

ORIGINAL PAPERS

## User-fees for Family-planning Methods: An Analysis of Payment Behaviour among Urban Contraceptors in Bangladesh

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### ABSTRACT

The study was carried out to review the experience with the existing user-fee (pricing) strategies and examine the socioeconomic and demographic factors associated with payment behaviour among contraceptive users in urban Bangladesh for selected contraceptive methods, such as injectables, pill, and condom. Data for the study were drawn from a survey of more than 5,000 married women of reproductive age in Zone 3 of Dhaka city, Bangladesh, within the sample frame of the Urban Panel Survey of the ICDDR,B's former Urban MCH-FP Extension Project. The findings of the study showed that most (80%) urban contraceptive users have been paying for selected family-planning services. This indicates the existence of a notable demand for contraceptives which suggests that there is scope for improved financial sustainability of the family-planning programme through charging appropriate user-fees for contraceptives with proper analyses of willingness-to-pay among the contraceptive users and price elasticities of demand. Higher socioeconomic status of households, marked by higher levels of education and house rent, and location of residence in non-slum areas, is predictive of paying for contraception. Households having 1-3 living child(ren) are also more likely to make payment for the selected contraceptive services.

**Key words:** Fees and charges; Contraceptive methods; Contraceptive usage; Prices; Pricing

### INTRODUCTION

Despite widespread poverty in Bangladesh, the country has achieved remarkable success in family planning over the past two decades, resulting in considerable reduction in fertility. The contraceptive prevalence rate (CPR) rose

from 8% in mid-1970s to 49% in 1997; the total fertility rate (TFR) had decreased from 6.3 to 3.3 and the population growth rate had declined from over 2.5% to less than 2% during the past two decades (1). In spite of these achievements, Bangladesh still faces the mounting population pressure of 122 million with a density of approximately 800 people per sq km (2).

To reach the replacement level of fertility (TFR=2.2) by 2005, the pace of increase in the use of family-planning methods will need rapid acceleration, meaning that, by 2005, family-planning services will have to be

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extended from 27 million families to 40 million families; contraceptive users have to be more than doubled, i.e. from 12 to 28 million and the CPR has to be raised to 70% (3-4). To achieve these goals, the average rise in annual cost of the family-planning programme is estimated to be about US\$ 10 million, which means that US\$ 220 million would be needed in 2005 compared to US\$ 120 million in 1995 (4). The cost of contraceptive commodities alone would account for US\$ 51 million in 2005 compared to US\$ 22 million in 1995 (5).

Currently, the extent of external support stands at about two-thirds of the country's family-planning programme costs (6). Due to the recent shifts in funding policies of donors, the external contributions are likely to stagnate, if not decline, in the future. Besides, the Government of Bangladesh may not be able to meet the increased costs from its own sources.

In this context, the sustainability of the family-planning programme in the country has become increasingly important, particularly for the non-government organizations (NGOs) that are predominantly dependent on funding from donors.

NGOs have been pursuing a number of cost-reduction and/or revenue-generation measures to attain financial sustainability. The present study focused on revenue generation of the family-planning programmes by charging user-fees for contraceptive commodities and services. The study was carried out to: (a) review the existing experience with the user-fee (pricing) strategies; (b) assess the amount of user-fees paid by urban contraceptors for specific methods obtained from various sources; and (c) examine the socioeconomic and demographic factors associated with payment of user-fees for contraceptives. Since the permanent and longer-acting clinical methods, such as sterilization, IUD, and Norplant, are mostly provided free of charge, the study examined only payments made for injectables, pills, and condoms which taken together account for about three-fourth of all the modern contraceptive users in Bangladesh.

## METHODS AND MATERIALS

The study was done by extensively reviewing the existing information on the pricing strategies of various family-planning programmes in Bangladesh and a cross-sectional survey of more than 5,000 married women of reproductive age. The survey was conducted during October-December 1996 within the sample frame of the Urban Panel Survey (UPS) of ICDDR,B: Centre for Health and Population Research. UPS is a longitudinal tri-monthly data-collection system maintained by the USAID-supported former Urban MCH-FP Extension Project (now merged with the Operations Research

Project) of ICDDR,B to track socioeconomic, demographic, contraceptive use, and MCH-FP service-use indicators in a sample population in Zone 3 of Dhaka city. Zone 3, one of the 10 administrative units of the Dhaka City Corporation, has an estimated population of 400,000; approximately one-fourth of them live in slums.

