SMOKING IN AMERICAN INDIAN AND ALASKA NATIVE PEOPLE WITH DIABETES REVISITED

Morton et al.’s article on smoking and diabetes in American Indians and Alaska Natives raises important concerns. Because of the long-standing organized emphasis on smoking ascertainment and cessation for individuals with diabetes, the findings likely reflect a serious ascertainment bias.

The Indian Health Service (IHS) Division of Diabetes has measured smoking status in American Indians and Alaska Natives with diabetes since 1986 with the Annual Diabetes Care and Outcomes Audit. The IHS Standards of Care for Diabetes emphasize smoking assessment. In 2007, 91.8% of patients with diabetes, systemwide, were assessed for tobacco use. Less than a quarter (23.4%) reported current tobacco use. Of these, 31.6% were referred for cessation counseling.

Epidemiologic studies of cardiovascular risk factors have not found increased smoking rates in American Indians and Alaska Natives with diabetes compared with those without diabetes. The Strong Heart Study, conducted in 13 American Indian communities in Arizona, Oklahoma, and the Dakotas, found wide variations in tobacco use by community. A special analysis requested for this letter showed that smoking rates in those with diabetes were significantly lower (27%) than in those without (41%; P < .001; Y. Zhang and E. Lee, personal communication, Strong Heart Study, August 2008). The Inter-Tribal Heart Project in Minnesota also found lower rates of tobacco use in those with diabetes (53.1%) compared with participants without diabetes (68.9%; P < .05; N. Burrows and L. Geiss, personal communication, Centers for Disease Control and Prevention, August 2008). The Centers for Disease Control and Prevention’s Behavioral Risk Factor Surveillance System data from 2005 to 2006 showed no significant differences in current smoking prevalence between American Indian and Alaska Native adults with diabetes and those without (29.6% vs 32.2%, respectively; N. Burrows and L. Geiss, personal communication, Centers for Disease Control and Prevention, August 2008).

Data presented in the report are also subject to other limitations; notably, the case definition may have compromised the accuracy of case identification, and the duration of monitoring cases may have been affected by a differential risk of mortality. Because the authors ascertained diabetes from an electronic data set using only 1 diagnosis of diabetes during the 5-year period, they may have included in the data set persons who didn’t have diabetes. Aside from some local IHS improvement activities, most studies recommend at least 2 visits be used to ascertain diabetes from administrative sources. Smoking poses a particular mortality risk for persons with diabetes. To the extent that the risk of premature death is higher for smokers with diabetes than for those without diabetes, smokers who survived to be included in the study may have included fewer persons with diabetes. Thus, before the distribution of currently limited IHS smoking cessation resources is modified, the evidence for redistributing those resources should be more substantial than that presented by Morton et al.

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References

MORTON ET AL. RESPOND

We appreciate Acton and Bullock’s concerns about diabetes case identification and tobacco use ascertainment bias in Indian Health Service (IHS) data, in which we demonstrated that patients with diabetes were smoking at significantly higher rates than were patients without diabetes.

Our diabetes case definition was determined by at least 1 entry of a physician-assigned diabetes International Classification of Diseases, Ninth Revision code in the 5-year study period, based on 2 abnormal glucose values or symptoms. All diabetes cases were validated by a corresponding date of diagnosis, and no cases were missing this date. In a clinical setting, why would a diabetes diagnosis require a second-visit diagnosis for validation?