



MEMA kwa Vijana: Randomised controlled trial of an adolescent sexual health programme in rural Mwanza, Tanzania

INTRODUCTION



MEMA kwa Vijana (“Good Things for Young People” in Swahili) started as a research project of the Government of Tanzania, supported by the European Commission, Development Cooperation Ireland, UK MRC, UNAIDS and UK DFID. Since January 1999, an innovative intervention programme on adolescent sexual and reproductive health has been implemented by AMREF, an East African NGO, working together with the Government’s Health and Education Departments. Within a community randomised trial, the intervention’s impact on rates of HIV, other sexually transmitted infections (STIs) and unintended pregnancy, and on adolescents’ knowledge, reported attitudes and reported behaviours, and its cost-effectiveness, have been evaluated by the Tanzanian National Institute for Medical Research. The LSHTM has collaborated on all aspects of the project.

THE INTERVENTION

In late 1998, 20 trial communities in rural Mwanza were randomly allocated to receive the intervention either immediately or at the end of the trial. 9645 adolescents aged at least 14 years and about to enter Years 5, 6 and 7 of primary school were recruited into the trial, divided equally between intervention and comparison communities. From 1999–2002, the intervention was implemented in the 62 primary schools and 18 health facilities in the 10 intervention communities. It had 4 major components.

♦ ***In-school sexual and reproductive health education*** through a teacher-led, peer-assisted programme of participatory lessons, including drama, stories and games

Intervention components were designed to be affordable by Government and replicable on a large scale, and were led by government teachers and health workers. Over 150 teachers, 2000 peer educators, 62 head teachers, 14 ward education coordinators, 10 district inspectors of schools and 70 health workers were trained. Training and supervision manuals for teachers, class and community peer educators, health workers, youth condom promoters and distributors, and community advisory committees were developed.

In the combined approach used, peer educators provide a mechanism for influencing their peers’ attitudes and behaviours, while teachers feel a strong ownership of the interventions. The sessions were popular with pupils and teachers.

♦ ***Youth-friendly reproductive health services***, through education of health workers about the needs and methods of providing sexual and reproductive health services to youth

Treatment of STIs improved in all health facilities. An evaluation using “simulated patients” showed staff in intervention health facilities to be more youth-friendly than those in comparison communities.

♦ ***Community-based condom promotion and distribution***, for and by youth

Over 3000 condoms per year were distributed by youth condom promoters and distributors.

♦ ***Community activities*** to create a supportive environment for the adolescent sexual health interventions

Each year, youth reproductive health weeks were carried out in each of the intervention communities, centring on inter-school competitions with a reproductive health focus including sport, drama and song. Over 100 STI/HIV awareness video shows were held in the communities each year, and at least one Youth Health Day (YHD) conducted at each of the 18 health facilities each year. Over 400 youth usually attended each YHD.

IMPACT EVALUATION RESULTS

The evaluation of the trial’s impact primarily measured HIV incidence and genital herpes (HSV-2) prevalence. It also assessed biological indicators of other STIs and pregnancy, and respondents’ knowledge, reported attitudes and reported sexual behaviours.

Knowledge and reported attitudes

Both the impact evaluation within the trial cohort, and the reproductive health examination by Year 7 students in 2002, showed that knowledge and reported sexual attitudes were substantially better in intervention than in comparison communities, in both males and females (statistically significant). 84% of pupils in intervention communities passed the exam and 26% scored at least 80%, compared with only 50% and <1% respectively in comparison communities. Similarly, for both males and females, the proportions answering all questions on knowledge and on sexual attitudes correctly were substantially higher in the intervention communities at the final survey (statistically significant).

Reported behaviour

In males, the intervention resulted in delayed reported sexual debut and fewer reported sexual partners in the past 12 months (differences of borderline statistical significance). Among those who reported having ever had sex, in intervention communities there was a substantial and statistically significant increase in reported use of condoms for the first time during the follow-up period (for both males and females). Also, more men reported using a condom the last

time they had sex (statistically significant). However, the absolute proportions reporting condom use were relatively low in both intervention and comparison communities.



Biological outcomes

There was no evidence of any consistent impact of the intervention on biological outcomes.

The primary outcomes of the trial were both based on biological outcomes: HIV incidence and HSV-2 prevalence. In comparison communities, HIV incidence was lower than had been estimated in advance. Overall, there were 45 incident cases, with only 5 in males. The adjusted incidence of HIV in females was 24% lower in the intervention communities, but this was not statistically significant. There was no evidence of any impact on HSV-2 prevalence in either direction.

Six other, predefined biological outcomes were: prevalence of syphilis, gonorrhoea (NG), chlamydia (CT), trichomonas (TV) and pregnancy, and the proportion of females who reported ever having been pregnant, excluding those who reported this at baseline.

