Tobacco use in female firefighters

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Received: 27 March 2020; Accepted: 23 April 2020; Published: 25 June 2020.

doi: 10.21037/jphe-20-30

View this article at: http://dx.doi.org/10.21037/jphe-20-30

Jitnarin et al. (1) has confirmed that negative lifestyle behaviors contribute to tobacco use among the female firefighters. The findings from her research suggest that (I) the social norms associated with smoking may be addressed with the focus of unhealthy behaviors; and (II) smoking cessation programs tailored for the female firefighters should take their occupational characteristics leading to a progressive use of tobacco into account. However, some highlighted findings require further clarification.

The reasons for inconsistent measurement of body mass index (BMI), with current tobacco users and nonuser counterparts, may be limited in this study. Beyond subject-specific lifestyle choices provided by researchers, additional factors might notably be contributors to this inconsistency. First, the strenuous demand of the fire service often accompanies a higher BMI as this calculation does not account for large, dense, fat free muscle mass (2). This high BMI seen within firefighters suggests that those firefighters fit their high physical demand work as muscular firefighters might be misclassified as obese using BMI (3). This higher BMI in addition to the stressor of this job leave the female firefighters at a higher risk for tobacco use in comparison to their fire chief who may spend most days working at a desk (4). Second, the complex set of social-ecological risk factors leading to unhealthy lifestyle behaviors may facilitate the development of higher BMI along with tobacco use. Given that the complexity of the processes that could affect body weights and tobacco use, a social-ecological framework is required for systematic characterization of the relationships (multi-level) and interactions (social-environmental) that shape BMI, behaviors, and smoking among the female firefighters. Thus, in future studies, researchers may be interested in using the Ecodevelopmental Theory (5) to characterize the female firefighter lifestyle behaviors and determine associations of unhealthy lifestyle behaviors with BMI and smoking.

We feel like the non-significant smoking-BMI and smoking-weight associations across current tobacco users and nonuser counterparts need to be further discussed. Additional moderators, including educational attainment and socioeconomic status, might offset the significance level reported in the result section. Those moderators, especially social-ecological factors, may add the complexity of understanding smoking behaviors in the female fire service. Understanding provided by the authors about important and contextual moderators of the effect of smoking on BMI and weights in the female firefighters is limited and is needed for prevention. More future studies are necessary to advance this science base.

Due to snowball sampling (6), it is difficult to claim that the data collected likely can be generalized to women fire service personnel because this type of sampling technique does not use random selection mechanism. Therefore, it is not possible to determine the possible error and make a conclusion that is generalizable from this population.

In summary, this research highlights the need to seek to incorporate smoking screening with intentional inquiry about lifestyle behaviors and body weights among the female firefighters. Moreover, this study may be instructive to prevention programs that seek to leverage facets of social-ecological determinants to reduce health-risk contexts, especially smoking addiction, for female firefighters. Smoking cessation program targeted the female firefighters who experience high risk from smoking at
underrepresented role should take unique characteristics of female firefighters’ progression to smoking addiction into account under the social-ecological system.

Acknowledgments

Funding: None.

Footnote

Conflicts of Interest: All authors have completed the ICMJE uniform disclosure form (available at http://dx.doi.org/10.21037/jphe-20-30). The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Disclosure: The views expressed are those of the authors and do not necessarily reflect the official policy or position, either expressed or implied, of the United States Air Force, Department of Defense, Colorado State University, or the United States Government.

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References


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