

Impact of Treating Insomnia Symptoms on Abstinence from Smoking

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Background

- Quitting smoking prevents cancer in healthy people.¹
- Quitting smoking at the time of a cancer diagnosis can increase survivorship in cancer patients by 30-40%.¹
- Insomnia, a disorder in which patients have trouble falling/staying asleep, can make it harder to quit smoking.²
- We set out to see if treating insomnia symptoms would help patients at MD Anderson's Tobacco Treatment Program quit smoking.

Methods

- Data was extracted from our psychiatry database and the electronic health records (EHR) of patients who participated in MD Anderson's (MDA) Tobacco Treatment Program.
- Initial, middle, and late insomnia were assessed with the brief 4-question Jenkins sleep questionnaire, abstinence was based on subject report, severity of nicotine dependence was based on the Fagerström test at baseline, and medications prescribed for insomnia were collected from the EHR.
- We report abstinence by 7-day point prevalence, as a measure of 7 continuous days in the prior week in which cigarettes were not smoked at 3, 6, and 9 months after starting tobacco cessation treatment.
- The relationship between insomnia score and abstinence was evaluated after controlling for several possible confounders e.g. severity of nicotine dependence, anxiety, depression, and the severity of measured insomnia symptoms.
- Analyses were conducted after propensity score matching was used to match participants according to each of the characteristics in Table 1.

