
Clearing the Smoke: Behavioral Interventions in the Emergency Department

The emergency department (ED) is an important entry portal into the medical care system and an increasingly recognized as an opportunistic setting for delivery of public health messages and interventions.¹ Although the prevalence of smoking has decreased some in the general population, it remains almost one in five. Among ED patients, it remains higher than in the general population. Elevated rates of this unhealthy behavior, several other risky behaviors, and the limited access many ED patients have to other sources of care highlight the ED as a critical component of public health strategies.

This issue of *Academic Emergency Medicine* has two articles that contribute an important understanding to the literature of smoking cessation interventions in this setting and contain findings that perhaps are generalizable to other ED public health interventions. Ozhathil et al.² hypothesized that smokers would be more likely to initiate treatment if the program was presented as being free of charge. The authors concluded that the financial burden of outpatient tobacco cessation programs is not the primary limiting factor hindering participation of ED patients in cessation programs. This is important because cost is frequently considered to be the main obstacle to further treatment, but it is only one of many barriers that may exist in providing linkage to post ED visit smoking cessation resources. Other potential barriers to ED patient follow-up with post-ED services might include transportation, days and hours of availability, and a patient's perceptions and motivations for change of their behavior, all which require more investigation.

Bernstein et al.³ are commended for publishing the results of the randomized controlled trial examining efficacy of a smoking cessation brief intervention. The primary endpoint was negative, reflecting a much higher than expected 3-month quit rate (14.7% vs. 13.2%) and quit attempts (69.2% vs. 66.5%) in both the control and the intervention groups. There are several key methodologic points that can be gained from understanding this outcome of high quit rates.

Although it is possible that this was simply a negative trial with an intervention that was not efficacious, it is worth exploring these results in several ways that may inform future screening, brief intervention, and referral to treatment (SBIRT) research in the ED. The first point

is that patients with substance use, including smoking, are not a homogeneous group in terms of the spectrum of misuse to dependence, readiness, or barriers to change. The need to consider carefully which population to deliver a specific intensity of an intervention to is part of the next stage of research for brief interventions in the ED. In this case, Bernstein et al.³ chose to focus intervention efforts on patients in the contemplation or preparation stage of change. In choosing this subgroup, which was already open or planning to reduce their smoking, even a low-intensity screening and referral may have induced substantial quit attempts among the control group. One meta-analysis on the topic⁴ provides support for the concept that motivational interviews (MIs) may be more efficacious for those with low levels of motivation. Studies included in this meta-analysis found that participant samples that had low levels of motivation to change smoking had more impact with MI-based interventions. Theoretically, some work suggests that MI as a type of intervention is designed specifically for people who are low in readiness or ambivalent about making a change.⁵ Similarly, some work has found that those studies that did not require a desire to quit as a condition of enrollment revealed significant effects at long-term follow-up points.⁵

In this manner, the enhanced usual care group in the Bernstein trial (in which the interventionist reviewed in detail a pamphlet addressing smoking cessation) may have received enough intensity of dose to mask the effects of the intervention group.³ Future ED research studies could consider matching or tailoring to specific patients' characteristics. In not excluding those with less motivation to quit, future research could focus on MI-based intervention's effect on those with lower levels of motivation to change "precontemplation" or varying the intensity of the intervention to the participants' readiness to make a change. It is important to note that these methodologic issues are just as salient in other ED behavioral research addressing alcohol, drug, and violence brief interventions in the ED. Understanding which participant factors moderate and mediate intervention effectiveness, level of motivation to change or severity of unhealthy behavior, is not yet well understood and needs to be evaluated in more detail.

A second consideration is the high percentage of participants whose chief complaint was chest pain. Prior studies⁵ have shown that patients with a visit

Related articles appear on pages 575 and 662.

related to a diagnosis of cardiac disease have higher rates of quit attempts than those with other reasons for admission, and these rates fall in the range that was reported by Bernstein et al.³ These rates⁶ are more comparable to the rates noted in Bernstein study, highlighting that the conclusions from the study may be more likely related to the concept that in this population only a very-low-intensity intervention is needed. Some research with brief interventions has demonstrated that the reason for the ED visit can moderate the intervention's effectiveness with motor vehicle crash patients' having greater treatment effect for a brief intervention for alcohol misuse.⁷

Although the ED is an important location to identify patients with unhealthy behaviors, intervening successfully with resources to change these issues is a complex task. Both of these studies were done in an urban ED and included diverse ethnical and racial groups. Tailoring public health messages and interventions in the ED to the racial and ethnic groups it serves maybe essential. Furthermore who (peers, clinical staff, other staff) screens and delivers the resource referrals, or if even it needs to be a person or if a computer is equal in that role, needs to be further investigated. Also, how much of the SBIRT model needs to occur at the time of the ED visit? Can screening be done, but after identification of those with the unhealthy behavior, can the intervention be delivered by telephone, SMS text, postal mail, Internet, e-mail, or some other modality after the ED visit and be effective? As discussed at the SAEM consensus conference of 2009 and presented in AEM's November 2009 issue, public health research in the ED is a complex but fertile area for emergency medicine research. The two studies in this issue underscore critical methodologic considerations that need to be considered as a research agenda in this area is advanced.

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References

1. Bernstein SL, D'Onofrio G. Public health in the emergency department: Academic Emergency Medicine Consensus Conference executive summary. *Acad Emerg Med.* 2009; 1037-9.
2. Ozthathil D, Abar B, Baumann BM, Camargo CA Jr, Ziedonis D, Boudreaux ED. The effect of removing cost as a barrier to treatment initiation with an outpatient tobacco dependence clinic among emergency department patients. *Acad Emerg Med.* 2011; 18: 662-4.
3. Bernstein SL, Bijur P, Cooperman N, et al. A randomized trial of a multicomponent cessation strategy for emergency department smokers. *Acad Emerg Med.* 2011; 18:575-83.
4. Hetttema JE, Hendricks PS. Motivational interviewing for smoking cessation: a meta-analytic review. *J Consult Clin Psychol.* 2010; 78:868-84.
5. Miller WR, Rollnick S. *Motivational Interviewing: Preparing People for Change.* 2nd ed. New York, NY: The Guilford Press, 2002.
6. Rigotti NA, Singer DE, Mulley AG Jr, et al. Smoking cessation following admission to a coronary care unit. *J Gen Intern Med.* 1991; 6:305-11.
7. Mello MJ, Nirenberg TD, Longabaugh R, et al. Emergency department brief motivational interventions for alcohol with motor vehicle crash patients. *Ann Emerg Med.* 2005; 45:620-5.

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