In males, the prevalence of syphilis was lower in the intervention communities, while the prevalence of CT was higher (not statistically significant). There were too few cases of NG (10) for analysis to be valid.

In females, the tendency was for prevalences to be higher in intervention communities, but this difference approached statistical significance for only NG and CT. However, there was a slightly higher prevalence of CT in the intervention communities at baseline (NG was not measured at baseline).

SUMMARY AND INTERPRETATION

External evaluations of the intervention package showed that it was of high quality, well implemented and achieved high coverage. The benefits of the intervention (improved knowledge, reported attitudes and reported behaviour) tended to be greater in males than females, and in those who received more of the in-school component.

However, there was no consistent impact on biological indicators of HIV, other STIs or pregnancy. Some biological outcomes were lower in intervention communities, others were higher. Only the difference in NG prevalence in females was statistically significant – a finding that could have occurred by chance given the large number of outcomes examined, and the fact that the difference was solely in those receiving only 1 year of the in-school intervention (in Year 6 when recruited).

The different findings for the biological outcomes compared to knowledge, reported attitudes and reported behaviour have important implications for future trial design, and the interpretation of past intervention evaluations. Potential explanations for the lack of any consistent impact on the biological outcomes include:

♦ Such interventions change only knowledge and skills, but not risk-taking, at least in the short term

In the presence of an intervention, people may report what they believe to be the desired behaviour rather than their actual behaviour. Pressures for risky sex are very strong within many African communities. Cultural norms (gender power relations, age-related power relations, marriage and fertility norms) within the wider community mitigate against behaviour change. Rural young women have few avenues for material gain except through sex and marriage.

♦ Interventions may need more time to work

40% of the evaluation cohort received only 1 year of the in-school intervention. The highest risk group (Year 6 at recruitment) had least exposure to the in-school part of the intervention. The follow-up period (3 years) may have been too

short to see the impact of any improvement in young men's risk-taking on biological outcomes in young women, due to differences in the average age of sexual partners.

♦ Additional interventions may be needed

These might include: intensified mass media approaches; specific interventions targeting out-of-school youth; sexual health promotion interventions for the general community; the integration of sexual health promotion into other community development activities; provision of accessible facilities for counselling and voluntary HIV testing. However, evidence for the cost-effectiveness of many of these interventions, in terms of their ability to improve adolescent sexual and adolescent outcomes, is weak. Also, the exact approaches to deliver such interventions on a large scale need developing, particularly in rural areas.

CONCLUSION

Considerable caution is needed when extrapolating from evidence of a beneficial impact on sexual health knowledge, attitudes and reported behaviour to a health impact on HIV, STIs and unwanted pregnancy in adolescents. Future evaluations should include biological outcomes.

Effective ways of preventing HIV, STIs and unwanted pregnancies in young people are urgently needed. Accurate knowledge and skills are essential for those who want to change their behaviour. The trial has shown there is a feasible intervention that can induce substantial and sustained improvements in knowledge, reported attitudes and reported behaviours. Such programmes should therefore be implemented on a large scale. More work is needed to explore whether, in the longer term, benefits in terms of health can be demonstrated, if such interventions are sustained; and how such interventions can be enhanced.

Bibliography

For a list of published papers on MEMA, see the Programme's website: <http://www.lshtm.ac.uk/dfid/aids>

Collaborators and Acknowledgements

From AMREF: Daraus Bukunya, Kenneth Chima, Bernadette Cleophas, Awene Gavyole, Maende Makokha, Godwin Mmasy and Vera Pieroth. From LSHTM: Alessandra Anemona, Dean Everett, Heiner Grosskurth, Richard Hayes, Lilani Kumaranake, David Mabey, Angela Obasi, Mary Plummer, David Ross, Fern Terris-Prestholt, Jim Todd and Helen Weiss. From the MRC SPHSU, Glasgow: Danny Wight. From the NIMR: Rebecca Balira, John Changalucha, Joseph Chilongani, Julius Mgara, Frank Moshia, Gerry Mshana and Joyce Wamoyi.

The **DFID Knowledge Programme on HIV/AIDS and STIs** is funded by the Department for International Development, UK, and based at the London School of Hygiene and Tropical Medicine (LSHTM) and the Medical Research Council (MRC), Social and Public Health Sciences Unit, University of Glasgow.

For further information, please see the Programme's website, <http://www.lshtm.ac.uk/dfid/aids/>, or contact the Programme Coordinator, Onno Dekker at Onno.Dekker@lshtm.ac.uk

Disclaimer: The UK Department for International Development (DFID) supports policies, programmes and projects to promote international development. DFID provided funds for the Programme as part of that objective, but the views and opinions expressed are those of the author(s) alone.