Letters to the Editor

Letters to the Editor will be reviewed and are published as space permits. By submitting a Letter to the Editor, the author gives permission for its publication in the Journal. Letters should not duplicate material being published or submitted elsewhere. Those referring to a recent Journal article should be received within 3 months of the article's appearance. The Editors reserve the right to edit and abridge and to publish responses. Submit three copies. Both text and references must be typed double-spaced. Text is limited to 400 words and fewer than 10 references.

Reprints can be ordered through the author whose address is listed at the end of the letter.

Smoking Cessation Counseling during Routine Public Prenatal Care

Kendrick and her associates report a randomized smoking cessation demonstration project involving pregnant women in Colorado, Maryland, and Missouri.[1] Results of the trial were not encouraging, as judged by follow-up urine cotinine measurements at 8 months gestation.

In 1984 through 1986, our group carried out a statewide randomized intervention trial aimed at reducing smoking during pregnancy.[2] The ultimate goal was to improve birthweight. The study involved 2848 women who smoked 10 or more cigarettes per day at the time of enrollment. Kendrick and her associates briefly refer to the report of that trial but describe it as "resource-intensive" and its study population as "private." Our cotinine-assisted intervention protocol was specifically designed to avoid being "resource intensive." It relied on a measurement of cotinine as a way to explain how smoke products might travel to the fetus. The physician was provided with an interpreted report of the cotinine measurement, a description of its implications, and self-help smoking cessation materials to share with the woman. A second cotinine measurement, taken about 1 month later, monitored progress and offered a second opportunity to encourage the woman. Success, as measured by improved birthweight, was found to depend heavily on physicians completing the entire protocol (specifically, the second intervention). The study center randomized individual women rather than sites; for that reason, case and control patients coexisted in individual practices and clinics.

In Maine, most economically disadvantaged women receive their prenatal care in private physician offices. The state's Bureau of Health has found this to be the most satisfactory approach to delivering care, especially in rural areas. The usual definition of "private" vs "clinic" patient, therefore, does not hold. An exception to this private office management scheme is the prenatal clinic at the Maine Medical Center, which primarily serves economically disadvantaged women. That clinic took part in our trial and was among the more successful groups in completing the intervention protocol. It was also the single largest source of study subjects (253 women). Table 1 summarizes data from that subpopulation. In the intervention group, the average birthweight was 135 g higher, and the low birthweight rate was lower (9.5%, as compared with 15.5% in the control group). While these findings are not statistically significant, they are consistent with the overall study findings.

Intervening systematically at the population level to modify smoking behavior during pregnancy is difficult. It offers the best potential opportunity, however, to reduce the number of pregnancies that end in low birthweight. There is a continuing need for low-impact strategies to influence smoking behavior. Such efforts might include carrying out further trials built on strategies that have already achieved some success. □

TABLE 1—Selected Data from a Prenatal Clinic Population Taking Part in a Cotinine-Assisted Intervention Project Aimed at Reducing Smoking and Improving Birthweight

	Intervention	
	Yes (n = 114)	No (n = 139)
Age, y, mean (SD)	22.7 (4.5)	22.2 (4.3)
Education, y, mean (SD)	11.2 (1.8)	11.3 (1.8)
Initial cotinine, ng/mL, mean (SD)	152 (82.9)	146 (80.3)
Birthweight, g, mean (SD)	3290 (570)	3155 (642)
Birthweight <2500 g, %	9.5	15.5
Birthweight <1500 g, %	0.95	2.33

James E. Haddow, MD
Glenn E. Palomaki
Debra Sepulveda, MD

James E. Haddow and Glenn E. Palomaki are with the Foundation for Blood Research,

Scarborough, Maine. Debra Sepulveda is with the Maine Medical Center, Portland.

Requests for reprints should be sent to James E. Haddow, MD, Foundation for Blood Research, Scarborough, ME 04070-0190.

References

1. Kendrick JS, Zahniser SC, Miller N, et al. Integrating smoking cessation into routine public prenatal care: the Smoking Cessation in Pregnancy project. *Am J Public Health.* 1995;85:217–222.
2. Haddow JE, Knight GJ, Kloza EM, Palomaki GE, Wald NJ. Cotinine-assisted intervention in pregnancy to reduce smoking and low birthweight delivery. *Br J Obstet Gynaecol.* 1991;98:859–865.

Kendrick and Colleagues Respond

Dr Haddow and colleagues provide interesting additional data regarding their smoking cessation intervention program for pregnant women in Maine.[1] Although the reported differences are not statistically significant, it is encouraging to see that improvements in infant birthweight were achieved by using their intervention among economically disadvantaged women.

