandlingen var att bidra till kunskapen om hur sekundärprevention kan tillämpas inom psykiatrin.

Inom hälso- och sjukvård har det blivit allt vanligare att använda korta frågeinstrument för att uppmärksamma riskabla alkoholvanor. Tre sådana instrument med 1-3 frågor undersöktes bland 1811 psykiatriska öppenvårdspatienter. Resultaten jämfördes med utfallet av det väletablerade AUDIT (Alcohol Use Disorders Identification Test) med 10 frågor. Studien visar att det instrument som oftast rekommenderas, 1-frågeinstrumentet HED (heavy episodic drinking) inte är tillräckligt känsligt för att passa i den psykiatriska vården. Instrumentet uppmärksammade endast 52% av de kvinnliga riskdrickarna och 58% av de manliga.

Den psykiatriska personalens kunskaper om och attityder till patienter med alkoholproblem undersöktes. Syftet var också att undersöka om tre timmars utbildning i kort alkoholsamtal är tillräckligt för att öka kunskaperna och påverka inställningen till att arbeta med dessa patienter. I studien deltog 139 personer anställda i den psykiatriska öppenvården: sjuksköterskor, skötare, psykologer och kuratorer. Resultaten visar att kunskapen om alkohol är relativt hög bland den psykiatriska personalen och att man, jämfört med primärvårdssköterskor, är mer inställd på att arbeta med alkoholproblem. Tre timmars utbildning gav en mer positiv inställning till att arbeta med alkoholproblem bland psykologer och kuratorer. I hela gruppen höjdes den självupplevda kompetensen att arbeta med personer med svårare alkoholproblem efter utbildningen.

TVå former av kort alkoholintervention (alkoholsamtal) på vardera ca 10 respektive 20 minuter utfördes bland 150 riskdrickande psykiatriska öppenvårdspatienter. Interventionerna utfördes av mottagningarnas personal. Efter 12 månader konstaterades att 29% av de deltagande patienterna minskat sitt drickande, oavsett vilken av interventionerna de fått. 21% av deltagarna rapporterade inte längre riskabla alkoholvanor och ytterligare 8% hade minskat sitt drickande till en mindre skadlig nivå. För att nå ytterligare effekt bör interventionen utvecklas vidare för att passa denna patientgrupps behov.

Nio unga kvinnliga psykiatripatienter med riskabla alkoholvanor intervjuades för att undersöka orsakerna till deras höga alkoholkonsumtion. Syftet var också att undersöka vad de själva trodde skulle hjälpa dem att dricka mindre. De intervjuade beskrev alla att alkoholen spelade en viktig roll i deras liv. Att dricka hjälpte dem att känna sig sociala och att stå ut med svåruthärdliga känslor. Drickandet användes också för att skada sig själv, som första steget i en accelererande självskadeprocess. De intervjuade efterfrågade hjälp från sina behandlare, framför allt med att förstå orsakerna till sitt drickande.

Resultaten av avhandlingen kan användas vid utvecklandet av en plan för sekundärprevention inom psykiatrin. Planen bör innefatta användandet av hela AUDIT, en speciell utbildning i alkoholfrågor för psykiatripersonal och vidareutveckling av alkoholinterventioner som är särskilt anpassade för personer med psykisk ohälsa.

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