



Risky Drinking Women: Contrasting Therapeutic Approaches

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Abstract

Background: The importance of early identification and effective treatment for risky drinking grows with the increasing rate of alcohol use by women.

Objectives: This study aims to contrast treatment approaches for two samples of problem drinking women.

Methods: The samples consisted of (i) 134 alcohol treatment-seeking Swedish women receiving long-term comprehensive services; and (ii) 152 US women who were not seeking treatment for alcohol but were medical outpatients with one of four conditions exacerbated by excessive alcohol use and received a brief intervention as part of a study. Data consisted of questionnaires assessing alcohol consumption, perceived stress and attitudes towards change.

Results: While the treatment-seeking Swedish group drank more alcohol at the start of treatment, all women reduced their consumption of alcohol at the end of treatment/follow-up. Women who reported more stress drank more initially in both samples.

Conclusion and Scientific Significance: This report contrasts two "extreme" approaches to treatment: long-term, open-ended, outpatient treatment and, time-limited, structured brief intervention for risky drinking women. Both treatment methods yielded positive results with significantly reduced drinking. Factors associated with successful outcome included the women's attitudes toward treatment and conviction for the necessity of change in drinking habits.

Keywords: Female alcohol problems; Risk drinking; Stress-related drinking; Long-term treatment; Brief intervention; Alcohol treatment outcome; Cultural differences

Introduction

Alcohol problems are increasing world-wide and the traditional gap between the higher rates of alcohol use by men compared to women is narrowing [1-3]. Women are more vulnerable to the negative effects of alcohol, which include psychological (e.g., increased depression, anxiety) and physical consequences (e.g. hypertension, infertility or breast cancer) [4-6]. Perceived stress can be linked to the cultural stigmatization for women with alcohol problems, in addition to the stress of women's multiple roles in family care, work, and self-care [7]. Processes that drive change in alcohol consumption have been conceptualized by Prochaska and DiClemente as readiness to change (RTC) [8]. RTC has been used as a predictor of later drinking reduction [9], and as a mediator of treatment [10]. The identification and treatment of alcohol problems in women are important because psychological- and physical health are closely linked [3,11-16].

From an international perspective, the identification and modification of risky drinking and other alcohol use disorders among women reflects local practices, resources, and insurance systems. The healthcare system in Sweden, the site for one of the populations in this study, is funded by general taxes and available to all citizens. There is only a small market for privatized health-care. Clinics for dependency problems and social services are provided by each county. Patients may

access a clinic either by clinical- or self-referral. The treatment methods are evidence-based practices, and are as far as possible tailored to the individual needs in terms of choice of method and length of time. At some clinics it is possible for women to receive a gender- and culture-informed treatment program for alcohol problems [17].

In contrast, universal coverage is not yet available in the US healthcare system [18]. However, only 2.6% of the residents in Massachusetts were uninsured when the US sample was assembled [19]. The recommended practice for those not seeking alcohol treatment but who present for primary care is to offer screening and brief intervention as the first step [20].

Indeed, a wide range of outpatient alcohol treatment options exists world-wide. At one end of the spectrum are brief interventions [21], recommended for non-alcohol treatment-seeking individuals. At

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the other end, traditional outpatient clinics may offer more intensive approaches such as social skills training, motivational enhancement therapy and cognitive behavioral therapy over a longer time period [21,22]. Brief inpatient treatment may be needed for physically-dependent patients at risk for complications while reducing alcohol consumption. There is until now no known optimal type and length of treatment for women with alcohol problems. Differences among individuals, including the severity of alcohol problems, mitigate against simplistic, one-size-fits-all solutions [21,23,24].

There is a need to discuss possibilities and orientations in actual treatment situations, in order to facilitate public mental health promotion in this area [16]. The need for best treatment approaches for risky drinking women is the same across the Western world, though applications of approaches may vary across cultural contexts. In this article we show an overall picture from two cultural contexts, without testing the differences between groups. Cultural differences notwithstanding, comparisons between treatment approaches help to identify the therapeutic aspects that transcend boundaries and are applicable in every setting [25]. Studies in this area have shown differences between cultures regarding treatment seeking pattern proportions regarding sex, age, social network and abstinence goals [25,26]. No studies comparing women with alcohol problems in different health care systems have been found.

