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Nyamathi, Adeline
Cohen, Allan
Marfisee, Mary
et al.

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Correlates of Alcohol Use among Methadone-Maintained Adults

Adeline Nyamathi,
University of California, Los Angeles, School of Nursing, 2-250 Factor, Box 951702, Los Angeles, CA 90095-1702, anyamath@sonnet.ucla.edu

Allan Cohen,
Director of Research and Training, Bay Area Addiction, Research and Treatment, Inc., 1926 W. Beverly Blvd. Los Angeles, CA 90057, (213) 607-0210, (310) 607-1434, allanjcohen@aol.com

Mary Marfisee,
University of California, Los Angeles, David Geffen School of Medicine, 1920 Colorado Avenue, Los Angeles, CA 90095-7087, (818) 947-4095, mmarfisee@mednet.ucla.edu

Steven Shoptaw,
University of California, Los Angeles, Department of Family Medicine and Psychiatry, 10880 Wilshire Blvd., Los Angeles, CA 90095-7087, (310) 794-0619x225, sshoptaw@mednet.ucla.edu

Barbara Greengold,
University of California, Los Angeles, School of Nursing, 3-133 Factor, Box 956917, Los Angeles, CA 90095-6917, (310) 794-4814, (310) 267-0413, Barby3ann@yahoo.com

Viviane de Castro,
University of California, Los Angeles, School of Nursing, 3-133 Factor, Box 956917, Los Angeles, CA 90095-6917, (310) 794-4814, (310) 267-0413, viviane.pecanha@yahoo.com

Daniel George, and
Director, Matrix Institute on Addictions, 12304 Santa Monica Blvd., Los Angeles, CA 90025, ddgeorge_74@yahoo.com

Barbara Leake
University of California, Los Angeles, School of Nursing, 3-669 Factor, Box 956917, Los Angeles, CA 90095-1702, Barbara@ucla.edu

Abstract

This prospective study (n = 190) examined correlates of alcohol use from baseline data of a longitudinal trial conducted among moderate and heavy alcohol users receiving methadone maintenance therapy (MMT). The sample included MMT clients who were 18-55 years of age, and were receiving MMT from five large methadone maintenance clinics in the Los Angeles area. Half of the sample were heavy drinkers and nearly half (46%) reported heroin use. Using a structured questionnaire, correlates of heavy alcohol use included White and Hispanic ethnicity, and fair or poor physical health combined with older age ($\geq$ 50 years). We also found that MMT clients who were younger than 50 years, regardless of health status, were more likely to be heavy drinkers. Compared with moderate alcohol consumers, a greater number of heavy alcohol users also experienced recent victimization. To optimize MMT, alcohol screening should be part of routine

assessment and alcohol treatment should be made available within MMT programs. Moreover, special consideration should be provided to the most vulnerable clients, such as the younger user, those with a long-term and current history of heavy drug use, and those victimized and reporting fair or poor health. In addition, promoting attention to general physical and mental health problems within MMT programs may be beneficial in enhancing health outcomes of this population.

Keywords

Methadone-Maintained (MMT) clients; moderate and heavy alcohol users; drug users

Introduction

Approximately 20-50% of Methadone Maintained Therapy (MMT) clients have alcohol-related problems (Dobler-Mikola et al., 2005; Hillebrand et al., 2001; Senbanjo et al., 2006; Stenbacka et al., 2007). In addition, opioid-users who seek MMT often enter treatment with a history of multiple drug use, including cannabis and amphetamines (see review, Stenbacka et al., 2007). While contradictory literature exists that MMT reduces alcohol use by offering a means of stabilization (Maremmani et al., 2007), or leads to an increase in alcohol use during treatment (Srivastava et al., 2008) and upon discontinuation of treatment (Maremmani et al., 2007), a positive association has been found between alcohol use and relapse into illicit drugs (Stenbacker et al., 2007). Clients who reported higher levels of preadmission substance use are more likely to report use of these substances at follow-up than their counterparts (Ottomanelli, 1999). Higher addiction severity scores (alcohol and drug use) are also correlated with poorer MMT outcome (Craig and Olson, 2004).

