



"A STUDY OF MOOD DISORDER, ANXIETY, AND SUICIDE RISK AMONG SUBJECTS WITH ALCOHOL ABUSE AND/OR DEPENDENCE"

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ABSTRACT

To evaluate the prevalence of alcohol abuse and/or dependence in a population-based sample of young adults and assess the prevalence of comorbid mood disorders, anxiety, and suicide risk in this population.

Materials and Methods: This cross-sectional, population-based study enrolled 1,953 young adults aged 18-35 years. The CAGE questionnaire was used to screen for alcohol abuse and/or dependence, with CAGE scores ≥ 2 considered positive. Psychiatric disorders were investigated through the structured Mini International Neuropsychiatric Interview (MINI).

Results: Alcohol abuse and/or dependence was identified in 187 (9.60%) individuals (5.10% among women and 15.20% among men). Alcohol abuse and/or dependence were more prevalent among men than women, as well as among those who used tobacco, illicit drugs or presented with anxiety disorder, mood disorder, and suicide risk..

KEYWORDS : mood disorder, alcohol abuse.

Introduction:

Alcohol consumption is highly prevalent worldwide and has numerous negative consequences for health and quality of life, especially in the young population.¹ Alcohol use disorders (AUDs) are among the most frequently diagnosed disorders, with a 12-month prevalence rate of 8.5%.² In the United States alone, according to the 2013 National Survey on Drug Use and Health, 37.9% of young adults reported binge drinking (four or more drinks for women and five or more drinks for men on an occasion) at least once in the past 30 days.³ Moreover, studies have shown a higher prevalence of cigarette smoking or drug abuse among subjects who engage in heavy or frequent binge drinking.³⁻⁵

In a study conducted by Grant et al., among adults seeking treatment for an AUD, 40.69% and 33.3% were diagnosed with at least one current comorbid mood disorder and anxiety disorder, respectively.⁶ The diagnosis of current mood or anxiety disorders among individuals with AUD is challenging, because many symptoms of intoxication, for example, resemble those of mood and anxiety disorders.⁷

In addition to mood disorders and anxiety, other serious problems that can develop in people with AUDs include violent behavior and suicide attempts.⁸ Alcoholics are 60 to 120 times more likely to attempt suicide compared to the general population.⁹ Furthermore, studies demonstrate that 85 out of every 100 individuals who complete suicide had comorbid depression and/or alcoholism.¹⁰ Individuals with AUDs should be evaluated for the risk of suicide whenever they present with depressive symptoms,¹¹ since proper treatment can achieve remission of depressive symptoms, reduce the odds of relapse, and mitigate suicide risk.

Within this context, the aim of this study is to evaluate the prevalence of alcohol abuse and/or dependence in a population-based sample of young adults and ascertain the prevalence of co-occurring mood disorders, anxiety, and suicide risk in the same population.

Materials and methods:

This is a cross-sectional population-based study that identified young adults between 18 and 35 years of age. The sample consisted of 1,953 participants living in a city in central India. Sample selection was performed by clusters, from Jan 2016 to December 2016, considering a population of 97,000 in the age range of interest in the 448 sectors of the city according to the latest census. To ensure the necessary sample size, 86 census-based sectors were systematically drawn.

Participants who reported over 150 minutes of weekly physical

activity were considered active. To evaluate alcohol abuse and/or dependence, the participants completed the CAGE questionnaire, which asks about the four consequences of drinking and is a validated screening test for alcohol abuse and dependence.¹⁴ Briefly, patients score 1 point for each "yes" on the CAGE questionnaire and 0 points if all questions are answered "no." A score of 2 or higher (CAGE ≥ 2) is usually considered to be a positive screen for moderate-to-severe alcohol abuse and/or dependence.¹⁴ The participants also answered about use of tobacco and illicit substances (marijuana, cocaine, and crack).

