



Process evaluation of the SHARE intervention for preventing intimate partner violence and HIV infection in Rakai, Uganda

Jennifer A. Wagman^{a,*}, Ronald H. Gray^b, Neema Nakyanjo^c, Katherine A. McClendon^d, Erika Bonnevie^a, Fredinah Namatovu^e, Grace Kigozi^c, Joseph Kagaayi^c, Maria J. Wawer^b, Fred Nalugoda^c

^a University of California San Diego, Center on Gender Equity and Health, Department of Medicine, 9500 Gilman Drive, MC 0507, La Jolla, CA 92093-0507, US

^b Johns Hopkins Bloomberg School of Public Health, Department of Epidemiology, 627N. Washington Street, 2nd Floor, Baltimore, MD 21205, United States

^c Rakai Health Sciences Program, Uganda Virus Research Institute, Nakiwogo Road, P.O. Box 49, Entebbe, Uganda

^d University of California Los Angeles, School of Nursing, 700 Tiverton Avenue, Los Angeles, CA 90095, United States

^e Department of Historical, Philosophical and Religious Studies, Umeå University, SE-901 87 Umeå, Sweden

ARTICLE INFO

Keywords:

Process evaluation
SHARE intervention
Intimate partner violence
HIV infection
Mixed methods
Rakai
Uganda

ABSTRACT

The Safe Homes And Respect for Everyone (SHARE) intervention introduced an intimate partner violence (IPV) prevention approach into Rakai Health Sciences Program, an established HIV research and service organization in Uganda. A trial found exposure to SHARE was associated with reductions in IPV and HIV incidence. This mixed methods process evaluation was conducted between August 2007 and December 2009, with people living in SHARE intervention clusters, to assess awareness about/participation in SHARE, motivators and barriers to involvement, and perceptions of how SHARE contributed to behavior change. Surveys were conducted with 1407 Rakai Community Cohort Study participants. Qualitative interviews were conducted with 20 key informants. Most (77%) were aware of SHARE, among whom 73% participated in intervention activities. Two-thirds of those who participated in SHARE felt it influenced behavior change related to IPV. While some felt confident to take part in new IPV-focused activities of a well-established program, others were suspicious of SHARE's motivations, implying awareness raising is critical. Many activities appealed to the majority (e.g., community drama) while interest in some activities was limited to men (e.g., film shows), suggesting multiple intervention components is ideal for wide-reaching programming. The SHARE model offers a promising, acceptable approach for integrating IPV prevention into HIV and other established health programs in sub-Saharan Africa.

1. Introduction

Intimate partner violence (IPV) is linked with HIV infection (Campbell et al., 2008; Maman, Campbell, Sweat, & Gielen, 1982; UNAIDS, 2013) and several combination approaches have been implemented to reduce both outcomes. The Safe Homes And Respect for Everyone (SHARE) intervention, conducted in Rakai, Uganda (Wagman et al., 2012; Wagman et al., 2016), reduced IPV and HIV incidence (Wagman et al., 2015). Thus, the SHARE model could inform other HIV programs' efforts to offer dual programming to reduce violence and HIV acquisition; and could be adopted, at least in part, as a standard of care for HIV programs in sub-Saharan Africa. Little is known, however, about perceptions of SHARE, motivations and barriers to participation

in specific SHARE activities, and insights about the program's influences on behavior change. This paper aims to lessen that gap by presenting findings from an evaluation of the process of implementing SHARE.

Full details on the SHARE intervention and evaluation trial have been published previously (Wagman et al., 2012; Wagman et al., 2016; Wagman et al., 2015). Briefly, SHARE integrated IPV prevention into Rakai Health Sciences Program (RHSP), an organization that conducts HIV prevention trials, laboratory/clinical research and qualitative studies; and provides health education, HIV counseling and testing and HIV medical care. SHARE was modelled on a community mobilization approach developed for IPV prevention in East Africa; (Michau & Naker, 2003), based on the Transtheoretical Model (TTM) of behavior

* Corresponding author.

E-mail addresses: jwagman@ucsd.edu (J.A. Wagman), rgray4@jhu.edu (R.H. Gray), neema@rhsp.org (N. Nakyanjo), katherine.a.mcclendon@gmail.com (K.A. McClendon), ebonnevie@ucsd.edu (E. Bonnevie), fredinah.namatovu@umu.se (F. Namatovu), gracekigozi@rhsp.org (G. Kigozi), jkagayi@rhsp.org (J. Kagaayi), mwawer1@jhu.edu (M.J. Wawer), jwagman@ucsd.edu (F. Nalugoda).

<https://doi.org/10.1016/j.evalprogplan.2017.12.009>

Received 20 June 2017; Received in revised form 11 December 2017; Accepted 19 December 2017

Available online 24 December 2017

0149-7189/ © 2018 Elsevier Ltd. All rights reserved.

change; (Prochaska & Velicer, 1997) borrowed methods from Stepping Stones; (UNESCO, 2016) and provided enhanced HIV post-test counseling services to address violence against women (King et al., 2016).

We conducted a trial (Wagman et al., 2015) to estimate if SHARE would reduce IPV and HIV incidence in individuals enrolled in the Rakai Community Cohort Study (RCCS), an HIV surveillance cohort (Grabowski et al., 2014; Wawer et al., 1998). Exposure to SHARE was associated with reductions in female RCCS participants' reports of past year IPV, and HIV incidence in the total study population (Wagman et al., 2015).

This paper examines how community-level activities were delivered and assesses perceived quality of their implementation. We present mixed methods findings on levels of awareness about and participation in SHARE activities among residents of intervention communities; main reasons people decided to participate or not participate in SHARE; and people's perceptions of how exposure to SHARE motivated behavior change. Lastly, we provide recommendations on how interventions can be designed to maximize intended benefits and strengthen effectiveness.

2. Methods

2.1. SHARE community mobilization activities

SHARE was implemented during five TTM-structured phases: (a) 2001-04: Community Assessment; (b) 2005: Raising Awareness; (c) 2006: Building Networks; (d) 2007: Integrating Action; and (e) 2008-09: Consolidating Efforts. SHARE used five community-level strategies: Advocacy, Capacity Building, Community Activism, Learning Materials, and Special Events (Table 1). Advocacy and Capacity Building strategies were designed for implementation among specific target groups, whereas Community Activism, Learning Materials, and Special Events were designed for implementation at the community-level so anyone could participate.

