



**Mema kwa Vijana**  
Good things for young people



**REGAI DZIVE SHIRI**

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MEMA kwa Vijana is an adolescent sexual and reproductive health programme working in schools, health facilities and communities.

MkV has over ten years research and implementation experience in Mwanza region, Tanzania.

MkV aims to provide policymakers and programme managers with evidence and recommendations on effective interventions for preventing HIV and improving the sexual health of young people.

#### **KEY POINTS:**

HIV prevention among young people is an urgent priority.

Both interventions increased young people's knowledge, which is important in its own right. However they did not reduce HIV or other sexually transmitted infections. There is a gap between knowledge of how to avoid HIV and other sexual risks among young people and actual behaviour change. It is likely that wider societal norms related to adolescent sexual risk behaviours will need to be changed to permit this to occur.

Other approaches need to be developed, implemented and evaluated to find effective ways of preventing HIV among young people in sub-Saharan Africa.

# Rethinking how to prevent HIV in Young People: Evidence from two large randomised controlled trials in Tanzania and Zimbabwe

## Summary

### Key findings

The MEMA kwa Vijana (Tanzania) and Regai Dzive Shiri (Zimbabwe) adolescent sexual and reproductive health intervention trials focused on developing skills and changing attitudes and self-efficacy to change behaviours. They used participatory, active learning methods, and included interventions in schools, health services and the broader community.

Both interventions increased young people's knowledge, but did not reduce HIV or other sexually transmitted infections. The trials show a clear gap between young people's knowledge, and their reported attitudes and behaviour. Explanations for this gap may include underlying structural factors and social norms, and/or the nature of the intervention itself.

These results suggest that even carefully designed interventions delivered through schools or community peer-educators, with complementary interventions in the health services, are unlikely, on their own, to have a substantial effect on the HIV epidemic in the short or medium term.

Despite the failure of these interventions to reduce the prevalence of HIV and other STIs, the increase in and retention of knowledge is encouraging and important. The recent survey within the MEMA kwa Vijana trial showed that a significant impact on knowledge was still present an average of 5.4 years after the young people had last been exposed to the in-school intervention. Accurate knowledge and skills are essential for young people who want to change their behaviour, and access to them is a human right. Many young people in sub-Saharan Africa still do not have access to these skills and knowledge.

More work is needed to explore:

- Whether alternative interventions among young people can be more effective, and cost-effective
- How to design and implement effective interventions for changing population norms related to sexual risk behaviours
- Whether there is a cost-effective combi-

nation of prevention methods that will result in reducing the incidence of HIV in young people

- What factors were important in changing population norms, sexual behaviour and in reducing HIV incidence in African countries where this has occurred, such as Uganda, Zimbabwe and Ethiopia

### Recommendations

1. Positive changes in knowledge, attitudes and reported behaviours do not always lead to a positive impact on HIV, STDs and unwanted pregnancies. Exercise considerable caution when drawing conclusions about the effectiveness of adolescent sexual and reproductive health interventions if biological outcome data are not available.
2. Interventions such as MEMA kwa Vijana and Regai Dzive Shiri can increase young people's knowledge about HIV, STIs and pregnancy prevention, which is important. However, these interventions on their own will not be sufficient to reduce HIV and other STIs in young people in sub-Saharan Africa. Additional efforts need to be made to achieve this, perhaps through efforts to successfully change population norms more generally.
3. In order to reduce HIV incidence among young people in sub-Saharan Africa, additional efforts are needed to:
  - Increase young people's access to effective HIV prevention interventions including condoms, male circumcision, early STD treatment and HIV testing and counselling, and clean injecting services for IV drug users
  - Design, implement and rigorously evaluate interventions to change population norms related to sexual risk behaviours among adults as well as young people, with support from strong political leadership
  - Address structural (societal) issues, such as gender inequality, that are drivers of the HIV epidemic



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## Importance of preventing HIV in young people

Young people are particularly vulnerable to HIV, and 45% of HIV transmission worldwide takes place among those aged 15–24 years (UNAIDS 2008). Preventing HIV amongst young people is vital if the spread of the epidemic is to be halted and reversed.

