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Peer-led interventions to reduce HIV risk of youth: A review

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ABSTRACT

One approach in HIV prevention programming targeting youth is to use peer leaders in what is referred to as peer education programming. This paper critically reviews and synthesizes the results and lessons learned from 24 evaluated peer-led programs with an HIV/AIDS risk reduction component that target youth in the communities where they live and are delivered in low- and middle-income countries. Interventions were identified through a comprehensive search of the peer reviewed AIDS-related literature as well as publication lists of major organizations in the UN family that address HIV and AIDS. Our synthesis of study results finds that these programs have demonstrated success in effecting positive change in knowledge and condom use and have demonstrated some success in changing community attitudes and norms. Effects on other sexual behaviors and STI rates were equivocal. We include an overview of characteristics of successful programs, a review of program limitations, and recommendations for the development and implementation of successful community-based peer-led programs in low-income countries.

One approach in HIV prevention programming targeting youth worldwide is to use peer, rather than professional, leaders in what have been referred to as peer education programs. Peer-led programs have been delivered in schools, clinics, community centers, workplaces, and in informal settings where members of target populations congregate. They build on the natural exchange of information between people of similar age or status (Turner & Shepherd, 1999). Peer education and peer-led interventions typically target peer groups and communities rather than individuals as the unit of change, with agents of change coming from within the group or community (i.e. peers) rather than brought in from outside. The approach is based on the assumption that, especially among adolescents, peers learn from each other, are important influences on each other, and that norms and behaviors are most likely to change when liked and trusted group members take the lead in change (Aggleton & Campbell, 2000; Campbell, 2004; Fee & Youssef, 1996; Shiner, 1999; Turner & Shepherd, 1999).

According to Gerber and Kauffman (1981), peer education has its roots in the "monitorial system" set up by Joseph Lancaster in London, England, in the early 1800s that was designed to reduce teacher workloads. Teachers taught lessons to a select group of student "monitors" who then passed these on to their classmates. Helm, Knipmeyer, and Martin (1972) identify the influenza outbreak at the University of Nebraska in the United States as one of the earliest uses of peer educators in the health sphere with trained students providing prevention and care information to fellow students. By the 1990s, peer education was one of the most widely used approaches in HIV prevention initiatives targeting youth (Bernert & Mouzon, 2001; Horizons, 2000). Today, peer education is included as a component in a number of large-scale initiatives designed to reduce the spread of HIV among youth, including the 100 million pound initiative funded by the Department for International Development, UK, in Nigeria (www.dfid.gov.uk) and South Africa's National HIV Prevention Program for Youth, LoveLife (www.kff.org/about/lovelife.cfm). Following a model that networked peer educators across 14 countries in the European Union called EUROPEER, both national and international organizations have been formed in other world regions. NOPE (National Organization of Peer Educators; website www.nope.or.ke), for example, mobilizes peer-led community interventions and trains and networks peer educators across Kenya. YPEER (Youth Peer Education Network; website www.youthpeer.net), with chapters in 27 countries in Eastern Europe, Central Asia, the Arab States and Africa, networks and trains peer educators and expands peer-led programming within and across regions.

With the spread of peer education, including the development of national and international organizations to promote peer education, it becomes increasingly important to synthesize the evidence from existing programs to better guide decision-making and program planning. Kim and Free (2008) recently published a systematic review and meta-analysis of 13 peer-led adolescent sexual health education interventions. Using several indicators of

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condom use and sexual behavior, they found no evidence of a positive program effect. They surmised that this poor showing for peer-led interventions was potentially due to the paucity of evaluation studies using rigorous designs (which excluded the vast majority from consideration in their synthesis) and the haste with which many programs are implemented, especially in regions facing the crisis of high and rising rates of HIV spread. The methodological standards required for their meta-analysis especially excluded interventions and evaluation studies from low-income countries. Sub-Saharan Africa (SSA), for example, is estimated to account for 59% of peer-led programs (Kelly et al., 2006), but provided only 4 of the 13 studies to Kim and Free's review.

Kelly et al. (2006), in their recent review of programming delivered by non-government organizations (NGOs) in low-income countries stress the very limited resources with which these organizations work. This often places NGOs in the position of balancing between delivering more sophisticated (and costly) programs and expanding the reach of more basic programs as well as between investing in expanded program delivery and more sophisticated evaluation. The shortage of rigorous evaluation studies is exacerbated by the reluctance of donor agencies to invest in them (Pettifor, MacPhail, Bertozzi, & Rees, 2007). Besides the resource constraints, some have questioned the relevance of the criteria applied in meta-analyses and syntheses such as Kim and Free's to interventions targeting groups and communities—the primary target groups for peer-led interventions (Auerbach, 2008; Rapkin & Trickett, 2005). These interventions require flexibility of delivery and consideration of a wide array of interconnected factors whose influence on outcomes is expected to be highly variable depending on the positioning of individuals (Auerbach, 2008; Pettifor et al., 2007; Rapkin & Trickett, 2005), a situation that does not readily fit the requirements of the most rigorous evaluation designs (DiClemente, Crosby, & Wingood, 2005; Rapkin & Trickett, 2005).

