

‘Before we were sleeping, now we are awake’: Preliminary evaluation of the *Stepping Stones* sexual health programme in The Gambia

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Community-based behavioural interventions aimed at reducing risky sexual behaviour have yet to be shown to be effective in the developing world. *Stepping Stones* is a participatory STI/ HIV prevention workshop programme based on empowerment techniques, which has been adapted to an infertility prevention framework for The Gambia. This paper describes a preliminary evaluation in 2 villages where the intervention was carried out compared to 2 control villages. Methods used include: participatory evaluation; 84 in-depth interviews; 7 focus group discussions; a knowledge, attitudes and practice questionnaire administered to a random sample of 25% of the adult population at 3 time points; and monitoring of condom supply. The structure of the evaluation is based on the themes derived from the qualitative data. The infertility prevention approach made it possible to overcome resistance to discussing the topics of sexual and reproductive health. An atmosphere of trust was created and men were persuaded to participate in the programme as they felt that their own needs were being addressed. Participants enjoyed the programme and found the content relevant. Knowledge of the modes of transmission of HIV and sexually transmitted infections and levels of risk awareness increased. The value of condoms in particular situations was recognised: for sex before marriage, within marriage (when the woman is breastfeeding) and with non-marital partners. Women reported that they would insist on condom use outside marriage and even ask their husbands to use condoms for non-marital sex. Condom monitoring data suggested that condom uptake had increased. It was reported that there was significant increase in dialogue within marriage with the consequence that there were fewer disagreements and incidents of domestic violence. Diffusion of the messages of *Stepping Stones* appeared to have taken place with non-participants including children. The evaluation techniques used can now be refined in order to generate further evidence on a larger scale and over a longer period.

Introduction

The burden of disease caused by risky sexual behaviour in the developing world is significant. The unwanted consequences include sexually transmitted infections (STIs), the cause of significant reproductive morbidity, and HIV infection, the leading cause of death in many African countries. With global incidence of HIV/AIDS reaching previously unseen levels (UNAIDS, 2000a), the need to identify behavioural change programmes which have an impact on risky sexual behaviour has never been greater. Yet evidence for the success of HIV/STI prevention interventions demonstrated by reduction in actual incidence of infections is scarce (Oakley *et al.*, 1995; Aral and Peterman, 1998). A behavioural intervention with STD clinic-attenders in the USA has had some success (Shain *et al.*, 1999), and treatment-based STI control at health centres has been demonstrated to reduce HIV incidence (Grosskurth *et al.*, 1995). In practice however, STI control interventions are far outnum-

bered by community-based behavioural change interventions aimed at reducing risky sexual behaviour, which have yet to be shown to be effective in the developing world in the prevention of STIs/HIV. A recent rigorous literature review found only 3 studies looking at community-wide risk reduction, and changes brought about by these interventions were measured in terms of self-reported condom use and discussion about HIV (Merson *et al.*, 2000).

The need for context-specific STI/HIV prevention programmes is now accepted (Parker, 1996; Zwi, 1993). Evidence suggests that successful programmes need to equip participants with life-skills and promote self-efficacy, using face-to-face techniques (Kamb *et al.*, 1998; Shain *et al.*, 1999; Celentano *et al.*, 2000). The Cairo Programme of Action (UNFPA 1994) supported the development of innovative programmes that serve the needs of women, and enable men and women to share and accept responsibility

for the prevention of STIs. Yet many sexual and reproductive health interventions and services are directed specifically towards women (Hawkes and Hart, 2000). Ideally, an intervention should work with the different concerns and requirements of both men and women, whilst empowering the latter to realise their full social, financial and health potential. Few programmes that succeed in achieving these aims have been described.

As a community-level participatory HIV prevention programme based on a Freirian approach to empowerment (Freire, 1970), Stepping Stones meets these criteria (Weilbourn, 1995). It combines Participatory Learning and Action techniques (PLA), such as role-play, in which participants analyse the personal and social context of risky sexual activity, with 'non-formal' education on primary and secondary prevention. The programme seeks to enable participants to increase control of their sexual and emotional relationships by working in naturally occurring single-sex peer-groups, usually 4 groups comprising older and younger men and women. The workshops cover relationship skills, including assertiveness training, as well as information on STIs and condom practice sessions. The manual was adapted for The Gambia with the inclusion of material on infertility prevention (Shaw, 2002). The peer-groups come together for joint meetings, facilitating a controlled dialogue, and finally present dramas to the village to mobilise the whole community to support behaviour change. Participants are also encouraged to involve themselves in peer education. As a village-level intervention, Stepping Stones aims to reach those groups unable to benefit from other strategies, and seeks to facilitate open discussion within the community at all levels thus creating an enabling environment for the community to support individuals in behaviour change. It is a UNAIDS-recommended resource for community mobilisation (UNAIDS, 2000b) and has proved popular around the world: more than 2000 organisations in over 100 countries have received the package. Yet rigorous evaluations have yet to be undertaken on the effectiveness of this programme.