The current evaluation focuses primarily on assessing how the community-level intervention activities were delivered and perceived by people living in the intervention regions.

2.2. Mixed methods data collection and research ethics

We conducted survey and qualitative in-depth interviews in Luganda, in private by same sex interviewers. All interviewers were trained using the World Health Organization's guidelines for safe and ethical research on domestic violence (WHO, 2001). The study was approved by the World Health Organization's Ethics Review Committee, the Uganda Virus Research Institute's Science and Ethics

Table 1

The activities, target population, and intended outcome of each SHARE strategy.

Strategy	Examples of Activities	Target Population	Intended Outcome
Advocacy	Workplace dialogues, local group seminars, dialogues with opinion and local leaders.	Local and religious leaders, local organizations, and government, teachers, health care workers.	Increased awareness of IPV as a public health problem and the right of everyone to live without violence
Capacity Building	Staff development workshops, training of resource persons and volunteers, seminars, community-based workshops on IPV, human rights and women's rights.	Police, probation, and social welfare officers, health care providers, teachers, local and religious leaders, SHARE staff and volunteers, and RHSP counselors and staff.	A developed set of skills for recognizing and preventing IPV.
Community Activism	Work with community volunteers and drama groups, booklet clubs, IPV prevention action groups, door-to-door awareness activities, films.	Women and men, youth, and children within the community.	Active participation in preventing IPV in the community.
Learning Materials	Development and adaptation of booklets, brochures, posters, story cards, and other educational materials.	General public, community members, local organizations, health care providers, and social service officers.	Effective learning through the use of engaging, thought-provoking materials.
Special Events	Local fairs, public marches and campaigns, poster exhibitions, seminars, and collaboration meetings.	Community members, leaders, the general public, and local institutions.	Shared ideas and values for the promotion of IPV reduction.

Reproduced with permission from (Wagman et al., 2015) Combined Intimate Partner Violence and HIV/AIDS Prevention in Rural Uganda: Design of the SHARE Intervention Strategy, Health Care for Women International, DOI: 10.1080/07399332.2015.1061526

Committee and the Uganda National Council of Science and Technology. The RCCS was approved by the Western Institutional Review Board (Olympia, WA, USA). All participants provided written consent.

2.3. Quantitative participants and procedures

Survey data were collected (June 2008 through December 2009) from 1407 RCCS participants. During the study period, RCCS was conducted in 50 Rakai communities aggregated into 11 clusters. RCCS involves a census, questionnaires, and serological surveys every 12–18 months (Grabowski et al., 2014; Matovu et al., 2007; Wawer et al., 1998). Four RCCS clusters (21 communities) were exposed to SHARE (plus standard of care HIV services) and seven RCCS “control” clusters (29 communities) received standard of care HIV services only (Wagman et al., 2015). The SHARE trial involved a baseline and two follow-up surveys. Eligibility for enrollment included being a Rakai resident, 15–49 years and providing blood for HIV testing at baseline and follow-up (Wagman et al., 2015). The assessment for the current study analyzed data collected during the second SHARE follow-up (2008–2009). A module of 13 questions on awareness of, participation in and opinions about SHARE was administered to RCCS participants living in 10 of the 21 SHARE communities in the four SHARE clusters (N = 2962).

2.4. Quantitative measures and analysis

The RCCS questionnaire includes sociodemographic, behavioral, health, and care-seeking measures (Matovu, Kigozi, Nalugoda, Wabwire-Mangen, & Wabwire-Mangen, 2002). We assessed each participant's age, religion, education level, and marital status from the main RCCS database. The first question asked for the current study was, “Have you heard of the SHARE Project?” All who responded “yes” were asked the questions shown in Table 2.

Sociodemographic characteristics were described overall and by gender. Comparisons between participants who had and had not heard of SHARE were estimated using Pearson's χ^2 and Fisher's exact tests. Among the sub-sample aware of SHARE, we calculated the proportions exposed to SHARE materials, who interacted with SHARE staff/volunteers, and participated in SHARE activities. These estimates were calculated for the entire sample and between men and women, using the same methods described above. All analyses were done using Stata version 12.

2.5. Qualitative participants and procedures

We conducted in-depth qualitative interviews (August through September 2007) with 20 male and female key informants residing in

Table 2
Measures in the SHARE process evaluation study.

Measure	Question
Exposure to SHARE materials/staff	1. In the last twelve months, which types of SHARE materials or interactions with SHARE staff/volunteers have you had? ● Read SHARE materials (e.g., information sheets, project brochures, booklets) ● Distributed SHARE materials in the community ● Has SHARE materials at home ● Sought advice from a SHARE staff member from RHSP ● Sought advice from a SHARE community volunteer in the community ● Knows a SHARE community volunteer ● IS a SHARE community volunteer
Participation in SHARE activities	2. In the past 12 months, which types of SHARE activities have you participated in? ● Village meeting organized by SHARE ● Community drama, music or dance event ● Poster exhibition ● Booklet club ● Support group ● Campaign event, march or rally ● Seminar or training workshop ● Film show
Reasons for SHARE participation* <i>*Only asked of those who said they participated in at least 1 activity</i>	3. What are the main reasons you decided to participate in SHARE activities? ● I was curious to see what was going on ● I was encouraged to go by a friend/family member; my spouse/partner; A religious or other leader; A SHARE CV ● Most people in my community were participating ● I am a leader in our community and needed to be there ● I believe in the importance of violence prevention ● I believe in the importance of women's rights ● I am/was a victim of violence and sought knowledge/help ● I am/was a perpetrator of violence and sought knowledge/help
Reasons for NOT participating** <i>*Only asked of those who said they did not participate in any activity</i>	4. What are the main reasons you decided NOT to participate in SHARE activities? ● I did not know about any of the activities ● I did not care about what was going on ● I was discouraged from going by a friend/family member; my spouse/partner; someone else ● It was too far away from my home/location ● I feared my spouse/partner/guardian would find out and get angry ● I think it is inappropriate to talk about such private matters
SHARE's impact on behavior change <i>*Not asked of those who said they did not participate in any activity</i>	5. Has participating in SHARE activities and learning about the importance of preventing IPV or improving intimate relationships made you take some specific action? ● YES (Go to Q6) ● NO (Skip Q6) 6. What action has learning about the importance of preventing domestic violence or improving intimate relationships made you take? ● I talked with my spouse/partner about violence prevention ● I talked with family members/friends about violence prevention ● I talked with people in the community about violence prevention ● I talked with friends and family about ways to create more equality between women and men, and girls and boys ● I helped someone to improve or end a violent relationship ● I took actions to improve or end my own violent relationship ● I became a SHARE community volunteer or violence prevention activist ● I reviewed policies/procedures for dealing with VAW ● I advocated with a local leader for a better response to VAW ● I advocated for a bylaw or legal reform on violence against women ● I talked with a SHARE community volunteer or staff member ● I sought advice from a SHARE community volunteer or staff member

