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# The new female condom (FC2) in Uganda: perceptions and experiences of users and their sexual partners

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The new version of the female condom (FC2) was introduced in Uganda in October 2009, following an unsuccessful female condom programme begun in 1998. The failure of the earlier programme was partly attributed to low acceptance of the first type of female condom (FC1). We evaluated the acceptability of FC2 and the experiences of users and their sexual partners. This was a qualitative cross-sectional evaluation. We conducted 16 in-depth interviews with FC2 users (8 women and 8 male partners). We also conducted eight focus group discussions with women who used FC2, and 22 key informant interviews with service providers. All the female users appreciated FC2 as a tool to empower them to avoid sexually transmitted infections (STIs) and unwanted pregnancies. They liked FC2 because it has no smell, is not noisy, and does not rupture easily. The men also liked FC2 because of its soft texture and lubrication. Some women found FC2 insertion cumbersome, while others feared that it would slip in on itself during sex. Concurrent use of male condoms with FC2 and the reuse of FC2 were also mentioned. Providers reported a high demand for FC2; their main challenges were inadequate supplies and distribution mechanisms. This evaluation shows generally high acceptance of FC2. The experiences of users and their partners were largely positive, although some fears and incorrect practices arose. FC2 should be added to the existing HIV/STI-prevention and family-planning options in Uganda and other countries, with sufficient training and support to ensure correct use.

**Keywords:** Africa, contraceptive methods, evaluation, family planning, HIV prevention, interpersonal relations, qualitative research, sexually transmitted infections

## Introduction

Globally, women of reproductive age are disproportionately affected by HIV and AIDS (UNAIDS, 2009). The *Uganda HIV/AIDS Sero-Behavioural Survey 2004–2005* estimated national HIV prevalence at 6.4%, with women more affected than men (7.5% versus 5% HIV prevalence) (Ministry of Health [MOH] & ORC Macro, 2006). High HIV prevalence among women in the reproductive age group has contributed to a heavy burden of paediatric HIV in sub-Saharan Africa (UNAIDS, 2009). In Uganda, an estimated 18% of incident HIV infections occur through mother-to-child HIV transmission (Wabwire-Mangen, Odiit, Kirungi, Kaweesa Kisitu & Okara Wanyama, 2009).

There is increased focus on interventions that can expedite the achievement of the millennium development goals for maternal health and the reduction of gender inequalities (United Nations, 2010). Condoms are effective in preventing sexually transmitted infections (STIs), including HIV, and can also be used as a contraceptive for family

planning (Center for Health and Gender Equity, 2008). However, studies show lower uptake of male condoms among women in comparison to men (Kirungi, Musinguzi, Madraa, Mulumba, Calleja, Ghys & Bessinger, 2006; MOH & ORC Macro, 2006; Wabwire-Mangen *et al.*, 2009). The female condom is currently the only available method of dual protection against pregnancy and sexually transmitted infections (STIs) which women can initiate and control, and which offers an opportunity to increase protected sex among women. The efficacy of the female condom for the prevention of STIs and as a contraceptive has been demonstrated (Cecil & Zimet, 1998; Fontanet, Saba, Chandelying, Sakondhavat, Bhiraueus, Ruggao *et al.*, 1998; French, Latka, Gollub, Rogers, Hoover & Stein, 2003). In Thailand, a study that offered sex workers an option to use female condoms in addition to male condoms showed lower rates of STIs in that group compared to women who used only male condoms (Fontanet *et al.*, 1998). Another study in the United States compared the rate of STIs over time in a group of women encouraged to use female condoms to that in a group

encouraged to use male condoms; the results showed a trend toward reduced STIs in the study arm having access to female condoms (French *et al.*, 2003). Availability of the female condom also leads to instances of sex that are more often protected (Musaba, Morrison, Sunkutu, Musonda & Wong, 1998; Napierala, Kang, Chipato, Padian & Van der Straten, 2008).

Knowledge and use of female condoms is severely limited in Uganda. In the 2006 Uganda Demographic and Health Survey, general knowledge of female condoms among women was 53.6% compared to 91.7% regarding male condoms (Uganda Bureau of Statistics, 2007). The proportion of married women who had ever used a male condom for contraception was estimated at 16%, although the survey made no mention of 'ever use' of the female condom. Despite generalised limited knowledge and experience with female condoms, Wanyenze, Tumwesigye, Kindyomunda, Beyeza-Kashesya, Atuyambe, Kansime *et al.* (2011) showed that 20% of the HIV-infected women surveyed at HIV clinics in Uganda preferred female condoms for family planning.