In The Gambia Stepping Stones complements school-based sexual health promotion, radio-based promotion, and peer education. School enrolment in The Gambia is relatively low: only 14% of young people aged 13–18 were in school in 1998 (Department of State for Education, personal communication), and there is a high rate of illiteracy (Republic of The Gambia, 1995). Peer education with youth has been widely used, but previous work has shown that young people find it difficult to discuss reproductive health with community elders (Miles *et al.*, 2001). Sexual health promotion messages on the radio may be effective in giving information to listeners, but do not appear to bring about changes in attitude and practice in those who do not own their own radio (Valente *et al.*, 1994).

The Gambia is a predominantly Muslim country with a relatively low prevalence of HIV. Recent sentinel surveillance results from antenatal women show a national prevalence of 1.2% for HIV-1, and 0.9% for HIV-2. However a higher prevalence was found in the area in which the work described here was carried out, with 3.0% of pregnant women HIV-1 positive and 1.8% HIV-2 positive (National

AIDS Control Programme, 2001). High rates of syphilis have also been found (Shaw *et al.*, 2001). While there is increasing awareness of HIV in this area, detailed knowledge is lacking (Schneider, 2001), there is scepticism about its existence, and ambivalence towards family planning (Enel, 1995). However the consequences of unsafe sex, especially unwanted pregnancy and subfertility, are major social problems (Walraven *et al.*, 2001). Therefore the original programme's emphasis on HIV has been adapted to an infertility prevention/reproductive health framework to suit the expressed needs of rural men and women (Shaw, 2002).

The programme was implemented by a partnership involving the Department of State for Health, Gambia Family Planning Association, ActionAid The Gambia, World Wide Evangelisation for Christ Mission and the Medical Research Council.

The paper describes a pilot structured evaluation of this programme. Unskilled community facilitators were selected and trained to be group facilitators at a 10-day residential workshop, following which they ran the programme under close supervision in one community. Qualitative and quantitative data based on the second time they ran the programme are presented here which identify those areas related to STI prevention where the programme may be expected to have some success.

Methods

The project used a multi-disciplinary approach, in which epidemiology, social science and PLA informed each other as an iterative process. For the pilot evaluation of the intervention, all villages with a total population of 200–500 in the census were identified, and matched on the basis of ethnicity, distance to main road, distance to health facilities and size of population. Two pairs were randomly selected, with one of each pair randomly allocated to intervention and one to control arms of the study. The 4 villages were a minimum of 10km apart, and all were at least 1km from the main road.

The study was approved by the ethics committee of The Gambia Government/ Medical Research Council (MRC) Laboratories. Village meetings were held to discuss the study and the intervention and their possible involvement. When permission was obtained to go ahead, the residents of the village (those present for at least 6 of the last 12 months) above the age of 12 were enumerated.

This was a multi-method study, and included participatory evaluation by the participants themselves, in-depth interviews, focus group discussions, a knowledge, attitudes and practices (KAP) survey, and monitoring of condom suppliers. The objectives of the study were:

- 1) to document which behaviour changes the villagers chose to target in their community,
- 2) to decide whether the intervention appeared promising on the basis of qualitative data collected, and
- 3) to explore the feasibility of detecting changes with quantitative data if the intervention were to be taken to scale

Participatory evaluation

The workshop programme was carried out in 10 weekly ses-

sions during the harvest season (October–November) of 1998. The workshop activities invite the participants to explore broad topics, such as 'relationships' using PLA techniques, but do not dictate which dimensions of these issues participants should prioritise. Therefore an important activity was to record the participatory outputs from the workshop groups, from their initial priority setting to their final recommendations. After one year the participants carried out their own evaluation using participatory techniques.

In-Depth Interviews

Forty-six randomly selected residents of the intervention villages (total adult population 315) were interviewed by a same-sex interviewer immediately after the intervention, while one year after the intervention a purposive sample of 38 residents were interviewed. These interviewees were key informants selected because they were either community-leaders, outsiders such as teachers posted in the community, non-participants, condom suppliers, or people who were identified by the fieldteam as opinion leaders or 'frank' about private affairs during the intervention. This aimed to achieve a non-idealised picture of sexual behaviour, as well as to determine responses to the intervention. Interviews were taped, translated and transcribed. The question guide covered implementation of the intervention, knowledge acquired, changes in health-seeking behaviour, in relationships, in condom use, and overall impact. The structure of the evaluation as described in this paper is based on the themes derived from a grounded analysis of these data. These themes were independently derived at both time points, and reviewed and confirmed by two co-authors.

Focus Group Discussions

Seven single-sex focus-group discussions (FGDs) were carried out in the two intervention villages immediately after the intervention, with 53 Stepping Stones participants. The question guide covered village structure, implementation of the intervention, knowledge acquired, changes in health-seeking behaviour, changes in condom use and supply, reasons for non-participation, and overall impact. Sessions were taped, translated and transcribed. A grounded analysis (Layder, 1997) was carried out independently by three members of the research team to derive themes.

