MEMA kwa Vijana

Lessons Learned

David Ross

for John Changalucha, Bernadette Cleophas-Mazige, Aoife Doyle, Richard Hayes, Kaballa Maganja, Angela Obasi, Mary Plummer, Jim Todd, Helen Weiss & the MEMA kwa Vijana Trial Team

London School of Hygiene & Tropical Medicine
National Institute for Medical Research, Mwanza, Tanzania
AMREF Tanzania

MEMA kwa Vijana
‘Good things for young people’

Collaborators

- African Medical & Research Foundation (AMREF)
- Government of Tanzania (Dept of Education & of Health)
- Liverpool School of Tropical Medicine (LSTM)
- London School of Hygiene & Tropical Medicine (LSHTM)
- MRC Clinical Trials Unit, London
- MRC Social and Public Health Sciences Unit, Glasgow
- National Institute for Medical Research, Mwanza (NIMR)

Funding and support

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>European Commission</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gov’ of Tanzania</td>
<td>Gov’ of Tanzania</td>
<td>Gov’ of Tanzania</td>
<td></td>
</tr>
<tr>
<td>Irish Aid</td>
<td>Irish Aid</td>
<td>Irish Aid</td>
<td></td>
</tr>
<tr>
<td>UK MRC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UK DFID (RPC)</td>
<td>UK DFID (RPC &amp; Grant)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNAIDS</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
MEMA kwa Vijana Adolescent Trial, Mwanza, Tanzania

**Intervention**

**Primary target group**
- 12-19 year-olds in last 3 years of primary school

**Objectives**
- Delay onset of sexual intercourse
- Decrease risk behaviour
- Increase appropriate use of health services

**Theoretical basis**

Start before onset of sexual activity
- Grounded in social learning theory
- Initiate before onset of sexual activity
- Improve knowledge
- Skills-based
- Ownership by the community
- High quality and coverage of delivery

**Sustainability & replicability**

Intervention must be capable of:
- Scale-up to national level within 5 years of end of trial
- Implementation through existing government and community structures

**Intervention Components**

1. **Community activities**
   - Primary school sexual health education
     - School Years: 5, 6 & 7
     - Age: 12-17+ years
2. **“Youth-Friendly” Sexual Health Services**
3. **Condom Promotion & Improved Access**
   - Youth Condom Promoters/Distributors
Local setting

Process Evaluation: Methods

1. Recording activities within intervention
2. Surveys by impact evaluation team (Intervention & Comparison)
3. External expert evaluation
   • Jane Ferguson, Doug Kirby, Wycliffe Lugoe, etc
4. External qualitative research on sexual behaviour
   • Participant observation
   • In-depth interviews
   • Focus group discussions
5. Simulated patients

Coverage of the intervention

In-school component:
Proportion of sessions taught by October in Years 1-3 (1999-2001)
(School year January to December)

Quality of the intervention

In-school component:
Doug Kirby:
“My overall impressions are very favorable…The curriculum is very appropriate to Tanzanian culture & sexual risks and incorporates many of the characteristics that have been identified as being effective.”
Quality of the intervention

**Health services component:**

Simulated patients

<table>
<thead>
<tr>
<th>Health worker attitudes</th>
<th>Intervention N=9 (%)</th>
<th>Comparison N=10 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attending health worker friendly &amp; polite</td>
<td>100</td>
<td>60</td>
</tr>
<tr>
<td>No judgmental comments on patient’s sexual behaviour</td>
<td>100</td>
<td>50</td>
</tr>
</tbody>
</table>

Youth Condom Promoters & Distributors

- **Successes**
  - Condoms reached remote areas

- **Limitations**
  - High turnover of youth
  - Expensive supervision and supply

Community Activities

1. Initial 1-week community mobilisation
   - Successful introduction of interventions
   - Ensured basic understanding and approval
   - Communicated urgent need for interventions
   - Won support of those most opposed to intervention

2. Youth Health Weeks & Youth Health Days
   - Impressive attendance

- **Limitations**
  - Relatively small component, but even so might be difficult to replicate effectively
  - Community norms not supportive of key behaviour change interventions

