

MEMA kwa Vijana
'Good things for young people'



Evidence of the impact of ASRH interventions

- Few rigorously designed randomised controlled trials, particularly in developing countries
- Quasi-experimental studies tend to exaggerate intervention effects
- Most trials have only looked at effects on knowledge, *reported* attitudes and *reported* sexual behaviour
- Such data are subject to reporting bias which may be *differential* between the study arms
- Few trials have measured effects on biological outcomes, and none on HIV incidence

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Current evidence of the impact of ASRH interventions

- Urgent need for effective interventions
- Little reliable data on intervention effects
- No evidence from Africa on intervention effects on objectively measured biological endpoints
- MEMA kwa Vijana programme was developed to try and provide such evidence

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MEMA kwa Vijana Collaborators

- African Medical & Research Foundation (AMREF)
- Government of Tanzania (Depts 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)

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MEMA kwa Vijana Funding and support

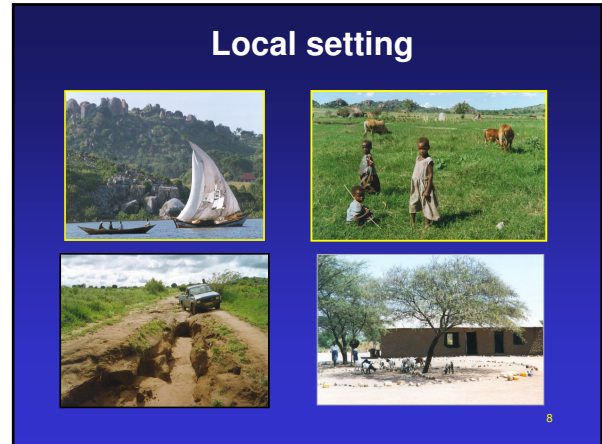
- European Union
- Government of Tanzania
- Irish Aid
- UK Medical Research Council
- UK Department for International Development
- UNAIDS

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MEMA kwa Vijana
12 years of experience

Intervention Development	1996-1998
Process Evaluation	1999-2002
Impact Evaluation within Cluster Randomised Trial	1999-2002
Intervention scale-up and process evaluation	2004-2007
Formative research to expand community intervention	2004-2009
Long-term impact evaluation within Cluster Randomised Trial	2007-2008

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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

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Sustainability & replicability

Intervention must be capable of:

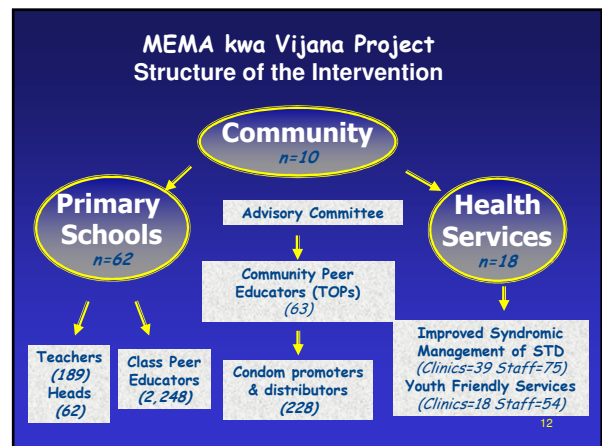
- Scale-up to national level within 5 years of end of trial
- Implementation through existing government and community structures

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Intervention Components

1. Community activities
1. 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

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Impact Evaluation

Community Randomised Trial

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Design

- 20 rural communities randomised to Phase 1 or Phase 2 of programme (intervention and comparison arms)
- A community is roughly equivalent to an administrative "ward" consisting of 5-6 villages
- Each community has an average of 6 primary schools, and two health facilities (health centres and/or dispensaries)

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Map of study communities



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Trial endpoints

- **Knowledge and reported attitudes regarding sexual and reproductive health**
- **Reported sexual behaviour**
- **Biological endpoints**
 - Both males & females:**
 - HIV incidence (2001-2); HIV prevalence (2007-8)
 - HSV2 prevalence
 - Prevalence of gonorrhoea and chlamydia
 - Females only:**
 - Prevalence of trichomoniasis and pregnancy (2001-2 only)
 - Reported incidence of pregnancy

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Summary (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 benefit with more years of exposure to the intervention**
 - May be due to:
 - More years of in-school intervention
 - Starting interventions at a younger age

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Summary (1999-2001/2)

4. **Some evidence of larger differences in males than females, especially for reported behaviours**

May be due to:

- Ability to change behaviour is greater in males than females, because of gendered power relations

Important because:

- Average age difference of sexual partners ~3-5 years
- HIV & STI prevalence peaks later in males
 - Young men exposed to intervention may need to reach ~20-24 years to have substantial impact on HIV & STI in younger women

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Summary (1999-2001/2)

5. No consistent biological impact in either direction

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Lack of Biological Impact: Potential explanations

1. **Such Interventions only change knowledge & skills, but not risk-taking, at least in the short-term?**
1. Additional interventions needed?
1. **Interventions need more time to work?**

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Potential explanations

3. Interventions need more time to work?

- 40% of impact evaluation cohort only received one year of in-school intervention
 - MkV suggestive of dose-response
- Highest risk group (Year 6 at recruitment) had least exposure
- **Substantial & significant impact on "upstream" outcomes**
- Duration of follow-up (3 years) too short to see impact of any improvement in young men's risk-taking on biological outcomes in young women (age differences of sexual partners)

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Community Randomised Trial Long-term Impact Evaluation 1999-2008

