Shifting Away from Doorstep Distribution of Contraceptives in Urban Bangladesh: Effects on Discontinuation and Acceptance of Family Planning

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Introduction

With a view to developing alternative strategies (to the conventional doorstep distribution of contraceptives) for cost-effective delivery of maternal and child health and family planning (MCH-FP) services in the urban areas, the former MCH-FP Extension Project (Urban) of ICDDR,B - Centre for Health and Population Research conducted an operations research in urban Dhaka.

The intervention to develop and field-test alternative service-delivery strategies was undertaken in partnership with relevant government agencies and a national non-governmental organization (NGO), Concerned Women for Family Planning (CWFP). The study was initiated in January 1996 and continued till May 1997. Two alternative strategies (featured along with the withdrawal of door-to-door contraceptive distribution) were tested in two areas of Dhaka City. At the Hazaribag area, a range of MCH-FP services, including distribution of contraceptives, was delivered from the static Primary Health Care Clinic (PHCC). At another area, namely Gandaria, a transitional arrangement was made to provide pills and condoms to a group of clients at common sites in the neighborhood (e.g, schools, clubs) known as Community Service Points (CSPs). Both of the strategies were complemented by selective (targeted) home visits to the nonusers of modern family planning with the purpose of motivating them to become acceptors.

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The present paper highlights the intervention effects with regard to dropouts among the current users of modern family planning who - prior to the intervention - were supplied with the methods by the fieldworkers at their homes, and acceptance of modern family planning by the current nonusers. The government and NGO population programmes in various countries are now undergoing major changes with regard to the service-delivery systems. The reforms are directed toward broadening of the service package from family planning to reproductive and other essential family health services, and introduction of less resource-intensive service-delivery strategies. However, a fear is widely persistent in this regard that these restructurings might adversely affect the family planning programe performance. Findings of the paper are likely to provide important insights on these pertinent issues.

The Conventional MCH-FP Service-delivery Strategy

As a strategy to reduce the alarming rate of population growth, extending family planning services to married women of reproductive age (15-49 years) on the basis of door-to-door community-based distribution (CBD), i.e., through the distribution of contraceptive methods at the doorstep (homes) of the clients, became a national movement in Bangladesh since the mid 1970s. The socio-cultural environment at that time was such that in a relatively conservative population, most women were confined to their homes and were unable to seek services for themselves. Therefore, the family planning programmes adopted a supply-led strategy to ensure effective motivation and easy access of FP methods and services to the fertile women.

According to the conventional strategy, a vast contingent of about 23,000 female fieldworkers (Family Welfare Assistants) of the government programme, and another 12,000 NGO fieldworkers (FWs) are deployed to counsel, motivate and provide contraceptive services to the married women of reproductive age (MWRA) of the country. These FWs are supposed to visit routinely - once every two months - all of the MWRA within their specified catchment areas (on average, 700-800 MWRA per FW). During their visits to the clients' homes, the FWs are mandated to collect specific

information on demographic (e.g., age of woman, number of living children, births and deaths) and contraception status of the respective households. They are also responsible for providing information, motivation, commodities (pills, condoms, etc.), counseling and referral for FP services and selective MCH care, like immunization for the woman and the child, antenatal care, postnatal care, etc. The fieldworkers are overseen by some 4,500 male supervisors (Family Planning Inspectors) in the government programme, and 1,500 (mostly female) supervisors in the NGO programme. The usual supervisor-fieldworker ratio is 1:5.

The above community-based distribution (CBD) of services is complemented by about 4,000 government and 200 NGO static clinics that deliver clinical and non-clinical FP services, antenatal care, postnatal care, EPI services, and sick child and sick mother treatment through paramedics and health workers. Many of these clinics are also attended by a doctor. According to the existing demarcation of areas between the government and NGO programmes, the NGOs, acting as complementary and supplementary to the government programme, predominantly operate in urban areas. In some cases -- under special consideration of the government -- they operate in selected rural areas with lower FP programme performance.

