



Female Condom Reuse in Lusaka, Zambia: Evidence from 12 Cases

Jason B. Smith, Gladys Nkhama, and Dorace A. Trottier

ABSTRACT *Female condom reuse could address one of the principal barriers to use, namely, cost; however, the safety of reuse has not been established. Recent reports have provided information related to reuse safety under carefully specified research study conditions. Still, little is known about reuse outside a research study context, and there are outstanding questions related to feasibility of reuse among general populations. This study reports on naturally occurring reuse from a small, purposive sample of self-identified women who, prior to the study, had reused the female condom of their own volition without reuse instruction. Three types of reuse were identified. Most women attempted to clean devices between removal and reinsertion. A number of agents, including water (only), bath soap, laundry detergent, Dettol, and beer were used for cleaning. A number of agents were used for relubrication, including Reality[®] lubricant, various kinds of cooking oil, and Vaseline[™]. Perception of the strength and integrity of female condoms making them suitable for reuse were influenced by both provider advice and product packaging. Most participants reported no problems with reuse. Some women, faced with barriers to single use of a female condom or use of an acceptable alternative, will resort to reuse and rely on their own “common sense” notions to implement reuse. Providers and purveyors have opportunities to shape responses to reuse for the better, and the research community is obligated to provide a solid scientific base regarding reuse safety.*

KEYWORDS *Barrier method, Female condom, Qualitative, Reuse, Zambia.*

INTRODUCTION

The Reality[®] female condom is a polyurethane sheath inserted into the vagina prior to sexual intercourse for the purpose of providing the user with protection from pregnancy and sexually transmitted disease (STD).¹ Since its launch in Switzerland in 1992, the female condom has been approved as a single-use product and provided in commercial, social marketing, and public sector programs in 65 countries, including 20 in Africa.² A growing body of research covering technical, clinical, and human use aspects of the female condom has been assembled. Some of these studies note anecdotal reports of off-license reuse of the female condom,³⁻⁶ but no

Dr. Smith is with Family Health International, Research Triangle Park, North Carolina; Ms. Nkhama is with CARE/Zambia, Lusaka, Zambia; and Ms. Trottier is with IPAS, Chapel Hill, North Carolina.

Family Health International sponsored the work described in this article with support from the US Agency for International Development (USAID). A full study report is available from the corresponding author. The views expressed in this report do not necessarily reflect those of USAID, but are entirely the responsibility of the authors.

Correspondence: Jason B. Smith, Senior Scientist, Family Health International, P. O. Box 13950, Research Triangle Park, NC 27709. (E-mail: jbsmith@fhi.org)

details regarding reuse are provided in these reports. Reuse of the product could reduce one of the main barriers to use, namely, cost; however, the safety of reuse has not been established. Several recent reports⁷⁻⁹ have provided information related to the safety of female condom reuse under carefully specified research study conditions. Still, very little is known about reuse outside a research study context, and there are outstanding questions related to feasibility of reuse among general populations, especially in resource-poor settings.

The goal of this study was to discover the broadest possible range of women's naturally occurring reuse experiences outside a controlled study setting. The specific objectives were to identify (1) motivations for reuse; (2) reuse patterns; (3) cleaning, drying, and storage practices; and (4) problems resulting from reuse.

METHODS

A descriptive, exploratory, qualitative approach was used. Specifically, anonymous, open-ended, minimally structured interviews were conducted among a purposive sample of self-identified women who, prior to enrolling in this study, reused the female condom of their own volition without reuse instruction. Because female condom use was not widespread or well established and because reuse was discouraged by package insert instructions and (at least officially) by distribution program policy, obtaining a representative sample of naturally occurring reusers was not feasible. While distribution programs officially promoted the female condom as a single-use device, no information was systematically obtained as to whether individual study participants had been counseled against reuse. Individual interviewing was selected as the research technique rather than focus groups due to the sensitive nature of the topic. The decision to use minimal structure was guided by our desire to put as few constraints on the respondents' range of discussion as possible since so little about the phenomenon of interest was known.

Study Setting and Study Size

This study took place in Lusaka, Zambia, in April–May 1998. The female condom was originally introduced into Zambia on a research basis during 1995–1996 and was distributed using the Reality packaging. During this time, availability of the device was limited. The product was subsequently (1997) launched by the Zambian Ministry of Health and its partners in both the public and private sectors; it was packaged as the CARE contraceptive sheath, and good availability of the device developed. Most reported reuse in this study involved “old” (Reality-packaged) devices, although reuse of “new” (CARE-packaged) devices was also reported.