A probability-sampling procedure was followed to select households in the sample, so that each household in the sample could be chosen with known selection probability. An area-sampling technique was used for listing the households. At first, sets of primary sampling units (PSUs) were selected, and then within each selected PSU, a single cluster, the sampling unit containing 40-45 households, was selected. In total, about 6,000 households were identified using the multi-stage area-sampling method and probability-proportional-to-size (PPS) technique. For this, 160 clusters were identified from the area. To ensure an adequate representation of the slum households in the sample, the identified areas were stratified into slum and non-slum depending on overall living situation, including housing, water and sanitary situation. The survey instruments collected information on basic sociodemographic, socioeconomic, reproductive and contraception status of the households. Data on income, expenditure, ownership of land, housing condition, etc. were collected through the module on socioeconomic status. Bivariate and multivariate analyses were done to produce findings relevant to the objectives of the study.

## Conceptual model

Andersen's Behaviour Model has been adapted in the study to examine payment behaviour of contraceptors. The Andersen Model, considered to be a comprehensive model of the demand for health services, concentrates on individual determinants of use-behaviour. According to this model, the decision of an individual to use health services depends on a sequence of conditions grouped into three components: predisposing, enabling, and need (7).

In this study, the predisposing component included variables describing individual factors that are indirectly associated with service-use and are not considered to be a specific reason for using family-planning services. These factors have much influence on willingness-to-pay for specific family-planning services and involve demographic and social structure, family practices, and variables relating to belief about family planning. Of the socioeconomic and demographic variables considered in this study, location of residence (slum/non-slum) and education fall under this component. There could be other variables that may be listed as predisposing factors. Ethnicity, religion, urban-rural

character, knowledge of and attitude toward family planning are some examples of such variables. In understanding the process of formation of effective demand for family planning and other preventive services, the predisposing factors require adequate consideration.

The enabling component included variables that allow the means for an individual to seek family-planning services. This can be estimated by the availability of family and community resources relating to overall supply of family-planning services. These factors are supposed to influence ability-to-pay for family-planning services. Demand-side factors, such as employment status of women and their husbands, monthly income and expenditure of households, could be considered to be some variables that fall under the enabling component. Considerations, such as high-opportunity costs of child-rearing as opposed to prices of contraception and certain expectations of parents, for example, to provide better schooling to children, also play an important role in the formation of enabling conditions leading toward effective demand for family-planning services.

Given the existence of both predisposing and enabling conditions, use of family-planning services by individuals finally depends on the perceived need for family planning. The perceived need is guided directly by some conditions that form the nature of the need. For example, age and number of living children of clients are such variables. However, the perceived need of clients may vary from the evaluated need of a programme. For example, a woman, aged 40 years, having 3 living children and desiring no more children may use injectable contraceptives or oral pills on the basis of the perceived need, which may not be considered by the programme as the appropriate types of contraception, i.e. the evaluated need might be permanent or longer-acting clinical methods.

Thus, the effective demand for family-planning services is ultimately a function of the predisposing, enabling, and perceived need variables. Actually, it is not at all straight-forward to explain the complex nature of formation of demand for family planning among clients. Desired family size, child-survival probability, sex preference, etc. are other important determinants of contraceptive-use (8).

Some variables may sometimes cut across the components. Predisposing variables, such as location of residence and urban-rural character, can also have some enabling role in forming conditions favourable or unfavourable to effective demand and influence payment behaviour. Likewise, predisposing elements, such as ethnicity, culture, religion, belief, and ideational variables, such as values, attitude, and knowledge of

family planning, can also influence the process of formation of demand.

## RESULTS

### Review of existing experience with user-fee strategies

Pricing of contraceptives in a limited scale was first introduced in Bangladesh by family-planning voluntary agencies during the 1960s. Condoms were sold by depot-holders and part-time agents at a token price. The then Family Planning Association of Bangladesh (FPAB) used to charge user-fees for all types of contraceptives. The main objective of pricing was to reduce wastage, thereby improving use-effectiveness by attaching some value to contraceptive commodities (9).