The conventional doorstep CBD has served as the core strategy for providing MCH-FP services in the country. The role of the doorstep service-delivery strategy is widely recognized as the key factor in the attainment of the remarkable success by the FP programmes of Bangladesh (Cleland et al., 1994; Phillips, Hossain and Arend, 1996). The contraceptive prevalence rate (CPR) rose from seven percent in the mid-seventies to its present level of 49 percent and the total fertility rate declined from seven to 3.3 (NIPORT, Mitra Associates and Macro International, 1977). The investment in such a large-scale national programme, however, was considerable. With the maturity of the MCH-FP programme, priorities shifted toward further consolidation and sustainability of the programme benefits. The required direction is, therefore, to develop new service-delivery strategies that would enhance cost-effectiveness by producing maximum output with minimum costs. Over the past two decades, the social outlook toward family planning has improved considerably. Traditional barriers to

women in seeking health and family planning services from out-of-home sources, like clinics, appear to be less of a problem now. Thus, the labor-intensive efforts of the doorstep distribution strategy appear to hinder the overall sustainability of the national MCH-FP programme. Two major issues involved in this regard, (a) increasing programme costs, and (b) decreasing effectiveness of the conventional system, are discussed in greater detail below.

Increasing programme costs

Health and family planning services, in the future, will need to be expanded to meet the growing demands resulting from the increase in the country's population size. For example, to achieve the national goal of replacement-level fertility, i.e., a total fertility rate (TFR) of 2.2, FP services, which now serve 27 million families, will need to be expanded to serve 40 million; the number of contraceptive users will need to increase from 12 to 28 million; and the CPR must rise to 70 percent (Government of Bangladesh, 1994; Cunnane, 1995). Under the current service-delivery strategy, the above expansions will require an incremental increase of US $ 10 million every year in the country's MCH-FP programme costs alone, and amount to US $ 220 million in 2005 from US $ 120 million in 1995 (Cunnane, 1995).

The national MCH-FP programme is heavily dependent upon donor contributions, government funding being around one-third. In all likelihood, because of the current changes in priorities, donor support will not rise to meet increasing funding needs. Even if the external contribution remains the same, they will not be adequate in the face of the country's growing demands. Therefore, the need to develop cost-effective and sustainable service-delivery alternatives has become crucial. This is more imperative for urban areas because: (a) population at the cities and municipalities in Bangladesh are growing three times as fast as the country as a whole - at a rate of about six percent compared to two percent, and around a quarter of the country's population currently live in urban areas. Dhaka City alone has now a population of more than six million; and (b) MCH-FP services in the urban areas are delivered predominantly by the NGOs that are funded by donors.

A CWFP expenditure analysis has shown that the share of the current system's labor cost as part of the total programme costs ranges between 70 and 80 percent. And it is the doorstep delivery system (salary of the field workers) that absorbs the major share (60 - 65%) of the programme's costs (Barb et al, 1997). Such break-downs are, more or less, the same for other NGOs, as well as, for the government programme. Therefore, any fund shrinkage is expected to affect the doorstep system the most. The doorstep distribution strategy had, therefore, evolved into an unbearable approach to which alternatives that reduce costs and maximize outputs became necessary.

Decreasing effectiveness of the system

The wide-reaching nature of the FW's responsibility made it mandatory for them to visit each and every couple routinely, even if such a visit is not needed. As a consequence, the FW system has less scope for focused attention toward any 'special' segment of clients, such as nonusers.

Analyses of the fieldworkers' performance showed that in urban areas most FWs were responsible for 800 or more MWRA. The mean number of visits undertaken daily by each fieldworker was observed to be 25. The average duration of the visits was about nine minutes. Half of the visits, however, were of five minutes' or less duration. Sixty percent of the time spent in visitation was dedicated to FP activity -- mostly with the resupply of pills and condoms (Arifeen and Mookherji, 1995) . The subgroup of pill/condom users who depend on the fieldworkers for supply of the commodities at the homes accounts for not more than a fifth of all the MWRA and a fourth of all the current users (Routh et al, 1997). The FWs, thus, were found to have become predisposed to function as resupply agents to a segment of pill and condom users, and had less time to recruit new acceptors. Moreover, while trying to target the community as a whole, the FWs were ultimately unable to afford adequate attention to those who needed the services most (e.g., the nonusers of modern family planning).

The Alternative Service-delivery Strategies

In view of the above, operations research was conducted on the development and field-testing of cost-effective alternative service-delivery strategies. The conventional door-to-door distribution strategy had been in place for the past two decades. Both the clients and service providers have grown accustomed to, and comfortable with, the system. While recognizing the need for changes in the conventional service-delivery system, it has also been widely recognized that a sudden withdrawal of the door-to-door distribution strategy might negatively affect contraceptive prevalence rate (CPR) and other family planning performance indicators, such as dropout, new acceptance, method-mix, source-mix, etc. Thus, the consensus among programme managers and decision makers has been to implement the necessary changes in a gradual manner.

