The Female Condom, a Tool for Empowering Sexually Active Urban Adolescent Women

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ABSTRACT Adolescent women are at high risk of sexually transmitted diseases/human immunodeficiency virus (STDs/HIV) because of physiologic susceptibility and risky sexual behavior. The latter may be related to the "personal factors" of self-efficacy, sexual knowledge, self-esteem, and ability to communicate/negotiate. In the current study, near-peers attempted to have an impact on these factors by using the female condom as a negotiating tool for safer sex in a group of 100 urban adolescent women recruited from an adolescent health center waiting room. This pilot study consisted of a questionnaire, a workshop on how to use the female condom and negotiate its use, and follow-up interviews at 1 and 4 months. Demographics of the study sample define a multiethnic (40% black, 33% Hispanic) group in late adolescence (average age 18 years) completing high school. At baseline, 18% evidenced depression, 62% had moderate-to-low self-esteem, 91% had an internal locus of control. At baseline, male condom use in the prior 6 months was 28% always, 51% inconsistently, 21% never. When baseline and follow-up scores were compared, there was a statistically significant increase in sexual knowledge and self-efficacy, together with the suggestion of improved negotiating skills. At 1 month, 50% (20/40) had tried the female condom, and 17 of these women planned to use it in the future. Total percentage of protected sex acts increased significantly during the follow-up period through increased use of both the male and female condoms. The data suggest that adolescent women will accept the female condom and can be empowered to protect themselves from STDs/HIV through its application or through the using of it as a negotiating tool.

KEYWORDS Adolescent women, Adolescents, Condom, Female condom, STDs/HIV prevention.

INTRODUCTION

Sexually active adolescents are at high risk for sexually transmitted diseases (STDs), human immunodeficiency virus (HIV), and related health problems, such as infertility and cancer. In the US, 3 million cases of STDs occur each year among teenagers,¹ and 15% of HIV infections are in youths 13–24 years old. Female adolescents are at even higher risk, having rates of chlamydia and gonorrhea that are 40% higher than those of their male counterparts or older persons of either gender.³ These higher rates are thought to be due to a combination of developmental factors (physiological susceptibility to infections due to cervical ectopy and decreased cervical mucus immune-protective factors)^{4–6} and risky sexual behavior (multiple sexual part-

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ners, short-term relationships, partners with high STD risks, unprotected sex).²⁻⁴ Most of these factors are overcome if barrier protection is used during the sex act, but only 50.7% of sexually active female adolescents report use of a male condom in their last sexual encounter.¹

A model of the psychological basis of such risky sexual behavior among female adolescents was constructed by Taylor-Seehafer and Rew.⁷ Low scores on measures of self-efficacy, sexual knowledge, self-esteem, and ability to communicate/negotiate were correlated with increased risk taking. If this model is accurate, then an intervention that successfully has an impact on and/or circumvents these personal factors could empower young women to decrease such risky behavior as unprotected sex acts. A device that has potential as a tool in such an intervention is the female condom. Recent studies have reported that female condoms can empower adult women who are counseled and trained to use them.⁸⁻¹¹ Most are willing to try them and report that having a female-controlled method gives them a greater sense of control in the protection of their bodies from disease.¹⁰⁻¹⁵ Further, the introduction of the female condom to populations with male condom accessibility has had a synergistic effect of producing an increase in usage of both male and female condoms.^{9,10} This may be due to an additional role for the female condom: that of a tool for negotiating safer sex.

While a few studies have explored the potential acceptability of the female condom by adolescent women,^{16,17} there has been little evaluation of the efficacy of interventions involving the female condom and the design of these interventions to have a positive impact on the "personal factors" thought to be significant in the etiology of risky sexual behavior among female adolescents. The current study was undertaken to assess the degree to which an intervention that included the female condom and targeted personal factors might have an impact on self-efficacy, sexual knowledge, self-esteem, ability to communicate/negotiate, and frequency of protected sexual acts.

METHODS

Adolescent women attending the Mount Sinai Adolescent Center (a large primary care clinic in New York City, NY) were enrolled in this study. Participants were recruited in the clinic waiting rooms 2 days a week from June through August 2000 by two young, casually dressed, female medical students ("near-peers"). As the majority of clinic clients were there for family planning or pregnancy tests, there were rarely young men present. All subjects gave informed consent to participate, and those interested in being part of the follow-up consented to being contacted by phone at a later date. All those enrolled received a raffle ticket for various prizes.