Nevertheless, more investigation is warranted on predictors of alcohol and illicit drug use among MMT clients, since excessive alcohol consumption among MMT clients has been associated with quality of life impairments (Senbanjo et al., 2006), and with MMT program non-completion as MMT clients often experience mood, anxiety, and personality disorders, and multiple substance use disorders which are frequently exacerbated by alcohol use (Westreich, 2005). MMT clients who drink alcohol also are more likely to engage in unprotected sex (Arasteh et al., 2008) and have higher mortality rates than those who do not drink alcohol (Hillebrand et al., 2001; Teplin et al., 2007).

Information currently available on correlates of alcohol use among MMT clients include being male (Teplin et al., 2007), and among those using alcohol, use of long-term illicit drugs (Backmund et al., 2003). Women with a history of emotional, physical, or sexual abuse reported increased levels of alcohol use, and slower recovery in psychiatric functioning compared to those with no history of abuse (Branstetter et al., 2008). Social support is also a crucial factor which may impede program completion (Branstetter et al., 2008).

The purpose of this study is to describe the prevalence of alcohol use among MMT clients and to assess correlates of alcohol use, including sociodemographic factors, personal and social resources, such as health care utilization, and social support; psychological resources and behavioral risk factors, including history of drug and alcohol use.

2. Method

This study uses baseline data from a longitudinal study designed to pilot an intervention with 190 moderate and heavy, HBV seronegative, alcohol-using MMT clients. All participants completed the baseline interview, administered by trained research staff one-on-one, prior to randomization into one of three programs: Motivational-Single group, Motivational-Group, or

Health Promotion; data was collected between February 2007 to May 2008. The study and associated materials was approved by the Human Subject Protection Committee.

2.1 Sample and Setting

Persons were eligible if they had been receiving methadone for at least three months, were 18-55 years of age, and reported moderate-to-heavy alcohol use based on the Addiction Severity Index (ASI). Recruitment occurred in five large MMT sites in Los Angeles.

2.2 Procedure

Research nurses visited the recruitment sites and informed clients about the study by means of posted flyers. For those interested, after informed consent had been conducted, the staff administered a brief two-minute structured questionnaire composed of socio-demographic characteristics, and a screen for alcohol use and severity. After screening, MMT clients who met eligibility criteria and wished to participate completed an additional consent prior to enrollment.

2.3 Measures

Socio-Demographic information included age, gender, birthdate, ethnicity, education, religion, and history of drug and alcohol use and treatment. Age was dichotomized for participants 50 years or older for the analyses.

Physical health was measured by self-report of functional limitations (SF-36) (Stewart et al., 1988). Perceived Health Status was measured on a 5-point scale from "excellent" to "poor". Health status was dichotomized at fair/poor versus good/very good/excellent health. History of victimization, including mugging and sexual abuse, poor health habits, such as smoking was assessed.

Depressive Symptoms were assessed with the 20-item CES-D scale (Radloff, 1977). Scale scores were dichotomized at the clinical cutoff value of 16 (Radloff, 1977). The internal reliability of the scale in this sample was .90. Emotional Well-Being was measured by the five-item mental health index (MHI-5) on a scale of 0-100, and has well-established reliability and validity (Stewart et al., 1988). An established cut-point of 66 (Rubenstein et al., 1989) was used to discriminate participants' emotional well-being. Social support was assessed by an 18-item scale used in the RAND Medical Outcomes Study (Sherbourne and Stewart, 1991). Cronbach's alpha in this study was .94. We also inquired about whether social support came primarily from drug users, non-drug users or both.

Alcohol use was assessed by the question: "During the last six months, how many drinks did you consume on a typical day?" Heavy drinking was defined as consumption of five or more drinks per day on an average day, and moderate drinking was defined as less than five drinks per day on an average day. All participants were moderate or heavy drinkers.

