Published in final edited form as:

J Am Coll Health. 2015 ; 63(4): 286–290. doi:10.1080/07448481.2014.1003376.

Motivational Interviewing Intervention With College Student Tobacco Users: Providers' Beliefs and Behaviors

Robert S. McNamara, PhD^{1,2}, Eun-Young Song, PhD³, Beth A. Reboussin, PhD³, John Spangler, MD⁴, Jessica R. Pockey, MPH⁵, Caroline Kimes, BS⁶, Kristie L. Foley, PhD⁷, and Erin L. Sutfin, PhD⁶

¹Counseling Center, Wake Forest University, Winston-Salem, North Carolina

²Counseling Center, University of North Carolina Wilmington, Wilmington, North Carolina (current)

³Department of Biostatistical Sciences, Wake Forest School of Medicine, Winston-Salem, North Carolina

⁴Department of Family and Community Medicine, Wake Forest School of Medicine, Winston-Salem, North Carolina

⁵West Chester, Pennsylvania

⁶Department of Social Sciences and Health Policy, Wake Forest School of Medicine, Winston-Salem, North Carolina

⁷Medical Humanities Program, Davidson College, Davidson, North Carolina

Abstract

Objective—This study assessed college student health providers' use of Motivational Interviewing (MI) with tobacco users, as well as their beliefs about the use of brief interventions to help college student tobacco users quit. MI is recommended by the USPHS to increase tobacco users' willingness to quit.

Participants—Participants included 83 clinicians from health clinics at seven different universities in North Carolina.

Methods—Paper-and-pencil baseline survey from a cluster randomized trial of college student health clinicians.

Results—Twenty-two percent of respondents reported always or usually using MI during the past month for tobacco using patients not ready to make a quit attempt. Student health providers also reported information with regards to their beliefs about tobacco cessation treatment, barriers to intervening with patients, and confidence in motivating students to consider quitting.

For comments and further information, address correspondence to Robert S. McNamara, Ph.D., Associate Director, UNCW Counseling Center, 601 South College Road, Wilmington, NC 28403, USA (mcnamarars@uncw.edu).

The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

Conclusions—Results highlight the need to encourage clinician use of motivationally focused interventions with student tobacco users.

Keywords

cessation; tobacco; treatment

College student tobacco use remains a prevalent public health concern in the United States. Approximately 26% of the nearly 18 million college students in the United States smoke cigarettes,¹ Reed and colleagues² found a recent movement toward tobacco use initiation in the college student population. While college students are less likely to smoke compared to their same-age peers, students who tried smoking are at higher risk to smoke in the future compared to young adults not attending college.³ Evidence suggests that college student tobacco users want to and attempt to quit. In their study of college student smokers, Pinsker and colleagues⁴ report that 99% of daily smokers, 96% of non-daily (former daily) smokers, and 85% of smokers that never smoked daily acknowledged at least one quit attempt in the past year. The health benefits for patients stopping tobacco use at earlier ages are documented⁵, thus stressing the importance of capitalizing on opportunities to help students quit.

USPHS Guidelines for Treating Tobacco Use and Dependence state that brief treatment and counseling for tobacco dependence are effective, and suggest that clinicians provide at least the brief interventions supported by the Guidelines for every tobacco using patient.⁶ The Guidelines recommend the use of Motivational Interviewing (MI), a patient-centered counseling approach that focuses on resolving ambivalence related to tobacco use behaviors, for patients not ready to quit smoking.^{6,7} MI, when provided by health care professionals, can be an effective intervention for patients not ready to stop tobacco use.^{8,9} However, an increasing body of research suggests only partial adherence to the PHS Guidelines in college student health centers.^{10,11,12}

Scholl and Schmitt¹³ cite MI's compatibility with developmental theories that encompass the emerging adulthood stage, defined as a time period between adolescence and adulthood that includes traditional age college students.¹⁴ The authors present MI as a potentially effective counseling strategy for use with college students, as the spirit of the MI approach can be useful in engaging this population. Although MI appears to be well suited to the developmental needs of university students, Rash¹⁵ reported college health providers tend to encounter challenges with regards to implementing MI strategies in their clinics. The report included data collected in poststudy interviews of clinicians who participated in 8 hours of training related to MI, and subsequently delivered brief interventions as part of a study designed to reduce harm with high-risk college drinkers. The four providers interviewed, including 2 physicians, a nurse-practitioner, and a physician's assistant, cited time constraints, lack of familiarity with a non-directive approach, and difficulties related to students in specific stages of change as barriers to successful delivery of MI.