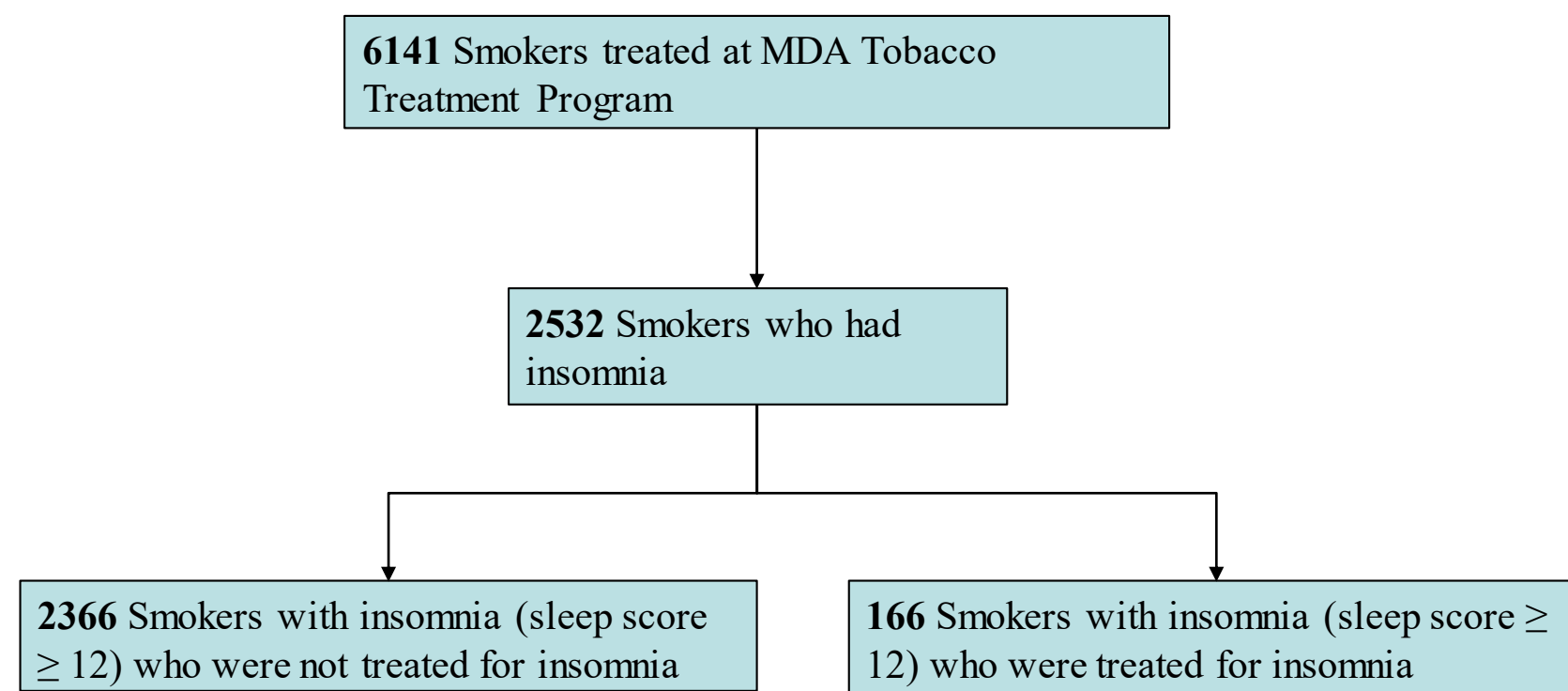


Figure 1. This schematic demonstrates how patients were selected to see if treating insomnia in smokers who are enrolled in MDA's Tobacco Treatment program would have an impact on abstinence rates.

Table 1. Participant Characteristics	Not Treated for Insomnia	Treated for Insomnia
	% (N)	% (N)
Male	58.41 (1382)	74.10 (123)
White	79.67 (1885)	79.52 (132)
Anxiety	29.90 (690)	42.33 (69)
Panic	13.60 (314)	29.45 (48)
Alcohol	11.35 (262)	8.59 (14)
Major Depression	25.65 (592)	41.10 (67)
Depression	40.60 (937)	57.06 (93)
	Mean (SD)	Mean (SD)
Age	53.81 (10.92)	53.01 (11.77)
Center for Epidemiologic Studies Depression Scale-Total	18.88 (11.99)	24.62 (12.44)
Fagerström Test for Nicotine Dependence	4.75 (2.27)	4.74 (2.31)