The purpose of this study was to explore similarities and differences in treatment-seeking paths, treatment approaches and outcomes for two samples of problem drinking women who drank at least five standard drinks per week or satisfied DSM-IV criteria for alcohol use disorders. Drinking more than five standard drinks of alcohol per week (98 gr alcohol per week, 1 ounce=28.35 grams) has been defined as risky drinking according to The International Center for Alcohol Policies [27]. The samples were drawn from two cultural contexts, Sweden and the US. One sample consisted of 134 alcohol-treatment-seeking women who received long-term, comprehensive services in Sweden. The other sample consisted of 152 non-alcohol treatment-seeking women who were identified as they sought medical treatment at outpatient clinics in the US. The US women were seeking treatment for one of four medical conditions exacerbated by excessive alcohol consumption. The medical conditions were: infertility [15], hypertension [11], diabetes [14], or osteoporosis [28]. Though the US women were not seeking treatment for alcohol problems initially, once informed of a problem they were given the option to participate in the BI treatment and those who agreed were designated as treatment-seeking. The US women received a brief intervention for their alcohol use. For additional details about patient recruitment, see Chang et al. 2011 [29]. In addition to describing treatment outcomes for these two groups of women, potential predictors of outcome were also evaluated. The following predictors were measured before treatment: patient attitudes towards drinking change; treatment satisfaction; and perceived stress.

Material and Methods

Demographic and other background information from the two study samples are given in Table 1.

Subjects in context

The Swedish sample: The Swedish study sample consisted of alcohol-treatment-seeking women who received long-term services. The subjects were 134 of 199 consecutively-treated patients seeking treatment for their alcohol problems at the clinic between September 2001 and February 2005. The 134 women studied were those who

	Swedish study-group	US study-group	
Age, mean (range)	42.1 (22-55)	44.3 (22-70)	
Alcohol diagnoses at treatment inception		Lifetime	Current
• Binge/week exceed*	Not applicable		111
• Abuse	18		
• Dependence	116	11	30
Observations range, number of days	M=666 (SD=439)	365	
Number of visits/contacts	M=66 (SD=48)	5 (including BI)	
Diseases (US only)			
• Diabetes	Not applicable		35 (23%)
• Infertility	Not applicable		38 (25%)
• Hypertension	Not applicable		52 (34%)
• Osteoporosis	Not applicable		27 (18%)
Referral method (Sw only)			
• Self-referral	107 (80%)		Not applicable
• Doctors referral	27 (20%)		Not applicable

Note: Sw=Swedish study-group;*=US standards

Table 1: Background data from the Swedish (n=134) and the US (n=152) study-groups.

completed the exit questionnaires after conclusion of treatment. All women had alcohol as their main abuse problem. None of the women had comorbid diagnoses for other drug problems at the time of the study, although some smoked cigarettes. They cited family and work as their reasons for voluntarily seeking treatment. All the 134 women were offered the range of bio-psychosocial treatment methods available at the clinic. Treatment methods were based on gender- and culture-informed research findings addressing substance abuse problems through a life context approach [17]. They used the following services: Motivational Interview 134 (100%) [30], auricular acupuncture 98 (73%) [31], relapse prevention group treatment 66 (49%) [32] and family therapy/supportive therapy for their children 40 (30%) [33]. Complete medical record data were available for these 134 women.

The US sample: The US study sample initially consisted of 152 women; the 144 (95%) who completed the follow-up interview were included. The study was a subset drawn from a larger study of 511 women with risk drinking and medical conditions exacerbated by excessive alcohol use. The women were randomized to receive a one-session brief intervention with follow-up. Their medical problems included infertility (25%), hypertension (34%), diabetes (23%), and osteoporosis (18%). Additional details are available elsewhere [29].