The female condom was first marketed in Uganda by Marie Stopes International in 1998. The first brand of female condoms (FC1), made of polyurethane, did not fare well and faded away for many years (MOH, 2009). The little success of the first female-condom distribution programme was attributed to several systemic problems, like lack of a clear implementation strategy, as well as users' low acceptance of FC1, mainly due to its texture, smell, and being noisy (MOH, 2009). In 2005, The Female Health Company produced the new FC2 female condom, made of nitrile (a synthetic latex), which reduced manufacturing costs and addressed other aesthetic and textural issues that had occurred with the FC1. In 2006, the World Health Organization (WHO) approved FC2 as acceptable for bulk procurement by United Nations agencies (WHO, 2007).

In November 2008, Uganda's MOH instituted a working group of stakeholders to revitalise the female condom programme, involving partners from the donor community and civil society. In 2009, with support from the United Nations Population Fund (UNFPA), FC2 was introduced in Uganda through a pilot distribution of 100 000 condoms. However, there were concerns as to whether FC2 would be accepted given the previous experience with FC1. Hence, the evaluation presented here was intended to assess the acceptance of FC2 by women users and their sexual partners. The evaluation also includes an assessment of the views of providers and policymakers as well as issues relating to programming since these would be important in the scale-up of the female condom programme.

## Methods

### *The FC2 pilot project*

The pilot distribution of FC2 was conducted in four districts of Uganda, including Kampala, Gulu, Kitgum and Pader, in 2009. The target groups were female sex workers, HIV-infected men and women, clients at family-planning clinics, and uniformed personnel in the military and police and their spouses. The project was implemented

in collaboration with two civil-society partners who were already providing sexual and reproductive health and HIV services, namely the Programme for Accessible Health, Communication and Education (PACE) (formerly PSI Uganda) and Reproductive Health Uganda (RHU) (formerly the Family Planning Association of Uganda), as well as one public health facility — the sexually transmitted disease unit at Mulago National Referral Hospital in Kampala.

Prior to the implementation of the pilot project, the MOH and partners conducted a review of the previous female condom programme to inform the pilot project. Instruction for 30 trainers was performed. The FC2 working group held coordination meetings, adapted materials for education of the target populations and the training of providers, established a distribution mechanism, and repackaged the FC2 in packets containing three condoms each. Within three months of the pilot project, over 100 000 FC2 female condoms had been distributed.

### *Study sites*

The evaluation was conducted in all four districts participating in the pilot distribution (Pader, Kitgum, Gulu and Kampala). Kampala is the capital city of Uganda, while Pader, Kitgum and Gulu districts are all located in northern Uganda, a region that has experienced a wave of insecurity for more than a decade. All four districts are categorised among the country's regions with the highest HIV prevalence (Uganda Bureau of Statistics, 2007); HIV prevalence was estimated at 9% in the central region and in Kampala, and at 8% in the north-central region, as compared to a national average of 6.4% (MOH & ORC Macro, 2006).

### *Study design and data collection*

The evaluation used a descriptive cross-sectional design, using qualitative methods for data collection. The qualitative methods included focus group discussions (FGDs), in-depth interviews and key informant interviews. We conducted the focus groups in order to obtain broader views about FC2 use, benefits, challenges and experiences, as well as users' preferred distribution mechanisms. The study population included women who were currently using the FC2. The female users who participated in the FGDs were identified with support from service providers. The women further provided contact information for their sexual partners, who were then contacted by a research assistant for potential participation in the evaluation. The number of participants in each FGD ranged from six to 10, and two FGDs were held with women in each of the four districts.

Having obtained an overview from the FGDs, we then conducted in-depth interviews. This allowed us the opportunity to delve into the lived experiences of the informants. Interviews were held with women and men who had used FC2. Of the eight women who participated in an interview, two were married and known to be HIV-positive, two others were married but of unknown HIV status, and the other four were sex workers. Disclosure of HIV status was not a requirement for participation. The participants were encouraged to give detailed narratives of their experiences and feelings regarding condom use, specifically the FC2 female condom.

The themes explored in the in-depth interviews included: perceived benefits of female condoms; negotiation for use of the condoms with sexual partners; experiences with insertion, use, removal and disposal of the FC2; adequacy of the supply; experiences with FC2 in comparison with male condoms and/or the FC1, for respondents who had used them; and preferred distribution channels for FC2. Each interview lasted 1–2 hours and was audio-recorded and transcribed verbatim. Informed consent was sought from the individuals for participation in an interview as well as for recording their responses. The interviewers read to the participants a predesigned tool with information about the evaluation, and they documented that each participant agreed to be interviewed. The participants were assured of anonymity and confidentiality of the data.