The explicit goal of the national health programme, in line with the International Conference on Population and Development's (ICPD) recommendations, has evolved to ensure broader reproductive health services to the population. It is hoped that this goal can be achieved in a cost-effective way by offering a wide range of essential health services from fixed-site (static) clinics. The programme also needs to reach the target groups -- who have high needs for the services.

One possible alternative could be to strengthen clinic services as the main hub of MCH-FP activities. This would include the delivery of a package of essential health and family planning services through a network of static clinics used by clients who were to be motivated by a contracted system of field/extension workers undertaking selective home visits as per the priorities of the programmes, and performing promotional and community mobilization activities. With the above considerations in mind, two alternative strategies were designed and tested.

Alternative strategy based on distribution of services from Community Service Points (CSP strategy)

As an alternative to the doorstep CBD, this service delivery strategy was tested in one area of Dhaka City - at Gandaria (with a population of approximately 20,000 having around 3,500 married women of reproductive age) served by the NGO - CWFP.

Within this alternative, distribution of commodities and services at the doorstep (homes) of the clients was completely stopped. Routine home visits to the married women of reproductive age (MWRA) were withdrawn. Contraceptive commodities (pills, condoms, etc.) and MCH-FP counseling services were provided to the clients by female fieldworkers from neighborhood spots at the community (e.g., schools, clubs) rather than at homes. One such community service point (CSP) served around 250-300 MWRA. Clients were motivated to seek MCH-FP services (including resupply of contraceptives) from static clinics.

A fieldworker had three such community service points to serve, each to be attended once a week. In the remaining working days, the fieldworkers undertook selective home visits to the nonusers to provide them with motivation. Cessation of routine home visits to each and every MWRA made it possible to reduce the number of fieldworkers by 40 percent - from five to three - in the intervention area. This strategy was conceptualized on the premise that, the doorstep strategy was in place for around two decades and an abrupt shift to a static clinic-based strategy might adversely affect programme performance. The CSP strategy was, thus, considered as a transitory approach toward a static clinic-based service delivery.

Alternative strategy based on delivery of services from static clinic (Primary Health Care Clinic - PHCC strategy)

As a second alternative to the doorstep CBD, an entirely clinic-based service-delivery strategy was tested in another area of Dhaka City - at Hazaribag (with a

population of approximately 25,000 having around 4,000 MWRA) served by the same NGO. Similar to the above alternative, home-based distribution was stopped. Routine home visits to the MWRA were withdrawn. A range of MCH-FP services, such as clinical and non-clinical family planning, antenatal care, postnatal care, sick child care (including treatment of diarrhoea and acute respiratory infections - ARI) and sick mother care was delivered from the Primary Health Care Clinic (PHCC). Services at the PHCC were strengthened with attendance of a doctor (three days a week) and extended operating hours.

Here too the number of fieldworkers was reduced from five to three. The brief system of fieldworkers worked as service promoters and undertook selective home visits to nonusers to provide them with motivation. This option was considered as a radical shift from the conventional CBD strategy toward a static clinic-based service delivery.

Both of the alternative service-delivery strategies described above were complemented with selective home visits by the FWs. The home visits to the `target' groups were used to deliver information and motivate potential users. Distribution of pills and condoms at the homes of the clients and routine home visits to all MWRA were withdrawn. The basic premise of the selective home visits was founded on the concept that, to maintain the family planning performance unaffected within a fixed-site service-delivery strategy, some community-based focus is required, at least in the initial stage -- especially for the `hard-to-motivate' segments (nonusers of family planning). The selective visitation approach was, therefore, designed to target nonusers of modern FP methods.

Objectives of the Paper

The objectives of the present study were to: (i) examine the effects of the alternative service-delivery strategies (withdrawal of doorstep CBD of contraceptives) with regard to dropouts among the current pill and condom users who - before the

intervention - were supplied with the methods by the fieldworkers at their homes, and (ii) assess the effects of the selective home visitation approach on acceptance of modern family planning methods among the current nonusers.