Knowledge, Attitudes and Practices (KAP)

At baseline a KAP questionnaire was administered to a random sample of 25% of those aged over 15, at the same time in control and intervention villages, by a same-sex interviewer. The size of the sample was decided in the absence of baseline data, and reflected the desire of the researchers not to 'saturate' the communities with interviews. This was repeated immediately after the intervention was completed (4 months after baseline) and one year later (16 months after baseline) with new 25% random samples. The questionnaire employed validated items from studies undertaken by AID-SCAP, Global Programme on AIDS, UNAIDS and other agencies in West Africa. Topics included were: demographic characteristics, marriage and sexual relationships, HIV, condom use, STIs and a series of knowledge/ attitude statements about reproductive health to which the respondent

either agreed, disagreed or provided a 'don't know' response. Individual consent to participate was sought, and for those under 18 the consent of parent/ guardian was also secured.

Data were entered in Epi-Info 6.0 and analysed in STATA 6.0 (Stata Corporation, Texas, USA). Analysis of the KAP data was undertaken at the level of individuals even though the intervention was implemented at the community level, because this was a pilot study involving only 4 villages. Data for men and women were analysed separately. Chi-squared tests or Fisher's Exact test were used to detect any changes over the 3 time points for intervention and control villages separately. In the absence of significant changes for the control villages, changes for the intervention villages were assumed to be due to the intervention.

Condom supply

We sought to monitor condom supply to the population of the 4 villages through both 'official' and 'unofficial' channels starting immediately before the intervention began and following up for one year after the completion. Local community health nurses and community-based distributors for Gambia Family Planning Association were asked to complete a visual literacy form each month describing their contacts with clients from any of the villages, detailing sex, age-group, marital status and number supplied. During the intervention peer-groups identified informal condom suppliers within their group, who were then supplied by the project and asked to collect the same data.

Results

The total population above the age of 15 in the 4 villages involved was 563 people. The intervention villages had populations of 143 and 172, and the controls 138 and 110. Educational levels in each group were similar with 66% (71% control and 62% intervention) having no western or formal Islamic education, 21% (18%, 23%) formal Islamic education and 13% (11%, 15%) western education. In the 2 Stepping Stones villages all adults were invited to participate, and no one who wanted to attend the programme was turned away. These villages had a total adult population of 315, of whom 145 (46%) joined the programme. Most of the non-participants gave practical reasons for not attending (such as travel, illness, or no one else to scare animals from fields). There were some marked differences between the 2 villages at the outset, which might have affected the response to the programme. One village was entirely from the Jola ethnic group and had a slightly better history of community participation in self-help programmes. The other village was mainly Jola but included a Balanta minority (20%), religious allegiance was divided between two mosques and there was reported to have been only one self-help project in the village.

When the programme was introduced there was initial resistance from the men in the communities because they thought it might be a family planning programme. However once they believed that it was an infertility prevention programme they agreed to continue. At the first workshop each of the groups was asked to prioritise their health problems. All the peer groups ranked sexual and reproductive health

(SRH) problems in the top 6, including AIDS and male and female discharge. They were then asked to take the SRH problems and prioritise them according to urgency (Table 1). They identified relationship problems such as sex when the woman was unwilling, jealousy caused by husbands taking co-wives, sexual weakness, unwanted pregnancy, domestic violence and casual sex.

The way in which relationship problems cause sexual and reproductive health difficulties was reflected in the plays presented during the programme. The following themes were the most commonly presented: the problems of money love (transactional relationships), the consequences of poor support from the husband whether practical or financial, adultery, the consequences of poor parenting and teenage pregnancy. The special requests for change, presented by each peer group to the whole village at the end of the programme, had very similar themes in both villages. All 4 women's groups went into detail about the problems caused by unsupportive husbands (transactional sex, no money for medical treatment, domestic violence), while the young men in both villages emphasised that parents should warn their children about the dangers of early sex, and the old men said that marriage partners should be faithful or failing that should use condoms.

At the one year participatory evaluation the villagers evaluated the programme positively. Using diagramming techniques they produced a list of the good changes brought about by the programme. Consequences reported from both villages independently included: more dialogue between couples, better communication skills, less quarrelling, acceptance of a wife's refusal to have sex, less wife-beating, increased provision of money for fish and condiments by the husband, safer sex outside marriage and awareness of STIs.

Thematic analysis of the data from focus-group discussions and in-depth interviews showed that participants enjoyed the programme and had found the content relevant:

The techniques are good and some are very funny, such

as the role-plays which we really liked and found easier to understand... for people like us who have never been to school.

(FGD — female)

This is not only for young men: old men also meet old women and do the same thing that young men might like to do with a young woman.

(FGD — male)

Grounded analyses identified four primary themes related to STI transmission, and these are described below under the headings risk awareness, condoms, dialogue within marriage, and diffusion.

Risk awareness

Preliminary work adapting the Stepping Stones manual had identified fertility (or rather infertility) as a key reproductive health issue. Yet most Gambians are unaware (a) of the source of STIs (that such symptoms are caused by sexual intercourse), and (b) that there is a connection between STIs and reproductive health problems. 'Men's problems' and 'women's problems' are attributed to various causes including walking over fish scales, and over donkey urine (Miles *et al.*, 2001). Thus, the intervention needed to ensure that diseases such as gonorrhoea, and symptoms such as dysuria and urethral discharge, were understood to be related to sexual activity.

