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**CHARACTERISTICS OF CONDOM USE AND ASSOCIATED PROBLEMS:
EXPERIENCE IN BANGLADESH**Ghyasuddin Ahmed¹Elsa C. Liner^{2*}Nancy E. Williamson³William P. Schellstede³¹University of Botswana, Gaborone, Botswana²Research Triangle Institute, Research Triangle Park, NC³Family Health International, Research Triangle Park, NC

ABSTRACT

Data from the 1983 Bangladesh Condom User Survey (BCUS) are analyzed for patterns of condom use and various problems directly influencing their effectiveness. The survey was undertaken to explain an apparent gap between reports of the number of condoms distributed in certain areas compared with prevalence of users as reported in contraceptive prevalence surveys. These data are analyzed from behavioral and management perspectives to identify various factors influencing utilization, with potential implications for understanding and improving family planning and AIDS/STD prevention service systems. Patterns of use are related to differences in source of supply through public, free or private-priced systems, differences in urban or semi-rural place of residence, and differences in perceptions of men or women. The problem with condom use most often identified by the respondents was breakage.

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INTRODUCTION

The AIDS epidemic has greatly increased interest in the use of condoms and their effectiveness.¹ Information on condom use is needed more for AIDS/STD prevention than for contraception because consequences of method failure are more serious and consistent use is essential. A condom must be used only during the fertile period for contraception, and substitution of other methods provides equal protection. Few studies^{2,3,4} have been conducted on condom use, perhaps because the condom is a low technology method and has been associated with illicit sex and sexually transmitted diseases.

This study will examine patterns of condom use and problems that have been reported by users in the 1983 Bangladesh Condom User Survey (BCUS),⁵ an outgrowth of the Contraceptive Prevalence Surveys (CPS) of 1979 and 1981.⁷ In 1981, a *condom gap*, in which there was a large discrepancy between high condom sales and free distribution versus much lower condom use as reported in CPS surveys became an issue in the Bangladesh family planning program. In 1982, Williamson, in an attempt to account for this gap, compiled a list of 12 factors potentially responsible for the discrepancy.⁶ The Family Planning Social Marketing Program (SMP) and Bangladesh Social Marketing Evaluation, Research and Training, supported by Population Services International and funded by USAID, undertook a survey to investigate five of these.⁸ The survey also produced findings concerning patterns of condom use and problems experienced by condom users. These are the focus of this paper.

METHODOLOGY

In the 1981 CPS, fewer than 1.6% of currently married women reported using condoms. With such a low rate of use among the population, it was clear that a random sample of reasonable and affordable size would not yield a sufficient number of condom users to produce statistically valid results. Because the purpose of the study was to obtain condom use data representative of condom users rather than the population as a whole, a quota sample was used. Two pilot studies were conducted—the first to find a target sample with high condom use—the second to test the instrument for detecting underreporting.

Results of two previous point-of-purchase studies conducted by the SMP and the 1981 CPS suggested that condom users tended to be relatively young, better educated and residents of urban areas as compared with users of other methods. Hence, a pilot study was conducted in three different mahallas (census tracts) in Dhaka representing high, middle, and low income areas. It was found that current use of condoms was highest in the high income area (21%), and somewhat lower in the middle income area (16%). No users were found in the low income (slum) area although contraceptive use was 10%.

Sampling Design and Sample Size

Urban Sample

The study design called for 2,400 urban respondents (husbands and wives) to be interviewed from 1,800 eligible households. To select the urban sample, affluent mahallas were identified in the four regions of the country; Dhaka, Chittagong, Khulna, and

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Rajshahi. All mahallas were listed and the required number selected using a random sampling procedure. The number of subjects per region was selected on a probability-proportional-to-size basis based on the 1981 Census Report. Once a mahalla was selected, the interviewers conducted a census of the area and screened for households with eligible couples. Screening and interviewing were carried out simultaneously. Table I shows the number of subjects successfully interviewed.