Recruitment and Screening

Entry into the research study was voluntary. The only inclusion criteria were age of majority (18 years) and experience with female condom reuse. Two study staff (author G. N. and an assistant) were responsible for screening, obtaining consent, and interviewing participants. For screening purposes, *reuse* was defined as the use of a single device for more than one penetrative sex act—regardless of time between acts, removal and/or cleaning between acts, or partners with whom these acts were performed. Handbill advertising at female condom distribution points informed users of the female condom that volunteers were wanted for the study. In addition, letter advertising was used to inform participants from the 1995–1996 female con-

dom study. Informed consents were obtained, and token compensation was provided to offset incidental costs of study participation.

Interviews

All interviews were conducted in the local language, Nyanja, and took place in a private setting; they were recorded on audiotape. Interviews lasted about 30 minutes each and were conducted with the aid of a discussion guide¹⁰ that covered five broad domains of inquiry regarding reuse: motivations, patterns, cleaning/drying/storage practices, perceived problems, and perceptions. All translation and transcription activities were generated and checked via consensus by the two-person local research team.

Analysis

English transcripts of the interviews were provided to the US-based authors (J. B. S. and D. A. T.). Each of the US-based authors read the first six interviews and then met to standardize codes and themes. Using the newly standardized coding, each author independently revised the first six interviews and then proceeded to code the second six interviews. After all interviews were coded, both authors went through each interview to reconcile differences between the two sets of coded transcripts. The transcripts and codes were entered into the Ethnograph program to facilitate analysis. The resulting analysis was shared with the Zambian author for discussion and clarification.

RESULTS

Participants and Partners

We located 37 female condom users and screened them for entry into the study. Of these, 14 reused the female condom at least once, and 12 consented to a recorded interview. Study participants ranged in age from 23 to 37 years old. All participants had at least some primary school education; 8 had some high school education, and 2 had completed high school. Seven participants were married, 4 were living with partners, and 1 was single. Two participants were clearly commercial sex workers (CSWs), although in other cases, it was difficult to tell whether some specific sexual transactions involved economic consideration. Three women were peer educators for the Ministry of Health.

Types of reuse partners reported in this study included husband, steady boyfriend, casual partner (singular), casual partners (multiple), and commercial sex partners. Most participants reported that their reuse partners were aware of the reuse, although there were reports of one or more partners that were not aware, and there was one case for which it was unclear. Both of the explicitly identified CSWs reported that they thought at least some partners were unaware of reuse: "Were your partners aware that you were reusing it? No, of course not. They are not supposed to know."

Motivations to Reuse

Participants were asked about motivations for reuse, and why they did not use an alternative to reuse, such as sex without barrier protection ("bare sex") or sex using a male condom. Protection from disease was commonly mentioned as motivation for reuse, as was protection against pregnancy. "I was scared of contracting sexu-

ally transmitted disease or even get pregnant. If he had to impregnate me, he would not look after me and the baby because he has his own wife.” Desire for barrier protection coupled with a reluctance to use male condoms on the part of either the male and/or the female partner were reported. Distrust of male partners was common and contributed to reuse motivations. “It’s very difficult to trust a man, especially the married ones.” In one instance, a decided preference for the female condom was reported. In one instance, a participant (who subsequently decided that she liked the female condom) reported being coerced by her husband into using and then reusing the female condom.

Various expressions of scarcity were also mentioned as motivations for reuse, including (1) clinics/providers did not have supplies, (2) clinic not open when supply needed, (3) provider not available when supply could be sought, (4) too young for clinic service, and (5) high cost. Other reported motivations included the need for protection in a hurry or being temporarily out of barrier protection. “Time was running out, and it was at night. Who would give me a condom at that time?” These motivations were sometimes linked to partner insistence on sex, male partner alcohol consumption, or fear of coerced sex without barrier protection. “You know men can be a problem, especially when they are drunk. He will force you to sleep with him without any condom.” The CSWs cited fear of losing a customer as a motivation.

Device characteristics were sometimes mentioned as factors that influenced reuse. Positive characteristics reflecting a user perception that the female condom was sturdy and safe to reuse were reported. Negative risk perceptions of bare sex (pregnancy and disease) and the male condom (e.g., device failure) were also mentioned. “I didn’t trust men with male condoms because I hear some men tend to prick or make a hole at the tip before having sexual intercourse.”

Advice from some kind of social referent such as provider, partner, or friend was mentioned in a few cases as a factor positively influencing the decision to reuse. Several respondents stated that their decision to reuse the old type of device was influenced by advice they received from a provider; that is, a peer educator or a clinic nurse suggested reuse at a time when adequate supplies of the female condom were limited.