Before people didn't know that the disease is spread sexually but now both men and women know that these problems are spread through sex.

(male non-participant)

This finding was repeated often and in similar terms, throughout the interviews.

The medium of delivery — community-based workshops with local facilitators — was thought to make information acceptable or reinforce messages heard elsewhere, perhaps by giving a more thorough understanding. This participant was more willing to believe the information from

Table 1: Prioritisation of urgency of sexual reproductive health problems by peer group

	NOW	SOON	LATER
Old Women	Grandchildren are awake when wanted by husband Wife beating STIs AIDS Unwanted pregnancy	Husband looking for a new wife Wife tired when husband wants sex Tiredness after delivery No money	Jealousy Menopause pains Husband wants sex when wife is unwell or pregnant Headaches
Young Women	Too many children Husband wanted sex by force AIDS STIs Unwanted pregnancy Wife beating	Sex during menses Husband refusing condom Deflowering of young girls	Pain during sex Sex after delivery when woman is tired
Old Men	Too many wives Malaria Epi-gastric problems	Having casual sex Headache General body pain	Jealousy STIs Sexual weakness High blood pressure
Young Men	Unsafe sex Spread of STI AIDS	Infertility Unplanned family Stomach ache Joint pains	TB Headache Worms Boils

Stepping Stones than from broadcast media:

Yes, the (sessions) were very helpful because it has let me know how one can get these problems which before I did not know — only I (had) heard it from the radio.

(male participant)

The programme was recognised as explicitly challenging long established health beliefs regarding the aetiology of STIs, with groups themselves arguing over the merits of previous as compared to new explanations:

Yes we had long discussions about that for some say it is transmitted through sex and some say it is transmitted by walking over dog or horse or donkey's urine or some-one's urine who is infected, but finally (we) came to know that it is through sex.

(male participant)

The qualitative data on the transmission of HIV (referred to as AIDS in the local language) demonstrates comparable levels of improved knowledge. 'The plays were very good because they taught us about prevention ...(of) AIDS'; 'I learnt about AIDS, how not to have AIDS'; 'AIDS and other things, because...if we were not in the programme we would not have learned...how this disease is acquired or how someone can catch such diseases'.

Of course, even if the programme was successful in transmitting this knowledge, earlier long-held beliefs could return to the fore:

What I know about these problems is when someone with the problem urinates and you then urinate at the same place, you will also catch the disease.

(female participant)

This last case was most unusual; indeed, it is the only example we could identify of a return to previous aetiological accounts, and all other references to STIs during the interviews, including HIV, were in the context of sexual transmission.

Results from the KAP survey suggest that in the intervention villages the proportion of women who knew that HIV is sexually transmitted increased significantly from baseline (see Table 2). Little change among women was seen in the control villages while there appeared to be a significant decrease in knowledge among men in the control villages. There was no apparent change in men in the intervention villages but at baseline 93% of them already knew that HIV is sexually transmitted.

The KAP results showed that the proportion of women able correctly to identify a symptom of STIs increased significantly in the intervention villages whilst there was no change for women in the control villages or for the men.

One of the messages that appeared to have been absorbed was about asymptomatic infection:

We did not know that someone could be healthy and inside the individual might be sick.

(male participant)

However the KAP results did not corroborate this comment, as there appeared to be a fall in levels of knowledge that STIs can be asymptomatic in men and women in both intervention and control villages (see Table 2).

Condoms

Although it was important to establish the knowledge that

STIs are transmitted through sexual activity, it was equally important to ensure that villagers were aware that there are practical means by which such infections can be prevented.

Q: Can you remember some sessions in the programme?

A: Yes. I can remember (some), but not all.

Q: What can you remember?

A: Firstly in this generation one has to protect him/herself... That is, there are so many women and men and also there are plenty of diseases. And before you think about having sex...you must think of yourself first and before having sex you must have something to protect yourself with.

(male participant)

The attitudes towards condom use demonstrated how this can be achieved:

Q: How can you protect yourself from catching this disease?

A: You should use (a) condom. If someone is infected with the disease he will not transmit the disease to you because every thing will stop in the condom, but if you do not use the condom he will transmit the disease to you.

(female participant)

The increased familiarity gained during the programme was mentioned by several people, for example:

We had seen condoms before but never used one, so actually knowing how to use it was important.

(male participant)

Participants identified three primary contexts in which condom use was seen to be appropriate. These were in relation to sex before marriage, sex within marriage (when the woman is breastfeeding), and sex with partners other than one's husband or wife (extramarital sex).

Premarital sex

The Stepping Stones programme encourages participants to pass information learned to others (see Diffusion, below). Important communication of these issues takes place within families, and this was evident in relation to the issue of protection against infection in premarital sexual relations:

Q: Have you talked to your children about any of these things?

A: Yes.

Q: So in advising your child — can you give an example of what you tell him?