Measures

The participants completed a series of *measures at enrollment*, the Swedish women at the time of the second treatment visit at the clinic, scheduled about one to three weeks after their first visit at the clinic (Table 2) and the US women during the brief intervention (Table 3).

1. Baseline intake form questionnaire (Swedish women) inquired about their current circumstances and motivation to change their drinking. Two items from this questionnaire were used: (i) their treatment goal (*viz.*, cut down or abstain); and (ii) their estimated alcohol problem severity, as measured on a Visual Analogue Scale, for further information see Data analysis.

2. Self-report measure of alcohol consumption (Swedish women), describing alcohol consumption during a typical drinking week, and estimating the weeks of drinking during the last year. A cut off point of <14 gr. alcohol per day was used for allocation of subjects to a low and a high drinking group according to Swedish standards for safe drinking [34].

3. Swedish Universities Scales of Personality (SSP) (Swedish

Variables	Instruments
Attitudes towards change	Baseline intake form 1. Subjects drinking goal a. Cut down b. Sobriety 2. How important is it for you to make an improvement of your drinking problem as a result of your treatment at the clinic? (Visual analogue scale 1 – 100; 1=very little importance, 100=great importance) 3. Please rate the degree of your alcohol problem? (Visual analogue scale 1-100; 1=very little alcohol problem, 100=very large alcohol problem)
Perceived stress	Swedish Universities Scales of Personality (SSP) Subscales for Psychic trait anxiety, Stress susceptibility, Embitterment, Irritability (T-scores)
Gram alcohol	Self-reported drinking of gram alcohol a typical drinking week (gram, number of days)
Treatment respect	How satisfied are you with the service you have received here at the clinic? (Visual analogue scale 1–100; 1=Not at all, 100=Very pleased)
Treatment satisfaction	How satisfied are you with the help you have received here at the clinic? (Visual analogue scale 1–100; 1=Not at all, 100=Very pleased)

Note: Risky drinking >110 gr. alcohol/week, binge-drinking ≥ 4 drinks/single occasion

Table 2: Instruments and items used in the Swedish study-group.

women) [35] a revised, shortened version of the Karolinska Scales of Personality (KSP) [36]. The SSP measures personality traits with 91 multiple-choice questions, giving different aspects of the personality in 13 different scales. The subscales were transformed into T scores (T =50, SD 10) and are standardized with regard to age and sex on the basis of a normal control group. Through factor analysis a three-factor solution corresponding to personality theories was used: neuroticism, aggressiveness, and extraversion. In this study four sub-scales were used indicating perceived stress: Psychic trait anxiety, Stress susceptibility, Embitterment, and Irritability.

4. The Readiness to Change Questionnaire (RTCQ) (US women) [37-39], a 12-item questionnaire, based on Prochaska and DiClemente’s stages of change model. The highest score along the continuum of change represents the subject’s Stage of Change Designation derived through summing items in each category. The participants were assigned to one of three stages of change: 1=pre-contemplation (not considering making any changes), 2=contemplation (thinking about changes, may have started a few), 3=action (already actively making changes).

5. Perceived Stress Scale (PSS) (US women) [40] with 14 items to measure the degree to which situations in one’s life are perceived as stressful. A mean score is calculated from a five degree scale from Never (0) to Very often (4). Mean scale score for females in a community sample was 25,6 and SD 8,2 [40].

6. Structured Clinical Interview for DSM-IV, (SCID) (US women) [41], the Substance Use Disorder Module was administered to generate current and lifetime alcohol and drug diagnoses according to criteria from the Diagnostic and Statistical Manual of Mental Disorders, 4th Ed [42].

7. Time-line-follow-back (TLFB) (US women) [43] where participants were asked to provide daily estimates of drinking for the six months prior to study enrollment (baseline drinking). US alcohol standards were measured in ounces and then recalculated to grams. The recommendation for women is to drink less than 14 gr. per day (four drinks on a single occasion), also used as the cut off point in the study [27,44].