Drug use was assessed as the sum of the number of days drugs were used in the last 30 days for heroin, other opiates, cocaine, marijuana, barbiturates, hallucinogens, and amphetamines. Participants who were found to be in the upper median score were considered to be heavy drug users.

2.4 Data Analysis

All variables were examined with descriptive statistics. Chi-square statistics were used to test associations between heavy drinking and socio-demographic characteristics. A model for heavy use of alcohol was created by using variables that were related to heavy drinking at the 0.15 level in a stepwise backward logistic regression analysis. The 0.10 level was used for

retention. Selected interactions with age (≥ 50 years) and gender were explored. To simplify interpretation, dummy variables were used to represent the interaction of age and fair/poor health. Multicollinearity was assessed and model goodness of fit was examined.

3. Results

The majority (62%) of participants were age 50 or older, and almost 60% were male (Table 1). Almost all (98%) were enrolled in MMT for six months or longer. Approximately one third were Hispanic and one third were African American, and nearly one quarter were White. No differences were found between moderate and heavy alcohol drinkers with regard to age, sex, education, source of social support or wanting treatment.

Half of the sample (51%) reported heavy alcohol use. Heroin use was reported by nearly half the sample (46%); no differences were apparent between moderate and heavy alcohol drinkers. Heavy drinkers were more likely to be Hispanic than moderate drinkers. Heavy drinkers were significantly more likely to have been victimized compared with moderate drinkers, and more than half reported fair or poor health. Moderate alcohol users were less likely to report heavy drug use and more likely to take prescription drugs as compared with heavy alcohol users. Poor emotional health was reported by those engaged in heavy alcohol use ($p < .08$). In terms of heavy drug use, about half of heavy drinkers engaged in heavy drug use (49%) compared to moderate drinkers (31%, $p < .02$). Other drugs used within the last 30 days include cocaine (33.5%), marijuana (20%), barbiturates (15.7%), amphetamines (6.2%), and hallucinogens (2.2%). No differences were found among moderate (3.84 days) and heavy (3.60 days) alcohol users in total number of days of alcohol treatment received in the last 30 days (data not in table).

3.1 Multivariate Analysis

White and Hispanic MMT clients who use alcohol had three to five times greater odds of drinking alcohol heavily compared to their African American counterparts (Table 2). Alcoholics who were older (≥ 50 years) and reported fair or poor health had more than three times greater odds of drinking heavily compared with the older clients who reported good to excellent health. Younger clients, regardless of health status, were more likely to drink heavily. Being younger than 50 was related to heavy drinking ($p < .05$), while health status did not have an effect that was independent of age.

4. Discussion

In this study, half of the clients (51%) who were eligible for the study reported heavy alcohol use in the last six months; a finding consistent with those from other studies (Dobler-Mikola et al., 2005; Caputo et al., 2002; Macmanus and Fitzpatrick, 2007; Maremmani et al., 2007). Whites and Hispanics consumed alcohol more often than did African American participants. To our knowledge, no published studies corroborate our findings with respect to ethnicity and alcohol use. While several studies have shown that a greater percentage of MMT males than females abuse alcohol (Backmund et al., 2003; Stenbacka et al., 2007), we did not find a significant gender difference in heavy alcohol use.

Heavy alcohol users were more likely to have higher scores on the addiction severity measure. A history of heroin abuse was also found to be a predictor of alcohol abuse among MMT clients by Dobler-Mikola et al. (2005). While opioid blockers, such as naltrexone, is being considered as an option, most individuals who have extensive opioid use history and who are maintained on methadone often cannot abstain from opioids long enough to transition to the blocker; thus, medication nonadherence becomes a reality (Carroll et al., 2001).

Our findings revealed that, compared with moderate alcohol consumers, a greater number of heavy alcohol users experienced recent victimization. Branstetter et al. (2008) showed that MMT clients with a history of abuse were also more likely to be alcohol abusers than were those without a history of abuse. It appears reasonable that MMT should include treatment protocols designed to help victims of abuse cope with severe life challenges experienced.