Key informant interviews were conducted with FC2 providers and policymakers. These interviews also explored individual's views about the benefits of female condoms as well as issues relating to the organisation and implementation of the pilot distribution.

Overall, 38 interviews were conducted and eight FGDs were held. These interviews were held with 22 policymakers and providers, and 16 with male and female FC2 users. The eight FGDs were held with female FC2 users (two per district). All the FGDs and in-depth interviews were held in the local language (Acholi or Luganda), while key informant interviews were conducted in English since the individuals involved were comfortable with the language. Research assistants directly transcribed into English as they listened to audio tapes.

### **Data management and analysis**

The initial step in the analysis was to read through all the transcripts several times while making notes in the transcript. Qualitative latent content analysis technique was used. The data were therefore condensed without losing quality. Open coding was done and the codes were grouped into categories in order for themes to be identified (as stipulated by the methods of Graneheim & Lundman, 2004).

### **Results**

Most of the women participating in the study had used FC2 female condoms for about two months. Some of the women had also used FC1. The women reported that they used FC2 during what they considered to be high-risk sex, for example sex work, especially with new or irregular partners. Some married women were using FC2 for family planning because they had experienced side effects with other methods, like hormonal contraceptives. Some men also cited using FC2 with their partners for family planning: *'We also use this FC2 for spacing our children. Now that my wife has a baby of one year, we use FC2 so that we can space the children'* (male user). HIV-infected women cited using FC2 to prevent HIV transmission to their sexual partners; this issue was brought out only in in-depth interviews.

### **Negotiation for the use of FC2**

The majority of the women reported that they negotiated for FC2 use before sex. However, this was perceived to

be dependent on several issues: resistance from her male partner, the willingness of the woman to have sex without the condom, and, for the sex workers, the cost of sex with or without the condom. The sex workers reported that when men offered to pay them more money, they sometimes agreed to have unprotected sex. Women mentioned that being able to insert the FC2 earlier was an advantage. They reported that they sometimes inserted it well before sex, without telling their partner:

*'Oh it is very, very good, to the extent that if a man is not told that it is there, he may think he is having sex without a condom because of its smoothness'* (female sex worker).

Like the women, the men also said they discussed the use of female condoms with their sexual partners:

*'In fact it is my wife who started the discussion. She is the one who picks the female condoms. She told me about the female condoms and how they are inserted. These days I also help her to insert them'* (male user).

### **Benefits and experiences with FC2**

The majority of the women reported that they had not had any problems with FC2 and noted that it was a tool to empower them to prevent HIV as well as unwanted pregnancy: *'There is no way I can get pregnant now because I fix it myself, unlike the male condom where my husband can do anything.'* The female users cited that one advantage of FC2 over male condoms was that it had no smell. They also said FC2 was strong and did not rupture during sex unlike the male condom. Most of the women said their male partners liked the FC2. HIV-infected women also said their husbands preferred female condoms to using male condoms because the female condoms were well-lubricated and not tight:

*'The lubrication is good and you do not get bruised. My husband said it felt like we had unprotected sex; it seems he liked it more than the male condom which is tight'* (HIV-infected female FC2 user).

The sex workers who had used both FC1 and FC2 said the FC2 was better because it was soft, not noisy, not painful, and did not have a bad smell: *'The first one [FC1] was very hard and noisy but the new one is soft, it is different'* (sex worker).

Men said they used FC2 and also male condoms, whichever was available: *'I normally use female condoms when I don't have the male condoms but in most cases I use female condoms because my wife always goes for them'* (male user). One man whose partner had used FC1 said FC2 was better: *'It is soft, unlike the previous one which used to make noise.'* Several men said they preferred FC2 to male condoms because FC2 was not tight, did not cause injury, and provided additional lubrication. They also said they did not have to remove it immediately after sex, unlike the male condom: *'It allows a little time to rest.'* Men thought FC2 would offer better protection than the male condom since FC2 does not rupture easily.