the 4 SHARE clusters. Key informants were selected based on their roles in the community and the SHARE intervention, as well as their perceived ability to offer informed detail on community members' awareness of and participation in the intervention. Participants included SHARE community volunteers (local project ambassadors), SHARE community counseling aides (volunteers trained to offer basic support to SHARE community members experiencing violence, including violence associated with seeking HIV services.), and youth peer leaders identified by community members as role models. Participants were sampled based on their role in the project or community and included both males and females of all ages. All qualitative data collection sessions were recorded (with consent), lasted approximately 60 min and were conducted by RHSP research assistants trained in qualitative methods. Interviews explored personal, individual-level accounts of each participant's awareness of and involvement in SHARE and their opinions about which activities were most and least beneficial.

2.6. Qualitative analysis

Information from recordings and written notes was transcribed into long format, translated from Luganda into English, and entered into Microsoft Word. All transcripts were coded and main findings were organized in a Microsoft Excel spreadsheet according to domains of interest. Matrices of the interconnections of areas of interest were

developed to condense and organize data and facilitate cross-informant analysis. Summaries of main trends and findings were organized and quotes illustrating the main results and themes were extracted for illustrative purposes.

3. Results

3.1. Quantitative results

Our study involved 1407 individuals (824 women, 583 men) living in SHARE clusters. As shown in Table 3, most participants were married (57.6%), Christian (82.9%), and had a primary level education (61.3%). The largest proportion surveyed was 35 years or older (28.9%).

3.2. Awareness about SHARE

A total of 1083 participants (77%) had heard of SHARE, including more women than men (81% vs. 71%; $p < 0.001$). Age was significantly associated with women's awareness of SHARE but not men's. Women's awareness rose with increasing age and women 24–34 years were more likely to know of SHARE than those in other age groups. Awareness of SHARE differed by religion. Compared to Christians, Muslims had significantly less knowledge about SHARE among both women ($p = 0.03$) and men ($p = 0.02$, Table III).

Table 3
Sociodemographic characteristics of participants.

	Total (N = 1407)		Women (N = 824)				p-value	Men (N = 583)						
	n	%	Aware of SHARE (669, 81.2%)		NOT aware of SHARE (155, 18.8%)			n	%	Aware of SHARE (414, 71%)		n	%	p-value
			N	%	n	%				n	%			
Age (years)														
15–19 years	285	20.3%	104	71.2%	42	28.8%	0.00	95	68.3%	44	31.7%			0.80
20–24 years	251	17.8%	123	75.5%	40	24.5%		62	70.5%	26	29.5%			
25–29 years	239	17.0%	125	86.2%	20	13.8%		70	74.5%	24	25.5%			
30–34 years	226	16.1%	125	89.3%	15	10.7%		64	74.4%	22	25.6%			
≥ 35 years	406	28.9%	192	83.5%	38	16.5%		123	69.9%	53	30.1%			
Religion														
Christian	1166	82.9%	563	82.8%	117	17.2%	0.03	355	73.0%	131	27.0%			0.02
Muslim	225	16.0%	97	73.5%	35	26.5%		58	62.4%	35	37.6%			
Other/No religion	16	1.1%	9	75.0%	3	25.0%		1	25.0%	3	75.0%			
Education level														
None	61	4.3%	35	71.4%	14	28.6%	0.16	6	50.0%	6	50.0%			0.14
Primary	863	61.3%	393	82.6%	83	17.4%		271	70.0%	116	30.0%			
≥ Secondary	483	34.3%	241	80.6%	58	19.4%		137	74.5%	47	25.5%			
Marital status														
Never married	430	30.6%	148	77.5%	43	22.5%	0.17	161	67.4%	78	32.6%			0.09
Currently married	810	57.6%	417	83.2%	84	16.8%		231	74.8%	78	25.2%			
Previously married	167	11.9%	104	78.8%	28	21.2%		22	62.9%	13	37.1%			

3.3. Exposure to SHARE and interaction with SHARE staff and volunteers

The 1083 participants who knew of SHARE were asked about their exposure to intervention materials, their interaction with people involved in SHARE and their participation in the intervention. Most (69.9%) had read SHARE materials during the year preceding the interview, over one quarter had SHARE materials at home, and ~10% had distributed materials to others (Table 4).

Ten local residents were appointed and trained to work as SHARE volunteers in intervention clusters. Throughout the intervention they facilitated project activities and events, conducted local activism and liaised with RHSP SHARE staff members (Wagman et al., 2012). By 2009, 88.3% of women (591/669) and 83.8% of men (347/414) personally knew a SHARE community volunteer; and 12.4% of women and 15.5% of men were SHARE volunteers, themselves (Table 4). Approximately one quarter of all participants sought advice from a SHARE community volunteer. Men were more likely than women to seek advice from an RHSP SHARE staff member (18.1% vs. 12.4%, $p = 0.01$).

3.4. Trends in and reasons for participation in SHARE activities

Among those aware of SHARE, 73% participated in one or more activities, including more women (74.3%) than men (71.0%). The best attended activities were community drama, music and dance events (67.3%) and village meetings (59.3%, Table 4). Film shows and poster exhibitions were also popular, drawing in 23.9% and 14.7% of all participants, respectively. Film and poster shows were significantly better attended by men than women ($p < 0.001$).

The least attended “targeted” activity was support groups (4.2%). The least attended community-level events were booklet clubs (5.4%) and campaigns, rallies and marches (6.6%). Although available to the entire community, campaigns, rallies and marches were special events and offered less frequently (than other events) throughout the intervention, thus fewer people attended. Like films and poster shows – men were significantly more likely to go to campaigns, rallies or marches compared to women (7% vs. 3.4%; $p = 0.01$). Few (7.5%) attended seminars and trainings but these were also only offered to select groups via Capacity Building (Table 1).

