

COCHRANE COLUMN

Taryn Young

The aim of the Column is to highlight Cochrane systematic reviews of relevance to public health and to stimulate debate on relevance, feasibility, and acceptability. The HIV/AIDS pandemic is affecting all spheres of healthcare. In this issue we discuss the effectiveness of mass media interventions for promoting HIV testing.

South African Cochrane Centre, Medical Research Council, PO Box 19070, Tygerberg 7505, South Africa. E-mail: taryn.young@mrc.ac.za

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The Cochrane Collaboration (<http://www.cochrane.org>) is an international, non-profit organization that prepares and disseminates up-to-date systematic reviews on the effects of healthcare interventions in order to help people make well-informed decisions. Systematic reviews aim to answer focused healthcare questions by systematically identifying and evaluating all relevant research studies and synthesizing their results.

If you are interested in contributing to the Cochrane Column or The Cochrane Collaboration, contact me at the South African Cochrane Centre.

Mass media interventions for promoting HIV testing: Cochrane systematic review

J Vidanapathirana,^{1*} MJ Abramson,² A Forbes² and C Fairley³

Background

Use of the mass media is one of the important strategies in communicating behavioural change in relation to HIV/AIDS prevention. Mass media are used to promote voluntary HIV counselling and testing and to sustain test-seeking behaviour. This review aimed to assess the effect of mass media interventions and the most effective form of mass media intervention at a general population level or in specific target populations, in relation to changes in HIV testing, compared with a control group or with pre-intervention levels.

Methodology

Search strategy

We searched the Cochrane Central Register of Controlled Trials (*The Cochrane Library* Issue 2, 2004), MEDLINE (1966–April 2004), EMBASE (1980–April 2004), NLM Gateway, CINAHL (1982–April 2004), AIDSearch (1980–April 2004), PsycINFO (1974–April 2004), Sociological abstracts (1982–April 2004), and Communication studies (1982–April 2003). The reference

lists of related reviews were searched and experts in the field were contacted to identify ongoing research. All these searches were done without language restriction.

Selection criteria

Randomized controlled trials (RCTs), including cluster-randomized trials and non-randomized controlled studies (NRCT), that compared either multimedia interventions or one type of media strategy with a control in relation to promotion of HIV testing were included. Interrupted time series (ITS) analyses that assessed the effect of mass media against no media or an alternative intervention to promote HIV testing were also included. Two authors independently assessed trial quality and extracted data. Study authors were contacted for additional information. Types of mass media interventions, participants, and outcomes were extracted in every possible instance.

Data analysis

Data from original papers were extracted and reanalysed according to recommended methods for analysis of ITS designs for inclusion in systematic reviews.¹ Pooling Intervention impacts of all studies were measured in the following way:

- (i) *Change in trend over time* was assessed by the difference between the pre-intervention and post-intervention slopes.

¹ National HIV/AIDS Prevention Project, Sri Lanka.

² Central & Eastern Clinical School, Monash University, Melbourne, Australia.

³ Melbourne Sexual Health Center, Melbourne, Australia.

* Corresponding author. Consultant Community Physician, National HIV/AIDS Prevention Project, No 29, De Saram Place Colombo 10, Sri Lanka. E-mail: kavigaya@yahoo.com

