Evidence-based nursing and medicine is a desirable goal only to the extent that the evidence base is complete and unbiased. Clinical trials and other types of research studies should be reported in the literature whether or not outcomes are positive. In a study reported in this issue, Horn and colleagues provide a comprehensive description of procedures used to design, implement, and evaluate a smoking cessation intervention.

In their study, a brief motivational tobacco intervention (MTI) was targeted at adolescent smokers during visits to an emergency department. The focus of the report is not on smoking cessation, the desired outcome, but on the description of the processes of delivering and evaluating the intervention. The authors assessed feasibility, which includes how many potential participants were reached by the intervention; implementation fidelity, which documents if the program was implemented as planned; and acceptability, which is the acceptance of the intervention by teen patients, their parents, and emergency department personnel.

The research is a valuable contribution not because the desired outcomes of the intervention were achieved (they were not), but because of the authors’ thorough description of their meticulous research procedures and detailed reporting of the practical problems they encountered.

The efficacy of the intervention in assisting adolescent smokers to reduce or eliminate tobacco use is reported by the authors in an online publication of the Centers for Disease Control and Prevention, Preventing Chronic Disease: Public Health Research, Practice & Policy. The study is described as a blinded, randomized 2-group design in which youth seeking care in the emergency department were screened for smoking status and then assigned to either the intervention group, which received a 15- to 30-minute patient-tailored motivational interview, or a usual-care group, which received 2 minutes of generic advice to quit smoking and the phone number of a quit line. Follow-up lasted 6 months. Motivational interviewing techniques, which are the theoretical basis for the MTI intervention, are described. Outcomes are presented in detail in the online publication. No statistically significant differences are reported for smoking-related outcomes. These findings are likely of interest to tobacco cessation researchers and health care providers who wish to test motivational interviewing techniques with adolescents to influence a variety of risk behaviors.

The evaluation study published in this issue of the American Journal of Critical Care will be most instructive for health care providers and evaluation researchers interested in exploring the potential benefits of and barriers to providing health promotion interventions in nontraditional settings, such as emergency departments. In a program evaluation, all of the relevant parties should be included and both intended and unintended outcomes assessed. Participants in the evaluation included adolescent smokers who assented to participate, parents/guardians who provided consent, trained providers who delivered the intervention,
and the personnel in the emergency department whose cooperation was necessary to facilitate the research.

Reach, a component of feasibility, is an important concept in the evaluation of interventions outside of controlled settings. Reach is the extent to which an intervention penetrates the target population; in this case, it is the number of youth who came to the emergency department during the study period, met the criteria for inclusion, and participated as either a member of the intervention or control group (see their Figure 1). Despite their use of recruitment procedures that had been carefully thought out and the presence of MTI providers on multiple shifts in the emergency department during the study period, the intervention reached only about 6.2% of the eligible population. The main reasons cited for nonparticipation were that the MTI provider was not present on all shifts during the study period, many adolescents who were potential participants were too acutely ill to participate, and/or adolescent smokers or their parents refused assent or consent.

Study findings on reach add to the literature on the practicality and appropriateness of emergency department encounters as opportunities for primary and secondary prevention. For example, encounters in the emergency department are generally recognized as important opportunities for the administration of required vaccinations, screening for child and domestic abuse, and referrals to primary care providers to ensure continuity of care for chronic diseases. Less is known about the potential of encounters in the emergency department as potential venues for the delivery of complex interventions to change health behaviors, especially when minors are the target population.

Implementation fidelity is the extent to which an intervention is implemented as planned. It can be considered as an assessment of the "dose" of treatment actually delivered. Careful monitoring is necessary to evaluate whether providers follow intervention procedures and adhere to all study protocols. Horn et al describe procedures instituted to assess providers’ perceptions of their adherence to MTI protocols (see their Tables 2 and 3). However, fidelity to implementation does not guarantee that recipients of an intervention are ready to change, will use the tools/methods provided, or will actually change behaviors.

Acceptability of an intervention is an important consideration in applied settings. If staff members do not support the provision of an intervention, that intervention is not likely to be implemented consistently, if at all. Similarly, patients in the emergency department and, in this case, their parents, must also find the intervention acceptable or they will refuse to participate. The researchers assessed acceptability among adolescent smokers, emergency department personnel, and parents/guardians (see their Tables 5-7). Findings suggest that the staff in the emergency department was extremely supportive, and adolescents and parents who agreed to participate also found the intervention acceptable. However, the overall participation rate was extremely low, and those who were too ill or refused the intervention did not have an opportunity to provide data for the acceptability assessment.

This information has important implications for recruitment of adolescents for health promotion interventions in a highly stressful setting such as an emergency department. The fact that participation was low suggests that the intervention may not, in fact, have been appropriate or realistic for most potential subjects. The appropriateness of timing a brief smoking cessation intervention during adolescents’ visits to the emergency department requires further study.

To not publish studies in nursing and health journals because the intervention was found to result in ‘no difference,’ or even negative outcomes, would be counter to the scientific method....”

The authors conclude that the intervention was acceptable to the teens, parents, and emergency department staff who participated and that implementation fidelity was achieved. This conclusion is justified. Clearly, reach was low because of difficulties in recruitment and retention. In addition, little evidence of treatment efficacy was apparent. Of the 74 teens who participated in the study, 38% were contacted at the 6-month follow-up. Only 2 participants actually quit smoking: 1 in the intervention group and 1 in the control group. Despite disappointing quit rates, the authors maintain that participants who received the intervention showed awareness of the importance of smoking cessation and that a higher percentage planned to quit compared with participants who received usual care. An alternative conclusion might
be that despite a very creative approach to adolescent smoking cessation, well-trained staff, elaborate protocols, carefully executed methods that demonstrated implementation fidelity, and a great deal of effort, the intervention was not successful in reaching most of the target population or in changing smoking behaviors among those who received the intervention. What lessons can be learned from publication of this study in which “no difference” in desired outcomes was found? Currently, professional journals and the popular press are buzzing with revelations that our current system of peer review may, in fact, be biased toward selective publication of clinical trials with positive results. For example, a recent article\(^1\) in the *New England Journal of Medicine* reported on 74 studies registered with the Food and Drug Administration on the efficacy of antidepressant agents. Studies that reported positive outcomes were more likely to be published than were studies that reported negative outcomes regardless of other study characteristics assessed.\(^1\) Other critical reviews\(^1-4\) of publications in medical and health-related journals have raised similar issues of incomplete reporting and possible bias in publications toward positive results. It is unknown whether potential bias in reporting is a result of authors failing to submit manuscripts with null or negative findings, decisions by journal editors and reviewers not to publish such articles, or both.\(^1\)

The way science advances, however, is through the dissemination of study findings so that other researchers and the public can assess the evidence. To not publish studies in nursing and health journals because the intervention was found to result in “no difference,” or even negative outcomes, would be counter to the scientific method, which is predicated on the accumulation of new knowledge through continual testing, revision, replication, and reassessment. It is just as important to have access to research that suggests that interventions or agents may not be effective as it is to have access to findings that point to efficacy. Not sharing scientifically sound evaluations of interventions designed to promote health, regardless of outcomes, could waste resources on ineffective treatments and violate the public’s trust in science and the health care system. Horn et al should be commended for a well-executed evaluation of a novel smoking cessation intervention in an emergency department, and the editors of *AJCC* should be acknowledged for publishing it.

REFERENCES

Research Reporting and Evidence of Effectiveness: Why "No Difference" Matters
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