The top three reasons for participating in SHARE were: (1) Curiosity about what was going on (75% of females; 79.20% of males); (2) Belief

in the importance of violence prevention (24% of females; 20.8% of males); and (3) Being encouraged to participate by a SHARE community volunteer or a friend/family member encouraged (20.10% of females; 12.9% of males).

A total of 27.1% (293/1083) of those exposed to SHARE did not participate in intervention activities, including 173 women and 120 men. The top three reasons for non-participation were: (1) Not knowing about SHARE activities (34.1% of females; 35% of males); (2) Not caring about what was going on (28.9% of females; 35.8% of males); and (3) Having a conflict due to a work or home situation (26% of females; 35% of males).

Approximately two thirds of men (61.6%) and women (63.7%) who participated in SHARE ($n = 790$) said learning about the importance of preventing IPV and/or improving intimate relationships influenced them to change some type of behavior (Table 4). The most common changes reported were initiating conversation with a spouse/partner about violence prevention (37.6%); and taking action to improve or end a violent relationship (37.8%). Men were more likely than women to prioritize talking to their partners about violence prevention (49.7% vs. 30.7%, $p < 0.001$), whereas women were more likely than men to prioritize taking actions to improve or end the violence (45.6% vs. 24.3%, $p < 0.001$). The third and fourth most commonly reported actions taken as a result of exposure to SHARE were talking about violence prevention with: (3) people in the community (18.9%); and (4) family members and/or friends (16.9%). No differences between men and women were seen in these last two responses.

3.5. Qualitative results

In-depth interviews were conducted with 9 women and 11 men, including 13 SHARE community volunteers, 6 youth leaders and 1 SHARE community counseling aide. Participants were between 15 and 47 years (Table 5).

Informants discussed their motivations for getting involved in SHARE ($n = 17$, 85.0%), barriers to participation in some activities and how they were overcome ($n = 12$, 60.0%), opinions on SHARE’s most engaging components, how the intervention promoted attitude and behavior change ($n = 13$, 65.0%) and suggestions for improving the SHARE approach to account for perceived obstacles to other people’s participation and to improve engagement in and success of the

Table 4

Exposure to materials, interaction with staff/volunteers, and participation in SHARE activities, as reported by men and women who were aware of the intervention.

^aRespondents were only asked this question if they reported participating in SHARE activities.

^cRespondents were only asked this question if they reported behavior change.

	TOTAL		Women		Men		p-value
	(N = 1083)		(N = 669)		(N = 414)		
	n	%	n	%	n	%	
Exposure to SHARE materials ^a							
Read SHARE materials	724	66.9	437	65.3	287	69.3	0.20
Distributed SHARE materials	102	9.4	55	8.2	47	11.4	0.11
Has SHARE materials at home	289	26.7	170	25.4	119	28.7	0.26
Interaction with SHARE staff/volunteers ^a							
Sought advice from SHARE staff from RHSP	155	14.3	80	12.0	75	18.1	0.01
Sought advice from SHARE community volunteer	279	25.8	167	25.0	112	27.1	0.49
Personally knows SHARE community volunteer	938	86.6	591	88.3	347	83.8	0.04
Is a SHARE community volunteer	147	13.6	83	12.4	64	15.5	0.18
Has participated in SHARE activity ^a							
Any SHARE activity	790	72.9	496	74.3	294	71.0	0.29
Village meeting	469	59.3	306	45.7	163	39.4	0.10
Community drama, music or dance event	532	67.3	323	48.3	209	50.5	0.10
Poster exhibitions	116	14.7	48	7.2	68	16.4	< 0.001
Booklet club	43	5.4	28	4.2	15	3.6	0.87
Support group	33	4.2	20	3.0	13	3.1	0.94
Campaign event, rally or march	52	6.6	23	3.4	29	7.0	0.01
Seminar or training workshop	59	7.5	31	4.6	28	6.8	0.12
Film show	189	23.9	97	14.5	92	22.2	< 0.001
Participation in SHARE caused behavior change ^b	497	62.9	316	63.7	181	61.6	0.68
Specific change associated with SHARE learning ^c							
Talk w/partner about viol prev	187	37.6	97	30.7	90	49.7	< 0.001
Talk w/family about viol prev	84	16.9	50	15.8	34	18.8	0.40
Talk w/community member about viol prev	94	18.9	56	17.7	38	21.0	0.37
Improve/end violent relationship	188	37.8	144	45.6	44	24.3	< 0.001

^aThese categories are not mutually exclusive.

^bRespondents were only asked this question if they reported participating in SHARE activities.

^cRespondents were only asked this question if they reported behavior change.

Table 5

Characteristics of qualitative interview participants.

	Total	Women	Men
	(n = 20)	(n = 9)	(n = 11)
Age			
15–19 years	5	2	3
20–24 years	4	2	1
25–29 years	4	2	2
30–34 years	4	2	2
> 35 years	4	1	3
Role in SHARE intervention			
Youth Leader	6	3	3
Community Volunteer	13	6	7
Community Counseling Aide	1	–	1

intervention (n = 15, 75.0%).

3.6. Motivations for SHARE participation

Expanding on survey findings that three quarters of those exposed to SHARE participated, qualitative informants narrated how desires to learn something inspired them to get involved. Many, particularly those with less schooling, felt SHARE provided an opportunity for continued education.

“What motivated me were the training sessions. They concerned me as a youth, they motivated me to go and learn about how to protect my life, reproductive health; where one should deliver a child, what one should do in case she is pregnant, how one should protect herself from acquiring HIV virus.” [Female age 22, Youth Leader]

One quarter of survey respondents participated in SHARE because they believed violence prevention was important. Qualitative informants explained that reducing violence was important because it would increase their ability to improve social conditions, population-level reproductive and sexual health and could help them protect themselves, their families, peers and communities against IPV and other harmful practices.

“I and students from my community were highly interested in indulging in sexual affairs (before SHARE). I realized if I joined SHARE and got educated, I could go and tell my peers/colleagues that such and such a thing was bad and we could do away with it. I knew if I could tell an individual about it several times, he could shy away from it. I therefore joined it [SHARE] so that I could get some information/knowledge and I pass it on to my colleagues.” [Male age 18, Youth Leader]

Informants liked how SHARE promoted community ownership. Many volunteers felt particularly connected to and responsible for the success of the project. Pre-existing familiarity with RHSP built people’s confidence in getting involved.