Table I. Number of Respondents Interviewed

| Respondent Type | Dhaka | Chittagong | Khulna | Rajshahi |
|-----------------|-------|------------|--------|----------|
| Urban* | 1,717 | 617 | 331 | 162 |
| Semi-rural** | 623 | 666 | 626 | 600 |

*Probability-proportional-to-size sample.

**Quota sample.

Semi-Rural Sample

Selection of the semi-rural sample was somewhat more complex than the urban sample because condom use was much lower there than in urban areas. Each subdivision of the country outside the major urban areas was ranked by SMP condom marketing sales and government distribution figures. The subdivision with the highest condom sales/distribution was selected from each of the four regions. Within each subdivision, the thana (now known as the upazilla) with the highest condom sales/distribution was selected. Within each thana, the union was selected that served as thana headquarters. Within the union, interviews were conducted in the neighboring villages until the required sample size was obtained.

Because the union of the thana headquarters was selected, the sample should be considered a semi-rural, rather than a rural sample. (Most of the population of Bangladesh lives in the rural areas, so this is not a representative sample.) The semi-rural sample was drawn from the same four regions as the urban sample, but sample sizes for semi-rural areas were equal rather than proportional to area size, as in the urban sample. The number of respondents successfully interviewed is shown in Table I.

Data Collection and Processing

Data were collected by 12 teams composed of one male and one female, with men interviewing men, and women interviewing women. Teams used a structured interview schedule containing four modules: (1) socio-demographic characteristics; (2) current and ever contraceptive use; (3) contraceptive use patterns for all methods; and (4) details of condom use.

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The interview schedule was pretested several times. First developed in English, it was translated into Bengali, then retranslated into English by a person unfamiliar with family planning programs. The data were coded and processed by computer at Bangladesh University of Engineering and Technology.

RESULTS

Characteristics of Condom Users

Demographic characteristics of the urban and semi-rural samples were quite similar due to the restrictive eligibility requirements—e.g., the age of women was limited to 18-37 years in order to target couples with high condom use. Median age was 37-38 years for urban men, 34-35 years for semi-rural men, 28 years for urban women and 26 years for semi-rural females. Median duration of marriage for urban and semi-rural respondents was 11 years. The urban sample had fewer children (2.3-2.5) than the semi-rural sample (2.7-2.8). A fourth of the urban and a half of the semi-rural sample reported that they wanted more children.

Socioeconomic differences, as expected, were quite large. Urban men averaged 13 years of education and urban women 10 years, compared with 4-5 years for semi-rural men and 2-3 years for semi-rural women. Monthly expenditures were reported to be Taka 3,300-4,000 in urban areas but only Taka 1,200-1,500 in semi-rural areas. (Exchange rate at the time was US\$1.00 to 25 Taka.) More than 90% of all respondents were Muslim, with most of the remainder Hindu.

Use Patterns

Contraceptive Use by Method

Tables II and III show the breakdown of contraceptive use among ever-users and current-users of condoms, respectively. Respondents reported having used many methods, switching many times—a fact borne out by data collected directly on switching and discussed below. Because the study sample excluded the rural population—the largest segment of Bangladesh population—and so was not representative of the population as a whole, prevalence of condom use found in the study was much higher than the national prevalence rate.

Among the urban current users, condoms were the contraceptive method currently used most frequently, with pills the second most frequently used. Among semi-rural current users, pills were the method used most frequently, with condoms ranking fourth after tubectomy and the safe period.