Unfortunately, issues of how resources are allocated may have profound effects on the availability of smoking cessation programs for low-income pregnant women. From the perspective of a state health department, multiple components of a prenatal smoking cessation program are affected by resource issues. An example is the way in which public prenatal care is delivered, such as who provides clinical care (physician, physician assistant, nurse midwife, or nurse practitioner) or who provides counseling services (physician or other provider). Additional features of the planned intervention, such as the cost of materials (e.g., brochures) and the cost of additional laboratory tests, are relevant as well.

In the process of planning the Smoking Cessation in Pregnancy program for use in public prenatal clinics, resource issues were paramount.[2] The program was expected to result in very little additional expense to health departments or other public agencies wishing to implement it. The counseling protocols were developed for use by existing clinic personnel, who are usually nurses. The estimated cost per patient for the program materials was less than $5 in each state.

In contrast to the Smoking Cessation in Pregnancy program, the Maine program requires two counseling sessions with a physician. In many states, public patients are usually counseled during pregnancy by nurses rather than physicians, because physician time is too expensive. In one Smoking Cessation in Pregnancy program state (Missouri), initial attempts to include some physician counseling in the intervention were not successful because of frequent staff turnover and lack of physician commitment to the program. One may speculate that the presence of physicians adds an additional boost to the Maine intervention that may not be available to many public programs.

In addition, the Maine program requires two measurements of serum cotinine. Although commercial laboratory prices for a cotinine measurement can be as high as $80, a facility that has its own laboratory can perform cotinine testing at a substantially lower cost. A program that successfully prevents low birthweight might be cost-effective in the long run, but the initial costs may be prohibitive for many public agencies. More widespread use of the technique whereby the pregnant smoker receives feedback concerning her cotinine measurement may be beneficial but will probably be contingent on development of less expensive laboratory tests.

Broader approaches to smoking prevention and cessation that include all women of reproductive age are needed. We challenge the public health community to identify strategies that work for low-income, less-educated women in particular. □

Juliette S. Kendrick, MD
for the Smoking Cessation in Pregnancy Program Working Group

Requests for reprints should be sent to Juliette S. Kendrick, MD, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention, Mailstop K-23, 4770 Buford Hwy NE, Atlanta, GA 30341-3724.

References

1. Haddow JE, Knight GJ, Kloza EM, Palomaki GE, Wald NJ. Cotinine-assisted intervention in pregnancy to reduce smoking and low birthweight delivery. *Br J Obstet Gynaecol.* 1991;98:859–865.
2. Kendrick JS, Zahniser CZ, Miller N, et al. Integrating smoking cessation into routine public prenatal care: the Smoking Cessation in Pregnancy project. *Am J Public Health.* 1995;85:217–222.

Back Pain and Risk of Suicide among Finnish Farmers

An unexpected association between back pain and suicidal tendency was found in a follow-up study of Finnish farmers. The study concerned the relationship between back pain and fatal myocardial infarction[1] and was not designed to test the association between back pain and suicide. The study population consisted of 4199 Finnish male farmers who participated in a postal survey from November 1979 to January 1980. The questionnaire included questions about working conditions and other details of the farm, various symptoms and chronic diseases of the subject, smoking habits, and other life-style indicators. Important details of the variables used in this survey were as follows: back pain and sciatica during the year preceding the interview were inquired about; sciatic pain was asked about only if the subject had self-reported back pain; smoking was handled as a dichotomous variable (yes/no); social status was defined as a three-class variable on the basis of farm size.

Mortality between February 1, 1980, and January 31, 1993, was determined from the register of the Social Insurance Institution of Finland, and cause of death was obtained from death certificates from Statistics Finland. Suicide as a cause of death included code numbers E-950 to E-959 of the *International Classification of Diseases* (1975 revision). Preliminary analyses were conducted by using cross-tabulations. Chi-square tests or Fisher's exact tests in different age groups were used to test for important differences. When only age was controlled for, the Mantel-Haenszel procedure was used to calculate adjusted risk ratios (RR). When age, smoking, and social status were controlled, multiple logistic regression was used (GLIM statistical package).

Twenty-one male subjects committed suicide during the first 10 years of follow-up. Only one of them had not reported back pain in the beginning of follow-up. Cross-tabulations (Table 1) revealed that subjects reporting back pain during the year before baseline had a significantly increased risk of committing suicide during the first 10 years of follow-up when compared with subjects with no symptoms. When adjusted for age (Mantel-Haenszel), the finding remained statistically significant (RR = 9.2; 95% confidence level [CI] = 1.5, 56). Finally, when adjusted for smoking and social status using multiple logistic regression, the relative risk was 9.1 (95% CI = 1.2, 66). During the last 3 years of follow-up, two male farmers committed suicide. Neither of them had reported back pain in the year before baseline.