“SHARE is part of Rakai Program and I had already participated and worked with the program. I was a member in the (RHSP) family planning program as a certified user and I used to distribute pills. Since SHARE is part of Rakai Program, I joined straight away.” [Female age 31, Community Volunteer]

3.7. Barriers to SHARE participation and how they were overcome

Drawing on our key informants’ own experiences, as well as their

social positions in the SHARE regions (and with the prevention programming itself), we qualitatively explored barriers to their own participation in the intervention. Informants were also prompted to discuss perceived barriers to other people's involvement. Although we did not interview anyone who explicitly declined to take part in SHARE, we drew on our informants' in-depth knowledge about their fellow community members' feelings and behaviors. Interviews were structured to elicit information to better understand why one quarter of those aware of SHARE either declined participation or did not consistently participate in the program. The most commonly noted barrier to frequent participation, particularly among men, was lack of time and/or concern that getting involved would require too much commitment. Many were challenged to balance life responsibilities with SHARE participation given limited time, transportation and competing work and domestic requirements.

'After joining SHARE I first became worried about how I was to utilize time between my personal activities and SHARE responsibilities, such as conveying information to the people. We were briefed that if you are, for instance, going to conduct home visits you should spend like thirty minutes and then you reserve time for your personal activities as well as basing [your] schedules on your time table.' [Male age 28, Community Volunteer]

Another barrier to frequent participation, particularly among women, was limited self-confidence, particularly when they first joined the program. Some female SHARE volunteers initially felt unable to speak with authority or teach others about key intervention messages, particularly in the presence of men. Women's lack of self-confidence was often related to feeling too young to be respected or fearing people would doubt a woman's legitimacy as a leader and violence prevention advocate as she might have been a victim of abuse herself.

'I was scared about how I would enter people's homes and tell them [about SHARE] at first. Before the people were sensitized by the health workers themselves, people would tell us that, 'What are you saying? Considering the domestic violence that has been taking place in your homes. How many children has your husband had out of a wedlock and you fought with him? And now it is you talking to us about domestic violence? Do not come to my home, you cannot even advise me...'' [Female age 29, Community Volunteer]

Women with limited formal education worried about their capacity to assume the roles of a SHARE community volunteer, fearing they would not be able to do the work.

'I was worried about my education. That was my major worry. I was like, 'Now me who is not educated, what am I going to do?' When they speak English I will stay seated. But fortunately I realized that the way they taught/trained us they would read in English but then explain in Luganda. So I did not find it difficult, but otherwise I got so much worried about that, I got worried.' [Female, age unknown, Community Volunteer]

Participants described how stigma surrounding participation in RHSP activities influenced community members' decisions to take part in SHARE. While RHSP has a long-standing presence in the community and a positive relationship with many residents in its operational areas, there is a widespread notion that RHSP is well-funded. This belief translated into some thinking SHARE staff had access to a lot of money and affiliated volunteers were highly paid. This depleted some people's trust that SHARE volunteers were promoting behavior change based on what they thought was for the good of the people, but instead because they were profiting from their actions. As such, some community members were unaware, or disbelieved that SHARE volunteers were donating their time, as opposed to earning a salary. Even after explaining that volunteers were only given a small stipend to cover transportation for field work and provided with SHARE materials for distribution, some affiliated with the intervention continued to be met

with distrust by the community.

'Whenever community members see RHSP trucks moving around here they say, 'RHSP is very rich. So it only goes around dishing out money.' So whenever you try to talk to someone she/he thinks that you are only exploiting her or him. My people still hold that bad feeling.' [Male age 47, Community Counselor]

When discussing SHARE, many participants talked about how they overcame obstacles to participation. Some explained how focusing on time management (i.e., taking responsibility for controlling and better organizing their schedules) and learning to balance life responsibilities helped. In particular, some realized they could choose to get involved only when convenient, allowing time for social and other responsibilities as well.

'[The] only fear I had was that since I was supposed to be a volunteer, I thought it would take a lot of time since it involves training people so I would not have time to do my personal things. Later I realized I have freedom to do my volunteer work whenever I want. It does not interfere with my programs, like I could say on Sunday, when I actually don't have much to do, I will do volunteer work. So it is not a burden as I thought.' [Female age 31, Community Volunteer]

Some participants who initially felt insecure about SHARE involvement gained self-confidence through experience and time, which led to feeling comfortable disseminating the intervention's teachings to members of their community. For most, fears were dispelled once the first SHARE training or community outreach event took place.

'After we went through the beginning, SHARE introduced us to the [community] people and we began making home visits. This built confidence in us and we were handling something that people liked so much. This is because it [domestic violence] was affecting people and was their concern, but had no solution to it. I stopped fearing, and can handle all issues to do with domestic violence. I teach them and can refer others to the community counselors for counseling.' [Male, age unknown, Community Volunteer]

An increased understanding of women's rights among some men and women who were exposed to SHARE's ongoing activities was noted to have alleviated some people's initial reluctance to get involved. For some, SHARE's rights-based lessons bolstered confidence and helped them overcome fears that initially dissuaded involvement. This transition is illustrated by a 31 year old woman who initially doubted her ability to volunteer with SHARE, but ultimately became deeply involved. She said that with time, the "SHARE project has made me a strong and brave person. I feel respectable."

3.8. SHARE's most engaging components

Community drama, music and dance events were designed to be interactive, entertaining and to bring community members together to engage in dialogue and problem solving discussion. Participants enjoyed dance shows and believed important messages could be effectively conveyed through music. Many felt dramas were particularly meaningful because they accurately depicted what IPV looked like in many of their own lives, and catalyzed open discussion about a topic not normally discussed in public. Theater was seen as useful for clarifying complicated nuances of interpersonal relationships and helping people understand IPV.

'I was scared of people attacking me and asking me who told me about those things [domestic violence] and other things. It [is] since they [the SHARE Program] came in the community and organized meetings, film shows and drama. They helped a lot for people [to] get used to the issue of domestic violence.' [Female age 42, Community Volunteer]

Village meetings and community dialogues were highly valued because they brought people together, engaged them in guided experience

sharing and helped “sensitize” individuals about how to promote community-wide changes in attitudes and behaviors that perpetuate violence against women. These events helped people identify IPV as a public health problem, consider its importance, evaluate their own behavior, and then begin making changes in their lives.

“With training, people get to understand and they internalize issues and reflect on their behaviors. Here they get to realize that maybe they have been doing wrong so they decide to change and may be get to do some other things.” [Male age 18, Youth Leader]

3.9. SHARE’s contribution to attitude and behavior change

Community-based primary prevention techniques promoted changes in people’s attitudes and behaviors supporting violence against women. We addressed IPV by focusing on its root causes (i.e., women have lower status than men) and discussing how cultural normalization of violence against women drives many to accept it as a norm, not a problem. Many narrated how SHARE helped them understand that violence can only be changed by addressing its underlying causes.