The policymakers and providers interviewed were also positive about the FC2 and regarded it as a promising dual method (for HIV prevention and family planning) and as

something that empowers women. Like the women users, the providers said FC2 was better than male condoms because it can be inserted several hours before sex. They noted that FC2 was good for men who have latex allergies with the male condom. Providers also said HIV-infected users liked FC2 as an alternative to the male condom, 'When they get tired of using the male condom.' They hoped that FC2 distribution could be extended to populations that have not been using the male condom, thus increasing the options for protected sex for more people. However, one provider said that within community 'condom banks' the female condoms were running out faster than the male condoms, noting concern about a possible shift from the cheaper male condoms to the more expensive female condoms.

### **Challenges and misconceptions with use of female condoms**

Among the providers, the most prominent challenges related to insufficient supplies of FC2, supply stock-outs, and inadequate space for storage. Some providers felt that few people had been informed about how to use FC2, and this was a problem for providers because educating potential users was an engaging and time-consuming process (considering that they had other duties and roles within their facilities). Providers said the distribution of the female condoms was deliberately controlled because of limited supplies and uncertainty about the continuity of supplies. They also said that they had initially largely targeted only sex workers.

Some women mentioned that FC2 insertion was cumbersome and required training and practice, 'Especially for the fat women.' Several sex workers said the FC2 could easily slip in on itself during sexual intercourse, so they had to hold it during sex. However, when asked if they had actually experienced this, only one woman said it had happened to her once. FC2 users also mentioned the problem of using FC2 when the users were drunk, while some women preferred to have unprotected sex with their husbands 'as a sign of love.' Women, especially the sex workers, reported that they did not get sufficient quantities of the condoms due to stock-outs at facilities or rationing by providers.

Two of the men said that FC2 required a lot of care compared to the male condom: 'It limits the style and you have to be careful, otherwise it can slip in.' One man also expressed fear that women would reuse FC2 without adequate cleaning: 'If a woman uses it again and she is not clean you can end up getting infected.' Another man noted that 'people would have wanted to use FC2, but the old messages are still in people's minds — that it is difficult and makes noise.'

Both users and providers reported that they had heard about concurrent use of the male and female condoms within the community. During an in-depth interview, a woman confessed to using a female condom while her partner used a male condom. Some FC2 users also said that providers have a negative attitude towards female condoms; this negative attitude was also present in interviews with the providers:

*'[Laughs] you know I'm only a distributor, but I don't think I can ever think of using it. It looks too big. I fear to hold it and look at it' (provider).*

Another provider thought FC2 was noisy and would work against users by 'covering parts responsible for sexual enjoyment.' However, one male provider who had used FC2 noted that it was good and said this experience made it easier for him to tell others about it.

The providers related that sex workers changed the condoms every time they got a new partner because 'they fear the smell.' However, one woman reported that she had once reused a female condom with another man because her first partner had used a male condom concurrently, so she believed she did not need to remove the FC2. Another woman mentioned that some women wash and reuse female condoms: 'They wash them, apply Vaseline and reuse them.'

### **User preferences for distribution approaches and outlets for female condoms**

There were variations in the users' preferences for how female condoms are distributed. The sex workers preferred bars, peer leaders, discos and video places, while housewives and HIV-infected women preferred health facilities, workplaces, markets, and women's groups. Sex workers said they preferred distribution through peer leaders because some places they operate from are complex and would be hard for a health worker to reach: 'We are the ones with the knowledge of the ghetto; we are the ones that understand these places where we operate.' Several users mentioned that they would be uncomfortable with distribution from very public places. The users did not think shops would be a good option for distribution and also proposed that promotions should reach out to men and other communities.

During the pilot distribution the female condoms were free of charge. However, women had concerns about the cost of female condoms if the programme were to be scaled up. Most users thought it could be affordable if the packet of three female condoms was sold at 500–1 000 Uganda shillings (equivalent to US\$0.25–0.50). The sex workers said that if the condoms are too expensive, then men would pay them less money.

### **Discussion**

This evaluation showed generally high acceptance of the FC2 female condom. Experiences of both the male and female users were largely positive. Results from other countries in sub-Saharan Africa and elsewhere have also shown high acceptance for female condoms (Cecil & Zimet, 1998; Musaba *et al.*, 1998; Napierala *et al.*, 2008; Joanis, Beksinska, Hart, Tweedy, Linda & Smit, 2011). However, FC1 acceptability studies in Uganda revealed numerous negative reactions, especially noise during sex, difficulties with insertion, and the condom's size and appearance (Cecil & Zimet, 1998; MOH, 2009). This study also revealed the same negative reactions among women and men who had used FC1, with all of them saying that FC2 was better. Both men and women mentioned favourable attributes of

FC2, including its soft texture, being not noisy, and having sufficient lubrication. The users also noted the lower likelihood of breakage with a female condom in comparison to male condoms, as documented by other studies (e.g. Beksinska, Joanis, Manning, Smit, Callahan, Deperthes & Usher-Patel, 2007).