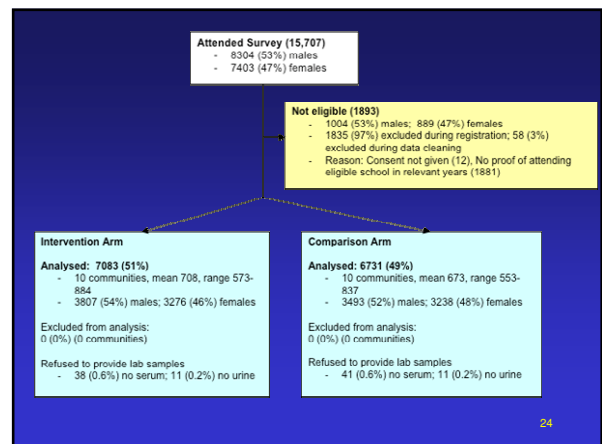
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MEMA kwa Vijana Trial Long-term Evaluation (2007/8 Survey)

Design:

- Cross-sectional survey of 17-27 year-olds in 2007
- Resident in trial communities since 1999
- Completed at least 1 of the final 3 years of primary school in their community between 1999 and 2002

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Characteristics

Variable	Male		Female	
	Int	Comp	Int	Comp
Median age (y)	22	22	21	21
Sukuma ethnic group	76%	81%	78%	85%
Christian	81%	80%	87%	90%
Ever married	35%	38%	65%	67%
Highest education $\geq 2^o$	23%	19%	14%	13%
Male circumcision	43%	38%	-	-

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

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Characteristics (cont...d)

Variable	Male		Female	
	Int	Comp	Int	Comp
Years of exposure to in-school MkV (or equivalent classes):				
	1	17%	16%	16%
	2	16%	19%	17%
	3+	67%	65%	68%

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

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Results (2007/8)

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

Outcome	Adjusted Prevalence Ratio			
	Males		Females	
	RR	95% CI	RR	95% CI
Knowledge				
HIV acquisition	1.11	0.99,1.23	1.11	1.00,1.24
STD acquisition	1.18	1.04,1.34	1.24	0.97,1.58
Pregnancy prevention	1.19	1.12,1.26	1.17	1.06,1.30
Reported Attitudes				
Attitudes to sex	1.31	0.97,1.77	1.09	0.67,1.77

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

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Results (2007/8)

2. Impact on indicators of reported behavioural change

Outcome	Adjusted Prevalence Ratio			
	Males		Females	
	RR	95% CI	RR	95% CI
Age at first sex <16 years	0.91	0.80,1.05	1.01	0.80,1.28
>4 (male) or >2 (female) lifetime sexual partners	0.87	0.77, 0.98	0.89	0.75,1.05
>1 partner in last 12 months	0.92	0.79,1.08	0.97	0.76,1.23
>1 partner in same time period in past 12 months	0.90	0.76,1.06	0.87	0.63,1.20
>1 partner in past 4 weeks	0.87	0.65,1.15	1.04	0.66,1.66
Went to health facility for STI symptoms in past 12 months	1.19	0.91,1.56	1.02	0.77,1.37

Summary: No significant differences except lower proportion with >4 lifetime sexual partners in males

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Results (2007/8)

3. Impact on indicators of reported behavioural change

Outcome	Adjusted Prevalence Ratio			
	Males		Females	
	RR	95% CI	RR	95% CI
Used condom at last sex in past 12 months	1.19	0.91,1.54	1.27	0.97,1.67
Used condom at last sex in past 12 months with non-regular partner	1.15	0.97,1.36	1.34	1.07,1.69
Ever used modern contraceptive	-	-	1.11	0.95,1.30
Used modern contraceptive at last sex	-	-	1.16	0.91,1.47

Summary: No increased condom use reported by males
Tendency for females to report increased condom and modern contraceptive use

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Results (2007/8)

4. Impact on reported clinical/biological outcomes

Outcome	Adjusted Prevalence Ratio			
	Males		Females	
	RR	95% CI	RR	95% CI
Genital discharge prevalence	0.83	0.63,1.09	0.70	0.45,1.09
Genital ulcer prevalence	0.76	0.59,0.99	0.69	0.47,1.01
>2 reported pregnancies (lifetime)	-	-	0.96	0.80,1.15
Reported pregnancy while in primary school	-	-	1.16	0.68,1.97
Reported ≥ 1 unplanned pregnancy	-	-	1.03	0.83,1.26

Summary: Tendency for lower reported STD symptoms
No impact on reported pregnancies

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Results (2007/8)

5. Impact on biological outcomes

Outcome	Adjusted Prevalence Ratio			
	Males		Females	
	RR	95% CI	RR	95% CI
Primary outcomes				
HIV prevalence	0.91	0.50,1.65	1.07	0.68,1.67
HSV-2 prevalence	0.94	0.77,1.15	0.96	0.87,1.06
Secondary outcomes				
Lifetime Syphilis exposure (TPPA+)	1.06	0.74,1.52	0.86	0.62,1.21
Active syphilis prevalence (TPPA+, RPR+)	1.11	0.72,1.72	0.91	0.65,1.28
Chlamydia prevalence	1.24	0.66,2.33	1.27	0.87,1.86
Gonorrhoea prevalence (Provisional, unconfirmed, based on OD _{≥2})	1.28	0.63,2.60	0.91	0.49,1.70

Summary: No consistent or significant impact

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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^y condom use at last sex within past 12m with non-regular partner in females)

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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**

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Conclusions

1. An African NGO and existing government health and education staff can successfully implement an intensive, innovative adolescent sexual health programme on a large scale
2. The MEMA kwa Vijana intervention caused substantial improvements in knowledge, reported attitudes, and some reported sexual risk behaviours in the short-to-medium term (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

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Conclusions (cont...d)

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

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