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**Table II. Ever Use of Contraceptive Method
by Residence and Respondent Type**

| Method | Residence and Respondent Type | | | |
|----------------------|-------------------------------|-------|------------|-------|
| | Urban | | Semi-rural | |
| | Men | Women | Men | Women |
| Pills | 66.1 | 70.9 | 26.7 | 30.2 |
| Condoms | 61.3 | 60.0 | 19.4 | 12.4 |
| IUD | 9.2 | 10.4 | 2.8 | 2.8 |
| Tubectomy | 5.9 | 7.1 | 7.4 | 6.4 |
| Vasectomy | 0.7 | 0.5 | 1.3 | 0.3 |
| Menstrual Regulation | 6.7 | 7.0 | 0.8 | 0.6 |
| Injections | 2.5 | 3.5 | 1.3 | 1.9 |
| Foams | 18.6 | 15.5 | 3.4 | 2.3 |
| Abstinence | 4.2 | 2.2 | 2.3 | 2.0 |
| Safe Period | 22.2 | 23.1 | 11.4 | 7.8 |
| Withdrawal | 0.7 | 9.7 | 2.2 | 3.1 |
| Others | 0.8 | 0.3 | 2.5 | 2.3 |

Total may exceed 100% because many respondents used more than one method.

**Table III. Current Use of Contraceptive Method
by Residence and Respondent Type**

| Method | Residence and Respondent Type | | | |
|----------------------|-------------------------------|-------|------------|-------|
| | Urban | | Semi-rural | |
| | Men | Women | Men | Women |
| Pills | 20.7 | 20.4 | 12.5 | 10.7 |
| Condoms | 30.3 | 29.3 | 5.6 | 3.7 |
| IUD | 6.6 | 6.1 | 1.6 | 1.8 |
| Tubectomy | 5.9 | 7.1 | 8.1 | 6.4 |
| Vasectomy | 0.7 | 0.5 | 0.4 | 0.3 |
| Menstrual Regulation | 0.0 | 0.0 | 0.0 | 0.0 |
| Injections | 0.6 | 0.5 | 0.6 | 0.5 |
| Foams | 2.9 | 2.3 | 0.7 | 0.8 |
| Abstinence | 0.9 | 0.6 | 1.2 | 0.5 |
| Safe Period | 6.1 | 5.8 | 6.2 | 2.2 |
| Withdrawal | 1.9 | 1.6 | 0.7 | 1.1 |
| Others | 0.4 | 0.2 | 1.6 | 1.0 |

Percentages based on the total sample population for each group of respondents.

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Purchase Versus Free Distribution

As condoms in Bangladesh were available free through government programs as well as for a small price through the social marketing program, this provided an opportunity to investigate whether and why people purchase condoms when they can obtain them free. All ever-users of condoms were asked whether they had ever received free condoms from government family planning sources. Affirmative responses agreed quite closely within residence groups, with more semi-rural than urban respondents receiving free condoms (urban women 21%, urban men 22%; semi-rural men 30%, semi-rural women 31%).

Conversely, approximately 80% of urban respondents, and 70% of the semi-rural respondents paid for condoms when they could have obtained them free. When asked for reasons, the answer given most frequently by far was *Did not have time* (8% percent for current-user semi-rural women to 32% for current-user urban men). Semi-rural women reported *Too shy to collect free condoms* more than any other group (23%). A high proportion of urban men (16%) said that they did not like to collect such an item free of cost.

Irregular Condom Use

In an effort to determine how regularly *condom users* actually use condoms, past and current users were asked directly about usage patterns. These were found to be very similar across residence areas, but differed by past or current use. Between 56-66% of the current users used condoms at every coitus compared to 36-46% of past users. The percentage who used condoms most of the time ranged from 14-20% for current users and 6-12% for past users. Considering these two groups combined as regular users, regular users constitute 71-82% of the current users.

Respondents who identified themselves as irregular users were asked about the reasons for irregular use. The reason given most often was *Depends on safe period*, although responses to a follow-up question on the timing of the safe period showed that very few respondents knew when the safe period occurs. Reasons for irregular use given by 40-65% of the respondents were *Do not need every time* or *Depends on safe period*, regardless of residence area.

More women than men stated that they or their spouses did not like condoms, ranging from 7% for semi-rural current-user men to 22% for semi-rural past-user women. Among current users, the proportion of respondents stating *Uses another method* ranged from 6% for semi-rural women to 26% for urban women.

