

FASTRAC: THE RIGHT TRACK BUT WRONG ENGINE: A CRITICAL REVIEW OF THE FETAL ALCOHOL TEACHING AND RESEARCH AWARENESS CAMPAIGN

Y. Ingrid Goh

Division of Clinical Pharmacology and Toxicology, The Hospital for Sick Children, Department of Pharmaceutical Sciences, University of Toronto, Canada

A CRITICAL REVIEW of “The Effectiveness of a Multimedia Program to Prevent Fetal Alcohol Syndrome” *LaChausse RG. Health Promot Pract 2006; 7(X):1-5.*

Affecting 1 in 100 children, Fetal Alcohol Spectrum Disorder (FASD) can be prevented by the abstention of alcohol by pregnant women.¹ As many pregnancies are unplanned, it is important to educate women of reproductive age regarding the consequences of alcohol consumption during pregnancy. A proposed method of targeting women of reproductive age is by educating in schools.

LaChausse reports on findings from the Fetal Alcohol Spectrum Teaching and Research Awareness Campaign (FASTRAC).² This peer-delivered educational program was administered to 114 students in a Southern California high school from grades 9-12. Teen peer-educators were trained to present a 35-slide PowerPoint presentation that was based on an educational module for resident physicians. The content of the presentation included the history of FASD, information on Fetal Alcohol Syndrome (FAS) and other Fetal Alcohol Effects, identification of alcohol as a teratogen, explaining how it causes fetal damage including brain development, specific characteristics of FAS, results from animal experiments, the role of partner’s alcohol use during pregnancy, and information on the social and cost impact.

The objective of the study was fourfold: to determine whether FASTRAC was effective in increasing knowledge regarding FAS, whether FASTRAC could decrease trends toward alcohol consumption during pregnancy, whether the program could increase the perceived severity of alcohol consumption during pregnancy, and to determine whether FASTRAC could increase the intention not to drink during pregnancy. Parents were provided with informed consent forms and

students provided verbal assent to participate in the study. Students were administered the questionnaire one week prior and two weeks following the peer-education. The questionnaire contained questions adapted from the FAS Knowledge Attitudes Beliefs and Behaviours from Alaska.³ Intention to abstain from alcohol and drug use⁴, and two additional questions: how do you feel about another student your age drinking alcohol while she is pregnant and how severe do you think it might be for your baby if you use alcohol during pregnancy? Students were divided into intervention and comparison groups.

89 male and 89 female students completed the study. Although the students were ethnically diverse, the majority (69%) were of Latino descent. Increase of knowledge was observed in both groups. However, there was no observed change in attitudes towards drinking during pregnancy, likelihood to drink during pregnancy, and the perceived severity of alcohol’s effect during pregnancy.

LaChausse reports on an interesting concept of educating students regarding FAS. Previous studies have investigated other in-school interventions for topics such as smoking, drugs and health in classroom environments.⁵⁻¹³ LaChausse noted that peer-led interventions resulted in better results than teach-led interventions. Although this may be true in some conditions, the peer person may have some influence on the outcomes themselves. If it is a peer member who is younger than the teacher but foreign to students, perhaps students may relate better because of the younger age. However, because they are strangers, they may not be as influential. On the other hand, if the peer member is a student from their own class, that peer’s popularity and influence may affect the outcome. In a similar way, if the student is socially accepted perhaps the message would be better conveyed than from a student who is socially outcast.

Previous studies on peer-educators have suggested that they can be more effective than teacher-led education, however this may vary on the age of the audience.¹⁴⁻²⁰ Another limitation that arises in the peer-education methodology is that the knowledge that is imparted may not be standardized. Yet, since peer-educators are using standardized PowerPoint presentations, there are fewer chances of variation.

The author noted that although the intervention increased knowledge of FAS, it did not change attitudes towards drinking during pregnancy. However, if the students' initial attitudes towards drinking during pregnancy were that it was not generally acceptable, it would make sense that there was no change. The author also stated that participants were not less likely to use alcohol during pregnancy than when first questioned and that they did not perceive an increased severity of alcohol effect during pregnancy. Although the study reported that there was a change in the initial change in knowledge this could have been confounded as students from the intervention group could have passed on information to students who were in the comparison group.

The Ontario Student Drug Use Survey reported that in grade 7 already 31.4% of students had experienced alcohol exposure.²¹ Perhaps targeting a grade 9-12 audience may be too late and the educational intervention may be more effective earlier.

The author stated that the presentation took 45 minutes. It is widely accepted that students' attention span lasts only for approximately 20 minutes. Perhaps this format of presentation as well as the length of presentation resulted in poor knowledge translation. In addition, the slides that were presented were initially geared to the medical profession. High school students may not have the knowledge to follow such a presentation. As such adapting a presentation that is more suitable to high school students may be more beneficial. Interaction with students may also promote learning.

A useful element that should be incorporated in such programs are alternatives to drinking. They should be provided with approaches that will support pregnant individuals to abstain from alcohol consumption, for example using mocktails as alternatives. In addition, one should discuss

with students how to bring up the subject of drinking in pregnancy to someone who they see is drinking during pregnancy, or even asking questions regarding how much alcohol is safe to drink during pregnancy.

The study is limited by its short duration of measured effect: it only followed students for a total of three weeks. It would be interesting to observe if there were behavioural changes over a longer spectrum of time such as previous smoking studies have investigated.