Previous studies have shown an increase in condom use when female condoms are introduced (e.g. Napierala *et al.*, 2008). However, the female condom remains unavailable to many women in Africa, both in rural and urban areas (Center for Health and Gender Equity, 2008). Many reasons have been advanced to explain this, ranging from pricing and comfort, to cultural norms hindering acceptability. However, the acceptance of FC2 seems to be consistently high and the problems of acceptability associated with FC1 (including noise, texture and smell) did not arise. A study that compared acceptance of three new female condoms in South Africa (i.e. the Woman's Condom by PATH, FC2<sup>®</sup>, and V-Amour<sup>®</sup>) found that all were generally acceptable, although more women preferred the Woman's Condom (47%) and FC2 (35.6%) to V-Amour (16.3%), which may indicate the value of providing options to meet various user preferences (Joanis *et al.*, 2011).

This pilot project highlighted areas that need strengthening, such as addressing misconceptions about female condoms and incorrect practices like the concurrent use of male and female condoms. Users also mentioned reusing the condoms. Whereas some studies have demonstrated that disinfection and reuse of FC1 for up to seven cycles could be done without compromising its effectiveness, the process for disinfection and checking the condom's integrity before reuse is rigorous and the outcomes may vary depending on social and cultural circumstances (WHO, 2002; Potter, Gerofi, Pope & Farley, 2003). WHO therefore recommends that the decision whether or not to actively discourage reuse be taken at the country level (WHO, 2002). The Uganda programme did not recommend reuse of the FC2 due to the cultural as well as social context, and there is limited evidence for the effective reuse of new types of female condoms. Training and sensitisation should address incorrect practices and clearly present FC2 as a modified version since women who have used FC1 often did not like it. Men should also be sensitised about the utility of female condoms. In order to meet the demand from users, procurement and distribution issues will need to be strengthened to ensure steady supplies. Intermittent supplies were highlighted as a major challenge.

There was overemphasis on reaching sex workers in the pilot distribution. Several pilot projects and studies elsewhere have similarly focused on groups at higher risk of exposure to HIV/STIs, which could create stigma around the use of female condoms. The findings show that FC2 was acceptable and liked by married women as well as by HIV-infected individuals. Thus, the scale-up of FC2 distribution should extend to other target groups, including women living with HIV, youths, and clients at family-planning clinics.

It is not clear from the data whether FC2 reached the population that was previously not using male condoms. It is possible that introduction of FC2 may lead condom users to shift from male to female condoms, which may not be a

desirable outcome since female condoms are substantively more expensive than male condoms (60 cents compared to 9 cents; MOH, 2009). However, a study among attendees at a STI-treatment clinic in the United States showed an increased rate of protected sex acts, from 40% to 50%, but the use of male condoms did not decrease, and most of the women who used the female condom also used male condoms (Artz, Macaluso, Brill, Kelaghan, Austin, Fleenor *et al.*, 2000). Also, a study in South Africa and Brazil showed that expanded distribution of the FC2 female condom may be a useful and cost-effective supplement to the male condom for preventing HIV (Dowdy, Sweat & Holtgrave, 2006).

## Conclusions

This evaluation demonstrates the generally high acceptance of the FC2 female condom and the potential benefits of adding this condom to existing HIV/STI-prevention and family-planning options, especially in countries with high HIV prevalence and high fertility rates, such as Uganda.

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## References

- Artz, L., Macaluso, M., Brill, I., Kelaghan, J., Austin, H., Fleenor, M., Robey, L. & Hook, E.W. 3rd. (2000) Effectiveness of an intervention promoting the female condom to patients at sexually transmitted disease clinics. *American Journal of Public Health* 90(2), pp. 237–244.
- Beksinska, M., Joanis, C., Manning, J., Smit, J., Callahan, M., Deperthes, B. & Usher-Patel, M. (2007) Standardized definitions of failure modes for female condoms. *Contraception* 75(4), pp. 251–255.
- Cecil, H. & Zimet, G.D. (1998) Meanings assigned by undergraduates to frequency statements of condom use. *Archives of Sexual Behavior* 27(5), pp. 493–505.
- Center for Health and Gender Equity (2008) *Saving Lives Now: Female Condoms and the Role of U.S. Foreign Aid*. Takoma Park, Maryland, Center for Health and Gender Equity.
- Dowdy, D.W., Sweat, M.D. & Holtgrave, D.R. (2006) Countrywide distribution of the nitrile female condom (FC2) in Brazil and South Africa: a cost-effectiveness analysis. *AIDS* 20(16), pp. 2091–2098.

