Evaluating Tobacco Use Among United States Air Force Military Trainees

Mohit Chhatpar, DO, Indiana Regional Medical Center
Catherine Martsolf, Indiana University of Pennsylvania
Hythem Bishtawi, DO, Indiana Regional Medical Center

IRMC
RURAL FAMILY MEDICINE RESIDENCY PROGRAM

Introduction

There is a large amount of smoking behaviors and causes seen in United States Air Force (USAF) Basic Military Training (BMT). Some factors include pre-BMT smoking histories, the effects of smoking prohibitions, and predicted factors for initiation and re-initiation. This study set out to identify and evaluate interventions to prevent relapse among smokers, including coping skills training, extended treatment, and additional support.

Background

- Prevalence of Smokeless Tobacco Use in the USAF exceeds civilian rates
- Despite declines in civilian population, military personnel, including Air Force recruits, report alarmingly high rates of cigarette use.
- Enlisted recruits must remain tobacco-free for the first 12 weeks of training, yet many former smokers relapse and nonsmokers initiate smoking during this period.
- The Department of Defense (DoD) spends over $1.6 billion annually on tobacco-related medical care, increased hospitalization, and lost work days. Tobacco use affects military readiness, leading to reduced physical fitness, increased training injuries, and premature discharge.
- Military personnel have high rates of tobacco use, yet there are few interventions aimed at reducing this behavior. The current study evaluates the effectiveness of a Brief Tobacco Intervention (BTI) in reducing tobacco use during an 11-week period of involuntary tobacco abstinence among US military enlistees.

Methods

We conducted a comprehensive search of PubMed literature sources from January 1998 until December 2020. The publications that meet the strict inclusion requirements, which cover basic military trainees within the Air Force branch, were carefully chosen.

Results

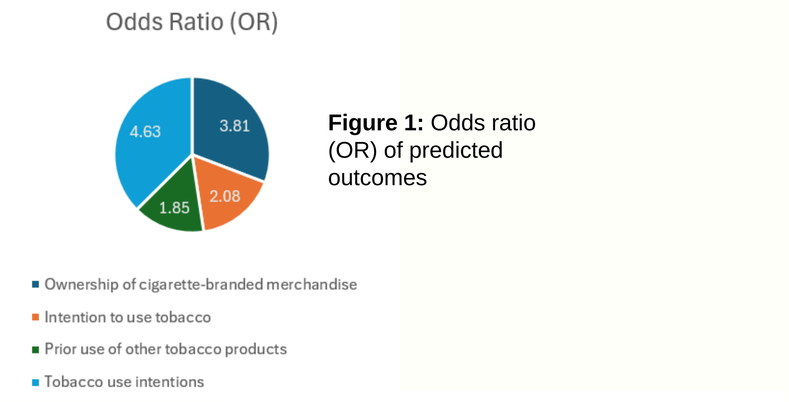

Figure 1: Odds ratio (OR) of predicted outcomes

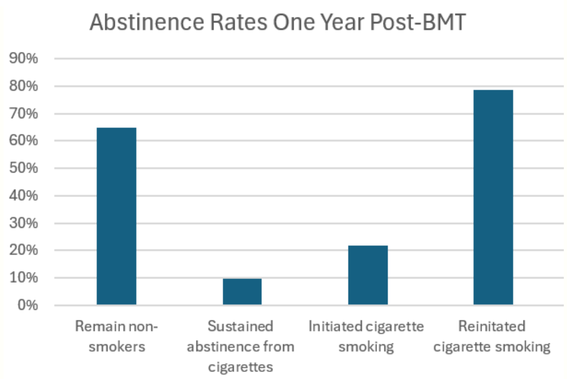

Figure 2: Percent abstinence rate one-year post-BMT of Air Force Trainees

Discussion

- Strongest predictor of smoking initiation was ownership of cigarette-branded merchandise.
- The most influential predictor of smoking re-initiation for former smokers was intention to use tobacco.
- Factors significantly influencing smoking initiation include prior use of tobacco products and tobacco use intentions.
- Characteristics associated with smoking tendencies:
  - More prevalent among men, Euro-Americans, and those with lower educational backgrounds.
  - Smokers had an average four-year smoking history with low nicotine dependence scores.
  - Smokers before BMT were more likely to use other drugs (alcohol, binge drinking, smokeless tobacco) and were less physically active than non-smokers.
- Modified Perceived Susceptibility to Cigarette Smoking (PSQ) successfully predicted cigarette use initiation across all baseline smoker categories.
- Higher likelihood of smoking initiation post-BMT among susceptible individuals compared to non-susceptible ones.

Conclusions

There is a widespread issue of smoking as a significant risk factor for those wishing to enlist in the United States Air Force (USAF). Comprehensive tobacco control strategies aimed at military trainees are vital in addressing this complex issue, as it is recognized that preemptive actions are urgently needed. There is potential to avoid tobacco smoking in the U.S. military by customizing interventions to this particular phase of military training. This could have long-term beneficial effects on the health and preparedness of our armed forces.

References

1.Brandon, Thomas H et al. “Preventing smoking initiation or relapse following 8.5 weeks of involuntary smoking abstinence in basic military training: trial design, interventions, and baseline data.” *Contemporary clinical trials* vol. 38,1 (2014): 28-36. doi:10.1016/j.cct.2014.03.001
2.Haddock, C. Keith et al. “Relapse to smoking after basic military training in the U.S. Air Force.” *Military medicine* vol. 165,11 (2000): 884-8.
3.Haddock, C. Keith et al. “Smoking prevalence and risk factors for smoking in a population of United States Air Force basic trainees.” *Tobacco control* vol. 7,3 (1998): 232-5. doi:10.1136/tc.7.3.232
4.Little, Melissa et al. “Factors Associated with Cigarette Use During Airmen's First Year of Service in the United States Air Force.” *Military medicine* vol. 185,1-2 (2020): e212-e220. doi:10.1093/milmed/usz155
5.Little, Melissa A et al. “Predicting cigarette initiation and reinitiation among active duty United States Air Force recruits.” *Substance abuse* vol. 40,3 (2019): 340-343. doi:10.1080/08897077.2019.1577678
6.Little, Melissa A et al. “Evaluating the Effects of a Brief Tobacco Intervention in the US Air Force.” *Nicotine & tobacco research : official journal of the Society for Research on Nicotine and Tobacco* vol. 22,9 (2020): 1569-1577. doi:10.1093/ntr/ntaa001

Acknowledgements

This research was independently done by Catherine Martsolf, Mohit Chhatpar, and Hythem Bishtawi. We did not receive any specific grant from funding agencies in the public, commercial, or non-for-profit sectors.