This paper examined baseline data from a cluster randomized trial in college student health centers aimed to increase adherence to the PHS Guidelines. The current study aims to

describe college student health providers': (1) use of MI for tobacco cessation, and (2) beliefs related to using brief interventions to help students quit tobacco.

Methods

Participants

This study describes data collected from the baseline survey of a cluster randomized trial to increase evidence-based tobacco cessation services provided by student health clinics. In order to select schools for inclusion in the trial, all four-year liberal arts colleges and universities in North Carolina with 3,600 or more undergraduates were considered. Because the trial included onsite training in evidence-based tobacco cessation strategies for the campus health clinics, participation was limited to colleges and universities no more than a 2.5 hour drive from the study team. Based on these two inclusion criteria, 14 schools were eligible for participation in the study. We aimed to include 6 schools in the trial, but 7 of the 14 eligible colleges opted to participate. Participating schools included 3 private and 4 public schools. Two schools were historically Black universities. Enrollment size ranged from about 4,000 to over 23,000 undergraduates. A survey of health care providers at these North Carolina campus health centers was conducted in order to assess schools' implementation of PHS Guidelines, including use of MI, at baseline.⁶ Providers included nurses, nurse practitioners, physician assistants, and MDs. Eighty-six providers participated in the baseline survey. Among them, three providers were excluded due to lack of information on the study questions. Therefore, a total of 83 providers were included for the analyses. The number of providers by school ranged from 6 to 22. The Wake Forest School of Medicine Institutional Review Board (IRB) approved all interview protocols, surveys, and intervention materials. When requested, the aforementioned study materials were approved by the participating school's IRB, as well.

Procedure and Measures

The baseline survey assessing providers' efficacy and implementation of the PHS Guidelines, including use of MI for tobacco cessation, was adapted from Bernstein et al.¹⁶ The paper-and-pencil surveys were distributed and collected by the person selected by the clinic to serve as the study liaison.

Demographics—Demographic variables included gender, type of health care provider, and years worked at the clinic. Health care providers were coded as (1) nurses, (2) nurse practitioners & physician assistants, and (3) MDs. Participants responded in number of years and months to the question, "How long have you worked at this clinic?"

Use of Motivational Interviewing—In order to assess use of Motivation Interviewing with students, we asked: "*During the past month, for your patients who are tobacco users, how often did you use Motivational Interviewing for patients not ready to make a quit attempt?*" Response options included, "Always, usually, sometimes, rarely, or never."

Provider Beliefs

Role in Tobacco Cessation Treatment: We asked providers to indicate how often they believe it is their role to both motivate patients and help motivated patients with tobacco cessation. We asked respondents to “*Please indicate whether you feel each of the following are part of a student health clinic providers’ role: (1) Motivate patients to stop using tobacco and, (2) help motivated patients quit.*” Response options included, “Always, usually, sometimes, rarely, or never.”

Barriers: Providers were also queried with regards to barriers to intervening with college student tobacco users. They were asked “*How would you rate each of the following as barriers to your assisting patients to stop using tobacco: (1) I am unfamiliar with interventions to help tobacco users quit, (2) I do not believe in the efficacy of cessation interventions, (3) patients are not motivated to quit, and (4) my experience in intervening with tobacco users is limited.*” Response options included “not at all a barrier, slight barrier, somewhat a barrier, or very much a barrier.”

Confidence: Confidence in assisting patients with cessation was assessed via these statements: “*Please rate your confidence in doing the following to help your patients try to stop using tobacco: motivate patients to consider quitting.*” Response options included “very confident, somewhat confident, neutral, somewhat not confident, or not at all confident.”

Training and Beliefs about Tobacco Cessation Treatment: Providers were also asked to respond with regards to their beliefs about brief treatment, as well as their participation in education related to tobacco counseling. We asked providers to “*Please rate your level of agreement with the following statement: Brief treatment is ineffective.*” Response options include, “Strongly agree, agree, neutral, disagree, or strongly disagree.” Also, we asked participants, “*Have you ever participated in a formal training or clinician education on tobacco treatment and counseling methods?*” Response options included, “Yes,” or “No.”

Statistical Analyses

We conducted descriptive analyses of the baseline survey data. The results are discussed below and summarized in Table 1.

