

MEMA kwa Vijana 'Good things for young people'



Abuja, Nigeria
April 27th-29th, 2008



MEMA kwa Vijana *12 years of experience*

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

Tanzania



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Local setting



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Intervention Development

1996-1998

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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

Sustainability and Replicability

- Scale-up to National Level within 5-years
- Implementation through existing government and community services

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Intervention Components

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

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In-School Component

- **Teacher-led, Peer-assisted**
- **Training and Supervision by government education staff and AMREF**
- **Core Themes**
 - Knowledge *You can't tell by looking*
 - Sexual Behaviour *It's OK to say "No"*
 - Early Treatment *Consequences of delay*
- **Materials**
 - Teachers guides, flipcharts, Q & A reference books

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Impact Evaluation-
Community Randomised Trial
Trial First Phase: 1998-2002

Design

- Community randomised trial
- 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
 - HSV2 prevalence at final survey
 - Prevalence of gonorrhoea and chlamydia at final survey
 - Females only:**
 - Prevalence of trichomoniasis and pregnancy at final survey
 - Reported incidence of pregnancy during follow-up

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Summary of Results

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

Ross DA *et al.* *AIDS* 2007;21(14):1943-1955

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Summary

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

May be due to:

- Ability to change behaviour is much 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

5. No consistent biological impact in either direction

- No evidence of increased HIV, other STIs, or pregnancy rates
 - Sexual health education does NOT increase risk
- No evidence of short-term reductions in risk of HIV, other STIs, or pregnancy rates

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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?
 - Reported Behaviour unreliable in young people
 - Pressures for Risky Sex very strong

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2. 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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3. Additional interventions needed?

- 1. Mass media**
- 2. Interventions for out-of-school youth**
- 3. Interventions for the general community**
- 4. Counselling & voluntary HIV testing**
- 5. Interventions linked to microcredit**

But:

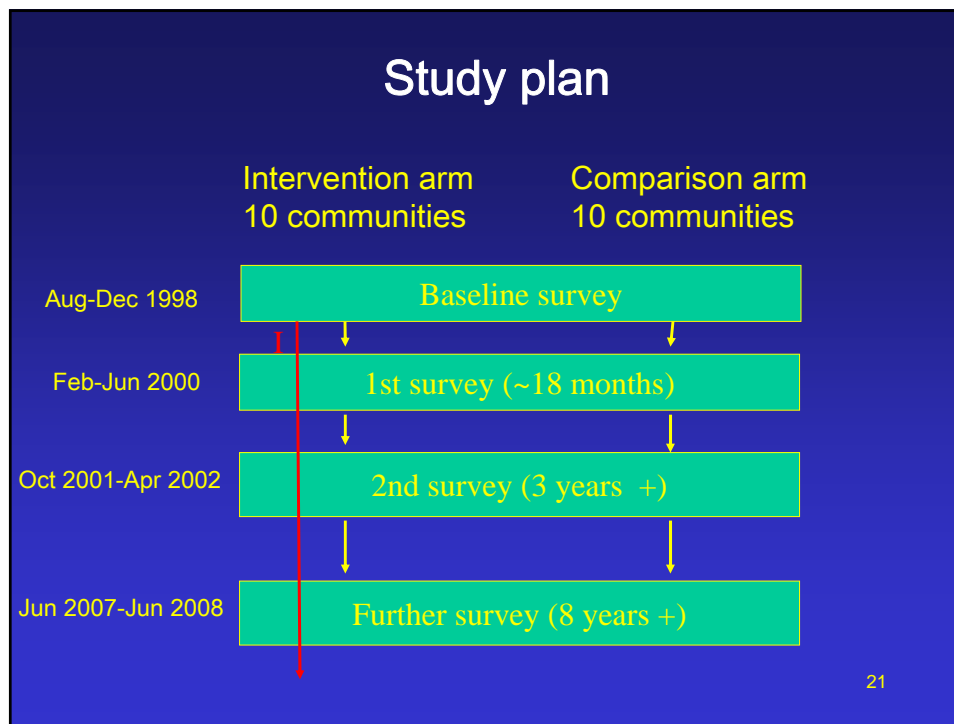
Feasibility, sustainability & effectiveness of many of these approaches is unclear