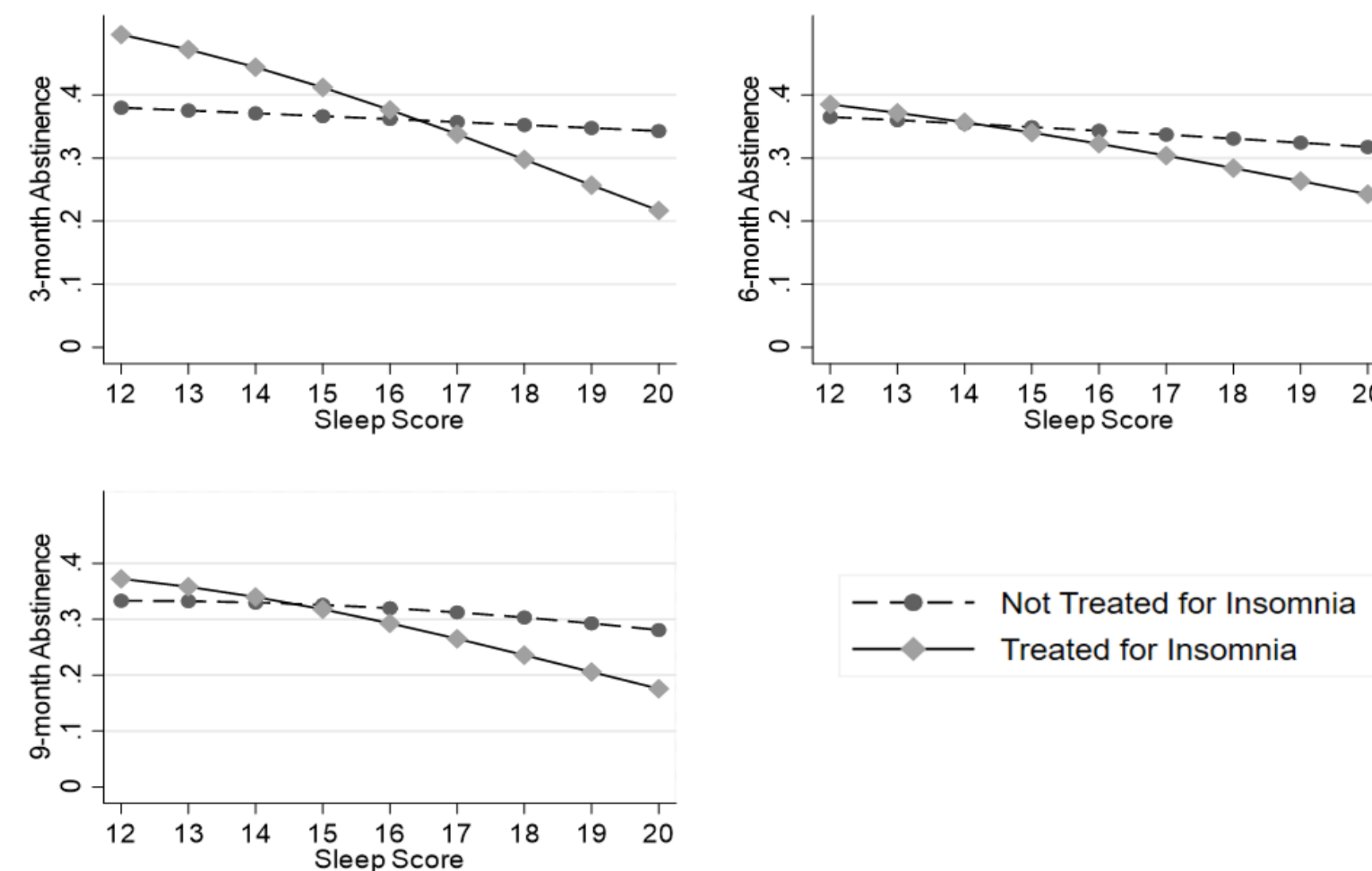


Figure 2. These graphs represent abstinence rates at 3, 6, and 9 months after smokers with insomnia (sleep score ≥ 12) started tobacco cessation treatment. The abstinence rates are classified by sleep score at initial psychiatric evaluation.

Results

- In propensity score matched analyses, patients treated for insomnia were more likely to abstain from smoking than patients not treated for insomnia 9 months after the start of tobacco cessation treatment. (p = 0.013)
- However, at the 9-month abstinence point, patients treated for insomnia with sleep scores greater than 14 had lower abstinence rates than patients not treated for insomnia (Figure 2).
- At 3- and 6-month abstinence points, treatment for insomnia did not significantly improve abstinence rates compared with the non-treatment group.

Discussion/Conclusions

- The differential impact of treating insomnia is likely to be due to severe insomnia being a marker of other psychiatric disorders; therefore, treating it might not translate to improved ability to quit among those patients.
- However, treating individuals with milder or moderate levels of insomnia may have a positive benefit on their tobacco abstinence outcomes.
- Therefore, treating insomnia symptoms among cancer survivors and patients trying to quit smoking can be beneficial in preventing recurrence of cancer or development of a second primary cancer.
- Future analyses will aim to control for the co-occurrence of other psychiatric disorders and their impact on the ability to quit smoking.

References

1. National Center for Chronic Disease Prevention and Health Promotion (US) Office on Smoking and Health. The Health Consequences of Smoking: 50 Years of Progress: A Report of the Surgeon General. Atlanta, GA: Centers for Disease Control and Prevention; 2014.
2. Pasma JA, Smit DJA, Kingma L, Vink JM, Treur JL, Verweij KJH. Causal relationships between substance use and insomnia [published correction appears in Drug Alcohol Depend. 2020 Nov 1;216:108313]. Drug Alcohol Depend. 2020;214:108151. doi:10.1016/j.drugalcdep.2020.108151