A: I tell him that from our session we learnt that these problems are transferred through sex. You have to abstain, but if you think you cannot abstain you can use a condom. But if you cannot (abstain) and you have no wife then you use a condom.

(male participant)

However, it was in relation both to marital and extramarital sex that most responses were given to questions on condom use.

Marital sex: Breastfeeding

Historically, it has been common practice in The Gambia for married couples to abstain from sexual intercourse during breastfeeding. Seventy percent of respondents to the KAP believed that it was acceptable for a woman with a 6-month

Table 2: Results of KAP interviews

	Women				Men			
	Baseline	4 months	16 months	P value	Baseline	4 months	16 months	P value
Sample size (denominators for % below)								
Intervention	44	43	43	–	28	42	45	–
Control	32	35	35	–	30	23	27	–
Knowledge that HIV is sexually transmitted (%)								
Intervention	57	84	84	0.004	93	76	78	0.176
Control	31	51	37	0.219	80	74	37	0.002
Knowledge that STIs can be asymptomatic (%)								
Intervention	45	35	14	0.006	39	48	27	0.127
Control	38	34	14	0.070	53	70	19	0.001
Able to get condom if wanted one (%)								
Intervention	48	70	64	0.091	43	66	64	0.122
Control	33	33	29	0.926	40	17	30	0.205
Ever used condom (%)								
Intervention	9	5	12	0.496	14	22	24	0.616
Control	0	3	6	0.650	17	22	11	0.599
Discussed HIV risk with spouse ¹ (%)								
Intervention	34	45	60	0.060	55	36	69	0.044
Control	25	26	30	0.871	44	63	60	0.503
Discussed sexual issues with children ² (%)								
Intervention	24	65	50	0.028	63	75	62	0.703
Control	31	33	14	0.633	75	88	45	0.121
Discussed HIV with friends or relatives (%)								
Intervention	50	72	67	0.079	44	62	67	0.165
Control	31	29	32	0.940	38	70	52	0.076
Discussed condoms with friends or relatives (%)								
Intervention	39	70	72	0.002	43	60	69	0.089
Control	28	29	32	0.917	45	35	42	0.755
Gave one or more correct symptom for STI in women (%)								
Intervention	39	36	29	0.629	20	37	53	0.006
Control	30	35	41	0.697	72	63	20	0.000
Would use condom to prevent HIV (%)								
Intervention	64	55	64	0.596	59	70	86	0.020
Control	53	48	26	0.093	62	49	49	0.425
Would use condom to prevent STI (%)								
Intervention	57	67	67	0.658	59	70	72	0.388
Control	67	61	48	0.355	50	54	57	0.841

¹ Asked only to those married

² Asked only to those with children above 15

old child to refuse sex with the husband. This is for both a practical reason and because of local health beliefs. The practical reason is the need for birth spacing, so breastfeeding women often return to live temporarily with their mother. However there is also a strong health belief that sperm can affect breast milk, so condom use avoids this problem:

Before, when we have a child we stay in a 'bungba' (big house) until...we weaned the child but now we know that we can stay with our husbands in the same house and be using condoms whilst breastfeeding without any problems.

(female participant)

However, it was also recognised that, because of these 'additional' benefits of condom use, a man may be tempted to have other partners. One woman was very clear that this should not occur:

Well, (with) the condom I think that if you have a child and are breastfeeding you can stay with your husband.

(However) just because there are condoms does not mean you (he) should go anywhere. If you have your wife and you have two, three wives and they all have children, you take a condom and use it and nothing will happen to the child. It is not that if you have a condom you can go anywhere (emphasis added).

(female participant)

Some men, on the other hand, clearly recognised that the availability of condoms meant that, in the event of sexual abstinence with wives during weaning, extramarital relations were possible:

If you are with your (wife), I don't think you should use (the condom) unless she is breastfeeding. But I have the belief that...if you cannot abstain and you are going elsewhere you should use it.

(male participant)

Once again, previous practices were adhered to by some, despite the new knowledge gained during the programme.

Q: So since you know about condoms, do you use them?

A: No I have never used them.

Q: Why is that? Are you using other family planning methods?

A: No, we are abstaining until after I have finished breastfeeding.

(female participant)

Extramarital sex

The most frequent references to condom use were in relation to the opportunities it afforded for sex with partners other than the husband or wife. Both men and women talked about this openly, although interestingly women gave the most carefully considered answers to questions regarding the value of condoms.

There is something you can also use to protect yourself from these diseases which is called condoms. If a man wants to have an affair with me, I will tell the man to use a condom, if not he should go and try somewhere else, because I am not the only woman.

(female participant)

Some men had discovered the change in women's attitude:

Now if some men ask women for sex the women will ask them if they have a condom and if he says no then she will refuse.

(male participant)

The particular circumstances in which condoms could be useful to married women were also thought through:

The condom is good. You can use it as 'fankanta' (protection) when you are travelling. It will protect you against diseases. If someone tells you that he wants to have contact with you, the first thing you should ask is 'do you have a condom with you?' If no then say 'check elsewhere', because there are a lot of diseases. If he has a condom you can do what you want without catching a disease.