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**Long-term Impact Evaluation
- Community Randomised Trial**

1998-2008

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MkV1 Further Survey

Design:

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

Outcomes:

- **STIs:** HIV, HSV2, Gonorrhoea, Chlamydia, Syphilis
- Knowledge, reported attitudes, reported sexual behaviours

Study Power:

- 725 young people/ community x 20 = 14,500
- Study will have >80% chance of detecting a true difference of:
HIV: 50% males, 35% females
HSV2: 25% males, 20% females
Also, since sexual behaviour underlies all STIs, consistency (or lack of it) would be very important evidence

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Timeline

May '07- June '08	Household Census (potentially eligible young people identified and invited, use of PDA & GPS) Survey (face to face interview, blood & urine samples, VCT, Syndromic management of STI)
Nov '08	Preliminary Results Reported

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Strengths

- **Rigorous evaluation**
- **Long-term impact**
- **Biological outcomes**
- **Study design:**
 - ~ 66% of participants will have had potential to receive 3 years of in-school intervention
 - Larger eligible population
 - Older partners of younger females may have been exposed to the intervention

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Limitations

- Only has adequate power to detect substantial effects on HIV prevalence (Males 50%; Females 35%), but can detect smaller effects on HSV2 (Males 25%; Females 20%)
- Incidence of HIV/ HSV2 only in sub sample from trial cohort
- Impact only in those who went to primary school

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Policy Importance

1. **Effective HIV prevention among young people will be essential to reverse the future epidemic**
2. **Current policy is based on inadequate & potentially misleading evidence of effectiveness of interventions to improve knowledge & reported sexual behaviours**
3. **First trial in developing countries to evaluate impact of behavioural interventions on HIV and other biological markers as well as reported behaviour**

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Investigators & Collaborators

National Institute for Medical Research, Mwanza
(NIMR)

London School of Hygiene & Tropical Medicine
(LSHTM)

Tanzanian MoEVT, MoH

African Medical & Research Foundation (AMREF)

MRC Clinical Trials Unit, London

MRC Social and Public Health Sciences Unit, Glasgow

Liverpool School of Tropical Medicine (LSTM)

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Funding and support

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- European Union
- Irish Aid (previously: Development Cooperation Ireland)
- UK Medical Research Council
- UK Department for International Development
- UNAIDS

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MEMA kwa Vijana Adolescent Trial,
Mwanza, Tanzania



Results 1. Substantial 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	1.44	1.25,1.67	1.41	1.14,1.75
STD acquisition	1.28	1.07,1.54	1.41	1.06,1.88
Pregnancy prevention	1.66	1.55,1.78	1.58	1.26,1.99
Reported Attitudes				
Attitudes to sex	1.77	1.42,2.22	1.42	1.11,1.81

Ross DA *et al.* AIDS 2007;21(14):1943-1955

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2. Substantial impact on some indicators of reported behavioural change, especially in males

Outcome	Adjusted Prevalence Ratio			
	Males		Females	
	RR	95% CI	RR	95% CI
Sexual debut during follow-up	0.84	0.71,1.01	1.03	0.91,1.16
>1 partner in last 12 months	0.69	0.49,0.95	1.04	0.58,1.89
First use of condom during follow-up	1.41	1.15,1.73	1.30	1.03,1.63
Used condom at last sex	1.47	1.12,1.93	1.12	0.85,1.48
Went to health facility for STI symptoms	0.84	0.50,1.41	1.02	0.62,1.70

Ross DA *et al.* AIDS 2007;21(14):1943-1955

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3. Some evidence of increasing benefit with more years of exposure to the intervention