Patterns/Reuse Practices

Three types of reuse were identified in the study, and all reuse was reportedly during vaginal sex. In reuse type 1, before removal and disposal, a single device was used for multiple penetrative sex acts. In reuse type 2, a single device was used for a single penetrative sex act, removed, and later reused for a subsequent single penetrative sex act. In reuse type 3, a single device was used for one or more penetrative sex acts, removed, and then reinserted for one or more coital acts. This variation differs from type 2 in that multiple sex acts were involved in the initial use, a repeat use, or both. All three types of reuse reportedly occurred with one partner and with multiple partners.

When asked about the number of devices they had ever reused, participant responses ranged from one to “too many to know,” the latter being a number in excess of 50. Participants were asked about the number of times each device was reused, and the responses ranged from 1 to 4. However, it was not clear in all cases if participants were including the initial use. If they were, this range would mildly overestimate reuse. It was also unclear in all cases whether they were consistently counting multiple penetrative sex acts without removal as reuse. If they were not,

this would underestimate reuse. Several participants reported borrowing or lending unused devices. One participant, a CSW, reported that she loaned devices, new and used, to a good friend who would also loan devices, new and used, to her depending on the flow of business.

Cleaning, Drying, Relubrication, and Storage Practices

All study participants reported engaging in some activity that they thought of as cleaning at least one reused device, although not all of these activities would have necessarily resulted in a clean device. One participant, a CSW, reported she sometimes loaned a device to a friend, and that the friend would clean the device before returning it. One participant reported an instance in which her husband cleaned the device.

We reused [the condom] at night by simply wiping it while it remained intact [inserted]. Early in the morning he wanted us to sleep together [have sex], but then I refused. He started off for work. I thought he had gone just to see him come back. He wanted us to have sex, so he got the used condom, put it in a dish and washed it himself. He wiped it with a clean cloth and forced me to put it on. Reluctantly, I consented. After the act I disposed of it.

All participants reported cleaning used devices at the site where the devices were reused, either at home or at the place where commercial sex was practiced. One unmarried woman initially used a device at a place other than her home, stored the used device in her handbag, and subsequently cleaned and reused it with a different partner at her home.

By definition, the device is not cleaned between use and reuse(s) in the context of reuse type 1. "I used to leave it inside after having sex, then when my husband wants to have sex again, I would leave the same one inside and then remove it in the morning." No reuse without cleaning was specifically reported in the context of reuse type 2. Reuse without cleaning was reported in the context of reuse type 3.

Well, I [a CSW] would carry a pack of five condoms. Then if I would go two rounds with one person, just [remove] and wipe in between, then go to another person with the same condom, especially if there are a lot of customers. Then I would pick up another condom and use it with three different partners, just like that.

At least one participant reported a fully articulated cleaning sequence consisting of rinsing with water, washing with soap and water, wiping dry with a clean cloth, then hanging to air dry, relubricating with Reality lubricant (supplied with the old-type devices), and storing in its original package. Other participants reported variations of this, dropping or modifying one or more of the components.

A variety of agents was reportedly used to clean the female condom between uses. These agents included water only (at least one participant stated that she thought soap would damage the device), bath soap (various brands), laundry detergent (powder and paste), Dettol (an antiseptic available in pharmacies), and beer (sometimes the handiest, or only, liquid available in a developing country bar).

There were times when I would use soap, bathing soap. Coming back to the amounts, how much Dettol were you using? I would take two leads of Dettol with lukewarm water and put it in a basin and rinse it.

The use of both warm and cold water, still and running water, was reported. No use of multipurpose brick soap or of dishwashing liquid was specifically mentioned.

Four participants made specific comment on cleaning the internal ring of the device. Three respondents reportedly left the ring inside the condom during cleaning. One of these respondents was fearful that removing the ring would damage the condom. One respondent reported removing the ring to clean it, but after removing the ring, she became confused about whether she had turned the device inside out.

Drying sequences varied. One participant reported hanging the device to air dry prior to wiping it dry. "I used to take a dry cloth, that is, after hanging the condom to allow some air to penetrate it. What type of cloth did you say you were using? A clean cloth." Another participant reported shaking the device dry prior to laying it in a cool place to air dry. Several participants used a hanging-to-dry method at some point, although one participant was fearful that hanging the device might damage it. In several instances, the need for reuse was immediate, and no drying or storage was involved.

Some participants did not relubricate the device prior to reuse. Among those who chose to relubricate the condom between uses, a variety of agents were used. These agents included Reality lubricant (packaged with the old-type devices), various kinds of cooking oil, and Vaseline. Participants reported relubricating a device inside, outside, or both.