Each participant completed a baseline written questionnaire composed of a demographic and sexual health survey and the following scales (all previously used with adolescents): Depression Scale,¹⁸ Rosenberg Self-Esteem Scale,¹⁸ Internal-External Scale for Locus of Control,¹⁹ Female Condom Quiz (FCQ; a compilation of questions designed to assess knowledge of the female condom),²⁰ and the Contraceptive Self Efficacy Scale (CSE; a scale to determine the ability to negotiate safe sexual behaviors in different challenging situations).²¹

On completion of the questionnaire, the young women participated in a small workshop, "Empowerment Through Choices," which was conducted either in an empty clinic room or in the waiting room itself, depending on the preference of the

individual young woman. Most young women preferred the waiting rooms, which were small and comfortable and from which they could easily be called to see their providers. These interactive sessions included 1–5 young women and lasted about 30 min. Sessions began with a general brief overview of sexually transmitted diseases and a discussion of barrier methods and female-controlled methods. Male and female condoms were handed around, laughed at, compared, and contrasted. Male and female anatomy and physiology were discussed and graphically reviewed, and proper techniques for using both types of condoms were demonstrated. Participants were gently drawn out to engage in dialog, ask questions, apply the male condom to a wooden phallus, and insert the female condom in a plastic female pelvis. Following a demonstration by the workshop leaders, participants were encouraged to role-play sexual negotiations.

At the end of the session, each enrolled young woman was given two female condoms, two samples of lubricant, an instruction pamphlet from RealityTM with a hotline help number, an e-mail address for contacting the peer educators, and access to health education staff at the Adolescent Center. She was also informed that additional female condoms could be obtained from the Adolescent Center without charge.

The near-peers contacted participants 1 and 4 months after the intervention for follow-up telephone interviews. Attempts to contact the young women were made on a daily basis from the scheduled follow-up date until contact was made or 2 weeks had elapsed. The first follow-up interview consisted of a repeat of the full baseline questionnaire with the exception of the demographics and with additional questions regarding recent female condom usage. The second follow-up interview included only the FCQ and female condom usage questions. All recruitment, workshops, baseline, and follow-up interviews with the study group were conducted by the same two near-peers.

Comparisons between subgroups were made using a Pearson chi-square test for categorical variables and a two-sample *t* test for continuous variables. Changes from initial to 1- and 4-month follow-up interviews were examined using the McNemar test for categorical variables, the paired *t* test for continuous variables, and the Wilcoxon signed rank test for ordinal variables. All comparisons were made using a significance level of .05. Analyses were performed using Microsoft Excel and SPSS statistical software (SPSS, Inc., Chicago, IL).

RESULTS

Study Population

Most young women who were approached did agree to participate in the study and follow-up. Refusal was exclusively for time or logistic reasons (their provider called them, they had to leave the clinic very soon, or they were shortly to leave town). Female condom samples, extra lubricant, and the insertion brochure was offered to, and accepted by, all those unable to participate. A total of 100 adolescent women were enrolled at baseline and were interviewed and attended the workshop; 48 completed the 1-month follow-up interviews, and 27 completed the 4-month follow-up interviews. The demographic characteristics and sexual histories of participants at baseline, 1 month, and 4 months are shown in Table 1. There were no significant differences from baseline among those who completed none, one, or

TABLE 1. Characteristics of study population at initial and follow-up visits

	Initial, N = 100 (%)	1 month, n = 48 (%)	4 months, n = 27 (%)
Race			
Black	38 (40)	14 (31)	7 (28)
Hispanic	32 (33)	14 (31)	9 (36)
White	11 (12)	7 (16)	4 (16)
Asian	4 (4)	3 (7)	3 (12)
Biracial	11 (12)	7 (16)	2 (8)
Age (mean in years)	19 ± 2.0	19 ± 2.4	18 ± 2.3
Last grade completed (mean in years)	12 ± 1.7	12 ± 1.5	12 ± 1.3
Ever been sexually active	94 (94)	44 (92)	25 (93)
Been pregnant	32 (34)	17 (39)	9 (33.3)
Have children	8 (9)	6 (14)	4 (16)
Lifetime number of partners (mean in years)	5 ± 4.6	6 ± 4.9	6 ± 5.8
Sexual frequency in past 6 months (mean in years)	27 ± 32.6	21 ± 26.1	21 ± 25.5

Numbers do not add to the column total due to missing data. Data are presented as n (%) for categorical variables and mean ± standard deviation (SD) for continuous variables.

both follow-up interviews with respect to age, race, schooling, sexual activity, and frequency of protection from infection and pregnancy.

