

Toward Effective School-based Substance Abuse Prevention “Breaking the Cycle” Programme in Antigua and Barbuda

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ABSTRACT

The “Breaking the Cycle” programme, based on the Project Charlie programme, was developed for Antigua and Barbuda third grade students and was implemented in 2001. Aspects of the programme are compared with aspects recently proven effective in randomized studies in developed countries. The “Breaking the Cycle” programme includes life-skills training, teaches decision making skills, includes peer resistance training, uses trained teachers, interactive teaching methods, effective content and delivery, targets students prior to onset of drug use, teaches drug harm, teaches community values and is culturally sensitive, all aspects of successful programmes overseas. The cost of about \$7 US per student would suggest cost-benefit effectiveness compared with overseas programmes. The “Breaking the Cycle” school-based drug and alcohol use prevention programme includes most aspects of evidence-based successful programmes overseas, appears cost effective and could serve as a model for programmes in the Caribbean region.

“Rompiendo el Ciclo”: Hacia un Programa de Prevención Efectiva del Abuso de Sustancias en las Escuelas de Antigua y Barbuda

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RESUMEN

El programa “Rompiendo el ciclo”, basado en el programa del Proyecto Charlie, se desarrolló para los estudiantes de tercer grado de Antigua y Barbuda, y fue implementado en 2001. Los diferentes aspectos del programa son comparables con aspectos cuya efectividad ha quedado recientemente demostrada en los estudios aleatorios en países desarrollados. El programa “Rompiendo el ciclo” incluye entrenamiento en aptitudes para la vida, enseña habilidades para la toma de decisiones, incluye entrenamiento en resistencia al grupo de iguales, usa maestros adiestrados, métodos interactivos de enseñanza, contenido e impartición efectivos, se dirige a estudiantes antes del comienzo del uso de drogas, enseña sobre el daño de las drogas, enseña valores de la comunidad, y es culturalmente sensible, y contiene todos los aspectos de los programas exitosos en el extranjero. El costo de alrededor de \$7 USD por estudiante sugiere la efectividad costo-beneficio en comparación con programas en el extranjero. El programa “Rompiendo el ciclo” para la prevención del uso del alcohol y las drogas entre escolares, se presenta costo-efectivo y podría servir de modelo para otros programas en la región del Caribe..

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INTRODUCTION

The initial efforts toward producing school-based substance abuse prevention programmes were not successful (1). Programmes based on factual education and affective education proved to be ineffective (2). Over the most recent decade, aspects of effective school-based educational programmes have been identified using evidence-based data

(3–12). These aspects include life-skills training (3, 4, 7, 10), decision-making skills (3, 4, 7), peer-pressure resistance training (3, 4, 7), targeting students prior to drug use (5, 7), using peer-leaders (5, 7), using interactive teaching techniques (6, 8–10), using trained teachers (6, 9), using effective content and delivery (6, 9), teaching drug harm (4,6,7,9), teaching community values (7,10–12) and being culturally sensitive (7, 9–11).

Substance use and abuse in adolescents is a significant problem in the United States of America (USA). In 1995, about 12% of children 12 to 17 years old used any illicit drug; 8% used marijuana, 22% used alcohol and 20% used cigarettes in the preceding month (13). The Caribbean region has not been spared. In Antigua and Barbuda in 2001, 27% of children 11 to 17 years old reported ongoing alcohol use, with 4% reporting ongoing drug (80% marijuana) use (14). Dominica and St Kitts and Nevis report current use of alcohol at 28%, cigarettes at 3% and marijuana at 4% in students aged 13 to 17 years (15).

Project Charlie (Chemical Abuse Resolution Lies in Education) began in Edina, Minnesota, USA in 1976. The project has undergone several revisions and currently incorporates the aspects of successful school-based drug prevention programmes (16, 17). In 1998, a proposal was made to initiate a similar programme in Antigua and Barbuda. Following redesign and development, the school-based drug use prevention programme was begun in 2001. The purpose of this report is to describe the aspects of successful school-based drug and alcohol abuse prevention programmes using the “Breaking the Cycle” programme in Antigua and Barbuda as an example.