Switching

To determine how satisfied respondents were with their method of contraception, they were asked whether they had ever switched methods, and if so, to list up to six methods used and the reason for switching from each. Between 66-71% of the urban respondents and 29-48% of the semi-rural respondents reported switching at least one time. Pills were the most frequently reported initial method in both residence areas (57-65% for urban respondents and 49-69% for semi-rural respondents). The second most frequently reported initial method was condoms.

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The main reasons for switching were *Side effects and complications* and *Fear of side effects and complications*. These were given regardless of the method currently used or the method to which users were switching. Very few respondents cited *Method not available*, *Desire for a child*, *Spouse does not like method* or *Failure of the method*.

Problems

All ever-users of condoms were asked about duration of condom use and the sorts of problems encountered. Frequencies were calculated for all condom users and for those condom users experiencing problems (Table IV).

Frequency and Types of Problems

Between 27-38% of the urban respondents reported experiencing problems, with a significantly larger percentage of men reporting problems than women. In the semi-rural areas, 27% of both men and women reported problems. *For all residence areas, the most frequently cited problem by far was breakage*. Other problems were: (1) *One or both partners do not get full sexual satisfaction*; (2) *Condoms are uncomfortable*; (3) *Partner dislikes the method*; (4) *Condom slips*; (5) *Burning sensation*; and (6) *Allergic reaction or other side effects*.

Breakage was reported more frequently by men than women. Among all condom users, 19% semi-rural men and 21.8% urban men reported experiencing breakage, compared with 13% semi-rural women and 14% in urban women. An even larger gender difference was found among users experiencing problems. It was found that 29-42% of the respondents who had ever used condoms had experienced at least one break over the entire usage period, i.e., an average of two to three years of continuous use. The mean number of breakages reported ranged from 3.1 (semi-rural women) to 5.1 (urban men). Some respondents in the semi-rural areas experienced as many as 10 breaks, although a large number did not know or could not remember the exact number. Considering that these users averaged 2-3 years of continuous use and that over 45% of the users experienced an average of 3.1 to 5.2 condoms breaks, we compute roughly that the regular Bangladeshi condom user can expect 0.7-1.1 condoms breaks per year.

Lack of sexual satisfaction was cited as the second most frequent problem, and again more men reported this problem than women. Among all condom users, 4.5% urban men and 2.3% semi-rural men but less than 1% urban women and 0% semi-rural women reported this problem.

In contrast to the preceding problem, for all condom users there was agreement between urban respondents (males 3.9% and females 3.5%) on *Uncomfortable/Rough/Unpleasant odor*, but there was a large difference between semi-rural men (1.5%) and women (6.4%). Of those experiencing problems, 22.7% of the semi-rural women reported this problem, but only 8.3% of the semi-rural men. In the urban area, reports ranged from 11.8% for women to 10.2% for men.

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Table IV. Nature of Problems Experienced in Condom Use, by Gender, Residence and Respondent Type

| Nature of Problems | Residence and Respondent Type | | | |
|-------------------------------------|----------------------------------------|----------------|---------------|---------------|
| | Urban | | Semi-rural | |
| | Male | Female | Male | Female |
| | N=826 n=318 | N=828 n=230 | N=262 n=72 | N=158 n=44 |
| Breakage | 21.8 ¹ 57.5 ² | 13.6 49.5 | 19.4 70.8 | 12.7 45.5 |
| Lack of sexual satisfaction | 4.5 11.9 | 0.9 5.3 | 2.3 9.7 | 0.0 0.0 |
| Uncomfortable/rough/unpleasant odor | 3.9 10.2 | 3.5 11.8 | 1.5 8.3 | 6.4 22.7 |
| Spouse dislikes | 2.8 7.3 | 2.0 7.0 | 0.4 2.7 | 1.3 4.5 |
| Condom slips | 0.6 1.6 | 0.1 0.0 | 0.4 4.1 | 1.3 4.6 |
| Burning sensation | 0.6 1.6 | 2.4 10.6 | 0.4 1.4 | 2.3 6.8 |
| Allergic condition | 0.5 1.3 | 3.7 10.4 | 0.4 1.4 | 1.9 6.8 |
| Others | 3.6 8.5 | 1.2 4.8 | 0.4 1.4 | 2.5 9.1 |
| Nonresponse | 0.6 1.5 | 0.0 0.9 | 0.0 0.0 | 0.0 0.0 |