Results:

The sample comprised 1,953 individuals with a mean (SD) age of 25.78 (5.21) years. Table 1 describes the sample according to sociodemographic characteristics, life habits, and morbidity. The majority of subjects were female (54.9%) and white (75.9%). In terms of habits, 21.7% reported tobacco use and only 26.5% were classified as physically active.

Table 2 also shows the results of analysis adjusted for alcohol abuse and/or dependence. Alcohol abuse and/or dependence remained more prevalent among men than women (prevalence ratio [PR] 2.97; 95%CI 2.17-4.06; $p < 0.001$), as well as among those who used tobacco (PR 1.76, 95%CI 1.31-2.37; $p < 0.001$) and illicit drugs (PR 1.72, 95%CI 1.22-2.43; $p = 0.002$).

Discussion:

The present study evaluated the prevalence of alcohol abuse and/or dependence and associated factors in young adults. We found that 9.6% of individuals in our sample had alcohol abuse and/or dependence, which is consistent with previous studies.^{6,17} Moreover, in our study, alcohol abuse and/or dependence were associated with male gender, tobacco use, and illicit drug use, and was often comorbid with anxiety disorders, mood disorder, and risk of suicide.

Several studies have discussed the relationship between AUD and gender, in which males are more likely than females to engage in binge drinking, and therefore, to have AUDs.^{18,19} A study performed in 2013 involving 6,478 subjects found that alcohol abuse and/or dependence were more prevalent among males (22.0%) than females (9.8%).¹⁹ In our study, AUDs were also more prevalent among males: the prevalence of alcohol abuse and/or dependence among men was three times higher than in women.

Alcohol consumption is socially acceptable and, in most cases, is the gateway to consumption of and addiction to other drugs (tobacco, marijuana, cocaine, etc.) In our sample, the prevalence of alcohol abuse and/or dependence among illicit drug users and tobacco

users was higher than among those with no illicit drug or tobacco use. Our results are consistent with previous studies that have found higher prevalence of smoking and illicit drug use among individuals who consume too much alcohol.^{20,21}

Alcohol abuse can have negative effects on mental health, in that it is frequently comorbid with mood disorders; in fact, this comorbidity can be a cyclic process.^{6,21-23} According to Watts, most individuals with mood disorders abuse alcohol in search of pleasure and disinhibition or to reduce emotional, behavioral, and cognitive symptoms of depression.²⁴ However, the state of intoxication induced by alcohol abuse can increase impulsivity and promote thoughts and feelings of hopelessness and sadness, thus worsening mood disorder symptoms.²⁴ In a recent review, Pompili et al. found that mood disorders are frequently precursors of alcohol abuse, but alcoholism may also trigger or exacerbate mood disorders.¹⁰

In conclusion, our study suggests that alcohol abuse and/or dependence are consistently associated with a higher prevalence of mood disorders, anxiety, and suicide risk. The comorbidity between alcohol abuse and psychiatric disorders warrants greater attention in public health and points to an unmet need for alcohol abuse prevention programs.

Tables:

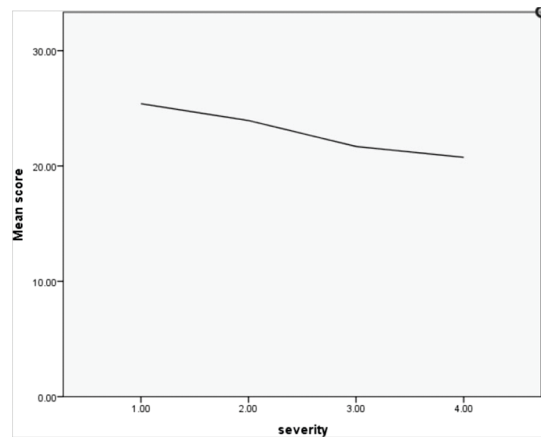
TABLE 1: Sociodemographic and clinical characteristics of the sample