(female participant)

One of men's concerns with regard to their wives travelling to see relatives, attend market and to sell goods, is that such travel provides women with the opportunity for sex outside the marriage. This was an issue mentioned frequently by wives, and condoms had a role to play:

Before the programme, I had not learned, I did not know how to operate with people... But now you can go anywhere and you can have your condom and if you meet your friend you can go with him. If he has a sickness you will not get it; if it's me who has the disease I will not pass it on. That is the change that I have seen.

(female participant)

Women were also willing to promote the use of condoms by their husbands, having on the one hand realistic expectations of men's ability to stay faithful in marriage, and on the other a desire to protect their own health. This man reports his wife's exhortations to him:

She does tell me that if you know that you cannot stick to me alone then you should use condoms because...if you use them you can see that we cannot infect each other with disease. I also tell her that the condom is good...and if sometime I want to have an affair with (another) and I

suspect that (they) have a disease and I cannot avoid (them) that day, I will then have to use a condom.

(male participant)

Thus, the circumstances in which it was considered appropriate to employ condoms were identified clearly by participants. Men and women were very open in these interviews as to the contexts in which condom use should occur, and this openness was evident even to those who had not participated directly in Stepping Stones:

And I saw a packet (of condoms) with somebody, a woman. I said 'what is this?' and she said 'oh no now life is not safe. If you want to deal with men you have to (use these)'. I said, 'but what about with your husband?' She said 'even with my husband sometimes I tell him to put it on'.

(male teacher, non-participant)

The results from the KAP showed an increase from baseline in the intervention villages in the proportion of women who knew that a condom could be used to protect against HIV and STI but this was only statistically significant for HIV. Little change was seen for men.

Availability and uptake of condoms

These data suggest that Stepping Stones participants had changed their attitudes to condoms, and that significant numbers might actually be using condoms in particular situations. The condom monitoring data backed up this finding, but is only available for intervention villages, and only after the programme had got underway. The reason for this is that Stepping Stones peer groups chose their own distributors, and as a result of the rapport developed they were willing to collect information about condom demand. This had not been previously possible, as shown by the difficulties in monitoring condom demand in the 2 control villages, and the lack of information provided by the 'normal' system: the community-based distributors and community health nurses. This either reflected a total lack of demand through these channels or a difficulty in recording the information: the available evidence suggests the former is quite likely. A total of 5 distributors for the 2 villages (4 men and 1 woman) recorded 368 requests for condoms in the 12 months after completion of Stepping Stones. They gave out 1 604 condoms during the year, 71% to residents of their own villages (where the total population over 15 was 315). The majority were supplied to unmarried men (63%), but significant numbers also went to married men (21%), and surprising numbers to women, both married (9%) and unmarried (6%).

The data from the KAP surveys showed that the proportion of men and women in the intervention villages who felt they would be able to obtain a condom if they wanted one increased from baseline. However, this was not statistically significant (Table 2). Proportions remained constant across time in the control villages. The proportion of women who had ever used a condom was very low in both intervention and control villages. While proportions were higher for men there were no obvious patterns across time.

Dialogue within marriage

Although there are many dimensions of gendered power relations that were affected by Stepping Stones, dialogue

within marriage was one of the most important of these. The major change, reported by virtually every interviewee, was the reduction in dissent between men and women:

And in the village before there used to be a lot of quarrels but now since the programme I have not heard any.
(male participant)

Before Stepping Stones, people quarrel or fight twice a month or sometimes twice in the week but now there is none.

(female participant)

The results suggest that couples were able to deal better with disagreements whatever the issue at stake. This seems to have been achieved through a recognition of the need for increased discussion between partners in marriage:

Q: *Has it made any pressure within your relationship?*

A: *No it has not (produced) any problems, except making my marriage easier.*

Q: *Easy like how?*

A: *We understand each other and we talk to each other if we have any problems.*

(male participant)

Q: *Do you discuss (issues) with your wives?*

A: *Yes I do discuss with them and we advise each other... They advise me because advice does not come only from the man. Because sometimes you — the man — will be doing something you thought was good and it is not good. Then your wife will call you and tell you it is not good, let's go back to our sessions and see.*

(male participant)

Both men and women reported on these changes, and there was general agreement that significant improvements had occurred.

Q: *How have things been since Stepping Stones?*

A: *We are always happy. Before we did not know anything but now we know so many things.*

Q: *So many things like what?*

A: *That is about marriage. The marriage before was very difficult because if you want to discuss with your husband — even if it is a simple thing he takes it to be a big thing. But now all those things are gone, we talk to each sweetly.*

(female participant)

It was clear that both men and women had learned specific techniques that were useful in reducing discord within relationships.

Before, I used to have disagreements with my wife, but since the programme all that has stopped because the programme taught us how to avoid quarrelling. Because if I do something wrong to her that she is not happy with she will call me and tell me and I will accept, so I also do (with her).

(male participant)

Before if we quarrelled I used to be angry. I could not ask in a way that would lead to reconciliation. But since we learned this I ask in a way that later leads to us reconciling.