Impact Evaluation

Community Randomised Trial
**Cluster Randomised Trial**
**Mwanza Region, Tanzania**
**1998–2008**

- 10 intervention vs 10 comparison clusters
- Average of 6 villages with 6 primary schools & 2 health facilities per cluster

---

**Map of study communities**

---

**Results after 3 years of interventions (1999-2001/2)**

1. Substantial impact on sexual & reproductive health knowledge and reported attitudes
2. Substantial impact on some indicators of reported behaviour change
3. Some evidence of increasing benefits on knowledge, attitudes & reported behaviours with more years of exposure to the intervention
4. No consistent biological impact in either direction

**Lack of Biological Impact**

**Potential explanations**

1. Such Interventions only change knowledge & skills, but not risk-taking, at least in the short-term?
2. Additional interventions needed?
3. Interventions need more time to work?
MEMA kwa Vijana Adolescent Trial, Mwanza, Tanzania

Long-term Impact Evaluation within the Community Randomised Trial 1999-2008

13,814 young people Mean age 22y

Received >1 year in-school intervention 1999-2002

<table>
<thead>
<tr>
<th>Variable</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median age (y)</td>
<td>22</td>
<td>21</td>
</tr>
<tr>
<td>Sukuma ethnic group</td>
<td>76%</td>
<td>78%</td>
</tr>
<tr>
<td>Christian</td>
<td>81%</td>
<td>87%</td>
</tr>
<tr>
<td>Ever married</td>
<td>35%</td>
<td>67%</td>
</tr>
<tr>
<td>Highest education &gt;2yr</td>
<td>23%</td>
<td>13%</td>
</tr>
<tr>
<td>Male circumcision</td>
<td>43%</td>
<td>-</td>
</tr>
</tbody>
</table>

Analyses adjusted for ethnic group, but not for circumcision as may be on intervention pathway

Mean time since last exposure to in-school component 5.4y

Characteristics (cont...d)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years of exposure to in-school MkV (or equivalent school years):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>17%</td>
<td>16%</td>
</tr>
<tr>
<td>2</td>
<td>16%</td>
<td>19%</td>
</tr>
<tr>
<td>3+</td>
<td>67%</td>
<td>67%</td>
</tr>
</tbody>
</table>

Summary (2007/8)

1. Impact on sexual & reproductive health knowledge persisted
2. Borderline significant impact on reported attitudes to sex among males only
3. Impact on some indicators of reported behaviour change (esp condum use at last sex within past 12m with non-regular partner in females)
Summary (2007/8)

4. No consistent or statistically significant impact on reported pregnancy outcomes

5. No consistent or statistically significant impact on HIV, HSV-2 or other biological outcomes in either direction

Conclusions

1. MEMA kwa Vijana demonstrated that capacity exists to take a multi-component ASRH programme to scale through an effective civil society partnership with the government

2. The MkV intervention caused substantial improvements in knowledge, reported attitudes, and some reported sexual risk behaviours in the short-to-medium term (3 years, 2001/2)

3. Significant benefits in knowledge were still present after 8 years of intervention implementation, among a group of young people who had, on average, last had exposure to the in-school intervention 5.4 years prior to the survey

Conclusions

4. In rural Tanzania this carefully designed, implemented and monitored intervention did not result in any significant impact on HIV, genital herpes (HSV-2) or other STIs among the young people exposed to the intervention, either after 3 years or after 8 years of implementation

Implications for Policy

1. Accurate knowledge and skills to prevent acquisition of HIV are essential for young people who want to change their behaviour, and access to them can be considered to be a human right

2. However, the trial’s results imply that such interventions, on their own, will not be sufficient to reduce HIV and other STIs among young people in sub-Saharan Africa
Implications for policy (cont…d)

4. This suggests that, in order to reduce HIV incidence among young people in sub-Saharan Africa, additional efforts may be needed to:

- Increase young people’s access to effective HIV prevention interventions including condoms, male circumcision, early STD treatment, 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