Totals may exceed 100% because more than one response was allowed.

¹The percentage at top is based on all condom users.

²The percentage at bottom is based on the group who experienced problems.

For all condom users, reports of *Spouse dislikes* ranged from 0.4% (semi-rural men) to 2.8% (urban men). A very small percentage (ranging from less than 1% for urban and

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semi-rural women to 2.8% for urban men) reported *Condom slips*. Among all condom users, reports of *Burning sensation* ranged from fewer than 1% (urban and semi-rural men) to 2.4% (urban women).

Allergic reaction was reported most frequently by urban women (10.4% of those experiencing problems) followed by semi-rural women (6.8% of the group experiencing problems). Fewer than 2% of both urban and semi-rural men reported this problem.

SUMMARY OF FINDINGS

Major findings of this study of a Bangladeshi urban/semi-rural sample selected for high condom use are as follows:

- **Purchase versus Free Distribution**—Approximately 80% of the urban respondents and 70% of the semi-rural respondents paid for condoms when they could have obtained them free. No differences were found by gender or place of residence. Reasons for purchase rather than free collection given most frequently were *No time to collect free condoms* by men and *Easy to buy* by women.
- **Irregular Use**—Most condom users do not use condoms consistently. Only 56-60% of the users reported using condoms at every coitus. An additional 14-20% reported using condoms *Most of the time*.
- **Switching**—More urban (66-71%) than semi-rural (21.8-49%) users reported switching. Condoms was the second most common initial method, following pills. The main reasons given for switching were *Side effects and complications* and *Fear of side effects and complications*.
- **Breakage**—The most common problem reported was breakage. A definite gender difference, but not a place of residence difference, was observed with approximately 43% of the males and 30% of the females reporting at least one breakage over a 2-3 year period of continuous, regular usage. At least 8% experienced more than ten breaks, with group means of 3.1-5.2 breaks.
- **Other Problems**—A gender difference was found for *Burning sensation* and *Allergic conditions*, with women reporting these problems much more frequently than men.

DISCUSSION

These findings on patterns and problems of condom use have several implications for managers of family planning and AIDS/STD prevention programs in Third World countries. Although the specific answers that program managers need will vary from situation to situation, the broader issues are likely to be similar across cultures.

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In the first place, some problems program managers might have anticipated as leading to switching or irregular use were not found in the study. These include condom slippage, lack of availability, cost and failure of the method.

The results on reasons for purchasing condoms when free ones are available suggest that time is an important commodity in the Third World, possibly more so than in developed countries. Many Bangladeshis are willing to pay for convenience. Moreover, some people are uncomfortable receiving condoms free of charge, either because of shyness or because condoms cost such a nominal amount. Based on these results, program managers may be well advised to provide condoms at a minimal cost in many convenient locations, rather than distributing them at no cost from centralized points. The study results also indicate that the distribution system in the study areas is adequate, since *Free ones not available in locality* was not cited as a primary reason for purchasing condoms.

The data on irregular use and switching suggest that, although these respondents are concerned about contraception to the extent that they reported using some other method when not using condoms, they apparently lacked information on comparative reliability and side effects of various methods. It seems that a sizable proportion of these respondents fears all methods of contraception and potential side effects. Findings on irregular use and switching have particular implications for AIDS/STD prevention programs, where consistent use is essential for effective protection. These results suggest that an important factor in promoting condoms will be an education program to stress the absence of side effects such as sometimes occur with a chemical method like the pill or implants. Of course, this must be done carefully so as not to undermine family planning programs.