Baseline Psychological and Personal Factors

The scores of the adolescent women who completed relevant portions of the initial interview are as follows: 12% (8/69) were moderately depressed, and 6% (4/69) were severely clinically depressed (were seriously questioning the value of life and/or were considering harm to themselves; all were immediately escorted for referral and did not continue in the study); 38% (32/84) had high self-esteem, 51% (43/84) had moderate self-esteem, and 11% (9/84) had low self-esteem. There were 92% (77/84) with an internal locus-of-control. (Differing numbers here and below reflect the choice of our clients or the fact that their medical provider called them before they were able to answer some portions of the questionnaire.)

Baseline Condom Use

When asked what they used to protect against STDs, 90% (84/93) reported using the male condom to protect against STD. To protect from pregnancy alone, 31% (29/93) were taking an oral contraceptive pill, 2% (2/93) used the diaphragm, and 5% (5/93) used no protection. The proportion of participants reporting male condom use in the prior 6 months was 28% (24/85) always, 51% (43/85) inconsistent, 21% (18/85) never. There were 5% (4/85) who had ever used the female condom, and none had used it within the prior 6 months.

Postintervention Female Condom Use

During the follow-up periods of 1 and 4 months (n = 48 and n = 27, respectively), 8 participants were not sexually active and thus had no opportunity to use the

female condom; 8 others had not been sexually active at 1 month, but were thereafter. At 1 month, among those 40 who were sexually active, 20 used the female condom at least once. Of these, 11 used it once, 5 used it twice, 3 used it three times, and 1 used it eight times (4 of the participants obtained extra female condoms from outside sources). Of the 20, there were 17 (85%) who stated that they planned to use female condoms again in the future. There were 18 who were sexually active during the first month who did not try the female condom, but there was a statistically significant increase in their reported use of male condoms during that period. Use for more than half of all sexual encounters increased from 56% (10/18) at baseline to 83% (15/18) at the 1-month follow-up ($P < .05$).

Comparative Results Pre- and Postintervention

FCQ averages were 5.2 correct answers (of a possible 8) at baseline ($n = 99$, standard deviation [SD] = 1.2, range 2–8), 7.3 at the 1-month follow-up ($n = 48$, SD = 0.7, range 6–8), and 7.4 at the 4-month follow-up ($n = 27$, SD = 0.8, range 6–8). Of the 27 participants who completed all three quizzes, there was a significant increase in mean scores between the initial quiz and the two that followed (Table 2). The improvement was due to changes in five of the eight items (Table 3).

CSE questionnaires were completed by 59 participants at baseline and by 37 at the 1-month follow-up. Average scores were 72.4 of a possible 100 points (SD = 10.9, range 47–86) at baseline and 77.8 (SD = 1.5, range 51–90) after 1 month. Of the 37 in the 1-month cohort, 11 had not taken the test initially. Of the 26 adolescent women who completed both the initial and 1-month CSE scales, average scores on the CSE were improved significantly at the 1-month visit (Table 2).

Condom use increased significantly among the subset of participants who completed both the initial interview and the 1-month follow-up. There were 41% (13/32) at baseline who reported always using a condom (male condoms only), and 60% (19/32) at the 1-month follow-up reported always using a condom (male and female condoms) (see Table 4).

There were no significant differences between the baseline and follow-up visits on the Depression Scale, Rosenberg Self-Esteem Scale, and Locus of Control Scale.

DISCUSSION

Sexually active adolescent women with low scores on personal factors such as self-efficacy, sexual knowledge, self-esteem, and ability to communicate/negotiate are

TABLE 2. Results of Female Condom Quiz and Contraceptive Self-Efficacy Scale*

Scale	n*		Mean $\pm$ SD	P†
Female Condom Quiz (range 1–8, with 8 = all correct)	27	Baseline interview	5.6 $\pm$ 1.3	
		1-month follow-up	7.5 $\pm$ 0.2	<.001
		4-month follow-up	7.4 $\pm$ 0.8	<.001
Contraceptive Self-Efficacy Scale (range 1–100, with 100 = high self-efficacy)	26	Baseline interview	73.6 $\pm$ 11.3	
		1-month follow-up	77.1 $\pm$ 9.5	.03

SD, standard deviation.

*For the subset of adolescents who completed all visits at which these questions were asked.

†Value for each time point compared to initial interview.

