Drug and Alcohol Dependence 141 (2014) 138–144

Contents lists available at ScienceDirect

Drug and Alcohol Dependence

journal homepage: www.elsevier.com/locate/drugalcdep

Full length article

Predictors of quit attempts and successful quit attempts among individuals with alcohol use disorders in a nationally representative sample

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ARTICLE INFO

Article history:
Received 4 February 2014
Received in revised form 21 May 2014
Accepted 22 May 2014
Available online 2 June 2014

Keywords:
Alcohol abuse
Alcohol dependence
Quit attempts
National sample
NESARC

ABSTRACT

Background: This study sought to identify predictors of attempting to quit and of successfully quitting alcohol abuse or dependence in the general population.
Methods: Data were drawn from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC).
Results: Approximately 10% of individuals with alcohol abuse and 18% of those with dependence attempted to quit over the three year follow-up period. Of those who tried, 38% of individuals with abuse and 30% of those with dependence successfully quit. Among individuals with alcohol abuse or dependence, being single, younger than 40 years old, having low income, a co-occurring psychiatric disorder and greater number of dependence symptoms increased the likelihood of attempting to quit. Among individuals with alcohol abuse, male gender and low educational attainment further increased the odds of quit attempts. However, greater severity of alcohol use disorder, having a co-occurring drug use disorder and greater number of psychiatric disorders decreased the odds of success among individuals with alcohol abuse, while female gender, being married and older than 40 years old increased the odds of success. Among individuals with alcohol dependence, having nicotine dependence, greater number of psychiatric disorders and personality disorders decreased the odds of success.
Conclusions: Predictors of attempts to quit are different and sometimes opposite from those leading to successful quitting probably indicating that some factors that increase motivation may decrease ability to quit. These findings may help in the development of more targeted and effective interventions for alcohol use disorders.

1. Introduction

Each year nearly 80,000 people die from alcohol-related causes, making alcohol use the third leading preventable cause of death in the United States (Michaud et al., 2006; Mokdad et al., 2004; Rehm et al., 2009). Alcohol use disorders (alcohol abuse and dependence) are also responsible for myriad medical, psychological, social, economic and personal problems (World Health Organization, 2004; Rubio et al., 2014), while reductions in problem drinking are associated with improved quality of life (Rubio et al., 2013; Watson, 1999), decline in mortality rates (Cuijpers et al., 2004) and lower healthcare costs (Bray et al., 2011). Although rates of treatment seeking are higher for alcohol problems than for any other substance use disorder (World Health Organization, 2010), the rates of successful treatments continue to be modest (Fachini et al., 2012; Franck and Jayaram-Lindstrom, 2013; Klingemann et al., 2009; Kranzler and Van Kirk, 2001; Mdege et al., 2013; Sobell et al., 2002), suggesting that predictors of attempt to quit could be different from those of successful quitting.

In clinical studies, male gender (Kranzler et al., 1996), lower income (Noda et al., 2001), severity of dependence (Kadden et al., 1998; Zywiak et al., 2002) and presence of comorbid mood (Adamson et al., 2009) or personality disorders (Gianoli et al., 2012) have been identified as key contributors to unsuccessful quit attempts. However, these studies relied on clinical samples whose results may not extrapolate to the general population (Blanco et al., 2008a,b; Humphreys, 2003; Humphreys et al., 2007; Okuda et al., 2010; Hoertel et al., 2012), where most individuals attempt to quit

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http://dx.doi.org/10.1016/j.drugalcdep.2014.05.019
0376-8716/

without professional help (Klingemann et al., 2009; Mohatt et al., 2008; Sobell et al., 2000). Similarly, some community studies have sought to identify predictors of remission (Kushner et al., 1999; Moos and Moos, 2006, 2007; Saha et al., 2006) but, to date, no study has examined predictors of quit attempts and whether those predictors also predict success at quitting. Identifying predictors of quit attempts is important because they indicate which individuals may be willing to stop alcohol use. Identifying predictors of successful quit attempts is also important because they indicate which individuals are likely to quit and which ones, despite their interest in quitting, may have difficulties doing so (Flórez-Salamanca et al., 2013; García-Rodríguez et al., 2013; Hasin et al., 2011). Groups with low successful rates may then be the focus of more targeted interventions to increase successful quit rates.

Because predictors of quit attempts and successful quit attempts have been found to differ in other substances (Rafful et al., 2013), we sought to address an important gap in knowledge by examining whether those findings extended to alcohol use disorders. Specifically, we sought to investigate in a nationally representative sample of US adults, sociodemographic and clinical predictors of: (1) quit attempts and, (2) successful quit attempts of alcohol abuse and dependence.

2. Methods

2.1. Sample and procedures

The National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) (Grant et al., 2004, 2009) was the source of data. The NESARC target population at Wave 1 was the civilian non-institutionalized population 18 years and older residing in households and group quarters. Interviews were conducted with 43,093 participants by experienced lay interviewers (Grant et al., 2004, 2009). All procedures, including informed consent, received full human subjects review and approval from the US Census Bureau and the US Office of Management and Budget. The Wave 2 interview was conducted approximately 3 years later and had a response rate of 86.7% (n = 34,653; Grant et al., 2009). As described previously, adjustment for non-response was successful, as the Wave 2 respondents and the original target population did not differ on age, race/ethnicity, gender, socioeconomic status, or the presence of any substance, mood, anxiety, or personality disorder (Grant et al., 2009). Participants included in the present study were those with Wave 2 data who met DSM-IV criteria for past-year alcohol abuse (n = 3164) or dependence (n = 656) in Wave 1 and had no attempts to quit prior to Wave 1.