The *post-treatment measures* for the Swedish women were given at the penultimate visit to the clinic, as the women often cancelled the closing session and there was no opportunity to reach the women after treatment completion. The US women completed follow-up interviews at three, six and 12 months after enrollment (Tables 2 and 3):

1. Follow-up questionnaire (Swedish women) corresponding to the Baseline intake form, where two items about perceived treatment respect and treatment satisfaction were measured using the Visual Analogue Scale.

2. Self-report measure of alcohol consumption (Swedish women), the same as was distributed at baseline (see above).

3. Data from patients’ medical records and the local patient registration system (PVS) (Swedish women) were used for additional information about diagnoses according to DSM-IV [42].

4. Time-Line-Follow-Back (TLFB) (US women) [43] where participants were asked to provide daily estimates of drinking for the 12 month period following enrollment (after treatment/follow-up drinking). The follow-up interviews included the TLFB to obtain detailed drinking information for the time period since the last contact so that information about alcohol use for the 12 month period after the comprehensive assessment was obtained.

5. The consultation and relational empathy measure (US women), [45,46] whereby 10 statements about today’s health care consultation (in this case, the brief intervention) was each rated on a five degree scale, from Poor to Excellent. Two items (statements 1: How was the health professional at making you feel at ease; and 10: How was the health professional at making a plan of action with you) were used in this study to ascertain the extent to which participants perceived treatment respect from the staff and their treatment satisfaction.

Procedures

The Swedish study sample included females from an outpatient clinic specialized for women of childbearing age with alcohol problems, located in a larger city in Sweden. The three baseline measures were distributed by staff members and completed by the study sample during the second visit at the clinic. Both written and oral information about the purpose and procedure of the study were presented to the patient. The potential participants were informed about their right to receive treatment without participating in the study. In addition, they were told that study data would be used in two ways: first, to provide individual

Variables	Instruments
Attitudes towards Change	Readiness to Change Questionnaire (RTCQ) 1. Pre-contemplation 2. Contemplation 3. Action Subjects drinking goal 1. Abstain 2. Reduce 3. No change
Perceived stress	Perceived Stress Scale (PSS) Mean raw scale scores
Treatment respect	The consultation and relational empathy measure Making you feel at ease? (Five degree scale: 0 = not at all; 4 = very pleased).
Treatment satisfaction	Making a plan of action with you? (Five degree scale: 0 = not at all; 4 = very pleased).
Gram alcohol	Time-line-follow-back (TLFB) Daily report of consumed drinks (gram)

Note: Risky drinking 1 unit/day (14 gr./day), not to exceed 7 units/week (98 gr./week)

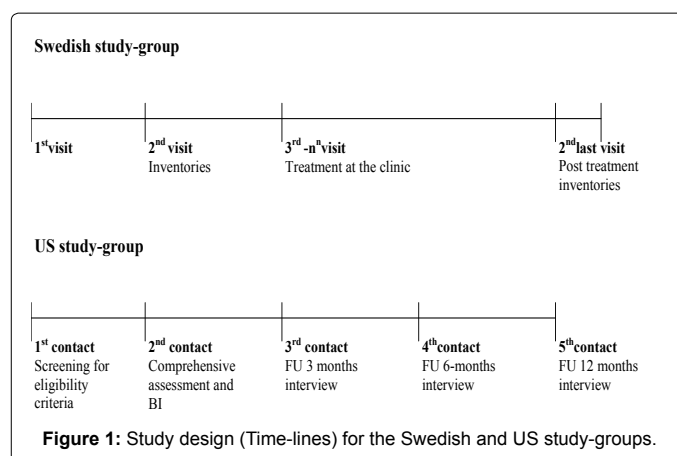
Table 3: Instruments and items used in the US study-group.

feedback, and second, would be included in an anonymous, aggregate analysis. Oral consent to participate in the study was provided by each participant in accordance with ethical praxis. A feedback-session based on the three completed inventories at the beginning of treatment was provided to the patients as a part of the treatment process. The post-treatment inventories were completed at the end of the second to last clinic visit.