Outcome (Males)	Yr4	Yr5	Yr6	p
Knowledge				
HIV acquisition	1.82	1.41	1.27	<0.01
STD acquisition	1.39	1.37	1.12	0.02
Pregnancy prevention	1.97	1.64	1.47	<0.01
Reported Attitudes				
Attitudes to sex	2.23	2.12	1.30	<0.01
Reported sexual behaviour				
Sexual debut during follow-up	0.81	0.79	0.91	0.35
>1 partner in last 12 months	0.50	0.59	0.80	<0.01
First use of condom during follow-up	1.33	1.60	1.28	0.59
Used condom at last sex	1.34	1.87	1.30	0.76
Went to health facility for STI symptoms	1.28	1.22	0.74	0.23 ₃₃

4. No consistent impact on biological outcomes in either direction

(Ross DA et al. AIDS 2007;21(14) :1943-1955)

Outcome	Adjusted Ratio			
	Males		Females	
	Ratio	95% CI	Ratio	95% CI
Primary outcomes				
HIV incidence (/1,000py)	NA	(5 cases)	0.75	0.34,1.66
HSV-2 prevalence	0.92	0.69,1.22	1.05	0.83,1.32
Secondary outcomes				
Syphilis prevalence	0.78	0.46,1.30	0.99	0.67,1.46
Chlamydia prevalence	1.14	0.53,2.43	1.37	0.98,1.91
Gonorrhoea prevalence	NA	(10 cases)	1.93	1.01,3.71
Trichomonas prevalence	-	-	1.13	0.92,1.37
Pregnancy prevalence (test)	-	-	1.09	0.85,1.40
Reported pregnancy debut during f-up	-	-	1.03	0.89,1.20

Impact on Knowledge & Reported Attitudes: Year 7 Sexual Health Exam Results (July 2002)

Sex	Total	Passed (>50%)			Excellent (>80%)		
		Int ⁿ	Comp ⁿ	p	Int ⁿ	Comp ⁿ	p
Male	2,395	88%	59%	<0.001	32%	<1%	<0.001
Female	2,298	80%	41%	<0.001	20%	<1%	<0.001

Summary:

- Males had better exam results than females
- Proportion who passed exam substantially higher in intervention communities, especially for proportion with excellent pass

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Survey	Date	Primary School				Years since left school							
		Std 4	Std 5	Std 6	Std 7	+1	+2	+3	+4	+5	+6	+7	+8
*	Dec 98	0	0	0									
	Dec 99		1	1	1								
	Dec 00		1	2	2	1							
*	Dec 01		1	2	3	2	1						
	Dec 02		1	2	3	3	2	1					
	Dec 03		1	2	3	3	3	2	1				
	Dec 04		1	2	3	3	3	3	2	1			
	Dec 05		1	2	3	3	3	3	3	2	1		
	Dec 06		1	2	3	3	3	3	3	3	2	1	
*	Dec 07		1	2	3	3	3	3	3	3	3	2	1
Mean age (yrs)	Male	13	14	15	16	17	18	19	20	21	22	23	24
	Female	14	15	16	17	18	19	20	21	22	23	24	3625



Original trial cohort



Eligible (non-cohort)



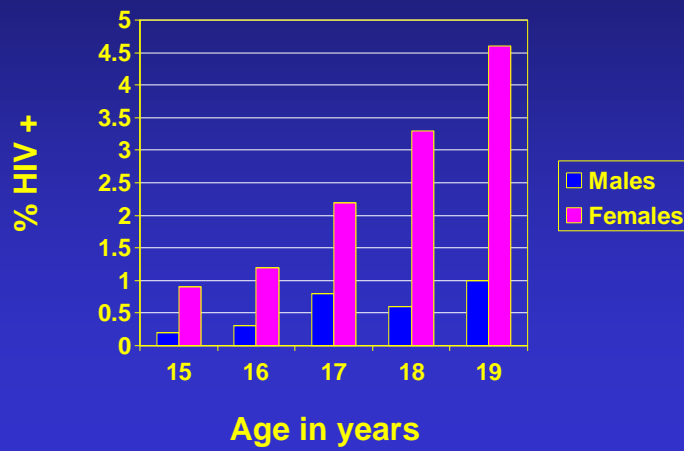
Yrs of in-school intervention



Eligible (cohort)

Prevalence of HIV-1 in rural Mwanza, 1997/98

(Obasi et al, 2001)



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