



Impact of Alcohol Use Disorder on Ability to Quit Smoking: A Cohort Study

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Background

Smoking and alcohol consumption often co-occur, significantly impacting preventable diseases and deaths. Prevalence varies by age, income, education, race/ethnicity, and religion, with higher rates among disadvantaged groups. Nicotine in tobacco causes dependence, cravings, and withdrawal symptoms, making quitting difficult. Alcohol also has addictive properties, acting on different receptors. Research indicates individuals with alcohol use disorders are more likely to smoke and consume more cigarettes than non-drinkers, showing a dose-response relationship. Understanding the impact of baseline alcohol use disorder on the ability to quit smoking by treatment end can enhance treatment planning and program effectiveness for cancer patients.

Objectives

To explore the impact of baseline alcohol use disorder on smoking abstinence outcomes among adult cancer patients in a tobacco treatment program, controlling for demographic and psychological factors influencing these outcomes.

Methods

The study design was a prospective cohort study involving a sample of 12080 adult smokers (ages 18-85) who were cancer patients participating in the TRTP (10-12-week long). The interventions included a combination of single or dual pharmacologic treatment including nicotine replacement therapy, bupropion, and varenicline, along with motivational interviewing and elements of cognitive-behavioral counseling. Data collection involved baseline screening for DSM-IV alcohol Abuse (AB), nicotine dependence using the Fagerström Test for Cigarette Dependence (FTCD) and assessing abstinence from smoking at the end of treatment. We conducted direct comparisons using Chi-square and t-tests, as well as logistic regression to control for other covariates and predictors of alcohol consumption, such as race, age, sex, nicotine dependence, and tobacco withdrawal symptom severity.

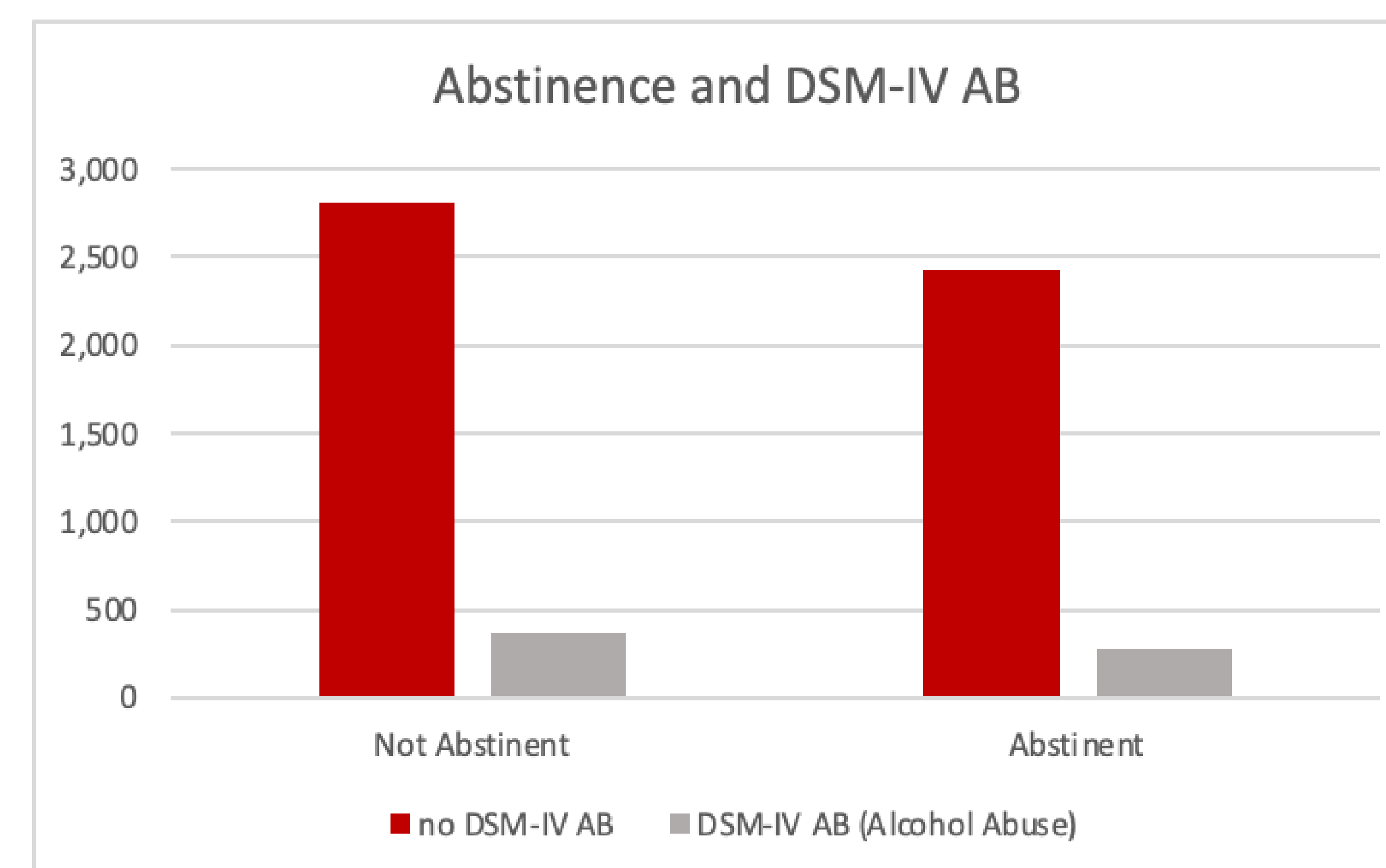
Results

Table 1. Overall abstinence rates at the end of 3-months.