Participants in the US study sample received outpatient treatment for their respective primary medical condition at an urban academic medical center or from its contiguous, community providers in the US. They were invited by their physicians and the last author to participate in a study of health habits. They completed a screening questionnaire and, if they expressed interest in participating in the study, were assessed for eligibility criteria. In addition to either being T-ACE alcohol screen positive, or drinking in excess of the sensible drinking limits for women established by the National Institute on Alcohol Abuse and Alcoholism, eligibility criteria included: 1) confirmed diagnosis of hypertension, diabetes, osteoporosis, or infertility; 2) sufficient English to complete study measures and the interview; 3) no current alcohol or substance abuse treatment; 4) no current abuse of or dependence on opiates, cocaine, or other illicit substances; and 5) not currently pregnant or breastfeeding. The initial comprehensive assessment and BI were both conducted in person, but the majority of follow-up interviews took place over the phone. Participants provided written, informed consent and were randomized by computer generated assignment to either assessment only or assessment followed by BI. All participants completed the measures already described as part of their comprehensive assessment. Those who were randomized to receive BI met with one of the study team members, all trained to offer a BI. The BI consisted of the standard core components: assessment and feedback; goal setting and contracting; behavioral modification; and written materials for review and reflection. Figure 1 summarizes the treatment flow for the Swedish and US sample (Figure 1).

Data analyses

A transformation of the Swedish Visual Analogue Scale data (inventory 1) was performed through a linear transformation where the five-categorical scale corresponded to the Visual Analogue Scale in the following way: 1=0-20; 2=21-40; 3=41-60; 4=61-80; 5=81-100. Information about, Attitude towards change [38] came from three questions where two were measured by the Visual Analogue Scale, giving the following categorical values: 1=pre-contemplation (not considering making any changes, not applicable in a voluntarily treatment-seeking population); 2=contemplation (thinking about changes, may have started a few) 0-49; and 3=action (already actively making changes) 50-100. For the third question the following values were given: 2=cut down; 3=sobriety. A measure for Attitude towards change was calculated by using the most common score of the three items. For example, a woman who had responded with 3, 2, 3 was assigned to the Action Stage; whereas a woman with 3, 2, 2 was assigned to the Contemplation Stage. In the personality instrument SSP, raw scores regarding four subscales corresponding to items in the US instrument (PSS) were transformed into gender- and age-related T-scores (Norm mean: T=50, SD=10) according to Gustavsson and collaborators [35]. Measures for alcohol consumption were calculated through gr. alcohol per drinking day and percentage drinking days at baseline and at the end of treatment/follow-up. A cut off point of $<14 \leq$ gr. alcohol per day was used, the higher level was designated as risky drinking. Drinking change was measured by comparing baseline and follow-up gr. of alcohol per drinking day and percent drinking days.



Data were analysed with SPSS (Statistical Package for the Social Sciences; SPSS Inc. Chicago, Illinois, USA, version 15.0). Descriptive statistics were calculated using means, standard deviations, and percentage frequencies. The non-parametric Mann-Whitney rank sum and Spearman rank correlation tests were used when data were not normally distributed. Pearson's correlation coefficient was calculated for inter-correlations between variables. In order to predict risk outcome, we ran a logistic regression analysis with the results reported as Odds Ratios (OR) with 95% Confidence Intervals (CI).

Ethical considerations

The Swedish study was approved by the Regional Ethics Board in Stockholm, Sweden (Dnr 2006/876-31). The US study was approved by the Partners Institutional Review Board, Boston US (2004-p-00687).

Results

Demographic characteristics

Swedish sample: The average age in the study-group was 42 years (SD=7.1, range 22-55). In total 116 women (87%) satisfied criteria for current alcohol dependence and 18 (13%) the criteria for alcohol abuse. For a full description of other background variables for the whole study from which the current was a subset, see Birath, 2010 [47].