The objectives of the “Breaking the Cycle” programme in Antigua and Barbuda were to promote abstinence for school-age children at the third grade level, to limit drug use as adults with regard to amount, frequency and situations and to inhibit the development of drug abuse. The programme was developed in conjunction with the Crossroads Centre Antigua, which is a 35-bed residential drug and alcohol addiction treatment centre founded by Eric Clapton in 1998. Antigua and Barbuda is a twin-island state of 70 000 people in the north eastern Caribbean, 90% Afro-Caribbean/8% mixed race, per capita income about \$6000 US, 70% from tourism. The school system consists of primary and secondary government supported village public schools as well as private schools. Education is mandatory up to age 16 years.

The “Breaking the Cycle” programme was introduced in public primary schools in Antigua in 2001. It was extended to private primary schools in Antigua and to primary schools in Barbuda in 2002. The programme growth, programme content and materials, teacher qualifications and costs were reviewed. Aspects of the programme were compared to programmes demonstrated to be effective in developed countries.

“Breaking the Cycle” Programme Components

The goals of the programme are 1.) to help the participants learn about themselves, their feelings, their values and attitudes toward alcohol and other drugs, 2.) to help the participants learn how to make choices and decisions when they are alone, with friends or with family, 3.) to help the participants learn to identify and classify drugs and 4.) to help the participants understand the effects of alcohol and drugs on the body and mind.

Teaching topics include self-awareness, an effort to enhance student’s self-esteem and individual awareness; relationships, an effort to equip students with social competencies necessary to cope with interpersonal and intrapersonal pressures; decision making, an effort to equip the students with the skills to say “No” and assertiveness techniques to avoid the pressure to use drugs; and chemical use, an effort to increase the student’s knowledge of the harmful consequences of chemical use.

Each group of grade three students, age eight to nine years, experiences a 40-minute teaching period each week. The programme runs for four consecutive weeks to cover each of the four topics noted above. The materials provided include interactive lecture material with workbook and worksheets, games, songs and reference materials. Parents are invited to attend sessions if they wish. Children are provided with T-shirts on programme completion.

Programme Growth

School principals are approached on an individual basis for permission to present the programme to their schools. In the first spring term of January to July 2001, a total of 21 schools participated with 712 students involved. This total increased to 46 schools and 1438 students in the September to July 2004–2005 school year (Table 1). From 2001 to 2005, a total of 5571 students participated in the programme.

Table: The “Breaking the Cycle” programme growth in terms of schools and students involved

Year	Schools	Students
1/2001 to 7/2001	21	712
9/2001 to 7/2002	30	1012
9/2002 to 7/2003	39	1067
9/2003 to 7/2004	45	1342
9/2004 to 7/2005	46	1438

Programme Teachers

Mr HP Henry has a Bachelor of Science degree in Elementary Education. He has been a teacher in Antigua since 1979 and has served as vice-principal since 1993. He has also served as counsellor’s aide at Crossroads Centre Antigua, a drug and alcohol rehabilitation facility. He has served as youth director and scouting director at his church. He has taught music, planned day and summer camps and provided counselling to children.

Mr CW Roberts has a Certificate in Teacher Training with additional credits in philosophy of education and psychology. He was a teacher from 1981 to 1997 in the classroom in Antigua and continues to provide private tutoring. He has been a youth leader and Family Life Director at his church. He has worked in sales and has extensive training in motivation and personal development and currently serves as founder and president of Success Concepts International, providing leadership seminars locally. He did orientation training in drug abuse and treatment at Crossroads Centre Antigua prior to the start of the programme.

Programme Costs

Costs of the programme include teachers' salaries, books and materials, T-shirts and promotion. For the school year September to July 2004–2005, total expenses were \$28 250 EC or \$10 464 US. Teachers' salaries were the largest single component at \$18 050 EC or \$6685 US. Teaching materials (\$4895EC), T-shirts (\$4602 EC), certificates (\$445 EC), travel to Barbuda (\$262 EC) accounted for a total of \$10,204 EC or \$3779US. The cost per student involved in the "Breaking the Cycle" programme from September 2004 to July 2005 was \$19.65 EC or \$7.28 US

Comparison to Effective Programmes Overseas

Programmes directed at decreasing the likelihood of drug and alcohol use have been around for several decades. Programmes such as Drug Abuse Resistance Education (DARE) proved to be of limited effectiveness (18). Such an unproven programme, involving police and doctors, was organized in Antigua and Barbuda to promote drug awareness in the early 1990s by the Optimist Club. Standardized materials and teaching skills of the instructors were limited. Church and community programmes were also organized but demonstrated the same limitations. Although intuitively attractive, only recently have meta-analyses supported the effectiveness of certain structured programmes (4–6, 8, 10). The "Breaking the Cycle" programme in Antigua and Barbuda incorporates many of the aspects of programmes proven to be effective.