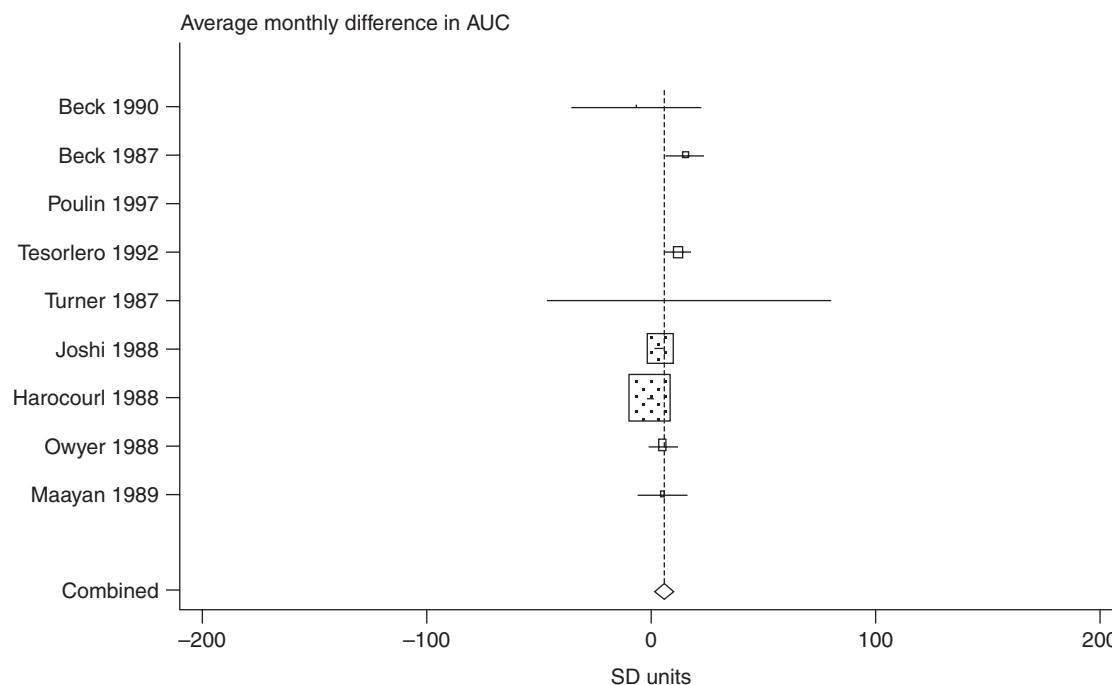


Figure 1 Average monthly difference in area under the curve (AUC). Estimated mean difference was 6.095 (95% CI 1.812–10.378; $P = 0.005$)

- (ii) *Initial impact of the intervention* was assessed by the difference between the level predicted by the pre-phase, extrapolated to the first point in the post-phase, with that of the predicted level of the post-intervention regression at the first point in the post-phase. In essence, it compares the magnitude of the first point in the post-phase with an estimate as to what it would have been had there been no intervention.
- (iii) *Long-term impact of the intervention* was assessed by the difference between the level predicted by the pre-phase, extrapolated to the last point in the post-phase, with that of the predicted level of the post-intervention regression at the last point in the post-phase. Similar to that given above, this compares the last point in the post-phase with what it may have been had there been no intervention.
- (iv) *Overall impact of the intervention*: The area under the curve, between the level predicted by the pre-phase, extrapolated to the entire post-phase, was compared with the predicted level of the post-intervention regression after scaling to monthly differences as described earlier.

Results

Of the 35 references that were identified, two RCT, three NRCT, and nine ITS were included in the final analysis. No studies were found from developing countries or countries with generalized HIV epidemics.

Nine ITS analyses were pooled. All of these studies had multimedia interventions except one study, which included AIDS educational programmes on television. All interventions were based on watching, reading, or hearing information, which was not influenced by the facilitator for clarifications or questions. All ITS studies had interview-assessed outcome data.

All individual studies concluded that mass media were effective, and this was confirmed by reanalysis of the ITS, which all had initial impact. Mass media interventions for promotion of HIV testing showed significant immediate [Random effects model: Estimated mean = 5.487; 95% confidence interval (95% CI) 2.370–8.605] and overall (Random effects model: Estimated mean = 6.095; 95% CI 1.812–10.378) effect (Figure 1). No long-term effects were seen (Random effects model: Estimated mean = 4.447; 95% CI -0.188 to 9.082).

Conclusions

Mass media interventions have immediate and overall effects in the promotion of HIV testing. No long-term effects were seen. Although this review was limited to developed countries, television and radio can be used in both literate and non-literate communities. Therefore the findings are likely to be generalizable to developing countries as well. Additional research is needed to identify the effectiveness of different types of mass media interventions, the cost effectiveness of the interventions, and characteristics of messages.

The full text of the review is available in *The Cochrane Library*: Vidanapathirana J, Abramson MJ, Forbes A, Fairley C. Mass media interventions for promoting HIV testing. *The Cochrane Database of Systematic Reviews* 2005, Issue 3. Art. No.: CD004775.pub2. DOI: 10.1002/14651858.CD004775.pub2.

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Commentary: Mass media interventions for promoting HIV testing

Don Operario

Over the past two decades, HIV prevention programmes around the world have used mass media campaigns to increase testing and improve people's knowledge of their HIV status. This strategy has relied primarily on assumptions about media effects, rather than empirical support. Results synthesized from 14 rigorous studies provide systematic evidence that mass media interventions can indeed promote testing in the targeted population. The caveats stated in this review, however, expose further questions about the content and sustainability of mass media for effectively increasing testing and improving knowledge of HIV status.