The initial pricing measures, although were much of token nature, could not be pursued very long due to a major change in the government policy regarding family-planning services. A massive supply-driven national strategy, introduced in the mid-1970s, led to the total withdrawal of all kinds of user-fees on contraceptives. The supply-side approach was theoretically based on the well-known Say's Law of classical economics which assumed that supply would create its own demand. Since then, the effect of influence of providers on demand for contraceptives in Bangladesh has become a major factor. A massive community-based distribution (CBD) strategy was introduced with the provision of home visits to married women of reproductive age (15-49 years) once every two months.

The supply-led strategy resulted in considerable success in family planning over the last two and half decades, but now the family-planning programme is faced with the problems of continuation and further consolidation within limited funds. Therefore, there is a pressing need to think of re-adjustments and reforms in the current service-delivery approaches. The experience with the free home-based supply strategy can be summarized as follows:

- a. It is becoming increasingly difficult to sustain such a labour-intensive costly system for an indefinite period for a country, like Bangladesh with limited resources. A free-distribution system is feasible and appropriate to maintain until a specific target was attained or during a specific timeframe.
- b. At a certain point in time, supply-driven demand reaches saturation (8). There must be a clear-cut policy and corresponding actions for graduating the supply-driven (latent) demands to effective demands. This could be materialized with proper provisions for shifting the demands from free sources to systems based on user-fees and commercial sector.

Given these concerns about the supply-led approach, various measures have been undertaken since the early 1990s to enhance efficiency and sustainability of the programme. Accordingly, the government and NGOs introduced nominal user-fees for contraceptives and family-planning services to reduce wastage and address the financial sustainability issues.

The government introduced pricing for condoms in July 1990 at a nominal rate of Tk 1.00 per dozen. However, with the decline in distribution of condoms as an immediate effect of the pricing, effective November 1990, the price of condom was refixed at Tk 0.50 per dozen (9,10). The price was again refixed at Tk 1.20 in October 1998. All other family-planning commodities and services are provided free of charge by the government service-delivery system.

NGOs, however, in addition to price for condoms, charge nominal user-fees for other contraceptives and maternal-child health and family-planning (MCH-FP) services. There is no uniform policy in the country regarding charging of prices, and in most cases user-fees were set arbitrarily without considering the related demand- and supply-side factors. The user-fees for family-planning products and services, as reported by the NGO sources, generally range from Tk 1.00 to Tk 2.00 for one cycle of pills and a dozen of condoms respectively, and Tk 2.00-5.00 for each shot of injectable contraceptive. However, clients who are unable to pay are not deprived of the services.

Social marketing in the country started in 1974. The Social Marketing Company (SMC) sells various brands of pills and condoms, using a countrywide network of retail outlets, such as pharmacies and grocery shops. Organon, a commercial pharmaceutical company, markets two brands of pill. Some NGOs also sell SMC and other commercial brand pills and condoms. The prices of the commonly-used brands vary from Tk 5.00 to Tk 20.00 for each dozen of condoms and Tk 2.00 to Tk 40.00 for a cycle of pills. One-fifth of all pill users and two-thirds of condom users in the country buy the SMC products.

Introduction of user-fees initially resulted in some temporary unwillingness-to-pay among clients. For example, of the clients of the Pathfinder NGOs, 36% of users paid for contraceptive services in 1991, but by 1992 and 1995, the corresponding figures increased to 67% and 75% respectively. Within a year of introducing prices, i.e. in 1991, the number of active users in urban areas, who paid for contraceptive services, increased from 42% to 57%, those refused payment reduced from 33% to 23%, and those unable to pay remained unchanged at about one-fourth (11).

The extent to which financing was possible, however, varied from project to project. The degree of recovery of the recurrent programme costs from generated revenues was, on an average, 2-3% for an NGO. This amount varied among NGOs from 0.1% to 20.7%. One of every 4 NGOs recovered less than 10% of their recurrent costs, while 15% of them recovered more than that (12).

Initial evidence from the pricing practices showed that the price elasticity of demand for contraceptives was low. Similar studies conducted in Sri Lanka, Thailand, Philippines, and Jamaica also concluded that demand for contraceptives was relatively inelastic to changes in the price of contraceptives (13-15). It may be explained by the fact that demand for commodities which account for a small fraction of consumer's income will be less elastic than those that account for a big proportion of consumer's total expenditure. In most cases, the prices of family-planning commodities are nominal, and constitute an insignificant share of household health expenditure. In a study on demand for healthcare in urban Dhaka, it was found that the monthly median expenditure for family-planning commodity/service was only Tk 5.00 for both slum and non-slum households compared to their respective total monthly health expenditure of Tk 532.00 and Tk 1,120.00 (16).