The dearth of syntheses of peer-led interventions limits our knowledge about "what works" in low-income countries. This paper sets out to help fill that gap in knowledge. We critically review and synthesize the results and lessons learned from evaluated peer-led programs with an HIV/AIDS risk reduction component that target youth in geographical communities (i.e. communities where they live) and are delivered in low-income countries. We have focused on low-income countries because this is where HIV prevalence is highest and where there are the greatest resource challenges for program delivery. The focus of our attention is on programs in geographical communities because this is where vulnerabilities are grounded and where most risky behaviors occur (Campbell, 2004) and because programs in communities have the potential of reaching the largest number of youth (Maticka-Tyndale & Brouillard-Coyle, 2006). We follow the approach used in a paper that synthesized school-based programs in sub-Saharan Africa (Gallant & Maticka-Tyndale, 2004) together with the framework for assessing evidence of program impact provided by Habicht, Victora, and Vaughan (1999) and used in the recent WHO review and synthesis of HIV prevention programming targeting youth in low-income countries (Ross, Dick, & Ferguson, 2006). This allows us to broaden the methodological inclusion criteria to capture a larger number of programs with more diverse evaluation designs while still maintaining a structured and critical approach to assess the quality of evaluation results.

1. Method

Evaluated prevention programs were located by searching literature databases such as Psychological Literature (PsychLit), Population Information Program (POPLINE), Sociological Abstracts, and MEDLINE; the tables of contents of journals that published articles evaluating interventions with an HIV/AIDS content between 1994 and 2008; and publication lists from international organizations such as the United Nations Joint Commission on HIV/AIDS (UNAIDS) and the World Health Organization Global Program on AIDS (WHO/GPA).

To be included in this review, an intervention had to meet the following criteria: (a) youth (as culturally defined) were included in the target population (most targeted those 15–24); (b) it was delivered in a geographical community; (c) at least some content dealt with knowledge, attitudes, norms, and/or behaviors relevant to the prevention of HIV/AIDS; (d) it was designed to be delivered primarily by youth peers; (e) it was delivered in a low- or middle-income country; (f) it was evaluated (both quantitative and qualitative evaluations were included) and information about the evaluation methods and results was provided; (g) the content and delivery methods were described; (h) the report or paper describing the intervention and its evaluation was available in English or French and published between January 1994 and November 2008. This time period encompassed the dates used in the WHO publication (Ross et al., 2006) where similar syntheses were reported and the last date on which we accessed the literature in preparing this paper. Interventions were excluded if they did not meet these criteria or if they were delivered primarily in a school, workplace, or health facility.

Several steps were taken to synthesize materials. First, descriptions of each program were examined and charted based on their theoretical framework, targeted outcomes, intervention content, implementation strategies, duration, local community input and/or cultural modifications, program monitoring, and discussion of any issues salient to program delivery or evaluation. A condensed version of these charts is included here as Table 1.

Second, descriptions of evaluation procedures were reviewed and charted based on research design, sampling frame and size, data collection, threats to internal validity, validation of measures and appropriateness of analytic techniques. Condensed versions of these charts are included here as Tables 2 and 3. Using Habicht et al.'s (1999) continuum of evidence for an intervention's effect, interventions were categorized as providing evidence of an effect that ranged from *adequate* to *plausible* to *probable*. Demonstration that an effect was related to the intervention was considered *adequate* if the design of the evaluation study could show that the expected changes occurred. This was often in the form of performance or process indicators (e.g. programs were held, target populations were reached, condoms were distributed) and a change in the desired direction for health, knowledge, attitude or behavioral indicators or community activities. There was *plausible* evidence that a demonstrated effect was related to the intervention if, in addition to demonstrating change, study design and data analysis allowed for alternative explanations of change to be ruled out through use of a control group and/or statistical controls for potentially confounding variables. Plausibility evidence ranged from weak to strong depending on the design, analysis techniques and handling of threats to internal and external validity. Finally, to draw conclusions about an intervention's effects on the grounds of *probability* required the exclusion of explanations for the effect other than the intervention, typically through a randomized control design. The reported outcomes were examined from within this framework.

Comparison of the effectiveness of interventions was drawn within outcome categories (e.g. knowledge changes across interventions) as well as within the intervention and across outcome categories. Conditional results (e.g. only girls, only rural youth) and results of tests for confounding factors were also noted. The outcomes from evaluation studies with the strongest