The "Breaking the Cycle" programme includes life-skills training, decision-making skills and peer-pressure resistance training as recommended by evidence-based research (3, 4, 7, 10). The age of first use for alcohol or drugs in Antigua and Barbuda was 12 years old in most students (14). The "Breaking the Cycle" programme targeted students in grade three, age eight to nine years old. This is consistent with the observation that targeting children before first use of alcohol or drugs is most effective (5, 7).

Using interactive teaching techniques has been identified as an important component of effective drug use intervention (6, 8–10) and was used by the facilitators in the "Breaking the Cycle" programme. By employing facilitators with extensive teaching experience both in the classroom and in extracurricular leadership activities, course delivery and

content were standardized and met the recommendations for successful programmes (6, 9). The facilitators were also trained in drug and alcohol abuse and treatment at a residential treatment facility in Antigua and Barbuda and were able to discuss harmful effects of drugs, another recommended aspect of good programmes (4,6,7,9). Because of the young age of the students, involvement of peer-leaders, identified as a useful characteristic of school-based intervention (5, 7), were not used in Antigua and Barbuda.

Teaching community values and developing culturally sensitive teaching materials and content are important aspects of successful school-based drug prevention programmes (7, 9–12). The use of facilitators familiar with the school and church culture of Antigua and Barbuda and the use of culturally appropriate material (*eg* music and songs) are special aspects of the "Breaking the Cycle" programme in Antigua and Barbuda.

What is meant by "an effective school-based intervention programme"? Most intervention programmes are evaluated by questionnaire assessment some time (12 to 18 months usually) after the course (4, 17–19). The magnitude of effect varied across programmes. For example, project ALERT in the USA was associated with a decrease of 19 to 39% in initiation of cigarette and marijuana use, current and regular cigarette use and alcohol misuse (19). The Lions-Quest "Skills for Adolescence" programme in the USA demonstrated a significant decrease ($p < 0.05$) in lifetime and current marijuana users comparing students participating in a life skills training programme compared with those students who did not (20). The effect of a programme offered in primary school appears to persist beyond two years into secondary school and may persist up to 15 years (21).

In the USA, the social benefits per participant in a school-based drug prevention programme stemming from reduced drug use was about \$840 US and appear to exceed the costs of running a programme which were about \$150 US per participant (22). The risk of substance use in the Caribbean region may be less but lower programme costs such as that seen in the "Breaking the Cycle" programme would suggest that school-based substance use prevention would be cost effective.

"Evidence-based" criteria are used in less than 50% of schools offering substance use prevention programmes in some school districts in the USA (23, 24) and "theory-based" interventions that have documented behavioural effects have not enjoyed large-scale implementation while "intuition-based" programmes that have no documented effects still enjoy wide exposure (20).

Although the "Breaking the Cycle" programme meets most criteria for effective evidence-based substance use prevention programmes, challenges remain. Most programmes in developed countries involve students in middle school [grades six to eight] (4–6, 17–19). Follow-up sessions have also been recommended (7, 19). In Antigua and Barbuda, consideration is being given to introducing a pro-

gramme in grade six or seven which would reinforce the earlier efforts, provide follow-up and possibly incorporate peer leaders (5,7). A method of evaluating the effectiveness of the “Breaking the Cycle” programme needs to be developed, consistent with the assessment of programmes overseas (1,4,12). There is a need to collaborate and share information with other drug and alcohol use prevention programmes both locally and regionally. Effective school-based programmes may be included as part of broader community-based programmes of substance abuse prevention in the Caribbean region (25).