In the case of Bangladesh, another reason may be the existence of some poverty-led demand (considering the 'opportunity cost' of rearing a child) and aspiration-led demand (generated through information, education and communication activities and the consequent ideational changes) for family planning among the relatively low-income couples, who otherwise would be considered as the segment most sensitive to user-fees. Important in this context is, perhaps, the attitude of clients and their willingness-to-pay rather than their economic capability or ability-to-pay.

The experience shows that pricing does not lead to large and sustained reductions in contraception. Despite an initial drop, contraceptive-use returned to the pre-pricing state within a few months, and even rose up further subsequently. The economic notion in this regard is that moderate charges may even have a beneficial effect on demand because of perception of consumers that a value of product is reflected in its price (13).

#### **Current survey results: payments made for injectables, pill, and condom**

The results of the survey carried out in the study exhibited that a considerable variation in the use of contraceptives was notable among the slum and non-slum women. The CPR was 46% among the slum couples compared to 59% among those from the non-

slum households. Sterilization and injectables were more common among the slum populations, whereas IUD and condom were more common among the non-slum populations (Table 1). No significant difference was evident in the use of pill and traditional methods among the current contraceptors by slum and non-slum couples.

Table 2 provides information on payments made by the current users of injectables, pill, and condom, with respect to the sources from where the methods were obtained. In Bangladesh, injectable contraceptives are provided from subsidized sources, such as government and NGO clinics. Recently, since mid-1998, the SMC has initiated a pilot programme to market injectable contraceptives by trained commercial providers (graduate doctors working as private practitioners) in

urban and semi-urban areas. There are also limited provisions of offering repeat shots at homes of users by the field workers. Ninety-one percent of both slum and non-slum injectables users obtained the last shot from the government and NGO clinics in the locality. Four of every 5 slum and 3 of every 5 non-slum injectables users, i.e. 70% of all the injectables users, had made some payments for the method. The slum users of injectable contraceptives were more likely to pay a user-fee for the method than the non-slum injectable users. Most (95%) of those who paid, irrespective of the source of the method, paid an amount ranging from Tk 1.00 to Tk 5.00 for each dose of injection. Although the government facilities are supposed to provide pills and injectables free of charge, 69% of the injectables users who obtained the method from the government clinics had made an

**Table 1.** Percent distribution of contraception status by methods and location of households (slum/non-slum)

Characteristics	Slum	Non-slum	Total
<b>Contraception status</b>	<b>n=1952</b>	<b>n=3447</b>	<b>n=5399</b>
Never used	29	16	20
Ever used	71	84	80
Current user	46	59*	54
<b>Contraceptive method of current user</b>	<b>n=892</b>	<b>n=2047</b>	<b>n=2939</b>
Female sterilization	16**	11	12
Male sterilization	1	-	-
IUD	4	8**	7
Injectables	14**	7	9
Pill	43	41	42
Condom	7	20**	16
Traditional	15	13	14

\*p<0.05; \*\*p<.001

**Table 2.** Percent distribution of source of supply of selected contraceptives and payments made by respective current users

Source of contraceptives and payment status	Injectables users			Pill users			Condom users		
	Total (n=263)	Slum (n=125)	Non-slum (n=138)	Total (n=1,223)	Slum (n=381)	Non-slum (n=842)	Total (n=457)	Slum (n=58)	Non-slum (n=399)
<b>Source of supply</b>									
Pharmacy/shop	0	0	0	42	36	45*	40	38	41
NGO clinic	17	15	19	2	2	1	1	0	1
Government clinic	74	76	73	13	14	13	5	9	4
Field worker	4	4	4	40	44	39	52	50	52
Others	5	5	4	3	4	2	2	3	2
<b>Paid</b>									
Yes	70	79*	62	80	74	82**	88	78	89**
No	30	21	38	20	26	18	12	22	11
<b>Amount paid</b>	<b>n=185</b>	<b>n=99</b>	<b>n=86</b>	<b>n=973</b>	<b>n=281</b>	<b>n=692</b>	<b>n=400</b>	<b>n=45</b>	<b>n=355</b>
Tk 1.00-5.00	95	97	94	45	55	42	94	94	95
Tk 6.00-10.00	5	2	6	25	27	24	4	6	3
Tk 11.00-20.00	0	1	0	8	5	10	2	0	2
Tk 21.00 and above	0	0	0	22	13	24	0	0	0