If the device was stored prior to reuse, placing the condom back in its original packaging or in some other plastic bag was common. One respondent reported putting a device in a clean handkerchief. Other places where female condoms were stored (in a plastic bag or not) included under a pillow, between folded clothes, and in handbags.

Problems with Reuse

Most participants reported no problems associated with reuse for either member of the couple. One participant who did not relubricate the device prior to reuse reported discomfort during intercourse for herself and her partner.

For me, the female condom felt like hard plastic when I inserted it and made me very uncomfortable; as a result, I couldn't reach orgasm or even enjoy sex. My boyfriend complained that the female condom was hurting the tip of his penis because of its hardness.

Some participants reported that initial reuse caused some irritation after intercourse. There was one report of a reuse partner experiencing problems with the device twisting. "He also had problems at first, when penetrating; the condom would twist, but he would continue on with a lot of force, causing me abdominal pains." One participant, when asked about pain or irritation, said "I usually have abdominal pains, so even if the female condom was to cause me some pain, I wouldn't know." One participant opined that cleaning the used devices was too much bother.

Deciding to Stop Reuse

Most respondents gave some indication as to factors that influenced their decision to stop using a particular device after some number of reuses. Most reasons had to

do with a perception that the device was becoming too thin or too hard. Some participants were worried about breakage, although there were no such reports. One participant reported that she became confused when cleaning the device and could not tell whether the device was inside out and was afraid to use the device further. Some participants reported only reusing the device under circumstances in which no other means of protection was practicable.

Some participants reported intent to continue reuse as a practice, while others did not. Common reasons for stopping reuse as a practice included (1) improved product availability, (2) problems with reuse, (3) a perception that the new devices distributed now are not as strong as the devices that were distributed earlier, and (4) provider advice against reusing the new devices. One participant mentioned that the fact that the device packaging no longer included supplemental lubricant was a factor influencing her decision not to reuse.

DISCUSSION

This article summarizes information provided in interviews with 12 nonrandomly selected Zambian women. The interviewing technique used in this study was both powerful and problematic. While eliciting rich detail and natural description of female condom reuse and its context, the lack of structure also allowed relatively high levels of ambiguity and inconsistency in reporting. Most of the respondents had more than one reuse experience (in some cases, dozens). During an interview, participant responses ranged from describing a specific episode in detail, to talking about just one part of another episode; at other times, a typical reuse behavior pattern was described. Even though they may have addressed all of the topics covered by the discussion guide, most respondents did not provide what a researcher would consider were complete details on even one reuse episode. It is also likely that some reuse experiences were not specifically described at all. Nevertheless, these women provided descriptions of a remarkable range of actual reuse experiences, despite the small sample size.

As distribution of the female condom increases, the absolute level of reuse is likely to increase. A recently convened World Health Organization (WHO) Consultation on the Re-Use of the Female Condom¹¹ continued the recommendation against reuse, citing gaps in available knowledge. However, the WHO Consultation also “recognized the urgent need for guidance to women or couples who are reusing female condoms.”^(p2) Fortunately, the results of some research on reuse safety have begun to appear in the literature.⁷⁻⁹ WHO is currently funding research on a protocol for cleaning,¹¹ and other reuse safety research is ongoing (C. Joanis, oral communication, July 20, 2001). Still, as this study shows, reuse in a general population may be more variable than reuse under carefully specified study conditions. A better understanding of naturally occurring reuse practices will assist reuse researchers in devising cleaning protocols that, in addition to being effective, seem sensible to and achievable by a general population of women who may eventually want or need to reuse the product.

As evidenced by the WHO Consultation, there is considerable debate among the scientific community about exactly what might constitute a cleaning/drying/storage/relubrication regimen that would be effective in removing pathogens between uses without damaging the device or the reuser, even under controlled conditions. While discussing the details of such regimens is beyond the scope of this article, there are some broad areas of convergence and divergence that can be noted.

For example, neither the published research⁷⁻⁹ nor the WHO protocol¹¹ take into account reuse type 1 or type 3.

In the context of reuse types 2 and 3, reusers in this study all had some notion of trying to clean the device between removal and reinsertion. Virtually all of the materials used to clean and relubricate the device were inexpensive products locally available to an average Zambian household. Still, poor access to clean water (let alone control over water temperature) was reported in some instances, as was a notion that soap might damage the device. Not all of the cleaning agents reported would have necessarily produced a clean device. One participant did report using Dettol to disinfect the device. However, it seems unlikely that a disinfectant is as easily accessible as clean water or soap to a general population of potential reusers in Zambia. The reported use of Dettol raises the question of tradeoffs among removal of pathogens, ability of the reuser to follow a recommended regimen, and the potential for damage to either the device or the reuser.