The importance of preventing HIV in young people is reflected in goals set by the UN General Assembly Special Session on HIV/AIDS in 2001, which include ensuring that young people have access to the information, skills and services they need to reduce their vulnerability to HIV, and reducing HIV prevalence among young people. Currently, relatively few young people in sub-Saharan Africa have access to this knowledge or skills.

This policy brief examines the policy implications of the results of two recently-completed, major trials of adolescent sexual and reproductive health interventions in sub-Saharan Africa; the MEMA kwa Vijana Trial in Mwanza, Tanzania, and the Regai Dzive Shiri Trial in Zimbabwe.

## Approaches to preventing HIV in young people

Many different approaches to preventing HIV in young people are in use in different settings, including behaviour change interventions, biomedical interventions and social interventions.

Behaviour change interventions are perhaps the commonest strategy for HIV prevention amongst young people that have been promoted to date. These interventions aim to reduce the risk of HIV-related sexual and drug-use behaviours. Within this type of intervention there is a wide range of methods, including in-school sexual health education, and the promotion and social marketing

of condoms. Biomedical primary prevention interventions include managing STIs (which if left untreated can increase the risk of contracting or transmitting HIV) and male circumcision.

Population norms play an important role in determining the success of behaviour change interventions. Where these are not supportive of the messages being delivered by the intervention, it is unlikely that the intervention will successfully change behaviour. However, there are examples in Africa of where population norms have changed, leading to changes in behaviour and a resulting decrease in HIV incidence. This has occurred in countries including Uganda, Zimbabwe and Ethiopia.

## Evidence on the effectiveness of behaviour change interventions

### Information and skills

There is a considerable body of evidence to show that behaviour change ASRH interventions can successfully increase young people's knowledge about HIV and how to protect themselves from infection. This is an important outcome in its own right, as demonstrated by the UN Declaration of Commitment on HIV/AIDS:

“By 2005, ensure that at least 90 per cent, and by 2010 at least 95 per cent of young men and women aged 15 to 24 have access to the information, education, including peer education and youth-specific HIV education, and services necessary to develop the life skills required to reduce their vulnerability to HIV infection”. (UNGASS, 2001)

### Behavioural risk

Increasing young people's knowledge alone is not enough to prevent HIV. Studies have found that some interventions successfully change the reported behaviour of participants, although most changes reported have been of small to moderate effect. However, many studies have also shown that self-reported behaviour is often biased in this age group as participants tend to report what they consider to be socially desirable answers rather than what is actually true. It is likely that such “desirability bias” in self-reports may be greater in people who took part in the intervention than in those who did not.

## Biological outcomes

Very few studies of behaviour change interventions in this area have measured biological outcomes such as HIV infection, other STDs and pregnancy as well as behaviour. The very limited number of studies that have looked at both behaviour and biological outcomes have mainly been conducted in high-income countries and have shown mixed results, with significant positive knowledge and reported behaviour changes not translating into consistent, significant changes in biological outcomes.

MEMA kwa Vijana and Regai Dzive Shiri were designed to measure outcomes relating to knowledge, behaviour and biological outcomes. They provide evidence on whether these adolescent sexual and reproductive health behaviour change interventions are effective at preventing HIV in these African settings. The results of these trials, together with what is already known, should guide future efforts to prevent HIV amongst young people.

MEMA kwa Vijana (“Good things for young people”), Mwanza, Tanzania

## The intervention

The MEMA kwa Vijana intervention comprises of:

1. Teacher-led, peer-assisted in-school sexual and reproductive health education to pupils in the last three years of primary school.
2. Training and supervision of health workers in government health facilities to provide youth-friendly sexual and reproductive health services.
3. Training and supply of youth community-based condom promoters and distributors.
4. Related community-wide activities, to create a supportive environment for the adolescent sexual health interventions.

The MEMA kwa Vijana intervention was implemented in 10 communities in Mwanza, Tanzania from 1998. The interventions in the schools and health facilities are led by government teachers and health workers. They were explicitly designed to be affordable by the Government of Tanzania with realistic levels of

external funding support, and to be replicable on a very large scale. Both internal and external process evaluations conducted during 1999 to 2002 showed that all components were delivered with good fidelity and high coverage.