TABLE 3. Female Condom Quiz questions*

	Initial	1 Month	4 Months
1. Female condoms are as good as male condoms in protecting against pregnancy, STDs, and HIV. (True)	89	100	100
2. Female condoms should be inserted at the time you are having sex. (False)	33	93†	89†
3. Female condoms must be fitted by a health care provider. (False)	81	100	96
4. Female condoms should be worn by the woman and male condoms by the man at the same time to achieve maximum protection. (False)	56	96†	100†
5. A female condom can only be worn once. (True)	78	100‡	96
6. The female condom is a good barrier alternative when a woman or her partner is allergic to latex. (True)	67	96†	100†
7. Women should practice inserting the female condom once or twice before it is need for intercourse. (True)	93	89	96
8. Oils (such as Vaseline and baby oil) will affect the female condom and cause it to break. (False)	22	78†	62‡

*Reported as percent of participants (n = 27) answering correctly.

† $P < .01$ versus initial interview; McNemar's test.

‡ $P < .05$ versus initial interview; McNemar's test.

more likely to engage in risky sexual behavior.⁷ In the current study, an intervention was put in place involving the female condom, specifically attempting to help young women strengthen themselves with regard to these personal factors. They were involved in small, comfortable, interactive peer groups in which they discussed sexuality, gender, anatomy and physiology, and female "issues" (e.g., menses, vaginal discharge/malodor, feelings of sexual arousal, causes of embarrassment). They learned about the female condom, a female-controlled method, as an option to the male condom and practiced negotiating for barrier protection during sexual activity.

At baseline, 90% of the group identified the male condom as their choice for preventing STDs/HIV, yet only 28% reported always using a condom during the prior 6 months. This suggests that they are only voicing the expected response to what should be used for protection, that they do not consider themselves at risk for infection, or indeed that they are inclined to use it, but are not able to "make it happen." Following introduction to the female condom, half in the returning group had tried it; most of these said they would continue using it, and their knowledge and self-efficacy for negotiating its use had improved. Most importantly, there was a significant increase in their condom-protected sex acts over time. This suggests that this group of adolescent women were better able to negotiate their own sexual protection following the intervention. It is likely that having the option of a female-controlled method, the female condom, is an empowering tool in such negotiations.

Areas that did not significantly change were locus of control, depression, and self-esteem. Since the locus of control was high at baseline, one reason for a lack

TABLE 4. Frequency of all condom use at baseline and 1-month follow-up

Condom use during sexual acts in the prior 1 month (n = 32)	Baseline	1-month follow-up*
	(Male condoms) n = 32† (%)	(Male and female condoms) n = 32 (%)
Never	10 (30)	5 (15)
Inconsistently (<half to >half)	9 (28)	8 (25)
Always	13 (42)	19 (60)

* $P = .01$ versus initial; Wilcoxon signed ranks.

†Baseline condom usage is only given for those adolescent women available for follow-up. Results are therefore a comparison of answers of the same group of women at two different times.

of effect may have been a ceiling effect. Also, given the time constraints of the study, it is not surprising that deeply rooted psychological factors such as chronic depression and limited self-esteem were not impacted. The fact that such a high percentage were depressed (and not in counseling) underscores the need for more medical provider attention to this area in their adolescent patients. It is to be hoped that more regular “girl-talk” groups along the lines of the chatting in the “Empowerment Through Choices” workshops can be created as they might have a positive impact on the adolescent women’s self-esteem. At the current time, many adolescent women have no forum in which to discuss such issues. Despite this, there was acceptance of the female condom by the majority of those who had the opportunity to try it and a significant increase in percentage of sexual acts that were protected by all condoms, male and female, following the intervention.

There are limitations to the present study. There is the potential for selection bias since the study population was volunteers nonrandomly selected. In addition, the behavioral outcomes and questionnaires were self-reported and thus subject to reporting bias influenced by perceived interviewer expectations. This effect may have been diminished by comparing each adolescent’s answers with only her own at different time intervals. Withdrawal from follow-up may also be a source of bias as only 27% of the initial group completed the entire protocol and particularly selected for those with working telephone access. An analysis of demographic characteristics of those retained and those lost to follow-up revealed no significant differences, but the groups may have differed on other factors not measured. Another limitation to our study is that the young women only received two female condoms at the intervention, thus possibly restricting the impact. In addition, many participants completed only certain sections of the questionnaire, leaving a wide range in baseline study group size for the different scales. Finally, due to their difference in age and race from the majority of participants, the medical student interviewers may not have been perceived as true peers.

Despite these limitations, there was a significant positive impact on the young women in the study, and there is evidence that they were protecting themselves better from sexual risks after the intervention.

ACKNOWLEDGEMENT

Dr. John Doucette has been kind, patient, and unerringly helpful in assisting with the statistics for this study. We would also like to thank the staff at the Mount Sinai Adolescent Center, Dr. Mary Latka for assistance in developing the female condom educational workshop, and the many adolescent women who participated.

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