- Fontanet, A.L., Saba, J., Chandelying, V., Sakondhvat, C., Bhiraleus, P., Ruggao, S., Chongsomchai, C., Kiriwat, O., Tovnanabutra, S., Dally, L., Lange, J.M. & Rojanapithayakorn, W. (1998) Protection against sexually transmitted diseases by granting sex workers in Thailand the choice of using the male or female condom: results from a randomized controlled trial. *AIDS* 12(14), pp. 1851–1859.
- French, P.P., Latka, M., Gollub, E.L., Rogers, C., Hoover, D.R. & Stein, Z.A. (2003) Use-effectiveness of the female versus male condom in preventing sexually transmitted disease in women. *Sexually Transmitted Diseases* 30(5), pp. 440–442.
- Graneheim, U.H. & Lundman, B. (2004) Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. *Nurse Education Today* 24(2), pp. 105–112.
- Joanis, C., Beksinska, M., Hart, C., Tweedy, K., Linda, J. & Smit, J. (2011) Three new female condoms: Which do South African women prefer? *Contraception* 83(3), pp. 248–254.
- Kirungi, W. L., Musinguzi, J., Madraa, E., Mulumba, N., Calleja, T., Ghys, P. & Bessinger, R. (2006) Trends in antenatal HIV prevalence in urban Uganda associated with uptake of preventive sexual behavior. *Sexually Transmitted Infections* 82(supplement 1), pp. 36–41.
- Ministry of Health (MOH) [Uganda] (2009) *The Female Condom in Uganda: A Situation Analysis*. Kampala, Uganda, MOH.
- Ministry of Health (MOH) [Uganda] & ORC Macro (2006) *Uganda HIV/AIDS Sero- Behavioural Survey 2004–2005*. March 2006. Kampala, Uganda, MOH, and Calverton, Maryland, ORC Macro.
- Musaba, E., Morrison, C.S., Sunkutu, M.R., Musonda, R. & Wong, E.L. (1998) Long-term use of the female condom among couples at high risk of human immunodeficiency virus infection in Zambia. *American Sexually Transmitted Diseases Association* 25(5), pp. 260–264.
- Napierala, S., Kang, M.S., Chipato, T., Padian, N. & Van der Straten, A. (2008) Female condom uptake and acceptability in Zimbabwe. *AIDS Education and Prevention* 20(2), pp. 121–134.
- Potter, B., Gerofi, J., Pope, M. & Farley, T. (2003) Structural integrity of the polyurethane female condom after multiple cycles of disinfection, washing, drying and relubrication. *Contraception* 67(1), pp. 65–72.
- Uganda Bureau of Statistics (2007) *Uganda Demographic and Health Survey 2006*. August 2007. Kampala, Uganda, Uganda Bureau of Statistics, and Calverton, Maryland, Macro International.
- UNAIDS (2009) *AIDS Epidemic Update, December 2009*. Geneva, UNAIDS.
- United Nations (2010) *The Millennium Development Goals Report 2010*. New York, United Nations.
- Wabwire-Mangen, F., Odiit, M., Kirungi, W., Kaweesa Kisu, D. & Okara Wanyama, J. (2009) *Uganda HIV Prevention Response and Modes of Transmission Analysis*. March 2009. Kampala, Uganda, Uganda AIDS Commission.
- Wanyenze, R.K., Tumwesigye, N.M., Kindyomunda, R., Beyeza-Kashesya, J., Atuyambe, L., Kansime, A., Neema, S., Ssali, F., Akol, Z. & Mirembe, F. (2011) Uptake of family-planning methods and unplanned pregnancies among HIV-infected individuals: a cross-sectional survey among clients at HIV clinics in Uganda. *Journal of the International AIDS Society* 14(supplement 1), p. 38.
- World Health Organization (WHO) (2002) *WHO Information Update: Considerations Regarding Reuse of the Female Condom*. July 2002. Geneva, WHO.
- World Health Organization (WHO) (2007) *Female Condom Technical Review Committee Summary Report on FC2*. WHO/RHR/07.19. Geneva, WHO.