In summary, this paper presents a novel approach to FASD prevention by educating school-aged students. The results suggest that although education increased students' knowledge it does not significantly alter their attitudes towards drinking during pregnancy, likelihood to drink during pregnancy, and the perceived severity of alcohol's effect during pregnancy.

REFERENCES

1. Sampson PD, et al. Incidence of fetal alcohol syndrome and prevalence of alcohol-related neurodevelopmental disorder. *Teratology* 1997;56:317-326.
2. LaChausse RG. "The Effectiveness of a Multimedia Program to Prevent Fetal Alcohol Syndrome". *Health Promot Pract* 2006; 7(X):1-5.
3. FAS Knowledge Attitudes Beliefs and Behaviours from Alaska (CDC 1995) *MMWR* Jan 14, 1994 43(1) 3-6 Prevalence and Characteristics of Alcohol Consumption and Fetal Alcohol Syndrome Awareness -- Alaska, 1991 and 1993
4. Botvin GJ, Griffin KW. Life skills training as a primary prevention approach for adolescent drug abuse and other problem behaviors. *Int J Emerg Ment Health*. 2002 Winter;4 (1):41-7.
5. Gingiss P, Boerm M, Roberts-Gray C. Follow-up comparisons of intervention and comparison schools in a state tobacco prevention and control initiative. *J Sch Health*. 2006 Mar;76(3):98-103.
6. Josendal O, Aaro LE, Torsheim T, Rasbash J. Evaluation of the school-based smoking-prevention program "BE smokeFREE". *Scand J Psychol*. 2005 Apr;46(2):189-99
7. Crone MR, Reijneveld SA, Willemsen MC, van Leerdam FJ, Spruijt RD, Sing RA. Prevention of smoking in adolescents with lower education: a school based intervention study. *J Epidemiol Community Health*. 2003 Sep;57(9):675-80.

8. Slater MD, Kelly KJ, Edwards RW, Thurman PJ, Plested BA, Keefe TJ, Lawrence FR, Henry KL. Combining in-school and community-based media efforts: reducing marijuana and alcohol uptake among younger adolescents. *Health Educ Res.* 2006 Feb;21(1):157-67.
9. Furr-Holden CD, Ialongo NS, Anthony JC, Petras H, Kellam SG. Developmentally inspired drug prevention: middle school outcomes in a school-based randomized prevention trial. *Drug Alcohol Depend.* 2004 Feb 7;73(2):149-58.
10. Harrell TK, Davy BM, Stewart JL, King DS. Effectiveness of a school-based intervention to increase health knowledge of cardiovascular disease risk factors among rural Mississippi middle school children. *South Med J.* 2005 Dec;98(12):1173-80.
11. McBride N. A systematic review of school drug education. *Health Educ Res.* 2003 Dec;18(6):729-42.
12. Saksvig BI, Gittelsohn J, Harris SB, Hanley AJ, Valente TW, Zinman B. A pilot school-based healthy eating and physical activity intervention improves diet, food knowledge, and self-efficacy for native Canadian children. *J Nutr.* 2005 Oct;135(10):2392-8.
13. Lytle LA, Jacobs DR Jr, Perry CL, Klepp KI. Achieving physiological change in school-based intervention trials: what makes a preventive intervention successful? *Br J Nutr.* 2002 Sep;88(3):219-21.
14. Audrey S, Holliday J, Campbell R. It's good to talk: adolescent perspectives of an informal, peer-led intervention to reduce smoking. *Soc Sci Med.* 2006 Jul;63(2):320-34.
15. Stephenson JM, Strange V, Forrest S, Oakley A, Copas A, Allen E, Babiker A, Black S, Ali M, Monteiro H, Johnson AM; RIPPLE study team. Pupil-led sex education in England (RIPPLE study): cluster-randomised intervention trial. *Lancet.* 2004 Jul 24-30;364(9431):338-46.
16. Caron F, Godin G, Otis J, Lambert LD. Evaluation of a theoretically based AIDS/STD peer education program on postponing sexual intercourse and on condom use among adolescents attending high school. *Health Educ Res.* 2004 Apr;19(2):185-97.
17. Borgia P, Marinacci C, Schifano P, Perucci CA. Is peer education the best approach for HIV prevention in schools? Findings from a randomized controlled trial. *J Adolesc Health.* 2005 Jun;36(6):508-16.
18. Starkey F, Moore L, Campbell R, Sidaway M, Bloor M; ASSIST. Rationale, design and conduct of a comprehensive evaluation of a school-based peer-led anti-smoking intervention in the UK: the ASSIST cluster randomised trial. *BMC Public Health.* 2005 Apr 22;5(1):43.
19. Perry CL. Prevention of alcohol use and abuse in adolescence: teacher- vs peer-led intervention. *Crisis.* 1989 Apr;10(1):52-61.
20. Clarke JH, MacPherson B, Holmes DR, Jones R. Reducing adolescent smoking: a comparison of peer-led, teacher-led, and expert interventions. *J Sch Health.* 1986 Mar;56(3):102-6.
21. Drug Use Among Ontario Students—CAMH http://www.camh.net/Research/Areas_of_research/Population_Life_Course_Studies/OSDUS/OSDUS2005_HighlightsDrug_final.pdf