We also found that MMT clients who were younger than 50 years, regardless of health status, were more likely to be heavy drinkers than were those who were older; as similarly found in other studies (Backmund et al., 2003, Dobler-Mikola et al., 2005). Older clients were more likely to report moderate and heavy alcohol use; and among older MMT clients, those in fair or poor health were more likely to be heavy drinkers. Consistent with our findings, while more alcohol is consumed among older opioid clients, increasing age, by itself, has not been shown to be a predictor of alcohol abuse among MMT clients (Backmund et al., 2003). It is possible that as poor health was catching up with the older MMT clients, some may have been forced to reduce their alcohol use. Thus, early intervention to treat alcohol-related problems should be introduced early in the treatment phase of the young MMT client; sentiments we found consistent among MMT clients during formative research (Nyamathi et al., 2008).

5. Limitations

This study has some limitations. The sample size was relatively small (n = 190) and, may not have reflected the sociodemographics of the general MMT population in LA or elsewhere. We did not assess each patient's dosing attendance, and all the measures were self-reported.

6. Conclusions

Our findings suggest that MMT programs should target the most vulnerable clients, such as the younger user, those with a long-term and current history of heavy drug use, and those victimized and reporting fair or poor health. Specifically, a stronger presence of a general health clinic which not only caters to methadone-related issues, but to the broader physical and mental health issues is of prime importance. In addition, on site alcohol screening and treatment may be most advantageous in treating both narcotic addiction and alcohol abuse.

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Table 1

Demographic Characteristics by Extent of Alcohol Use for Methadone Maintained Adults

Characteristic	Moderate Alcohol Use (N = 96) N %	Heavy Alcohol Use (N = 94) N %	Total Sample (N = 190) N %
Age:			
18 - 49	35 (39.8)	37 (37.4)	72 (38.5)
50- 65	53 (60.2)	62 (62.6)	115 (61.5)
High School Graduate:	61 (63.5)	48 (51.1)	109 (57.4)
Male	48 (53.9)	60 (60.6)	108 (57.5)
Ethnicity: [*]			
African-American	36 (40.5)	30 (30.3)	66 (35.1)
White	23 (25.8)	22 (22.2)	45 (23.9)
Hispanic	20 (22.5)	36 (36.4)	56 (29.8)
Mixed	4 (4.5)	2 (2.0)	6 (3.2)
Other	6 (6.7)	9 (9.1)	15 (8.0)
Support Sources:			
Drug Users	16 (18.8)	13 (13.8)	29 (16.2)
Non-Drug Users	38 (44.7)	42 (44.7)	80 (44.7)
Both	31 (36.5)	39 (41.5)	70 (39.1)
Wanting physical health treatment	64 (71.9)	72 (72.7)	136 (72.3)
Wanting Mental Health treatment	45 (50.6)	51 (51.5)	96 (51.1)
Recent Victimization [*]	7 (7.9)	12 (12.1)	19 (10.1)
Health			
Fair/Poor	32 (36.0)	44 (44.4)	76 (40.4)
Good/very good/excellent	20 (22.5)	19 (19.2)	39 (20.7)
Severe pain	30 (33.7)	32 (32.3)	62 (33.0)
Taking prescribed medication [*]	64 (71.9)	57 (57.6)	121 (64.4)
Heavy Drug Use [*]	28 (31.5)	45 (48.9)	73 (40.3)
Total days in alcohol treatment in past month			

[*]
$p < .05$;

[**]
$p < .01$;

$p < .001$

Table 2

Logistic Regression Predictors for Methadone Maintained Adults Reporting Heavy Alcohol Use

Variable	AOR	(N = 163) 95% CI	p value
White (vs African American)	3.24	1.32 - 7.98	.011
Hispanic (vs African American)	6.21	2.50 - 15.41	.001
Heavy Drug Use	2.79	1.31- 5.97	.008
Age ≥ 50, fair/poor health	3.72	1.38 – 10.03	.01
Age < 50, fair/poor health	3.23	1.04 – 10.06	.043
Age < 50, good/excellent health	8.30	2.39 – 28.87	.001

AOR = Adjusted odds ratio; CI = Confidence interval