“There is a change in my understanding....Men always want to assert their dominance. I have now come to understand how this contributes to domestic violence. Today when there is an occurrence of domestic violence, I do not look at the violence straight away, instead I try to look at the possible origin/cause of the problem. This is from where I find a solution.” [Male age 35, Community Volunteer]

Participants also commonly talked about how SHARE sparked consideration of women’s rights and helped people assess and evaluate their personal and cultural beliefs about women’s value in society. Exposure to these ideas has helped many to reflect on the fact that they were not treating women as equal human beings (relative to men), nor had they really ever considered equality an important issue.

“I have become aware that women are also human beings like us [men]. We have to treat them as human beings. I have also become aware that women can be innovative and contribute to family development.... I have become aware that women deserve their rights just like any other person. They should not be abused, they need to have rest and not to do all the work in the home whereby we need to share work in the family such that she can also rest just like the man does. Therefore we need to be equal with equal rights.” [Male age 30, Community Volunteer]

As indicated by survey results, SHARE encouraged many to (1) move beyond the “raising awareness phase,” (2) through the steps of preparing for action (by contemplating how changes in their own behavior could reduce violence and uphold women’s right to safety); and (3) start trying new and different ways of thinking and behaving. Men most commonly reported integrating action by improving/beginning communication with their spouse/partner about violence prevention and resolving issues and conflicts without using violence.

“I have had a change in my feelings and believe that women should not be abused. Now I don’t use power to resolve issues but make choices together with my wife. We need to sit down and discuss issues to do with the family, I consult her on many issues and we put all our activities according to priorities. We use discussions instead of force/violence.” [Male age 32, Community Volunteer]

Women most commonly reported integrating action by taking steps in their own lives to improve or end violence in their relationships. Many women narrated how SHARE empowered them and provided them with strategies to make meaningful changes toward more equitable lives, free from violence. These changes were not made in isolation, however. Most women agreed that their husbands/partners were simultaneously contemplating ways to change their own behaviors and the collective result yielded a positive impact on the quality of their partnerships, and the happiness in their families.

“Now I have the freedom in my household to say something. I can discuss issues related to my home and my children. Regarding my husband, it has increased the love in our home. When you feel you have freedoms/rights, even the love increases since every oppressing problem can be talked about properly. I can tell my husband something and he understands it after explaining it to him. I tell him that emotional pain brings about violence, and sexual coercion brings about other forms of violence. I show him that sex should be agreed upon by both partners so whenever we are going to have sex now, we first discuss it so we each feel desire for the other person.” [Female age 40, Community Volunteer]

3.10. Suggestions for improving an intervention like SHARE

The most common recommendations for improving SHARE were scaling up awareness raising efforts, making activities more accessible and ensuring materials were available to everyone. Long distances to events and transportation costs prevented some from participating. It was suggested that future interventions involve more volunteers and offer more community-based meetings (so more participants can attend). Further, some who took time to get involved were met with shortages of SHARE learning materials. It was suggested that user-friendly visual aids and advertisements be enhanced and distributed in mass so a constant supply of materials is available. Another recommendation was for community volunteers to be facilitated with bicycles so as to maximize their ability to reach the population.

“When we look at the challenges of teaching others, we realize that at least the volunteers need to be facilitated...Facilitation in form of transport or bicycles. Considering this area we have clay soil and sometimes we may need to wear shoes and climb hills. For sure you realize that you need to be facilitated...They need papers like the news prints, they help us to demonstrate as we teach.” [Male, age unknown, Community Volunteer]

Some structural improvements were recommended, such as rotating SHARE volunteers, to broaden the reach of intervention messages and ensure many different types of people get involved.

“I wish to suggest that may be they try to rotate the people [SHARE Volunteers] who come here to train us. This would enable the students to realize that the issues you are training us about are realistic and important. You know if you are taught by the same person day after day, you may fail to realize its impact.” [Male age 18, Youth Leader]

Participants suggested increasing the frequency and reach of drama as it was felt to be an extremely powerful communication tool.

“SHARE brings in drama which depicts domestic violence. Drama is a vivid reflection of what happens and one sees the causes and disadvantages or domestic violence.” [My recommendation is that] maybe they should take drama shows to every village each month.” [Female age 40, Community Volunteer]

4. Discussion

Our study, conducted with people living in SHARE regions, found most (77%) were aware that the intervention existed, among whom the majority (73%) had participated to some extent. SHARE aimed to help community members reduce IPV and HIV infection by proceeding along an established model of behavior change, from awareness to sustained action. It is therefore encouraging that 63% of the participants who reported exposure to the intervention and learning about the importance of preventing IPV or improving intimate relationships also indicated taking some specific action of behavior change. The most common change reported by men was starting to talk with their partners about violence prevention, while women commonly took actions to reduce or end violence in their life. These findings align with global

knowledge on the epidemiology of violence against women. Since women are more likely to experience IPV victimization than men (Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002), they are likely more inclined to take steps to end it.

We recognize that our study population consisted of a very specific subset of people who were repeatedly exposed to a focused community mobilization approach developed for IPV prevention in East Africa, as opposed to the general population. Thus, our findings most strongly imply that deep involvement in the intervention holds the most potential for meaningful change in the intended direction. Further, our findings on what was most appealing and engaging in the intervention regions could be used to inform how scale up and/or replication of this approach in other settings could be done in the most meaningful and effective way.

As noted, awareness of SHARE was high in our research population. Most who knew about SHARE had read intervention materials and about a quarter brought them home, suggesting potential for diffusion of key messages to others in the household and community. We learned it is vital to create strong relationships and build trust between intervention staff and community members, and recommend that others follow this same approach. Perhaps because SHARE successfully established trust over the 4+ years of its implementation, most (87%) personally knew and 26% sought advice from a SHARE volunteer by the end of the project. A notable finding was that men were more likely than women to seek guidance from a SHARE representative from RHSP. This is particularly important because the SHARE program asks men to reflect on and change their understandings of complex relationship dynamics. It can be challenging to incite this sort of behavior change, especially in countries like Uganda, where social norms still enforce and support unequal power distributions among men and women. The fact that men were open to seeking guidance from SHARE representatives suggests that this format could be effective at inspiring behavior change among men. This also suggests men's engagement in violence prevention could be improved if intervention staff are known and trusted by men in the target population.