Other lessons

Ministry of Education

- Trial results, even after 3y, enough to convince Regional Education Authorities to expand the SRH education to all 620 government primary schools in 103 wards in the four project districts with external funding & support
- Impact on knowledge (and skills?)
- Teachers’ willingness to teach it
- Popularity of the sessions
- Introduction of more interactive teaching methods

Other lessons (cont…d)

Ministry of Education

- Enough to convince Regional Health Authorities to expand the youth friendly SRH services (YFS) to all 179 government health facilities in the four project districts with external funding & support
- National policy on YFS
- MkV2 actively involved with development of that policy & of guidelines/tools
- Final national tools less interactive/reflective & more didactic than MkV
- Weak, infrequent supervision systems
- Some adoption into pre-service training

Other lessons (cont…d)

Ministry of Health

- When external funding stopped (2008), SRH education not fully integrated into routine education programme, despite active involvement and support for district councils for almost 10y
- No funding or forceful policy support from national level
- No national-level external donor funding
- Needs to be fully integrated into pre-service training
- Needs national-level trainers, single set of materials
Implications for further research

1. We can’t afford to give up! 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.

2. Positive changes in knowledge, attitudes and reported behaviours do not always lead to a positive impact on HIV, STDs and unwanted pregnancies, even in the medium-to-long-term. Future evaluations should therefore, wherever possible, include biological outcomes.

3. More work is needed to explore:
   3.1 Whether alternative interventions among young people can be more effective, and cost-effective
      ➢ Even greater emphasis on gender equity?
      ➢ Emphasis on concurrent partners?
      ➢ Not (only) using teachers and class peer educators to deliver intervention?
      ➢ Basing the interventions outside as well as inside schools?
      ➢ More sessions?
      ➢ But many of these suggestions have their own potential limitations
      ➢ Eg. cost and feasibility of reaching large proportion of most at risk young people (eg. Stepping Stones trial)

3. More work is needed to explore:
   3.2 How to design and implement effective interventions for changing general population norms related to sexual risk behaviours
      ➢ eg. MEMA kwa Jamii led by Danny Wight, John Changalucha & Pieter Remes in Mwanza

3.3 Whether there is a cost-effective combination of prevention methods that will result in reducing the incidence of HIV in young people
   ➢ Eg. “Combination Prevention” trials

3. More work is needed to explore:
   3.4 What factors were really 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?
      ➢ But controversial and difficult to assess in retrospect
Thank-you

www.memakwavijana.org

Intervention materials, technical & policy briefs available via this website

MEMA kwa Vijana

Interventions

Community Component

- **One week initial mobilisation**
- **Advisory Committee**
  - Elected during initial mobilisation week
  - Community leaders & youth
- **Subsequent meetings with key groups**
  - Advisory Committees, School Committees, religious leaders
- **Annual Youth Health Weeks**
Youth Health Weeks

Inter-school competitions
- Drama, dance, rap, comedy, etc
- Messages with sexual health focus

In-School Component
Teacher-led, Peer-assisted

- Head teacher (Orientation)
- 2-3 Teachers (Skills curriculum)
- Class Peers 18/school (Drama)

Training & supervision
By Ward Education Coordinators & District Inspectors of Schools, with AMREF staff

1-3 days/yr 5 days/yr 1-3 days/yr

Materials

Teachers:
- Teacher’s Guides
- Flip Charts
- Teacher’s Resource Book

Class peer educators:
- Q & A reference books
- No pupil textbooks (too expensive)

In-School Component
Core Themes

Knowledge
- “You can’t tell by looking”
- HIV, STIs, puberty, reproductive biology
- It is possible to say “No”
- It is Ok to say “No”
- Risks of accepting gifts or favours

Sexual behaviour
- STI symptoms & signs
- Consequences of delay
- Confidentiality