Condom breakage was the major problem encountered by condom users in the study and presents a serious problem for program managers. The difference reported between men and women is interesting, since they were asked about the same experiences. Underreporting by semi-rural women for other topics has been noted elsewhere⁹ and perhaps that is the case here. On the other hand, some women may not be aware of breakage. Breakage has also been reported by Fret et al.¹⁰ in which a breakage rate of 49% was found for condoms field-aged in Bangladesh and tested in Indonesia. Third World storage conditions and long storage times probably contribute to the breakage, particularly in the rural areas where supply lines can be quite long. However, Lamptey et al. (personal communication) in a pilot program among prostitutes in Ghana found that 31 of 47 prostitutes experienced breakage. In this case, storage and supply were optimal for Third World conditions, so that this breakage probably reflects the baseline breakage rate for condoms in the Third World plus the fact that these were mainly new users, inexperienced in condom use. This may indicate a need for managers to incorporate a strong instructional component into condom use programs for new users. Better information on breakage rates is needed.

It is interesting that, of the condom users experiencing problems, both *Burning sensation* and *Allergic condition* were reported by fewer than 2% of all males, whereas 10% of the urban females and 6.8% of the semi-rural females reported these problems. This large male/female difference suggests that there may be something about condoms use that is more irritating to women than men—perhaps some irritant from the condom remains in the vagina after the condom is removed, while the irritant is more likely to be flushed from the penis after condom removal. These factors may be particular to the Bangladesh

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situation, such as the brands of condoms or storage conditions that cause condoms to break down producing some irritating substance. Although this has not been conclusively demonstrated, it is a factor worth consideration by program managers.

To improve both family planning and AIDS/STD prevention programs, we need more research on condom behavior in a variety of settings in order to separate real from hypothetical problems. More attention should also be given to solving the breakage problem, and breakage should be carefully monitored throughout the program. Service delivery systems need to be designed to maximize convenience for the user at a nominal cost. Educational components on the side effects, complications and relative efficacy of contraceptive methods and instructional components on condom use should be incorporated into service programs.

REFERENCES

1. Diczfalusy E, Borelli F, eds. Effectiveness of contraceptive methods. In: *Control of human fertility*. (Proceedings of the Fifteenth Nobel Symposium, Lidingo, Sweden. May, 1970). Stockholm: Almqvist and Wiksell, 1970:303-320.
2. Update on condoms: products, protection, promotion. In: *Barrier methods*. Series H; No. 6. Baltimore: Johns Hopkins University, 1982.
3. Lamptey P et al. An evaluation of male contraceptive acceptance in rural Ghana. *Stud Fam Plann* 1978;9:8.
4. *Consumer study on Raja condoms*. Dhaka: P & M Consultants, Ltd., 1982.
5. Ahmed G et al. *Bangladesh condom user survey, 1983*. Dhaka: Bangladesh Social Marketing Evaluation, Research and Training Corp, 1984.
6. Mitra SN, Kamal G. *Bangladesh contraceptive prevalence survey, 1983: key results*. Dhaka: Mitra & Associates, 1984;228.
7. Ministry of Health and Population Control. *Bangladesh contraceptive prevalence survey, 1981*. Dhaka: Government of Bangladesh, 1981.
8. Williamson NE. *Evaluation needs of the Bangladesh family planning project*. Research Triangle Park, NC: Family Health International, 1982.
9. Ahmed G, Schellstede WP, Williamson NE. Underreporting of contraceptive use in Bangladesh. *Internat Fam Plann Persp* 1987;13(4):136-140.
10. Free MJ, Hutchings J, Lubis F, Natakusumah R. An assessment of burst strength distribution data for monitoring quality of condom stocks in developing countries. *Contraception* 1986;33(3):285-299.