US sample: The average age in the study-group was 44.3 years (SD=12.7, range 22-70). A total of 30 women (21%) satisfied criteria for current alcohol dependence and 114 (79%) exceeded NIAAA sensible weekly drinking limits. Eleven women (8%) were alcohol screen positive only, but had lifetime alcohol use disorders by history, while 78 (54%) women satisfied diagnostic criteria for lifetime DSM-IV alcohol diagnoses. For a full description of other background variables for the whole study from which the current was a subset, Chang, et al. 2011 [29].

Alcohol consumption

Swedish sample: Gram alcohol and number of standard drinks (one drink=14 gr. alcohol) per drinking week were calculated at start and end of treatment. Mean consumption at the start was 90.13 (SD 43.5; range 0 to 210.0) gr. alcohol per drinking day and 46% (SD 29; range 0 to 100) drinking days and, at the end of treatment 45.13 (SD 49.0; range 0 to 262.0) gr. alcohol per drinking day and 13 % (SD 20; range 0 to 99) drinking days. A one-sample t-test revealed a significant decrease in both gr. alcohol per drinking day ($t = 8.771, p \leq 0.001$) and percentage

drinking days ($t=12.52, p \leq 0.001$) at the end of treatment, as presented in Table 4. After treatment 36% of the women were abstinent ratio gr. alcohol per drinking day: % drinking days showed that a majority of the women (79.1%) drank at low risk levels.

US sample: Gram alcohol and number of standard drinks (one drink=14 gram) per drinking week were calculated at the start and at the one year follow-up. Mean consumption at the start was 37.33 (SD 20.3; range 14.3 to 168.0) gr. alcohol per drinking day and 35% (SD 31; range 1 to 97) drinking days and, at the end of treatment 32.75 (SD 33.3; range 0 to 317.2) gr. per drinking day and 28 % (SD 31; range 0 to 100) drinking days. A one-sample t-test showed a significant decrease in both gr. alcohol per drinking day ($t = 2.023, p \leq 0.05$) and percentage drinking days ($t = 3.3336, p \leq 0.001$). At follow-up the majority of the women (78.5%) drank at low risk levels (Tables 4 and 5).

Drinking goals

Swedish sample: The Swedish women expressed one of two drinking goals at the inception of treatment. The goal “to cut down” their drinking was chosen by 21 (16%) of the women, whereas 113 (84%) wanted to achieve abstinence, presented in Table 6. A relation between baseline drinking goal and drinking level at the end of treatment was found, showing that the women having abstinence as an initial treatment goal were more successful in cutting down their drinking to a non-risky level (less than 14 gr. per drinking day) at the end of treatment, ($r=0.17; p<0.05$).

US sample

Stage of Change Designation: Stage of Change classification at the beginning of the study was distributed as follows: 42% pre-contemplation, 24% contemplation, and 34% action stage. The women in the action and pre-contemplation stages were most successful in cutting down their drinking to a non-risky level at follow-up. The women in the contemplation stage at the start of treatment were nearly three times more likely (OR 2.89, 95% CI: 1.07-7.79) to continue drinking at a risky level at follow-up compared to the other stages (Table 6).

Experiences of treatment

Swedish sample: Results showed that the women were very satisfied with particular aspects of treatment. These included: treatment options; decisions; and involvement, all of which were highly rated (mean=4.5,

	Study group	Baseline M (SD)	Post treatment/ Follow-up M (SD)	t
Gram alcohol per drinking day	Swedish	90.13 (43.48)	45.13 (49.04)	8.77**
	US	37.33 (20.28)	32.75 (33.3)	2.02*
Percentage drinking days	Swedish	46 (29)	13 (20)	12.52**
	US ^a	35 (31)	28 (31)	3.37**

Note. * $p < 0.05$; ** $p < 0.001$. ^a = 1 missing individual

Table 4: Gram alcohol per drinking day; and percentage drinking days at baseline, and at post treatment/follow-up for the Swedish (N = 134) and the US women (N = 144), and one sample t-tests of change differences within the study-groups.

Study group	Low risk drinking N (%)	High risk drinking N (%)
Swedish	106 (79.1)	28 (20.9)
US	113 (78.5)	31 (21.5)

Table 5: Low (<14 gr. alcohol per day) and high risk ≥ 14 gr. alcohol per day) drinking after treatment for the Swedish (N=134) and US (N=144) study groups.