Early Treatment
MEMA kwa Vijana Adolescent Trial, Mwanza, Tanzania

10-15 teacher-led, peer-assisted sessions per year in normal school hours

- Participatory methods
- Skills Focus

Discussion starters:
Class peer educators perform short (1-3 minute) dramas

- Pictures
- Stories
- Role plays

Discussion starters (cont...d)
- Reflect village life
- Address key issues

Peer pressure
Sex in exchange for gifts/favours

School girl pregnancy
Misconceptions about HIV/AIDS
Health Services Component

<table>
<thead>
<tr>
<th>Syndromic STI Treatment &amp; Family Planning</th>
</tr>
</thead>
<tbody>
<tr>
<td>All trial communities</td>
</tr>
<tr>
<td>Project guaranteed</td>
</tr>
<tr>
<td>- Supervision</td>
</tr>
<tr>
<td>- Supplies</td>
</tr>
</tbody>
</table>

>Youth–friendly reproductive health services

<table>
<thead>
<tr>
<th>Intervention communities only</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-3 health workers per facility</td>
</tr>
<tr>
<td>- Youth sexual health</td>
</tr>
<tr>
<td>- Youth rights</td>
</tr>
<tr>
<td>- Empathy</td>
</tr>
<tr>
<td>- Privacy</td>
</tr>
<tr>
<td>- Confidentiality</td>
</tr>
</tbody>
</table>

Outreach activities

- Developed by health workers themselves
- Quarterly school visits
- Clinic visit day during Youth Health Week
- Youth Health Days at the health facility

Youth Condom Promoters & Distributors

- 4 Youth Condom Promoters/Distributors per Village
  - Elected by local youth
- Trained (in collaboration with PSI)
  - Teaching about condom use & countering misconceptions
  - Marketing
  - Basic information about STDs & HIV

MEMA kwa Vijana Project Structure of the Intervention
### MEMA kwa Vijana Adolescent Trial, Mwanza, Tanzania

#### Long-term Evaluation Results (2007/8)

**Results (2007/8)**

1. Impact on sexual & reproductive health knowledge & reported attitudes in both males and females

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Adjusted Prevalence Ratio</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RR</td>
<td>95% CI</td>
<td>RR</td>
</tr>
<tr>
<td>Knowledge</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIV acquisition</td>
<td>1.11</td>
<td>0.99,1.23</td>
<td>1.11</td>
</tr>
<tr>
<td>STD acquisition</td>
<td>1.18</td>
<td>1.04,1.34</td>
<td>1.24</td>
</tr>
<tr>
<td>Pregnancy prevention</td>
<td>1.19</td>
<td>1.12,1.26</td>
<td>1.17</td>
</tr>
<tr>
<td>Reported Attitudes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitudes to sex</td>
<td>1.31</td>
<td>0.97,1.77</td>
<td>1.09</td>
</tr>
</tbody>
</table>

**Summary:** Consistent impact on knowledge; all either borderline or significant. Borderline significant impact on reported attitudes in males only.

2. Impact on indicators of reported behavioural change

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Adjusted Prevalence Ratio</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RR</td>
<td>95% CI</td>
<td>RR</td>
</tr>
<tr>
<td>Age at first sex&lt;16 years</td>
<td>0.91</td>
<td>0.80,1.05</td>
<td>1.01</td>
</tr>
<tr>
<td>&gt;4 lifetime sexual partners</td>
<td>0.87</td>
<td>0.77,0.98</td>
<td>0.90</td>
</tr>
<tr>
<td>&gt;1 partner in last 12 months</td>
<td>1.14</td>
<td>1.04,1.25</td>
<td>1.24</td>
</tr>
<tr>
<td>&gt;1 partner in last 3 months in past 12 months</td>
<td>0.99</td>
<td>0.76,1.00</td>
<td>0.97</td>
</tr>
<tr>
<td>&gt;4 lifetime sexual partners</td>
<td>0.95</td>
<td>0.80,1.15</td>
<td>1.04</td>
</tr>
<tr>
<td>Went to health facility for STI symptoms in past 12 months</td>
<td>1.16</td>
<td>1.01,1.35</td>
<td>1.07</td>
</tr>
</tbody>
</table>