Participants' familiarity with RHSP lent credibility to the new SHARE intervention. This strengthens the argument for existing HIV programs or other well established health organizations to incorporate violence prevention into standard operating procedures. It is important, however, that other groups learn from our finding that preconceived ideas about the reputation of an organization can influence the way community members receive new programming. Because of beliefs that RHSP was well-funded, some introduced to SHARE assumed its volunteers were highly paid, as opposed to donating their time toward positive behavior change. Sensitization to and awareness of SHARE activities was therefore key, as was getting community members involved as much as possible in activism and advocacy components. By working to ensure everyone felt part of the larger violence prevention movement, we reduced suspicion surround the project's (misconceived) motivations. We advise other programs to do as much as they can to build trust within the population, promote community ownership, and encourage the involvement of locals as volunteers.

We learned it is highly valuable to offer an array of activities to reach everyone in the target population. Some activities appealed to almost everyone. Drama and theater events, for example, were extremely popular and valued because they depicted people's own experiences and addressed complicated and taboo aspects of relationships in a public space. For other activities, gender was associated with trends in participation. Film and poster shows (and other outdoor, public activities) were significantly better attended by men than women, suggesting different comfort levels with engaging in some activities. Familiarity with past RHSP events may also have contributed to participation rates. Drama, music and dance activities have been previously used by RHSP as a method of community mobilization, whereas booklet clubs, campaigns, rallies, and marches were new activities. It is important to tailor interventions to meet the needs and interests of

everyone intended to participate. With regard to violence against women prevention interventions specifically, we struggled to engage males in some activities. Our future approaches will be designed with their interests in mind. Empirically informed, gender-transformative programs are critical for increasing the involvement of men and boys and we are currently designing a framework for pilot testing in Rakai.

The least popular activities included those that required consistent involvement or were potentially time consuming for participants. Support groups, booklet clubs, and seminars/workshops were the least often attended activities, among both men and women. This lack of participation could be due to the fact that in many of these areas families live on a subsistence income, and any time spent volunteering or attending SHARE activities could take away from time spent earning money. This may be particularly true for males, among whom 35% did not participate in SHARE because of a scheduling conflict. Qualitative respondents also highlighted time commitments as a chief reason for lack of participation or infrequent participation. It is also worth noting that while males are typically in charge of earning money for the household, women often carry their own logistical challenges to participation, in the form of childcare and domestic tasks, including cooking and cleaning for the family. However, women may be more willing to engage in SHARE activities, despite these logistical barriers, because the program's aims may be more appealing to them. In comparison, men may be more likely to use their scheduling difficulties as a reason for refraining from participating in SHARE activities because the content of the program may challenge their long held beliefs about their position and power within the relationship. Programs should therefore place emphasis on creating activities that take into account community members' varying time commitments, availability, and various potential reasons for not participating in the program.

Many chose not to participate in SHARE, or participated infrequently, and we believe our findings on barriers to involvement are as valuable as those regarding what motivated people. Explanations for non-participation were split between those who did not know about the activities, did not care, or had time conflicts. Through qualitative interviews we learned that many women hesitated to participate in SHARE because of limited self-confidence, often related to social norms placing less value on women than men. Many women were afraid to speak up, especially about the highly charged subject of violence against women. This was particularly true if a woman had experienced violence herself. We recommend all violence prevention programs include strategies for empowering volunteers and community members – men and women alike – to address difficult topics, including the way cultural norms influence our own self-perceptions. As part of their strategies for empowerment, programs should emphasize ways that violence survivors can be effective advocates against violence, without feeling illegitimate or stigmatized. This can be done through training, ongoing guidance and by arming people with knowledge. We also believe capacity building is crucial to helping intervention teams feel prepared and ensuring volunteers are empowered to contribute to social change.

Our study has limitations. Our survey was only administered to a sub-sample of RCCS respondents in SHARE clusters and most were aware of the intervention. Further, most of the qualitative respondents were directly involved in SHARE as a volunteer, youth leader or counseling aid, so may have been more likely to report higher levels of engagement or overestimate the value of the project. It is thus possible that our findings do not represent the views of the general population exposed to the intervention, or that responses were affected by a social desirability bias, given that many of the respondents (particularly in the qualitative component) were involved with SHARE in one way or another, including as targeted SHARE volunteers. Participants may have also felt more inclined to exaggerate the extent to which SHARE has motivated their behavior change. Additionally, we only collected survey data to evaluate the SHARE process at the end of the intervention. It would have been more meaningful to comprehensively examine

participants' perceptions of the intervention at different points in time. Finally, our survey data are cross-sectional, thus we cannot conclude that reported changes in behavior (attributed to SHARE) were truly a result of intervention exposure.

5. Lessons learned

Notwithstanding the limitations, we believe our study increases knowledge about the process of delivering IPV reduction activities within the infrastructure of an HIV program. These evaluation results bolster our previous recommendation that the SHARE intervention approach be adopted, at least in part, as a standard of care for other HIV programs in sub-Saharan Africa (Wagman et al., 2015). Most people exposed to SHARE decided to take part in some way, suggesting its implementation could be successful if integrated into HIV programs in other locations. Further, our results lend credibility to prior findings that exposure to SHARE was associated with significant reductions in physical and sexual IPV, forced sex, and HIV incidence. Approximately two thirds of men and women said SHARE prompted them to change their own behaviors related to violence and HIV risk. Those influenced by SHARE frequently suggested that the best way to amplify its impact would be to scale it up and make all of its components more visible and accessible to a larger number of people. We encourage other HIV research and service provision organizations to consider these recommendations.

Funding

This work has been supported by a variety of sources. The Rakai Community Cohort Study (RCCS) was funded by the Bill & Melinda Gates Foundation (22006.02) and the US National Institutes of Health (U1AI51171). The SHARE process evaluation research was funded through a grant from the World Health Organization's Department of Reproductive Health and Research (A55085). The SHARE intervention was funded by the President's Emergency Plan for AIDS Relief (CoAg GH000817). Analysis of the research reported in this publication was supported by a grant from the Sexual Violence Research Initiative (#52065/2016) and a career development award (K01AA024068).

Conflicts of interest

None.