What is the necessary content of mass media messages for motivating people to test for HIV? We know from this review that using media can increase testing behaviour, but we know little about what those media messages say and how they say it. Any advertising or marketing professional could describe the effort put into developing and piloting successful media, and would refer to the confluence of message source, message framing, type of media delivery, duration and intensity of message, and audience characteristics requisite to make a successful campaign.¹ These factors could matter immensely in determining the impact of any mass media intervention for HIV testing. Furthermore, because none the included studies were conducted in developing countries, where HIV prevalence and need for testing is most severe, basic research is needed to identify message content and media strategies relevant to HIV testing behaviour for different risk groups in different cultural settings, and whether behavioural effects of mass media intervention can be measured outside the developed world.

Department of Social Policy and Social Work, University of Oxford, 32 Wellington Square, OX12ER, UK.

How can the effects of mass media on HIV testing be sustained? Results from this review showed initial impact but little long-term effects on testing behaviour. Does this systematic pattern represent an upper threshold on the effectiveness of mass media on HIV testing? Or does this suggest that media campaigns can maintain audience receptivity through updating? An optimistic view is that revitalizing media strategies over time can improve long-term effects on HIV testing behaviours, but this systematic review provides no evidence for this.

HIV/AIDS prevention professionals should be cautioned against the assumption that any mass media intervention might be effective for increasing population-level testing rates. Although systematic review findings suggest that this is a plausible intervention framework, much care and sensitivity must go into the creation of relevant and appropriate media messages and strategies to motivate desired behaviour change in the target audience. There is anecdotal evidence in the HIV/AIDS field that media campaigns have the capacity to do more harm than good, such as earlier AIDS pharmaceutical advertisements presenting robust men, who were ostensibly HIV-positive, climbing mountains. The consequences of those ads have not been systematically studied, but the potential for well meaning mass media interventions to have unanticipated negative consequences should prompt effort into designing culturally sensitive, theoretically grounded interventions for promoting HIV testing.

References

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Commentary: Mass media interventions for promoting HIV testing

Nicole Crepaz

As antiretroviral therapy (ART) programmes are launched and expanded globally, the world has a unique opportunity to curb the HIV epidemic by simultaneously bolstering prevention

Division of HIV/AIDS Prevention, US Centers for Disease Control and Prevention, Atlanta, GA, USA

efforts.¹ HIV testing plays a pivotal role in both treatment and prevention. This review is highly relevant to the global HIV prevention efforts as it provides evidence of effectiveness of mass media interventions in promoting HIV testing.

The finding that mass media interventions have a significant immediate effect on the uptake of HIV testing is welcome

news. It is particularly encouraging considering that several mass media interventions evaluated in the review were brief, primarily designed to increase public awareness about HIV, and not specifically HIV testing campaigns. Given these intervention characteristics, it may not be realistic to expect a long-term impact on HIV testing behaviour. It is also not surprising that there was no significant intervention effect in detecting infected people because the target audiences in the majority of the studies were the general population. Although no evidence is yet available, one may expect that more targeted media campaigns may be even more effective, especially in identifying undiagnosed HIV infection.

Like other Cochrane reviews, this review is also helpful in providing a review of methodological quality of existing interventions and highlighting the research gaps. Only 14 of the 35 studies identified met acceptable inclusion criteria designed to derive valid conclusions about intervention efficacy. Several included interventions suffered from poor reporting on study execution, intervention characteristics, and other important information. This reduced the authors' ability to identify the most effective form of mass media and assess cost effectiveness. Clear and transparent reporting of intervention trials should be encouraged.²⁻⁴ The complete information would improve synthesis efforts that provide evidence-based recommendations for public health practice.

Determining mass media as an effective tool in promoting HIV testing is the first step in informing policy decision-making. For advancing public policy, what is needed is more research on the issues that the review does not address: How does mass media influence HIV testing behaviour in the ART era? What form of media work is best for what populations? How to translate and adapt the effective media interventions to settings or populations that were not originally tested? Does the use of the mass media represent a more effective and

cost-effective approach in promoting HIV testing compared with other interventions (e.g. network approach)?⁵

Disclaimer

The findings and conclusions in this report are those of the author and do not necessarily represent the views of the Centers for Disease Control and Prevention.

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A summary of Cochrane reviews (and protocols) of relevance to health promotion and public health can be viewed on the Cochrane Health Promotion and Public Health website: <http://www.vichealth.vic.gov.au/cochrane/>