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EXPERIENCE

A health sciences student–run smoking cessation clinic experience within a homeless population

Kelsey Buckley, Laura Tsu*, Sabrina Hormann, Kevin Giang, April Bills, Nicole Early, Rebekah Jackowski

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ABSTRACT

Objective: The primary objective is to describe a professional and graduate student–run approach to smoking cessation education combined with motivational interviewing and pharmacotherapy in regard to the frequency of follow-up with a smoking cessation quitline program in the homeless population. The secondary objective is to assess participants' self-reported level of confidence, knowledge, and willingness to quit before and after participation in the student-run smoking cessation clinic.

Setting: Homeless shelter in Phoenix, Arizona.

Practice Description: A previously established professional and graduate student–led clinic focused on providing a wide variety of free health services to homeless populations at a homeless shelter. One service not offered was smoking cessation support; thus, a student-run smoking cessation clinic was established.

Practice Innovation: Patients were provided smoking cessation education, motivational interviewing, and pharmacotherapy by health sciences professional and graduate students. Patients were then given a 2-week supply of nicotine replacement therapy and referred to the state's smoking cessation quitline. The impact of multiple concomitant smoking cessation strategies provided by students within a homeless population has not been studied previously.

Evaluation: A 10-day post-referral status update on the success of contact with patients was provided to study investigators from the smoking cessation quitline. Surveys were also used to assess the patient's self-reported level of perceived benefit with the student-run smoking cessation clinic.

Results: Of the 139 unique patients, 19 (13.7%) successfully contacted the smoking cessation quitline. Patients reported high baseline confidence, knowledge, and willingness related to quit attempts; they reported a small improvement in reported values after participation in the student-run clinics.

Conclusion: In the homeless population, smoking cessation education, motivational interviewing, and pharmacotherapy had a low follow-up frequency with a smoking cessation quitline, but slightly increased the patient's confidence, knowledge, and willingness to quit.

Tobacco use among homeless populations is at an alarmingly high rate, up to 3-fold the national average.[1] Studies have shown that the homeless population has a similar rate of interest in tobacco cessation compared with other studied populations and should be offered effective interventions.[2] Despite this finding, a 2013 report concluded that a significant gap in smoking cessation among the homeless population was present and that new methods for addressing the neglected addiction should be pursued.[3] Potential barriers to smoking cessation within the homeless population include the use of tobacco products to reduce stress and anxiety, cravings for nicotine, and lack of resources for medications or counseling.[4] Given the complexity of these barriers, cessation

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* **Correspondence:** Laura Tsu, PharmD, BCPS, CGP, Assistant Professor, Department of Pharmacy Practice, Chapman University School of Pharmacy, 9401 Jeronimo Road, Irvine, CA 92618.
E-mail address: ltsu@chapman.edu (L. Tsu).

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Key Points

Background:

- There is limited knowledge and research regarding the impact of health sciences student–run smoking cessation clinics in the homeless population.
- Further research in the effectiveness of quitlines in smokers of low socioeconomic status, including the ability of this population to access services, is needed.

Findings:

- The combination of smoking cessation education, motivational interviewing, and nicotine replacement therapy provided by professional and graduate health sciences students resulted in slightly higher rates of patient-reported confidence and knowledge about smoking cessation after attending the clinic, but low rates of follow-up with a smoking cessation quitline.
- Patients rated the students highly in regard to their smoking cessation knowledge and ability to further motivate patients to stop smoking.
- This study provides insight into the impact of student-run smoking cessation clinics in the homeless population.

strategies should use evidence-based treatment options in a variety of settings.[5]

The Treating Tobacco Use and Dependence Clinical Practice Guidelines encourage quit attempts with the use of both counseling and medication.[6] Smoking cessation efforts with the use of pharmacotherapy and behavioral counseling among the homeless population have been published. In 2006, Okuyemi et al.[7] described an 8-week program in Kansas City in which 2 behavioral counseling techniques (smoking only vs. smoking plus) in combination with pharmacotherapy were compared.[7] The smoking-only group consisted of motivational interviewing technique directed at smoking behaviors only, and the smoking-plus group included motivational interviewing techniques aimed at both smoking and other additions or life events that could affect quit rates. Nonsignificant differences were found in carbon monoxide–verified 7-day abstinence rates between the smoking-only and smoking-plus groups at the end of the 8-week program (13% vs. 17.4%, respectively) and at the 26-week follow-up (8.7% vs. 17.4%, respectively). Despite nonsignificant differences between the groups, results demonstrated promise in the effects of pharmacotherapy and counseling in the homeless population.[7] In 2010, Shelley et al.[8] reported on a 12-week pilot program in New York City that combined motivational interviewing (MI), cognitive behavioral therapy, and pharmacotherapy in 1 study arm. The carbon monoxide–verified 7-day abstinence at 12 weeks was 15.5%, and 13.6% at 24 weeks, again supporting the potential for smoking cessation programs within the homeless population.[8]

In the first randomized controlled clinical trial evaluating smoking cessation in the homeless population, Power to Quit, Goldade et al.[9] discussed designing a clinical trial to meet the unique needs of this population. The importance of regular and persistent calls to remind patients of upcoming appointments was highlighted. Results of this study comparing MI and pharmacotherapy to standard care and pharmacotherapy are not yet published.[9] In 2014, Connor et al.[10] compared a pharmacist-provided smoking cessation treatment consisting of MI and pharmacotherapy in homeless versus housed patients. Homeless and housed patients showed no differences in the change in cigarettes smoked per day and levels of breath carbon monoxide from first to last treatment session attended. Despite being referred to the clinic at similar rates, homeless patients were significantly less likely than housed patients to attend the clinic's smoking cessation service (25% homeless vs. 45% housed), with a low number of patients in both groups (2 homeless, 3 housed) completing all 9 sessions. Given this, the authors concluded that telephone-based counseling or combinations of community-based interventions plus quitline support may be useful alternatives to homeless individuals who might face barriers to attendance at weekly sessions.[10] These findings are consistent with The Treating Tobacco Use and Dependence Clinical Practice Guidelines that recognize further research is needed in low socioeconomic smokers in determining the effectiveness and use of novel treatment delivery settings (e.g., pharmacy-based, community-based, worksite) and the effectiveness of quitlines, including the ability of this population to access services.[6]

Student-run primary care clinics have been implemented in the underserved population to help to provide services and continuity of care, and usually includes services for smoking cessation.[11,12] This is important in this population to help provide counseling and pharmacotherapy for smoking cessation, which otherwise might not be accessible by other means. In the homeless population, there are limited reports of targeted smoking cessation clinics that are not part of a general clinic that provides a variety of primary care services. Most of these targeted clinics are composed of medical students only, although services included both education and medications for smoking cessation.[13,14] The only pharmacy student-provided smoking cessation clinic had a limited study population of only 260 homeless patients and 226 housed patients.[10] With the increasing emphasis on multidisciplinary approaches in health care to improve patient outcomes, student-run clinics can also benefit this population by including students from various health care disciplines. A majority of patients surveyed stated that they would use a multidisciplinary, student-run clinic service for care after hours.[15] The effect of multiple concomitant smoking cessation strategies (e.g., pharmacotherapy, student-run smoking clinics, MI, and referral systems to state-mandated smoking cessation programs) within a homeless population has not been studied.

Objectives

In this study, the primary objective was to determine the effectiveness of a student-led approach to smoking cessation education combined with MI and pharmacotherapy in regard to the frequency of follow-up with a smoking cessation quitline program in the homeless population. Secondary objectives included an assessment of participants' self-reported level of