In the context of reuse type 1 and type 3, cleaning between uses raises other issues. One issue is whether failure to clean between uses with one partner might pose additional risks by straining the structural integrity of the device, by increasing the potential for exchange of bodily fluids in the interim between sex acts, or via some other mechanism. The other question has to do with the dynamics of failure to clean between uses in which multiple partners are involved.

This study also has some information of programmatic value. Even this small sample showed that women had varying notions about the concept of reuse, a fact with implications for service delivery; for information, education, and communication materials development; and for the content of female condom counseling. Some motivation to stop or start reuse was related to scarcity. Service delivery planners should consider whether poor program support resulting in scarcity might result in reuse, particularly in resource-poor settings.

This study suggests opportunities to mold perceptions of reuse in the minds of potential reusers. For example, participants perceived differences between old and new devices despite the two products being exactly the same. Product packaging and advice from providers, also variable between the earlier research and the post-launch programs, influenced perceptions of strength and integrity. Reports that provider advice was effective in encouraging and also in discouraging reuse have implications for provider training and counseling content, whereas the change of client perception related to packaging has implications for marketing and advertising.

This study shows that some women are willing to take risks associated with an imperfect method to try to protect themselves. To do this, women will look for what they think to be valid physical evidence, however valid it may be. To the extent that women are misled by mistaken perceptions of physical evidence or gaps in their applicable knowledge base, they may expose themselves to increased danger. Providers of the female condom have an opportunity to shape responses to reuse for the better, rather than leaving women to devise their own common sense solutions. Finally, the research community is obligated to provide a solid scientific foundation on which the provider's advice can depend.

ACKNOWLEDGEMENT

We would like to acknowledge the following persons for their contributions to this research: Claudia Ford, who originally negotiated CARE participation in the study; Tamara Fetters for following through on administration and technical oversight;

Carol Mwiindwa Handia for contributing her local language expertise to translations and interviewing; FHI staff Tara Nutley for site monitoring; as well as JoAnn Lewis, Carol Joanis, and Theresa Hatzell for manuscript review.

REFERENCES

1. Smith JB, Lewis JH. The female condom: current issues and recent development. *IPPF Med Bull.* 1998;32(3):1-3.
2. Female Health Company. International information: the female condom around the world. July 2001. Available at: <http://www.femalehealth.com/international.html>. Accessed July 17, 2001.
3. Niang CI. *Sexual Negotiations and the Use of Women's Condom in Kolda and Koalack, Senegal. Final report.* Dakar, Senegal: Institute des Sciences de l'Environnement, Université Cheikh Anta Diop; 1996.
4. Nkrumah-Mills G. Acceptability of the female condom (Femidom) in Asuogyaman District. Unpublished report. London, UK: Chartex; 1995.
5. De Vincenzi I, Serre A, El-Amri M, Baggiotti L. Le préservatif féminin: un essai d'acceptabilité réalisé par un groupe de femmes prostituées à Paris. *Bull Épidémiologique Hebdomadaire.* 1994;7:33.
6. Monny-Lobe M, Tchupo JP, Turk T, Joanis C, Steiner M. Acceptability of the female condom among a high risk population in Cameroon. Unpublished report. Research Triangle Park, NC: Family Health International; 1991.
7. Joanis C, Latka M, Glover LH, Hamel S. Structural integrity of the female condom after a single use, washing, and disinfection. *Contraception.* 2000;62(2):63-72.
8. Pettifor AE, Rees HV, Beksinska ME, Kleinschmidt I, McIntyre J. In vitro assessment of the structural integrity of the female condom after multiple wash, dry and re-lubrication cycles. *Contraception.* 2000;61(4):271-276.
9. Beksinska ME, Rees HV, Dickson-Tetteh KE, Mqoqi N, Kleinschmidt I, McIntyre JA. Structural integrity of the female condom after multiple uses, washing, drying and re-lubrication. *Contraception.* 2001;63(1):33-36.
10. Smith JB, Nkhama G, Sebastian P, Trottier DA. Qualitative research on female condom use among women in two developing countries. Unpublished report. Research Triangle Park, NC: Family Health International; 1999.
11. World Health Organization. WHO/UNAIDS information update: consultation on re-use of the female condom. July 2001. Available at: http://www.who.int/reproductive-health/family_planning/female_condom/consultation_on_re-use_of%20female_condom_Durban.en.html. Accessed July 18, 2001.