Smoking Status at EOT	N = 12,080 cancer participants in TRPP
Quit Smoking	35.7 %
Did Not Quit	64.3 %

Note: Overall abstinence rates at the end of 3-months. Abbreviations: EOT, end-of-treatment; TRTP, MD Anderson Cancer Center's Tobacco Research and Treatment Program

Figure 1. Abstinence and DSM-IV AB at EOT



Note: Based on the analytic sample of 5,879, among those who were abstinent from tobacco at the end-of-treatment, 89.57% (2421 / 2703) did not have DSM-IV AB, while 10.43% (282 / 2703) had DSM-IV AB. Of those who did not abstain from tobacco, 88.41% (2808 / 3176) did not have DSM-IV AB, while 11.59% (368 / 3176) had DSM-IV AB. Abbreviations: EOT, end-of-treatment; AB, Alcohol Abuse.

Table 2. Analytic sample (N=5,879) characteristics for associated predictors

	No Alcohol (N=5,229)	Alcohol (N=650)	All (N=5,879)
Sex	n(%)	n(%)	n(%)
Female	2,853 (54.6%)	264 (40.6%)	3,117 (53.0%)
Male	2,376 (45.4%)	386 (59.4%)	2,762 (47.0%)
Primary Race			
American Indian or Alaska Native	18 (0.3%)	2 (0.3%)	20 (0.3%)
Asian	68 (1.3%)	6 (0.9%)	74 (1.3%)
Black or African American	652 (12.5%)	74 (11.4%)	726 (12.3%)
Declined to Answer	18 (0.3%)	1 (0.2%)	19 (0.3%)
Native Hawaiian or Other Pacific Islander	3 (0.1%)	0 (0.0%)	3 (0.1%)
Other	200 (3.8%)	34 (5.2%)	234 (4.0%)
Unknown	59 (1.1%)	7 (1.1%)	66 (1.1%)
White or Caucasian	4,211 (80.5%)	526 (80.9%)	4,737 (80.6%)
	median (iqrt range)	median (iqrt range)	median (iqrt range)
Current Age	66 (58-73)	64 (55-71)	66 (58-73)
FTCD_Total	4 (3-6)	4 (2-6)	4 (3-6)
WSWS_ANGER	5 (3-8)	6 (3-9)	5 (3-8)
WSWS_ANGIETY	9 (5-11)	9 (6-12)	9 (5-11)
WSWS_CRAVING	11 (8-13)	11 (8-12)	11 (8-13)
WSWS_SAD	6 (4-9)	7 (4-9)	6 (4-9)

Note: We controlled for associated factors such as sex, primary race, age, nicotine dependence levels, WSWS for psychological factors. Abbreviation: WSWS, Wisconsin Smoking Withdrawal Scale.

Table 3. Logistic Regression controlling for covariates of alcohol consumption

Abst_EOT	Odds ratio	Std. err.	z	P> z	[95% conf. interval]	
alcohol	0.838	0.073	-2.04	0.041	0.707	0.993
sex	1.42	0.079	6.33	0	1.274	1.583
current age	0.999	0.002	-0.23	0.818	0.995	1.004
race	1.038	0.016	2.46	0.014	1.008	1.069
FTCD_Total	0.847	0.011	-12.4	0	0.825	0.87
WSWS_Anger	0.984	0.013	-1.24	0.215	0.959	1.009
WSWS_Anxiety	1.018	0.011	1.56	0.119	0.995	1.04
WSWS_Craving	0.986	0.009	-1.57	0.117	0.969	1.003
WSWS_Sad	0.97	0.011	-2.58	0.01	0.948	0.993
_cons	1.078	0.237	0.34	0.713	0.701	1.658

Note: When controlling predictors of tobacco abstinence at EOT, it was found that individuals with AB had a 16.23% lower likelihood of quitting smoking.

Conclusion

The analysis reveals that (among cancer patients) those who meet DSM-AB are less likely to abstain from smoking. Specifically, AB and higher nicotine dependence decrease the likelihood of quitting.

Discussion

DSM-AB was found to impact smoking abstinence outcomes among adult cancer patients treated for TUD. Understanding the mechanisms underlying this relationship will help with the development of tailored interventions and lead to improved abstinence from smoking. The aim is for a healthier lifestyle without smoking and with reduced or no alcohol consumption, all aimed towards reducing tobacco-related morbidity and mortality.

Acknowledgements and References

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