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School-Based Tobacco Use Prevention Programs: Should They be Abandoned?

School-based smoking prevention programs have been a major focus of efforts to address the problem of smoking among youth and the cost-effectiveness of school-based programs of even modest impact have been demonstrated.¹ Unfortunately, evaluation of many programs have yielded disappointing long-term results. Methodological problems including small sample sizes, high attrition rates, poor compliance in providing programming, social mixing of intervention and control groups and the absence of process data have made it difficult to interpret findings.²

A landmark study, the Hutchinson Smoking Prevention Project (HSPP)², has addressed many of the methodological shortcomings:

- The trial followed two consecutive 3rd grade enrollments (n=8388) in 40 collaborating school districts that were matched for prevalence of high school tobacco use, school district size and location and then assigned to either the intervention or control condition.
- Districts assigned to the intervention condition received a teacher-led, grade 3-10, social influences, tobacco use prevention curriculum together with specific teacher training. Schools in the control districts continued with the health curricula that they normally offered.
- Students were followed to 2 years after high school. At grade twelve follow-up, self reported tobacco use was validated by a random sampling of saliva cotinine.

The design of the HSPP study is elegant and yet the study found no substantial difference in smoking prevalence between control and intervention groups for either sex at grade twelve or two years after high school. Does this mean that school-based tobacco control programs should be abandoned?

Cameron and colleagues³ call for a more subtle analysis with more reliance on finding out “what works, for whom, under what conditions, how and why?” They note that smoking norms vary widely across school settings and that the individual characteristics of participants, intervention providers and setting factors need to be taken into account in any analysis of school-based, smoking prevention interventions. Indeed, the Waterloo Smoking Prevention Projects – Study 3, a randomized trial of a social influences smoking prevention program conducted in south-western Ontario, found that program effectiveness varied as a function of school-level risk with

the program being most effective in high risk schools.⁴ Sussman et al.⁵ question whether social-influences approaches work equally well with all youth and note the lack of process data reported in the HSPP study. They point out that the social influences intervention undertaken during the study did not include life skills training or involve a comprehensive system-wide approach.

Recent results from Oregon⁶ suggest that a school-based program can be an effective component in a comprehensive tobacco control program that includes policy initiatives to reduce youth smoking. Students in Oregon schools funded to implement smoking prevention programs were found to be approximately 20% less likely to smoke than their counterparts in schools where no funding for smoking prevention was in place.

Similarly, in a study of the prevalence of smoking among Welsh secondary school students, Moore and colleagues⁷ have found an association between school policy strength, policy enforcement, and the smoking behaviours of students. Prevalence of smoking was lower in those schools where student smoking restrictions were enforced in all areas.

In conclusion, implementation of school based smoking prevention in isolation and without regard to smoking norms, participant characteristics and other variables will likely prove to be less effective in reducing youth smoking than school-based initiatives that are targeted and reinforced by multi-component tobacco prevention and control efforts. Further research is needed to elucidate the relationship between aspects of policy, programming and individual behaviour.

References

1. Stephens, T, Kaiserman, MJ, McCall, DJ, Sutherland-Brown, C. School-based smoking prevention: economic costs and benefits. *Chronic Diseases in Canada* 2000; 21(2): (9 pages).
2. Peterson, AV, Kealey, SL, Mann, SL, Marek, PM & Sarason, IG. Hutchinson Smoking Prevention Project: Long-term randomized trial in school-based tobacco use prevention – results on smoking. *Journal of the National Cancer Institute* 2000; 92(24): 1979-1991.
3. Cameron, R, Best, JA, Brown, KS. Correspondence re. Hutchinson Smoking Prevention Project: Long-term randomized trial in school-based tobacco use prevention – results on smoking. *Journal of the National Cancer Institute* 2001; 93(16): 1268.
4. Cameron, R, Brown, KS, Best, JA, Pelkman, CL, Madill, CL, Manske, SR, Payne, ME. Effectiveness of a social influences smoking prevention program as a function of provider type, training method, and school risk. *American Journal of Public Health* 1999; 89:1827-1831.
5. Sussman, S, Hansen, WB, Flay, BR, Botvin, GJ. Correspondence re. Hutchinson Smoking Prevention Project: Long-term randomized trial in school-based tobacco use prevention – results on smoking. *Journal of the National Cancer Institute* 2001; 93(16): 1267.
6. CDC. Effectiveness of school-based programs as a component of a statewide tobacco control initiative – Oregon, 1999-2000. *MMWR* 2001; 50(31):663-666.
7. Moore, L, Roberts, C. & Tudor-Smith, C. School smoking policies and smoking prevalence among adolescents: multilevel analysis of cross-sectional data from Wales. *Tobacco Control* 2001; 10:117-123.