

Prevention of HIV in young people in Africa

Interventions need to be sustained and extend beyond schools and into the community

Despite the importance of preventing HIV infection in young people in countries where it is highly endemic, few rigorously conducted studies have measured the effects of preventive interventions.¹ The linked randomised trial by Jewkes and colleagues (doi: [10.1136/bmj.a506](https://doi.org/10.1136/bmj.a506)) of the Stepping Stones intervention is therefore an important addition.² The trial randomly allocated 70 villages in the Eastern Cape province of South Africa to the intervention arm or control arm. In each village, 20 male and 20 female volunteers took part in Stepping Stones, a 50 hour programme to improve sexual health using participatory learning approaches, or a three hour control programme. After two years of follow-up, the incidence of HIV (the primary outcome) was not significantly affected, but infection with herpes simplex type 2 virus (HSV-2) was significantly (33%) reduced. In young men, reported risk behaviours, perpetration of intimate partner violence, and problem drinking were also significantly reduced, but no differences were seen in young women.

Strengths of the study include the randomised design and the measurement of objective biomarkers (HIV and HSV-2)—the possible biases in self reported sexual behaviours are well recognised. The study had some limitations however. The lower incidence of HIV and the higher variation between villages than expected meant that the study did not have enough power to detect moderate effects on HIV. Randomisation was not concealed, and knowledge of the treatment arm may have influenced volunteers' decisions about taking part, which could lead to selection bias. Although baseline characteristics of the two study arms were generally similar, people in the control arm were better educated.

Furthermore, this evaluation was carried out in a relatively small group of presumably well motivated volunteers, and the generalisability of the findings to the wider community is unclear. Given these concerns, the results should be interpreted with caution.

At first sight the greatest puzzle is how the intervention moderately reduced HSV-2 but had little or no effect on HIV or reported behaviour in women. The authors suggest that women are more likely to acquire HIV from older male partners and HSV-2 from younger partners, because young men have a low prevalence of HIV but a high prevalence of HSV-2. The Stepping Stones programme may have reduced casual sex between young men and women, but was less effective in changing women's behaviour with older male partners, who may not have benefited from the intervention.

This agrees with findings from the MEMA kwa Vijana trial in Tanzania, the only published trial of the effects of an adolescent sexual health intervention on HIV and other sexually transmitted infections.³ Sexual health knowledge and attitudes improved substantially in that trial, but HIV and other biomarkers were not consistently affected. Reported behaviour was affected in men but less so in women, and it was postulated that this reflected inequalities in gender power relations in settings where young women often have sex with men who are several years older.

If this interpretation is correct, a conclusion from both trials is that interventions may need to be implemented more widely and sustained for longer so that the potential male partners of young women can benefit from the intervention. This hypothesis is being tested in a long term follow-up of the communities studied in the MEMA kwa Vijana trial, which is nearing completion. A further community randomised study in rural Zimbabwe, the Regai Dzive Shiri trial, has been completed and will be reported later this year.⁴ The IMAGE (intervention with microfinance for aids and gender equity) trial in South Africa looked at the effects of a structural intervention combining microfinance with a training curriculum that included gender roles and HIV, and like the Stepping Stones trial found an effect on the perpetration of intimate partner violence but not on the incidence of HIV.⁵

We are not aware of any other ongoing studies of this kind in Africa, although this is one of the most pressing priorities for public health. Even in the countries worst affected by the HIV epidemic, few 15 year olds are infected but they have a very high risk of infection during the next few years. In the Stepping Stones trial, for example, the annual incidence of HIV in young women exceeded 6%. Unless we can find effective ways of protecting young people from infection, numbers of HIV cases will continue to rise, and it will become impossible to expand and sustain antiretroviral treatment services for all who need them.

The trials published to date have targeted interventions at young people who go to school. Their results suggest that interventions may need to be extended to cover those who do not go to school and the wider community. Interestingly, the original Stepping Stones intervention was designed as a participatory community based programme.⁶ As Jewkes and colleagues note, their cautiously optimistic results suggest that further work should be done to evaluate this intervention when applied more widely in the community.

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Richard Hayes, *professor of epidemiology and international health*

¹ London School of Hygiene and Tropical Medicine, London WC1E 7HT

richard.hayes@lshtm.ac.uk

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