Results

Eighty-three student health clinic providers from 7 North Carolina colleges completed the paper-and-pencil survey, resulting in a 52% response rate. The distribution of completions across schools was varied as follows: 16.9%, 10.8%, 7.2%, 26.5%, 14.5%, 14.5%, 9.6%. Respondents were 88% female and included nurses (53%), nurse practitioners and physician assistants (26%), and MDs (21%). The mean length of time providers worked at their respective clinics was 8.7 years (SD = 8.9 years). Only 1 out of 5 providers acknowledged that they “always” or “usually” use MI with students not ready to make a quit attempt; 78% reported using MI “sometimes,” “rarely,” or “never.” Percentages for queries regarding barriers to intervention, confidence in assisting patients, and other tobacco counseling items are found in Table 1.

Results revealed that 70% of clinicians believe that it is their role to motivate patients to quit; they also believe it is their role to help motivated patients quit (74%). Almost 60% of providers are confident that they can motivate tobacco using patients to consider quitting. However, nearly 1 in 3 acknowledged that they believe brief treatment is ineffective, and only 16% reported any formal training in tobacco counseling or cessation. Despite their lack of training, more than half of the clinicians in the study did not feel that limited experience with cessation interventions was a barrier to assisting patients. Furthermore, 68% of clinicians feel that being unfamiliar with interventions is not a significant barrier to helping students quit tobacco, and 2 out of 3 providers noted that their belief that students are not motivated is somewhat a barrier or very much a barrier.

Comment

Results from this study provide data on college health center provider use of MI with their patients, and offer insight into clinicians' beliefs about tobacco cessation treatment and counseling. In our sample of health care providers from 7 NC campuses, we found that only 22% of clinicians always or usually used MI in the past month for tobacco users not ready to make a quit attempt. These results suggest that MI is infrequently used by providers in this setting. Previously mentioned studies reporting failure to routinely ask about and document tobacco use, and provide appropriate interventions, demonstrate a lack of adherence to the USPHS Guidelines.^{10,11,12} Neglecting to use MI with patients not ready to stop tobacco use does not indicate clinician are out of compliance with the Guidelines; providers may be using brief interventions other than MI with student tobacco users. However, MI is the motivational intervention cited in the document as having the highest level of support for patients not ready to make a quit attempt.⁶ Additionally, most providers in the study feel it is their role to motivate patients and help them to quit. While many of the clinicians feel confident in their ability to motivate patients to consider quitting the large majority have not had formal tobacco treatment and counseling training. Being unfamiliar with cessation interventions does not appear to be a strong perceived barrier for this group.

The primary reported barrier to implementing tobacco use interventions is the belief that students are not motivated to quit. This finding is consistent with a previous report of clinician "frustration" with precontemplative students. Perhaps this difficulty is related to clinician acknowledgment that the MI style is challenging due to being familiar with "advice-giving," as opposed to eliciting ideas from students.¹⁵ According to Rash¹⁵, college clinic providers noted that discussing positive health behaviors with students is challenging due to time constraints, and they feel strict adherence to the MI approach is not possible in their clinics. However, clinicians acknowledged the value of the involvement of the patient in decision-making, and reported that they see value in MI tools. The current study provides support for some beliefs about using MI with college students indicated by Rash. Furthermore, our work includes a much larger sample of college health center providers and expands on clinicians' beliefs and behaviors related to using MI and brief interventions.

Limitations

This study is based on a sample of providers limited to the state of NC; generalizability to colleges and universities in other states and/or regions is unknown. A second limitation is related to the diversity of our sample. While the clinicians were from a broad range of clinical backgrounds, the large majority of the respondents were female, thus limiting generalizability to male student health clinic providers. In addition, only 16% of respondents reported formal training in tobacco counseling or cessation. The low percentage of participants acknowledging past training may be due to recall bias related to failure to remember this type of training at their schools of nursing and medicine. Also, the participants were not asked specifically if they have previous MI training, which may present challenges with regards to interpreting the results. Finally, our sample size and a response rate are study limitations, as seven of the 144 schools invited opted to participate and 52% of clinicians completed the survey.

Conclusions

In conclusion, the infrequency of use of MI, as well as clinicians' reported absence of training in formal counseling education, highlight the need for training for student health center clinicians in MI-based interventions for tobacco users. In addition, further research is needed to clearly delineate barriers to using tobacco cessation interventions in campus health clinics, as well as beliefs and behaviors associated with use of MI-focused counseling strategies. The USPHS Guidelines for Treating Tobacco Use and Dependence suggest that provider use of motivational interventions can aid in helping patients that are not ready to quit tobacco to think about stopping in the future.⁶ Formal training in MI may equip providers with effective strategies to target the precontemplative students, and future research investigation can identify improved methods for delivering MI training to campus health providers.