1 US\$=Tk 50.00; \*p<0.05; \*\*p<0.01

'unofficial payment' ranging from Tk 2.00 to Tk 20.00 for the shot. Those getting their supplies from the NGO clinics paid Tk 2.00-6.00 for the same. Both mean and median amount of the payments made by the clients for a shot of injectables at the government clinics was Tk 4.00. In the NGO clinics, the mean amount of the corresponding payment was Tk 3.81, and the median amount was Tk 5.00. The overall mean, median and modal amounts of payments made by the clients for each shot of injectables, irrespective of source of supply, were Tk 3.94, Tk 4.00, and Tk 3.00 respectively.

Two-fifths of all pill users obtained the method from commercial sources, such as pharmacies and shops. Thirty-six percent of the slum and 45% of the non-slum users procured pills from pharmacies and shops. Non-slum pill users were more likely to obtain the method from commercial sources. The rest of the pill users obtained the method either at their homes from the field workers (two-fifths of all pill users) or from other sources, such as government and NGO clinics. Seventy-four percent of the slum and 82% of the non-slum pill users paid prices for their supplies. However, proportion of the pill users making payment for the method was significantly higher among the non-slum contraceptors than the slum couples. Eighty percent of all pill users had paid for the method. The majority (78%) of the pill users, irrespective of the sources and brands of pills, paid Tk 1.00 to Tk 20.00 for each cycle. The mean, median and modal payments made by clients who obtained pills from pharmacies and shops were Tk 18.95, Tk 12.00, and Tk 6.00 respectively. In the case of pill users who received the supply from the field workers, the corresponding values were Tk 4.23, Tk 4.00, and Tk 2.00 respectively. The overall mean amount of payment made by the pill users for a cycle of pill was Tk 10.46, the median Tk 7.00, and the mode Tk 3.00.

Like pills, 2 of every 5 condom users of both slum and non-slum households obtained the method from pharmacies and shops. Half of them received the supply at their homes from the field workers. Seventy-eight percent of the slum and 89% of the non-slum condom users reportedly made payment for the method. In total, 88% of the condom users paid for the method. However, the non-slum condom users were more likely to pay for the method. Most of them (98%), irrespective of the sources and brands of condoms, paid an amount ranging from Tk 1.00 to Tk 10.00 for a dozen. Payments made at pharmacies and shops for a dozen of condom ranged from Tk 1.00 to Tk 20.00. The mean amount was Tk 4.97, whereas the median and mode amount was Tk 4.00. For those who obtained condoms from the field workers, the mean, median and mode values all amounted to Tk 2.00. The overall mean, median and modal amounts of payments made by the clients for each dozen of condoms were Tk 3.16, Tk 2.00, and Tk 4.00 respectively.

### Socioeconomic and demographic factors associated with payment behaviour

Socioeconomic and demographic characteristics of the contraceptors who paid and not paid for injectables, pills, and condoms are presented in Table 3. In the case of injectable contraceptives, 65% of the women who paid had no formal education, 75% of them were not working for money, 27% belonged to low-income families, 90% represented households paying up to Tk 1,000.00 per month as house rent, 54% came from slum households, 42% were aged 30 years or above, and 57% had 3 or more living children. Injectables users from the slum households were more likely to pay for the method.

However, in the case of pills, 39% of the women who paid for the method had no formal education, 84% were not working for money, 15% belonged to low-income families, 79% represented households paying up to Tk 1,000.00 per month as house rent, 71% came from non-slum households, 35% were aged 30 years or above, and 44% had three or more living children. Factors, such as education of women up to grade 6 and above, monthly income of households being Tk 2,000.00 and above, location of residence being non-slum, and age of women being more than 20 years, were significantly associated with payment behaviour.

For condoms, 61% of the women who paid for the method had primary level or higher education, 89% did not work for money, 69% represented high-income families, 66% paid low monthly rents for housing, 89% belonged to non-slum households, 55% were aged 20-29 years, and 57% had 1-2 living child(ren). Education of women up to grade 6 or higher level, their husbands working for money, location of residence being non-slum, age of women being 20-29 years, and their number of living children being 1-2 emerged as significant predictors of making payment for condoms.