## 3-year Evaluation

The intervention was evaluated after 3 years through a randomised controlled trial. This evaluation found:

- The intervention was locally appropriate and popular with young people and implementers
- Significant improvements in sexual and reproductive health knowledge, reported attitudes to sexual and reproductive health risks and reported sexual behaviour
- No consistent impact on biological outcomes

Following on from this, it was decided to carry out a long-term evaluation within the same 20 trial communities, to see if the intervention would have an effect on biological outcomes over the longer term.

## Long-term evaluation

A long-term evaluation has been carried out in the original trial communities, again through a randomised controlled trial. Over 13,800 young people participated in this, approximately 8 years after participating in the intervention. The trial examined whether the intervention has led to significant long-term changes in knowledge, attitudes, behaviour and biological outcomes.



MEMA kwa Vijana Census

## Regai Dzive Shiri, Zimbabwe

### The intervention

The Regai Dzive Shiri Project has been running in rural Zimbabwe since 1999. Following extensive pilot work, a large community randomised trial was launched in 2003, evaluating a community-based intervention aimed at reducing sexual risk taking in young people. The intervention is multi-component and targets:

- in and out of school youth
- parents and community stakeholders with the aim of improving their knowledge and changing their attitudes to adolescent reproductive health issues as well as improving their communications skills
- clinic staff to improve accessibility and acceptability of rural clinics to young people

The intervention is delivered by carefully selected and trained secondary school leavers who live and work in study communities.



RDS trial participants

### Evaluation

The impact of the intervention has been assessed at a population level after four years of intervention delivery in terms of its effect on HIV, HSV-2 and pregnancy among 5,000 18–22 year olds living in trial communities. Secondarily, the impact of the intervention on knowledge, attitudes and self reported sexual behaviour has also been assessed.

## Results of the two trials

### Knowledge

MEMA kwa Vijana found better levels of knowledge of HIV acquisition, STD acquisition and pregnancy prevention amongst both males and females in the intervention communities compared to the con-

trol communities. This was particularly significant for pregnancy prevention.

Regai Dzive Shiri found a significant increase in knowledge related to STD acquisition and pregnancy prevention at a population level in both males and females in the intervention communities. However neither males nor females in the intervention group had better knowledge of HIV acquisition than the control group. There was also an increase in condom self-efficacy, sexual refusal self-efficacy and HIV testing self-efficacy among females, but not for males. Of note, only 40% of young people surveyed received the intervention suggesting that the impact on intervention recipients is likely to be greater.

The results of the two trials adds to the evidence that in-school and community adolescent sexual and reproductive health interventions can increase knowledge. In the case of MEMA kwa Vijana, this increase in knowledge was sustained several years (mean 5.4 years) after receiving the in-school intervention component.

### Reported attitudes

MEMA kwa Vijana found that a lower proportion of young people in intervention communities reported high-risk attitudes to sex in 2001/2, although this difference was of borderline significance among males by the time of the long-term follow-up in 2007/8, and was not sustained in females. Relatively few participants gave the “desired” answers to all 3 questions in this part of the survey in 2007/8 (ranging from 28% of males in intervention communities to 10% of females in comparison communities). This indicates that attitudes are hard to change, and require more than an increase in knowledge about adolescent sexual and reproductive health.

### Reported sexual behaviour

Reported condom use was higher in the intervention communities for both males and females in MEMA kwa Vijana both in the 2001/2 and in 2007/8 surveys, though this was only strongly significant for reported condom use with a non-regular partner among young women in the 2007/8 survey. There were no statistically significant differences in number of sexual partners, use of modern contraceptives, concurrency of sexual partner-



ships or use of health services for suspected STIs.

Regai Dzive Shiri found no effect of the intervention on reported behaviour in young men, and no statistically significant effect in young women.

As with attitudes, these trials demonstrate that knowledge by itself is not sufficient to change all sexual risk behaviours.