Variables	Sample distribution
Sex, female	1,073 (54.90)
Age, mean (SD)	25.78 (5.21)
Ethnicity (self-reported)	
White	1,483 (75.90)
Income*	
Low	648 (33.30)
Middle	655 (33.70)
High	641 (33.00)
Education level	
Years of schooling, mean (SD)	11.45 (3.46)
Marital status	
Single	1,186 (60.80)
Married/cohabiting	720 (36.90)
Separated/divorced	46 (2.40)
Currently working	1,158 (59.30)
Physically active	518 (26.50)
Alcohol abuse/dependence (outcome variable)	187 (9.60)
Obesity	860 (44.00)
Current comorbidities	
Tobacco use	421 (21.70)
Illicit drug use	146 (7.50)
Chronic disease, any	207 (10.60)
Anxiety disorder	527 (27.00)
Mood disorder	349 (17.90)
Suicide risk	253 (13.00)
Total	1,953 (100.00)

Table 2: Factors associated with alcohol abuse among young adults

Variables	Alcohol abuse/dependence (%)	Crude PR (95%CI)	Adjusted PR (95%CI)
Sex		p < 0.001	p < 0.001
Female	54 (8.10)		
Male	133 (15.20)	3.00 (2.21-4.07)	2.97 (2.17-4.06)
Age, years		p = 0.957	
18-23	68 (8.70)	1.02 (0.71-1.46)	
24-29	72 (11.60)	1.36 (0.96-1.92)	
30-35	48 (8.50)	-	-
Ethnicity (self-reported)		p = 0.035	p = 0.163
White	130 (8.80)		
Nonwhite	57 (12.30)	1.39 (1.03-1.86)	1.21 (0.91-1.61)
Income*		p = 0.800	
Low	84 (10.00)	1.02 (0.73-1.42)	
Middle	58 (9.00)	0.91 (0.65-1.29)	
High	63 (9.80)	-	-
Education level		p = 0.015	p = 0.899
Primary school diploma and/or incomplete secondary school	115 (8.50)	-	-
Secondary school or college diploma	72 (12.20)	1.42 (1.08-1.88)	1.01 (0.76-1.35)
Marital status		p = 0.239	
Single/divorced	128 (10.50)	1.30 (0.95-1.77)	1.19 (0.88-1.61)
Married/cohabiting	59 (8.30)	-	-
Currently working		p = 0.158	p = 0.438
No	68 (8.30)		
Yes	121 (10.50)	1.23 (0.92-1.64)	1.11 (0.84-1.46)
Current tobacco use		p < 0.001	p < 0.001
No	116 (7.60)		
Yes	71 (38.00)	2.20 (1.67-2.90)	1.76 (1.31-2.37)
Current illicit drug use		p < 0.001	p = 0.002
No	150 (8.40)		
Yes	37 (19.80)	3.03 (2.20-4.16)	1.72 (1.22-2.43)
Current physical activity		p = 0.074	p = 0.399
No	128 (8.90)		
Yes	60 (11.60)	1.30 (0.97-1.73)	1.14 (0.83-1.55)
Obesity		p = 0.719	
No	90 (8.80)		
Yes	88 (10.30)	0.95 (0.71-1.25)	p = 0.283
Current chronic disease		p = 0.096	
No	174 (10.00)	1.58 (0.96-2.74)	1.34 (0.78-2.33)
Yes	13 (6.30)	-	-
Current anxiety disorder		p < 0.001	p < 0.001
No	113 (8.00)		
Yes	74 (14.20)	1.78 (1.35-2.34)	1.66 (1.25-2.20)
Current mood disorder		p < 0.001	p < 0.001
No	130 (8.10)		
Yes	57 (23.80)	2.91 (2.09-4.27)	2.13 (1.46-3.11)
Current suicide risk		p < 0.001	p = 0.016
No	142 (8.40)		
Yes	45 (17.90)	2.12 (1.53-2.88)	1.52 (1.09-2.16)
Total	187 (9.60)	-	-

Figure 1: Score of MMSE questionnaire according to severity of COPD in the case group.



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