Of all current users of these three methods, 80% were paying for contraceptive supplies. Thirty-seven percent of the women who paid user-fees had no formal education, 84% did not work for money, 15% came from low-income families, 67% belonged to households residing in low-rent houses, 27% represented slum households, 37% were aged 30 years or above, and 43% had three or more living children. Bivariate analyses, presented in Table 3, exhibited that socioeconomic and demographic factors, such as education of contracepting women being of grade 6 and above, monthly income of household being more than Tk 4,000.00, location of residence being non-slum, age of women being 20-29 years, and number of living children being 1-2, were significantly associated with payment behaviour for injectables, pills, and condoms taken together.

To further understand the association of the specific socioeconomic and demographic factors considered in

**Table 3.** Percent distribution of current users who paid and not paid user-fees for selected methods by socioeconomic and demographic characteristics

Characteristics	Injectables (n=263)		Pill (n=1,223)		Condom (n=457)		Total (n=1,943)	
	Paid (n=185)	Not paid (n=78)	Paid (n=973)	Not paid (n=250)	Paid (n=400)	Not paid (n=57)	Paid (n=1,558)	Not paid (n=385)
<b>Education</b>								
No education	65	55	39	57**	16	25	37	52*
Grade 1-5	24	30	28	28	23	19	26	27
Grade 6 and above	11	15	33*	15	61*	56	37*	21
<b>Employment status of women</b>								
Do not work for money	75	83	84	81	89	81	84	81
Work for money	25	17	16	19	11	19	16	19
<b>Employment status of husbands</b>								
Do not work for money	2	1	2	1	2	11	2	2
Work for money	98	99	98	99	98**	89	98	98
<b>Monthly income of households</b>								
Up to Tk 2,000	27	20	15	28	9	11	15	24*
Tk 2,001-4,000	41	49	35*	42	22	24	32	41
Tk 4,001 and above	32	31	50**	30	69	65	53**	35
<b>Monthly expenditure of households on house rent</b>								
Up to Tk 1,000	90	92	79	89*	66	63	67	86**
Tk 1,001-2,000	8	4	14	10	14	21	13	11
Tk 2,001 and above	2	4	7	1	20	16	10	3
<b>Household location</b>								
Slum	54**	33	29	40	11	23	27	36
Non-slum	46	67*	71*	60	89**	77	73*	64
<b>Age of women (years)</b>								
Less than 20	8	1	10	10	8	7	9	8
20-29	50	54	55*	47	55*	42	54*	47
30 and above	42	45	35	43	37	51*	37	45
<b>No. of living children</b>								
No children	1	0	2	1	6	7	3	2
1-2	42	38	54	48	57*	47	54*	46
3 and more	57	62	44	51	37	46*	43	52*

\*p<0.05; \*\*p<0.01

this study with the likelihood of paying user-fees for the selective contraceptives, multivariate logistic regression analysis was conducted. Payment made for the specific method was considered as the dependent variable, while socioeconomic indicators, such as education of women users, their employment status, monthly income of households, monthly expenditure on house rent, location of residence (slum/non-slum), and demographic indicators, such as age of user women and the number of their living children, were used as the independent (explanatory) variables. The model has been finalized with necessary tests for mis-specification and variable-selection methodology, e.g. multicollinearity, heteroscedasticity.

Estimates of odds ratios of selected socioeconomic and demographic characteristics of the contraceptors on

payment for the methods are provided in Table 4. The results suggest that an increase in education of women, location of their residence being in non-slum areas, monthly expenditure of families on house rent being above Tk 2,000.00, and number of living children being 1-3 were positively associated with the likelihood of making payment for the selected contraceptives.

## DISCUSSION

Although charging of user-fees for contraceptives has begun for quite some time, no substantive analysis has so far been made regarding the proportion of clients paying for the methods, by their socioeconomic status, amount spent for the methods according to the source of supply, and socioeconomic and demographic factors associated with payment for contraceptive services.