**Summary:** No significant differences except lower proportion with >4 lifetime sexual partners in males.
MEMA kwa Vijana Adolescent Trial,
Mwanza, Tanzania

3. Impact on indicators of reported behavioural change

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>Used condom at last sex in past 12 months</td>
<td>RR: 1.19 (95% CI: 0.91, 1.54)</td>
<td>RR: 1.27 (95% CI: 0.97, 1.67)</td>
</tr>
<tr>
<td>Used condom at last sex in past 12 months with non-regular partner</td>
<td>RR: 1.15 (95% CI: 0.93, 1.40)</td>
<td>RR: 1.34 (95% CI: 1.09, 1.64)</td>
</tr>
<tr>
<td>Ever used modern contraceptive</td>
<td>-</td>
<td>RR: 1.11 (95% CI: 0.95, 1.32)</td>
</tr>
<tr>
<td>Ever used modern contraceptive at last sex</td>
<td>-</td>
<td>RR: 1.16 (95% CI: 0.98, 1.39)</td>
</tr>
</tbody>
</table>

Summary: Males: No significant increased condom use reported
Females: Tendency for females to report increased condom and modern contraceptive use

4. Impact on reported clinical/biological outcomes

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genital discharge prevalence (Males: based on clinical examination; Females self-reported)</td>
<td>RR: 0.84 (95% CI: 0.63, 1.13)</td>
<td>RR: 0.70 (95% CI: 0.57, 0.85)</td>
</tr>
<tr>
<td>Genital ulcer prevalence (Males: based on clinical examination; Females self-reported)</td>
<td>RR: 0.76 (95% CI: 0.59, 0.99)</td>
<td>RR: 0.69 (95% CI: 0.47, 0.97)</td>
</tr>
<tr>
<td>&gt;2 reported pregnancies (lifetime)</td>
<td>-</td>
<td>RR: 0.96 (95% CI: 0.86, 1.08)</td>
</tr>
<tr>
<td>Reported pregnancy while in primary school</td>
<td>-</td>
<td>RR: 1.16 (95% CI: 0.68, 1.97)</td>
</tr>
<tr>
<td>Reported ≥1 unplanned pregnancy</td>
<td>-</td>
<td>RR: 1.03 (95% CI: 0.63, 1.69)</td>
</tr>
</tbody>
</table>

Summary: Tendency for lower STD symptoms in both males & females
No significant impact on reported pregnancies

5. Impact on biological outcomes

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary outcomes</td>
<td>RR: 0.91 (95% CI: 0.50, 1.65)</td>
<td>RR: 1.07 (95% CI: 0.68, 1.67)</td>
</tr>
<tr>
<td>HIV prevalence</td>
<td>RR: 0.95 (95% CI: 0.77, 1.19)</td>
<td>RR: 0.76 (95% CI: 0.62, 1.30)</td>
</tr>
<tr>
<td>HSV-2 prevalence</td>
<td>RR: 0.94 (95% CI: 0.77, 1.15)</td>
<td>RR: 0.86 (95% CI: 0.67, 1.06)</td>
</tr>
<tr>
<td>Secondary outcomes</td>
<td>RR: 1.06 (95% CI: 0.74, 1.52)</td>
<td>RR: 0.89 (95% CI: 0.62, 1.21)</td>
</tr>
<tr>
<td>Lifetime Syphilis exposure (TPPA+)</td>
<td>RR: 1.11 (95% CI: 0.72, 1.72)</td>
<td>RR: 0.91 (95% CI: 0.65, 1.28)</td>
</tr>
<tr>
<td>Active syphilis prevalence (TPPA+ RPR+)</td>
<td>RR: 1.24 (95% CI: 0.66, 2.33)</td>
<td>RR: 0.87 (95% CI: 0.58, 1.34)</td>
</tr>
<tr>
<td>Chlamydia prevalence</td>
<td>RR: 1.26 (95% CI: 0.63, 2.26)</td>
<td>RR: 0.89 (95% CI: 0.49, 1.70)</td>
</tr>
</tbody>
</table>

Summary: No consistent or significant impact