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REFERENCES

- Gorman DM. Alcohol and drug abuse: the best of practices, the worse of practices: the making of science-based primary prevention programs. *Psychiatr Serv* 2003; **54**: 1087–9.
- Botvin GJ. Substance abuse prevention research: recent developments and future directions. *J Sch Health* 1986; **56**: 369–74.
- Botvin GJ, Kantor LW. Preventing alcohol and tobacco use through life-skills training. *Alcohol Res Health* 2000; **24**: 250–7.
- Faggiano F, Vigna-Taglianti FD, Versino E, Zambon A, Borraccino A, Lemma P. School-based prevention for illicit drugs’ use. *Cochrane Database Syst Rev* 2005: CD003020.
- Gottfredson DC, Wilson DB. Characteristics of effective school-based substance abuse prevention. *Prev Sci* 2003; **4**: 27–38.
- Ennett ST, Ringwalt CL, Thorne J, Rohrbach LA, Vincus A, Simons-Rudolph A et al. A comparison of current practice in school-based substance use prevention programs with meta-analysis findings. *Prev Sci* 2003; **4**: 1–14.
- Midford R, Munro G, McBride N, Snow P, Ladzinski U. Principles that underpin effective school-based drug education. *J Drug Educ* 2002; **32**: 363–86.
- Sussman S, Rohrbach LA, Patel R, Holiday K. A look at an interactive classroom-based drug abuse prevention program: interactive contents and suggestions for research. *J Drug Educ* 2003; **33**: 355–68.
- Nation M, Crusto C, Wandersman A, Kumpfer KL, Seybolt D, Morrissey-Kane E et al. What works in prevention. Principles of effective prevention programs. *Am Psychol* 2003; **58**: 449–56.
- Lilja J, Wilhelmsen BU, Larrson S, Hamilton D. Evaluation of drug use prevention programs directed at adolescents. *Subst Use Misuse* 2003; **38**: 1831–63.
- Gosin M, Marsiglia FF, Hecht ML. Keepin’ it R.E.A.L.: a drug resistance curriculum tailored to the strengths and needs of pre-adolescents of the southwest. *J Drug Educ* 2003; **33**: 119–42.
- Pentz MA. Evidence-based prevention: characteristics, impact and future direction. *J Psychoactive Drugs* 2003; **35** (Suppl 1):143–52.
- Gordon SM. Adolescent drug use trends. In: *Adolescent Drug Use: Trends in Abuse, Treatment and Prevention*. Caron Foundation, Wernersville, Pennsylvania. 2000: 2–8.
- Ministry of Labour, Cooperatives and Public Safety. School Survey. In: *National Drug Use Prevalence Survey 2001. School and Workplace*. C. Henry and Associates, St John’s, Antigua. 2001: 12–40.
- Ivey MA, Douglas KG, Casimir LB, Prince PE. Substance use in Caribbean secondary schools, the Commonwealth of Dominica and St Kitts and Nevis experience: preliminary results to a regional perspective. *West Indian Med J* 2003; **52**: 53.
- Storefront/Youth Action. Project Charlie. *Chemical Abuse Resolution Lies In Education*, 2nd ed. Storefront/Youth Action, Richfield, Minnesota 1992.
- Barlow J, Enock K, Elbourne D, Withell S. Project Charlie. *Addiction* 1998; **93**: 1875–7.
- Perry CL, Komro KA, Veblen-Mortenson S, Bosma LM, Fakhakhsh K, Munson KA et al. A randomized controlled trial of the middle and junior high school D.A.R.E. and D.A.R.E. Plus programs. *Arch Pediatr Adolesc Med* 2003; **157**: 178–84.
- Ellickson PL, McCaffrey DF, Ghosh-Dasidar B, Longshore DL. New inroads in preventing adolescent drug use: results from a large-scale trial of project ALERT in middle schools. *Am J Public Health* 2003; **93**: 1830–6.
- Eisen M, Zellman GL, Murray DM. Evaluating the Lions-Quest “Skills for Adolescence” drug education program. Second year behaviour outcome. *Addict Behav* 2003; **28**: 883–97.
- Skara S, Sussman S. A review of 25 long-term adolescent tobacco and other drug use prevention program evaluations. *Prev Med* 2003; **37**: 451–74.
- Caulkins JP, Pacula RL, Paddock S, Chiesa J. What we can- and cannot- expect from school-based drug prevention. *Drug Alcohol Rev* 2004; **23**: 79–87.
- Rohrbach LA, Ringwalt CL, Ennett ST, Vincus AA. Factors associated with adoption of evidence-based substance use prevention curricula in US school districts. *Health Educ Res* 2005; **20**: 514–26.
- Pankratz MM, Hallfors DD. Implementing evidence-based substance use prevention curricula in North Carolina public school districts. *J Sch Health* 2004; **74**: 353–8.
- De la Haye W. Community-based prevention of substance abuse. *West Indian Med J* 2004; **53**: 420–3.