	Study group	Pre-contemplation	Contemplation	Action
Risky drinking	Swedish	-	1	27
	US	8	14	9
Non-risky drinking	Swedish	-	20	86
	US	52	21	39

Table 6: Information about treatment goal (pre-contemplation, contemplation, action) at baseline and risky drinking ≥ 14 gr alcohol per day) at post treatment/follow-up and for the Swedish (N = 134) and the US women (N = 143).

range 1 [not satisfied at all]–5 [most satisfied]) as was feeling respected by treatment staff (mean=4.8, range 1 [not satisfied at all] –5 [most satisfied]). Significant correlations were found between a decrease in percentage drinking days at the end of treatment and treatment satisfaction ($r=0.31, p \leq 0.01$) and treatment respect ($r=0.22, p \leq 0.05$), showing that the women who were most successful in cutting down their drinking also rated treatment most positively. Furthermore, a significant relation was found between Swedish women with high values in treatment satisfaction and drinking below the risk limit ($t=3.253, p<0.001$) at the end of the treatment.

US sample: Results showed that the women were very satisfied with particular aspects of the brief intervention treatment. Treatment options presented, decisions, and involvement had a mean rating of 3.82 (range 1 [poor] –5 [excellent]) and feeling respected by the staff had a mean rating of 4.56 (range, 1 [poor]–5 [excellent]). There were no significant correlations between treatment respect and treatment satisfaction versus level of drinking for the women.

Perceived stress

Swedish sample: Results of perceived stress measured by four subscales in SSP in the Swedish study-group showed that the women displayed scale scores close to the norm mean (T = 50; SD = 10) in Psychic trait anxiety (T=54.5; SD=10.7; range 34.6 to 77.0), and about ½ SD above the norm mean in Stress susceptibility (T=56.3; SD=11.1; range 29.0 to 87.8), Irritability (T=56.0; SD= 10.8; range 25.0 to 80.6), and Embitterment (T=58.5; SD=11.8; range 33.9 to 92.2). About one third (31%) of the women had values higher than 1 SD above norm mean in one or more of the subscales that indicated perceived stress. Results further indicated that the women with 1 SD or above norm mean in Embitterment drank more alcohol at the start of the treatment (Mann-Whitney test: $F=11.69, p<0.001$), and were more prone to have an attitude towards drinking that included “quit drinking” ($\rho=0.182, p<0.05$), compared to the other women.

US sample: The women experienced normal stress as a group, having mean raw scores of 23.3 (SD=7.6; range 8.0 to 46.0), which is close to the female norm mean PSS scores [40]. However the broad range indicated that some women suffered from more severe stress. The women with PSS-scores exceeding 1 SD above the female norm mean for women in general (14 women, M=37.7; SD 4.0) consumed more alcohol than the other women at the start of treatment (Mann-Whitney test: $z=3.04, p=0.02$).

Discussion

This descriptive study contrasts two groups of women with drinking problems who received two different treatment approaches, each highlighting the treatment options available in different settings and types of programmes. The main finding of this study was that, despite various different treatment settings, severity of problems and different cultural contexts, both groups of women demonstrated a decrease in alcohol consumption, as measured by gr. alcohol per

drinking day and percentage drinking days. Similarities between the samples included the average age and percentage drinking days. All drank in excess of recommended guidelines before treatment. However the Swedish women drank considerably more per day and all satisfied DSM-IV criteria for current alcohol use disorders, whereas only 20% of the US women in the study had current alcohol use disorders diagnosis.

The types of treatment offered to the women reflected two dramatically different examples of treatment approaches for problem drinking. The Swedish program was not time limited, and the patients were able to tailor a treatment program to suit their needs within certain limits. The outcomes for the Swedish sample describe their status at the end of treatment, not at the one year follow-up as was the case for the US women. In contrast, the US women were receiving medical treatment for an identified health problem and were offered a brief intervention as part of a study. However, the assessment, brief intervention, and follow-up interview are similar to what would be offered in clinical settings in both the US and Sweden.