(female participant)

The participation of both the men and women in the programme proves to have been one of the strategies that suc-

ceeded in increasing communication within relationships, and this was recognised, again, by both genders.

Q: *How are relations between men and women here?*

A: *Ah only sweetness because I don't hear about quarrels, as it was before. Because there are a lot of women who, you know, they participated together with their husbands.*

(male non-participant)

Before the programme we used to get on with our husbands but the agreement was not too much. But now since we have learned — the women have learned, the men have also learned. It has made us able to get on with our husbands well in the matters of our marriage and with the people we live with in the compound.

(female participant)

There seemed to be greater understanding by men of the constraints that women may be under that may lead to transactional sex:

At first everything was left with the women here, quite honestly. Men would not even give fish money they would only give the raw rice and fish...now they know that if they should leave their wife without money the next thing she will do is to fish it outside... Having that understanding they now hustle to make sure that every day something is given to their wife.

(male non-participant)

The data from the KAP surveys showed that women in the intervention villages were more likely to discuss HIV risk with their husbands at all time points than those in the control villages. Over time there was a suggestion of an increase for intervention women but levels remained constant for control women. No clear effect of the intervention was obvious for men (see Table 2).

Diffusion

Like many community-based HIV prevention programmes (Kelly *et al.*, 1997; Kegeles *et al.*, 1999), the effects of Stepping Stones are not intended to be limited to those who participate in the programme. Using 'diffusion of innovation' (Rogers, 1983), participants are encouraged to act as peer educators, and to share what they have learned with those not involved directly in the programme.

This was most often on an individual basis, as in the following excerpt:

Sometimes if you leave the village and you meet your friend they ask you 'what do you learn there?' and you tell them it is this and this.

(female participant)

However, others were more proactive, and sought to influence a larger number of people:

Q: *Did participants discuss (Stepping Stones) with non-participants?*

A: *Yes they do discuss (it) with them.*

Q: *What do you discuss with them?*

A: *We tell them how one should avoid the spread of STIs. That is what we tell the villages that are near to us*

Q: *What messages do you think the programme gives out?*

A: *The (other) villages always say they don't know the*

mission of you people here, but as we tell them they know that (it) is something very powerful and good and they like that.

(male participant)

There was clearly a great deal of curiosity from others as to the events that were taking place in the intervention villages, but this interest was used as a peer education opportunity for participants.

There was a day I went to (neighbouring village) and one woman asked me about the MRC cars that come to our village: 'what is their mission?' I told her that they don't come for foolish things as you may have thought but they come for the benefit of we the village community. That is they have a programme teaching us about our reproductive health, like how to avoid quarrels and how to avoid the spread of the STIs and AIDS. They thought that you people are fooling us.

(male participant)

From this and other responses it was clear that quite specific information was passed on when these opportunities arose:

We tell them how one should avoid the spread of STIs. That is what we tell the (people in the) villages that are near to us.

(male participant)

Yes, they...tell them the importance of the programme to them, like it taught them how to avoid quarrels and how to use condoms, how STIs are spread. And the non-participants found it interesting and regretted that they did not join.

(male non-participant)

Often it was necessary to disabuse non-participants regarding rumours of the nature of Stepping Stones, and to correct misconceptions of the programme. Even non-participants were able to do this:

Some of them would say that Stepping Stones is coming here to encourage adultery, which it is not. What I tell them is that 'if someone tells you that an individual is ignorant, why not teach the individual?' And some of the people have been doing that after I said that.

(male non-participant)

The programme was also considered valuable for non-participants within the village, as they could benefit from the example set by participants.

Also if our family sees how we are to each other they can also try to be in the same good way we are.

(male participant)

The data from the KAP survey showed that the proportion of mothers who discussed problems associated with sexual activity with their children increased significantly from baseline in the intervention villages (see Table 2). No similar pattern was discernible for men. The proportion who discussed HIV with friends or relatives increased from baseline in the intervention villages for both men and women and surprisingly in control villages for men. However the differences between time points were not statistically significant. The proportion of women who discussed HIV risk with friends and relatives was lower at all time points in the control villages compared with the intervention villages and there was little change over time.

Discussion

There was a positive response to the Stepping Stones programme in the communities involved, once the villagers realised that the programme was not promoting unwelcome values. The infertility prevention approach, rather than a focus on HIV or family planning, meant that the programme responded to issues deemed important by men. This made it possible at the start to obtain permission to discuss sexual health issues, a topic which normally intimidates extension workers. Later the men became convinced that poor relations with their partners could put them at risk of infection, and therefore that increased trust between themselves and their wives was in their self-interest. The following quotations provide an indication of the importance participants attached to the programme:

It only brought (good) things to us. Before we did not know how these diseases are acquired, but now we know because of the lessons of the Stepping Stones programme. Before we were sleeping but now we are awake...

(female participant)

It has brought no problems — only peace and unity.