References

- Campbell, J. C., Baty, M. L., Ghandour, R. M., Stockman, J. K., Francisco, L., & Wagman, J. (2008). The intersection of intimate partner violence against women and HIV/AIDS: a review. *International Journal of Injury Control and Safety Promotion*, 15(December (4)), 221–231. <http://dx.doi.org/10.1080/17457300802423224>.
- Grabowski, M. K., Lessler, J., Redd, A. D., Kagaayi, J., Laeyendecker, O., Ndyababo, A., et al. (2014). Rakai Health Sciences Program. The role of viral introductions in sustaining community-based HIV epidemics in rural Uganda: evidence from spatial clustering, phylogenetics, and egocentric transmission models. *PLOS Medicine*, 3(March (3)), e1001610. <http://dx.doi.org/10.1371/journal.pmed.1001610>.
- King, E. J., Maman, S., Namatovu, F., Kiwanuka, D., Kairania, R., Ssemanda, J. B., et al. (2016). Addressing Intimate Partner Violence Among Female Clients Accessing HIV Testing and Counseling Services: Pilot Testing Tools in Rakai, Uganda. *Violence Against Women* pii: 1077801216663657. [Epub ahead of print].
- Krug, E. G., Dahlberg, L. L., Mercy, J. A., Zwi, A. B., & Lozano, R. (2002). *World report on violence and health*. Geneva: World Health Organization 2002 [Retrieved 13.06.17. Available from: http://apps.who.int/iris/bitstream/10665/42495/1/9241545615_eng.pdf].
- Maman, S., Campbell, J., Sweat, M. D., & Gielen, A. C. (1982). The intersections of HIV and violence: Directions for future research and interventions? *Social Science & Medicine*, 50(4), 459–478.
- Matovu, J. K., Kigozi, G., Nalugoda, F., Wabwire-Mangen, F., & Gray, R. H. (2002). The Rakai Project counselling programme experience. *Tropical Medicine & International Health*, 7(December (12)), 1064–1067.
- Matovu, J. K., Gray, R. H., Kiwanuka, N., Kigozi, G., Wabwire-Mangen, F., Nalugoda, F., et al. (2007). Repeat voluntary HIV counseling and testing (VCT), sexual risk behavior and HIV incidence in Rakai, Uganda. *AIDS and Behavior*, 11(January (1)), 71–78 Epub 2006 Oct 3.
- Michau, L., & Naker, D. (2003). *Mobilizing communities to prevent domestic violence: a resource guide for organizations in east and southern Africa*. Kampala, Uganda: Raising Voices.
- Prochaska, J. O., & Velicer, W. F. (1997). The transtheoretical model of health behavior change? *American Journal of Health Promotion*, 12(1), 38–48.
- UNAIDS (2013). *Global report 2013* [Accessed 16.12.16. Available from: http://www.unaids.org/sites/default/files/media_asset/UNAIDS_Global_Report_2013_en_1.pdf].
- UNESCO (2016). *Stepping stones: A training package in HIV/AIDS, communication and relationship skills* | UNESCO HIV and Health Education Clearinghouse. [Accessed 1.12.16. Available from: <http://hivhealthclearinghouse.unesco.org/library/documents/stepping-stones-training-package-hivaids-communication-and-relationship-skills>].
- Wagman, J. A., Namatovu, F., Nalugoda, F., Kiwanuka, D., Nakigozi, G., Gray, R., et al. (2012). A public health approach to intimate partner violence prevention in Uganda: the SHARE Project. *Violence Against Women*, 18(December (12)), 1390–1412. <http://dx.doi.org/10.1177/1077801212474874>.
- Wagman, J. A., Gray, R. H., Campbell, J. C., Thoma, M., Ndyababo, A., Ssekasanvu, J., et al. (2015). Effectiveness of an integrated intimate partner violence and HIV prevention intervention in Rakai, Uganda: analysis of an intervention in an existing cluster randomised cohort. *Lancet Global Health*, 3(1), e23–e33. [http://dx.doi.org/10.1016/S2214-109X\(14\)70344-4](http://dx.doi.org/10.1016/S2214-109X(14)70344-4) Epub 2014 Nov 28.
- Wagman, J. A., King, E. J., Namatovu, F., Kiwanuka, D., Kairania, R., Ssemanda, J. B., et al. (2016). Combined Intimate Partner Violence and HIV/AIDS Prevention in Rural Uganda: Design of the SHARE Intervention Strategy. *Health Care Women International*, 37(3), 362–385. <http://dx.doi.org/10.1080/07399332.2015.1061526>.
- WHO (2001). *Putting women first: Ethical and safety recommendations for research on domestic violence against women*. WHO Department of Gender, Women and Health [Accessed 13.06.17. Available from: <http://www.who.int/gender/violence/womenfirtseng.pdf>].
- Wawer, M. J., Gray, R. H., Sewankambo, N. K., Serwadda, D., Paxton, L., Berkley, S., et al. (1998). A randomized, community trial of intensive sexually transmitted disease control for AIDS prevention, Rakai, Uganda. *AIDS*, 10(July (10)), 1211–1225.

Jennifer A. Wagman, PhD, MHS, is an Assistant Professor at the Center on Gender Equity and Health at the University of California, San Diego in La Jolla, CA, USA.

Ronald H. Gray, MD, is a Professor in the Department of Epidemiology at the Johns Hopkins Bloomberg School of Public Health in Baltimore, MD, USA.

Neema Nakyanjo, MA, PGDE, is Director of the Qualitative Research Department at the Rakai Health Sciences Program in Kalisizo, Uganda.

Katherine A. McClendon, MS, is a student at the University of California, Los Angeles School of Nursing, in Los Angeles, CA, USA.

Erika Bonnevie, MA, is a Research Associate at the Center on Gender Equity and Health at the University of California, San Diego in La Jolla, CA, USA.

Fredinah Namatovu, PhD is a postdoctoral fellow at the Department of Historical, Philosophical and Religious Studies at Umeå University

Grace Kigozi, MPH, is a Coordinator at the Rakai Health Sciences Program in Kalisizo, Uganda.

Joseph Kagayi, MBChB, MPH is a Program Director at the Rakai Health Sciences Program in Kalisizo, Uganda.

Maria J. Wawer, MD, MHS is a Professor in the Department of Epidemiology at the Johns Hopkins Bloomberg School of Public Health in Baltimore, MD, USA.

Fred Kakaire Nalugoda, PhD, MHS, is the Director of Grants and Training at the Rakai Health Sciences Program in Kalisizo, Uganda.