Results showed some commonalities between the study groups. First, the women's attitude to changing their drinking was important. Swedish women who selected abstinence as their goal were more likely to reduce their drinking. Among the US sample, women in the contemplation stage of change (thinking about changes) were the least likely to reduce their alcohol use. The US women in the pre-contemplation stage decreased their drinking more than the former group, but also as a group had less consumption at baseline [48]. Second, the patient's perception of treatment was an important factor for success. There was a positive correlation between treatment satisfaction, as measured by feelings of respect and satisfaction, and outcome among the Swedish women. The US group receiving BI reported comparable rates of respect, but less satisfaction, which may reflect their initial non-treatment-seeking status or the brevity of their treatment. Overall, these results underline the importance of motivating the patients, for example through motivational interviewing [22]. Third, the patient's experience of stress may play a role in the amount of alcohol consumed. The Swedish women with the most severe perceived stress (the 26% with scores two standard deviations above the norm mean in the subscale Embitterment) drank significantly more at the start of treatment when compared to the other Swedish women. Likewise, the US women who had PSS scores one standard deviation above the norm mean or higher (5%) drank significantly more at the start of treatment than their counterparts.

The importance of individual differences and treatment approach

The results from both the Swedish and the US women with alcohol risk drinking stressed the importance of taking individual characteristics into account. Women with high scores on the personality trait of embitterment showed to be at higher risk for developing alcohol problems. This trait has been found to be overrepresented among young women with risk-drinking of alcohol and violent behavior in another study [49]. The personality constructs among persons with substance dependence were also discussed by Krueger, demonstrating that substance dependence was an indicator of latent externalizing propensity, one of the basic criteria of embitterment [50]. Furthermore, our results showed that in both study groups a positive attitude to changing one's drinking habits resulted in greater reductions in drinking. Treatment success seems to demand both awareness of having problems with alcohol, and motivation to produce a positive behavior change in line with earlier suggestions [8,9,51].

Methodological considerations

Potential limitations to the findings include the fact that both programs of treatment were independent. No comparison of outcome measures between the two study groups was performed since the data collection processes were different. The programs used different but similar measures, which then could be contrasted. The US women were involved in a clinical trial of BI treatment; however the Cochrane report has concluded that brief intervention efficacy is similar between research and clinical settings [21]. The Swedish women had higher problem severity compared to the US women, however, no other diagnosed abuse than alcohol. It may therefore not be surprising that these women with apparently more severe drinking problems sought alcohol treatment at a clinic. However, it should be noted that the US non-treatment-seeking sample exceeded sensible drinking limits or satisfied diagnostic criteria for current alcohol use disorders. They also had medical problems known to be exacerbated by excessive alcohol use. The medical status of the Swedish women was unfortunately not known. As always, self-report of drinking might be considered to be a potential limitation as the women in either sample might have under-reported their consumption accurately. There is experimental evidence that being screened and monitored for drinking behavior can lead to reduced self-reported hazardous drinking [52]. Taking into consideration these limitations, the study sheds light on important individual-related issues for treatment success, whether as a result of brief intervention or long-term treatment.

Conclusion

Alcohol treatment is a valuable resource, and may even be limited in some areas. The present study highlights two "extreme" approaches to treatment, open-ended, outpatient services offering a menu of options versus time-limited, structured brief intervention. Each is likely to be appropriate, and as evidenced in this study and elsewhere has led to a decrease in alcohol consumption, depending on the problem severity and the commitment of an individual patient. Some patient characteristics associated with treatment outcome, such as attitudes to drinking goals or readiness to change, as well as satisfaction with treatment appear to be applicable in the two groups receiving treatment in different cultural settings. We conclude that risky drinking women can benefit from different treatment approaches, whether short-term or more intensive. However, individual differences, including the severity of alcohol problems, and accompanying health issues, mitigate against simplistic, one-size-fits-all solutions [9,21,51].

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