**Table 4.** Likelihood of making payments for selected contraceptive methods by socioeconomic and demographic characteristics of current users (results of multivariate logistic regression analysis)

Characteristics	Odds ratio	95% confidence interval
<b>Education</b>		
No education (RC)	1.00	–
Grade 1-5	1.15**	1.07–1.24
Grade 6 and above	1.39***	1.29–1.51
<b>Employment status of women</b>		
Do not work for money (RC)	1.00	–
Work for money	0.99	0.94–1.03
<b>Employment status of husbands</b>		
Do not work for money (RC)	1.00	–
Work for money	1.08	1.00–1.17
<b>Monthly income of households</b>		
Up to Tk 2,000 (RC)	1.00	–
Tk 2,001-4,000	1.03	0.94–1.12
Tk 4,001 and above	1.09	1.00–1.19
<b>Monthly expenditure of households on house rent</b>		
Up to Tk 1,000 (RC)	1.00	–
Tk 1,001-2,000	1.00	0.91–1.08
Tk 2,001 and above	1.17*	1.05–1.29
<b>Household location</b>		
Slum (RC)	1.00	–
Non-slum	1.21**	1.13–1.29
<b>Age of women (years)</b>		
Less than 20 (RC)	1.00	–
20–29	1.04	0.94–1.16
30 and above	1.07	0.95–1.21
<b>Number of living children</b>		
1 (RC)	1.00	–
2	1.16**	1.10–1.22
3	1.33*	1.21–1.42
4 and more	0.98	0.95–1.05

RC=Reference category; \*p<0.05; \*\*p<0.01; \*\*\*p<0.001

Without this exercise, it is difficult to further develop an effective user-fee system with necessary corrections in the user-fee levels that were fixed subjectively at the beginning, and to tap in full the opportunities of cost recovery through pricing of contraceptives. The analyses done in the present study provide important insights in this regard.

Payment behaviour displayed some relationship with the socioeconomic and demographic factors. Any payment of user-fees/prices is understood to be made on the basis of willingness- and ability-to-pay. If willingness-to-pay is a reflection of demand (the perceived need) for a product/service, ability-to-pay is the enabling factor that allows fulfilment of the demand. An effective demand requires simultaneously both need as the necessary condition (willingness-to-pay) and ability-to-pay as the sufficient condition. Hence, to

understand the interplay of the factors of payment, it is important to understand the demand function, along with the actual behavioural aspects derived from the socioeconomic and demographic characteristics.

In the present study, we found that the effective demand (expressed through making cash payments for contraceptives) for family-planning commodities/services has crystallized in three distinct ways. In the first case, the perceived need was found to be adequately supplemented by the predisposing and enabling factors. This was the 'ideal effective' demand. Contraceptors having some education and higher income, with age more than 30 years and having 3 or more living children, are examples of this group.

Secondly, the predisposing factors played a critical role in the formation of the perceived need and putting



into force the ability-to-pay up to the level of willingness-to-pay (expenditure in the form of cash payment). This situation could be termed, what we know, as 'enlightenment-led' demand. Contraceptors with higher education and coming from high-income families (who are able to afford more children), with age below 30 years and having 1 or 2 living child(ren), represented this group.

Thirdly, perhaps a strong perceived need, even with an inadequate influence of the predisposing variables and insufficient enabling factors, forced the ability-to-pay status to the stage of willingness-to-pay. This is what we can term as 'poverty-led' and 'aspiration-led' demands. Slum and non-slum contraceptors of low and moderate income residing in low-rent houses represented this group.

The above three mechanisms of demand generation appeared to result in the overall formation of effective demands for family-planning services among urban eligible couples, and in graduation of the free-of-charge supply-led strategies to systems based on user-fees.

It is explicit from the study that people have been paying for family-planning commodities/services in both government (through 'unofficial payments') and NGO programmes. However, higher socioeconomic status, marked by higher levels of education and house rents, and location of the households in non-slum areas, is predictive of paying for contraception. This probably indicates that contraceptives in Bangladesh are evolving as normal goods. Although participation of women workforce did not appear in the study to have an influence on likelihood of paying for contraceptives, presumably due to the relatively low number of women working for money in the sample, further studies are needed to examine whether and to what extent participation of women workforce is a factor in making payment and influence payment behaviour for contraceptive services. However, socioeconomic development, in general, is indicative of supporting payment behaviour of the contraceptors. Payment behaviour also displays that the urban households, in general, tend to restrict their family size to 1-3 living child(ren).

The findings of this study have clear policy implications. There seemed to have a sizeable demand for contraceptives and a considerable scope for pursuing cost-recovery measures on the basis of appropriate pricing. The current user-fees are nominal. Higher levels of prices may be set through further analyses of willingness-to-pay and price elasticities of demand, which, in turn, should contribute to enhanced financial sustainability of the family-planning programmes.

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