### Biological outcomes

MEMA kwa Vijana did not find a significant difference in HIV, genital herpes (HSV-2), syphilis, or chlamydia prevalence between the intervention and control groups. Provisional, unconfirmed gonorrhoea test results showed that the prevalence was higher among young women in the intervention group in 2001/2, but no difference was seen in 2007/8, and the most likely reason for the higher prevalence in 2001/2 was chance, given the large number of results being examined.

Regai Dzive Shiri also found no effect of the intervention on HIV or HSV-2 prevalence. However they did find a significant reduction in the number of reported current or past pregnancies in the intervention arm.

### Implications of these results

The long-term evaluation of MEMA kwa Vijana has shown that behaviour change interventions can significantly increase knowledge of HIV, and that this increase in knowledge is sustained. There was also some significant impact on some reported sexual behaviours. However, this has not led to a consistent or significant impact on biological outcomes including HIV prevalence, other STIs and pregnancy.

Regai Dzive Shiri has also successfully increased knowledge of STI acquisition and pregnancy, but not affected HIV acquisition. Of note, this increase in knowledge was detected at a population level, not just among intervention recipients. The intervention had no significant effect on reported behaviour, or HIV and Herpes prevalence. The only impact on biological outcomes was a significant reduction in reported current and past pregnancy.

These results suggest that even carefully designed interventions delivered through schools or community peer-educators, with complementary interventions in the

health services, are unlikely to have a substantial effect on the HIV epidemic in the short or medium term. Qualitative research conducted among young people in the same communities that were involved in the MEMA kwa Vijana Trial revealed important and deeply-entrenched social norms among the general population that would mitigate against young people's ability to avoid sexual risk. These included gender and age-related power imbalances, pronatalist norms, reluctance to use condoms, and acceptance of transactional sex among unmarried people, for example. These norms need to be addressed to allow young people to change their behaviour.

Despite the failure of these interventions to reduce HIV and other STI prevalence, the increase and retention in knowledge is encouraging and important. The UN-GASS Declaration of Commitment makes increasing young people's knowledge of how to protect themselves from HIV a goal in itself. Accurate knowledge and skills are essential for young people who want to change their behaviour, and access to them is a human right.

Effective ways of preventing HIV, STIs and unwanted pregnancies in young people are urgently needed, and research to develop and evaluate such interventions should remain a high priority.

More work is needed to explore:

- Whether alternative interventions among young people can be more effective, and cost-effective
- How to design and implement effective interventions for changing population norms related to sexual risk behaviours
- Whether there is a cost-effective combination of prevention methods that will result in reducing the incidence of HIV in young people
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## Recommendations

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3. In order to reduce HIV incidence among young people in sub-Saharan Africa, additional efforts are needed to:
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  - Address structural (societal) issues, such as gender inequality, that are drivers of the HIV epidemic

## Further Information

Further information about MEMA kwa Vijana and the results of these two trials can be found at [www.memakwavijana.org](http://www.memakwavijana.org)

'Preventing HIV/AIDS in Young People: A systematic review of the evidence from developing countries' is a useful summary of the evidence in this area, and can be found at [http://whqlibdoc.who.int/trs/WHO\\_TRS\\_938\\_eng.pdf](http://whqlibdoc.who.int/trs/WHO_TRS_938_eng.pdf)

## Partners

### MEMA kwa Vijana

- AMREF Tanzania
- Liverpool School of Tropical Medicine
- London School of Hygiene and Tropical Medicine
- Medical Research Council Social and Public Health Sciences Unit
- National Institute for Medical Research, Mwanza, Tanzania

### Regai Dzive Shiri

- CDC Zimbabwe
- London School of Hygiene and Tropical Medicine
- Student Partnerships Worldwide, Zimbabwe
- University College London
- University of Zimbabwe

### MEMA kwa Vijana

## Funders

- Department for International Development (DFID), UK
- European Commission
- Irish Aid
- Medical Research Council, UK
- UNAIDS

### Regai Dzive Shiri

- DFID, Zimbabwe
- National Institute of Mental Health
- UNICEF
- Wellcome Trust

For more information on this, or any other details concerning MEMA kwa Vijana, please visit

[www.memakwavijana.org](http://www.memakwavijana.org)