2.2. Measures

The Alcohol Use Disorder and Associated Disabilities Interview Schedule-DSM-IV Version (AUDADIS-IV) (Grant et al., 2001), a structured diagnostic interview that includes computer algorithms to generate DSM-IV diagnoses, was used. In order to build a comprehensive predictive model of quit attempts, we examined a broad range of sociodemographic, psychopathological, alcohol use-related variables and medical morbidity as assessed at baseline (i.e., Wave 1). Sociodemographic characteristics included age, gender, race/ethnicity, individual income, marital status, and level of education.

Axis I psychiatric disorders included substance use, mood, and anxiety disorders while Axis II included personality disorders. The test–retest reliabilities for AUDADIS-IV diagnoses are fair to good for mood, anxiety, and personality disorders (κ = 0.40–0.62) and excellent for substance use disorders (κ = 0.70–0.91; Grant et al., 2009; Hasin et al., 2007).

A diagnosis of alcohol abuse required that at least 1 or more of the 4 DSM-IV criteria were present at some time in the 12-month period preceding the interview and that concurrently the criteria for DSM-IV alcohol dependence were not met. A diagnosis of alcohol dependence required meeting 3 or more DSM-IV criteria for alcohol dependence in the 12-month period preceding the interview. In addition, the total number of symptoms of dependence and other clinical data related to alcohol use, tobacco use and previous hospitalizations for the treatment of SUD or other psychiatric disorders were also examined. Individuals were considered to have attempted to quit if the reported attempting to quit at any time between Waves 1 and 2.

2.3. Statistical analysis

First, we compared individuals with 12-month alcohol abuse or dependence at Wave 1 who attempted to quit between Waves 1 and 2 versus those who did not

Table 1
Characteristics of individuals with alcohol abuse with and without attempts to quit in a 3-year period. Wave 1 NESARC 2001–2002 (n = 3164).

	Attempts to quit (n = 353)		No attempts to quit (n = 2811)		OR	95% CI		p-Value
	n	%[a] (mean)	n	%[a] (mean)				
Ethnicity								
Whites	218	73.23	2188	86.2	1.00	1.00	1.00	N/A
No whites	135	26.77	623	13.8	**2.28**	**1.73**	**3.01**	**<0.0001**
Sex								
Male	248	71.75	1636	62.58	1.00	1.00	1.00	N/A
Female	105	28.25	1175	37.42	**0.66**	**0.48**	**0.90**	**0.0086**
Age (years)								
<40	197	56.62	1136	40.33	**1.93**	**1.47**	**2.53**	**<0.0001**
≥40	156	43.38	1675	59.67	1.00	1.00	1.00	N/A
Income ($)								
0–19,999	129	38.3	759	26.72	1.00	1.00	1.00	N/A
>20,000	224	61.7	2052	73.28	**0.59**	**0.45**	**0.77**	**0.0002**
Marital status								
Married/living with someone	175	55.94	1685	69.7	1.00	1.00	1.00	N/A
Divorced/separated/widowed/no married	178	44.06	1126	30.3	**1.81**	**1.39**	**2.35**	**<0.0001**
Education								
<High school	49	11.38	192	6.54	**1.84**	**1.23**	**2.73**	**0.0032**
≥High school	304	88.62	2619	93.46	1.00	1.00	1.00	N/A
Alcohol use								
Alcohol daily use	41	11.48	189	7.27	**1.65**	**1.10**	**2.49**	**0.0173**
Age at first use[b]	321	22.27	2573	21.93	1.01	0.99	1.02	0.4332
Number of symptoms of dependence[b]	353	0.47	2811	0.2	**2.11**	**1.71**	**2.61**	**<0.0001**
Tobacco use								
Ever use	237	67.79	1744	63.48	1.21	0.92	1.60	0.1717
Tobacco dependence	63	19.71	462	16.67	1.23	0.87	1.73	0.2413
Any axis I								
Any mood/anxiety disorders	65	18.1	487	15.94	1.17	0.83	1.64	0.3719
Any other drug abuse/dependence	19	5.69	75	2.28	**2.59**	**1.46**	**4.60**	**0.0015**
Number of psychiatric disorders[b]	353	0.79	2811	0.59	**1.27**	**1.11**	**1.45**	**0.0008**
Any personality disorder	118	32.65	635	21.63	**1.76**	**1.30**	**2.38**	**0.0004**
Previous hospitalizations	5	1.44	21	0.84	1.72	0.54	5.41	0.3512

[a] Weighted percentages; ORs = odds ratios; CI = confidence interval; N/A = not applicable; bolded results are significant at p < 0.05.
[b] Mean. ORs reflect the change in the odds per unit of predictor.