Acknowledgments

Funding

Research reported in this publication was supported by the National Cancer Institute of the National Institutes of Health [Grant Number R21CA161664].

References

1. Johnston, L.; O'Malley, PM.; Bachman, JG.; Schulenberg, JE. Monitoring The Future National Survey Results of Drug Use, 1975–2012. Volume II: College Students and Adults Ages 19–50. Ann Arbor, MI: Institute for Social Research, The University of Michigan; 2012.
2. Reed MB, McCabe C, Clapp JD, Shillington AM, Lange JE. The relationship between alcohol consumption and smoking initiation in college students. *Am J Drug Alcohol Abuse*. 2010; 36(4): 202–7. [PubMed: 20560839]
3. Gilpin EA, White VM, Pierce JP. What fraction of adults are at risk for future smoking, and who are they? *Nicotine Tob Res*. 2005; 7(5):747–59. [PubMed: 16191746]
4. Pinsker EA, Berg CJ, Nehl EJ, Prokhorov AV, Buchanan TS, Ahluwalia JS. Intent to quit among daily and non-daily college student smokers. *Health Educ Res*. 2013; 28(2):313–25. [PubMed: 23197630]
5. U.S. Department of Health and Human Services. The Health Consequences of Smoking: 50 Years of Progress. A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human

- Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2014.
6. Fiore, MC., et al. Clinical Practice Guideline. Rockville, MD: U.S. Department of Health and Human Services. Public Health Service; May. 2008 Treating Tobacco Use and Dependence 2008 Update.
 7. Miller, WR.; Rollnick, S. Motivational Interviewing, Third Edition: Helping People Change (Applications of Motivational Interviewing). New York: The Guilford Press; 2013.
 8. Hettema J, Steele J, Miller W. Motivational Interviewing. *Annu Rev Clin Psychol.* 2005; 1:91–111. [PubMed: 17716083]
 9. Miller WR, Yahne CE, Moyers TB, Martinez J, Pirritano M. A randomized trial of methods to help clinicians learn motivational interviewing. *J Consult Clin Psychol.* 2004; 72(6):1050–62. [PubMed: 15612851]
 10. Fagan KA. Smoking-cessation counseling practices of college/university health-care providers--a theory-based approach. *J Am Coll Health.* 2007; 55(6):351–9. [PubMed: 17517547]
 11. Lawrance KA, Lawler SA. Campus physicians' tobacco interventions with university students: a descriptive study of 16 Ontario university clinics. *Patient Educ Couns.* 2008; 70(2):187–92. [PubMed: 18037601]
 12. Sutfin EL, McNamara RS, Blocker JN, Ip EH, O'Brien MC, Wolfson M. Screening and brief intervention for tobacco use by student health providers on college campuses. *J Am Coll Health.* 2012; 60(1):66–73. [PubMed: 22171731]
 13. Scholl MB, Schmitt DM. Using motivational interviewing to address college client alcohol abuse. *Journal of College Counseling.* 2009; 12(1):57–70.
 14. Arnett JJ. Emerging adulthood: A theory of development from the teens through the twenties. *American Psychologist.* 2000; 55(5):469–80. [PubMed: 10842426]
 15. Rash EM. Clinicians' perspectives on motivational interviewing-based interventions in college health. *J Am Coll Health.* 2008; 57(3):379–80. [PubMed: 18980900]
 16. Bernstein SL, Boudreaux ED, Cabral L, et al. Efficacy of a brief intervention to improve emergency physicians' smoking cessation counseling skills, knowledge, and attitudes. *Subst Abuse.* 2009; 30(2):158–81. [PubMed: 19347755]

Table 1Provider Beliefs about Patient Tobacco Intervention and Cessation ($N = 83$)

Variable	% Response
Motivational Interviewing	Reported always or usually
Use motivational interviewing during past month	22
Provider Beliefs	
<i>Role in Tobacco Cessation Treatment</i>	Always or usually feel this way
It is my role to motivate my patients to quit	70
It is my role to help motivated patients quit	74
<i>Barriers</i>	Not at all a barrier or slight barrier
I do not believe in the efficacy of cessation interventions	96
Patients are not motivated to quit	33
I am unfamiliar with interventions to help students quit	68
My experience intervening with tobacco users is limited	56
<i>Confidence</i>	Very confident or somewhat confident
Motivating patients to consider quitting	59
<i>Beliefs about brief treatment</i>	Strongly agree or agree
Brief treatment is ineffective	28
Provider Training	Reported yes
Formal training or education in counseling methods	16