(female participant)

Qualitative and quantitative data tended to complement each other in showing that the participants improved their understanding of STI and HIV risk and became motivated to protect themselves and their children. Qualitative data gave a richer understanding of how significant the programme was for the villagers, and quantitative data showed that women benefited the most, probably because of their low level of knowledge at baseline. However, the difficulties in collecting valid data on sexual behaviour using structured questionnaires are well documented (Huygens *et al.*, 1996; Schopper *et al.*, 1993). This study attempted to explore this potential problem by triangulation with qualitative data collected in the intervention villages. The presentation of quantitative results was guided by the themes which emerged from the qualitative data to facilitate this triangulation. Including control communities in the quantitative study was valuable as it showed how fluctuations across time occurred in the absence of intervention. However, these changes in the control villages sometimes meant that drawing conclusions about the effect of the intervention could be difficult. The number of people interviewed for the KAP surveys was relatively small so the proportions were not very precisely estimated.

One of the difficulties encountered in both data collection and analysis was to determine to what extent the changes reported by the participants should be believed. The communities may have had a vested interest in encouraging both the intervention and the research by overly positive statements. At times it was difficult to keep a separate identity for the research and the intervention teams, as they came to talk about the same programme, and occasionally shared transport. This may have introduced some biases, adding to the difficulties in interpreting self-reported behaviour (Catania *et al.*, 1990), but emphasising the importance of validation using triangulation including interviews of 'outsiders'.

The results from all data sources identify a set of capabilities for possible change (Wallman, 1997) and it was clear that the programme had had an impact, particularly on communication about sexual issues both in general and between men and women. The analyses we have undertaken identified three primary areas of change: risk awareness, condom use, and dialogue within marriage. Information acquired during Stepping Stones was viewed as more meaningful than from other sources: the participatory process seems to give greater credibility to the programme as a source of information.

The data on condoms, and participants' appreciation of their ability to prevent the transmission of disease, reinforce the importance of the social context of sexual behaviour (Hart and Flowers, 1996), as there was very clear recognition of their value in specific circumstances. Thus, in the premarital situation they can protect against disease and teenage pregnancy, whilst within the marriage they permit continued sexual relations during breastfeeding, promoting birth spacing and avoiding the tainting of breast milk. However, condoms were considered to be most useful in relation to extramarital sex. Participants were very vocal and provided the most detailed responses on this issue. Women in particular had considered carefully the circumstances in which carrying condoms could prove useful although concerns were expressed by both men and women that abstinence was rarely considered as an alternative. In other parts of the world, one of the major problems associated with condoms is that these are in the control of men (cf. Hart *et al.*, 1999). In this study it seemed that the women were empowered by their new knowledge to insist that the men with whom they have casual sexual contact should use condoms, or seek sexual gratification elsewhere.

Stepping Stones has as an explicit goal the empowerment of women in relation to male partners, and the condom issue is one example of where this is evident. The intervention also appears to have an impact on non-sexual aspects of gendered power within relationships: some participants aspired to have more equitable relationships, including improved financial arrangements between husbands and wives. We have shown how improvements in dialogue within relationships (between partners, peers and parents/ children) were considered by participants to have been one of the benefits of the programme, and in many instances this was related specifically to issues of STI transmission. This is because marital discord is seen by men and women as directly connected to extramarital relations, either as a cause or a consequence, and therefore to increased risk of sexually transmitted infections. Stepping Stones, in achieving these changes, is therefore realising one of its key aims, by helping women gain greater control over their lives.

As a community intervention which seems to cultivate a new openness and dialogue at the community level, it is useful to think about the intervention in terms of the relational aspects of social capital, reflected in norms, networks and trust (Hawe and Shiell, 2000). The villages involved in this study could be said to have high levels of social capital compared with communities in developed countries. This is because the villages are intersected by vertical family bonds and numerous horizontal single-sex age-sets called 'kafos'.

These 'kafos' operate as groups of friends, have informal rules and conduct joint activities. Most people will be a member of at least one kafo. The Stepping Stones method is designed to capitalise on this, relying on the possibility of community mobilisation. Norms appear to have changed and trust between partners to have increased. Social cohesion between participating 'kafos' on the issues of sexual health appeared to increase, and following the programme these topics could be discussed in public for the first time. It would appear that the intervention was unaffected by the reduced social cohesion in the mixed Jola-Balanta village, as there was little difference in impact between the two villages.

In this paper we have identified ways in which a reproductive health programme in a rural area of The Gambia can have an impact on sexually transmitted infections. Stepping Stones is a novel intervention using participatory methods that seeks to prevent STIs, and improve sexual and reproductive health, but it has yet to be subjected to rigorous evaluation through a randomised controlled trial. The potential areas for change have been clearly defined: knowledge about STIs/HIV (especially among women), the uptake of condoms, dialogue about sexual issues and more support from husbands to their wives. The programme also aims to effect social change in areas which are vital to improved sexual health, notably in relation to the empowerment of women, and the recognition by men of women's needs and concerns. Techniques for measuring these changes have been piloted and can now be refined. As UNAIDS best practice, Stepping Stones could prove to be one of the most effective community-based interventions to prevent STIs, fulfilling the ICPD objectives, because it involves men. Further evidence, on a larger scale and over a longer period, needs to be generated to determine whether this is the case.

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