Methodology

The analysis followed a quasi-experimental nonequivalent control group design with before (baseline) and after-intervention (endline) analysis of the cohorts of pill/condom users supplied through doorstep CBD and modern family planning method nonusers. Two programme areas of CWFP in Dhaka City, one each at Wari and Siddiquebazar, served as the comparison areas. Dropout among the cohort of contraceptors under investigation and acceptance rate of modern contraceptive methods among the targeted nonusers served as the key indicators. Data for the analyses came from service records of the fieldworkers and community-based surveys.

Results

The operations research aimed at testing alternatives to the home-based distribution, provided those would not affect the FP indicators, more precisely the CPR. It was assumed that, CPR in the intervention areas could go down because of the possible dropouts among the users who were to be directly affected by the shift from the doorstep distribution strategy. Because of the termination of the doorstep supply service of pills and condoms by the fieldworkers and the inconvenience caused thereof, a portion of such users was presumed to discontinue use of modern family planning. The selective visitation component of the intervention focussed toward nonusers was expected to offset whatever decrease in the CPR (due to dropouts among the current users because of the reasons mentioned earlier) through new recruits. Therefore, it was critical to follow-up these two cohorts (users of pills and condoms who were supplied at the doorsteps and the nonusers of modern family planning) throughout the intervention and record the changes in their contraception status that took place.

Logically two outcomes were possible to take place with the home-supplied pill and condom users. First, despite the discontinuation of the doorstep supply they could still remain to continue as pill/condom users, obtaining their required re-supply from the out-of-home sources (pharmacies, shops, PHCC/CSPs, other clinics). A part of them, however, could have switched to clinical methods from the realization that it was probably more convenient for them to resort to longer-acting methods, to avoid frequent traveling outside for the necessary replenishment. Second, obviously a part of these users, especially perhaps the least motivated ones, could simply dropout and become nonusers of FP, for not getting the persuasion and supply from the fieldworkers at home.

Another situation was possible, not because of the intervention, but because of the urban specificity, a segment of these pill/condom users would have migrated out of the intervention area (change residence), leaving them out of the monitoring process of the intervention.

After-intervention (endline) contraception status of the cohort of pill and condom users who were supplied at the doorstep prior to the intervention, is presented in Table 1. The analyses was conducted between slum/nonslum households to better understand the effects of intervention with respect to location of residence (proxy indicator for socioeconomic status) of the corresponding users.

As it is revealed from Table 1, during the intervention, 11 percent (57 users) of nonslum and five percent (7 users) of slum, i.e. , 10 percent (64 users) of the cohort of 669 users, who before the intervention were dependent on doorstep supply of pill/condom by the fieldworkers, dropped out at the Hazaribag intervention area. In the Gandaria intervention area, the corresponding figures were 22 percent (121 users) for nonslum users, 37 percent (50 users) for slum users, totaling to 25 percent (171 users) of the entire cohort of 684 such users. As there was no change in terms of doorstep distribution within the conventional service-delivery strategy at Wari and Siddiquebazar comparison areas, the dropout rates of these areas may be considered as the normal discontinuations within the programme. The overall dropout rates in the similar cohorts

of the comparison (non-intervention) areas at Wari and Siddiquebazar were 18 percent and 23 percent respectively. Thus, the discontinuation within the static clinic-based service-delivery alternative at Hazaribag was found to be significantly lower than the usual dropout rates persistent within the conventional doorstep distribution strategy at the comparison areas ($p<0.05$). Disaggregated by nonslum and slum households, the dropout rates at Hazaribag were considerably lower among the nonslum and significantly lower for the slum users in comparison to the corresponding discontinuation rates in the other three areas. The community service point-based alternative at Gandaria, however, produced higher dropout rates than those of both the comparison areas, in the overall cohort - as well as - among the nonslum and slum users considered separately.

During the intervention, 66 percent (344 users) of the nonslum and 64 percent (95 users) of the slum users, i.e., 66 percent (439 users) of the entire cohort were found to continue using FP methods at Hazaribag, despite cessation of the doorstep distribution. It may be further mentioned that, of the 439 continued-users, eight percent (35 uses) were found to have switched to clinical methods. In the CSP strategy at Gandaria, the usage retention rate was 59 percent (324 users) for the nonslum and 45 percent (60 users) for the slum users, i.e., 56 percent (384) of the entire cohort. The proportion of switch to clinical methods at Gandaria was lower by three percentage points (18 cases) in contrast to that of Hazaribag. The proportions of continued-users were 67 percent of the overall cohorts in both the comparison areas. Except for Gandaria, there were very little variations in the continuation of contraceptive usage in the other research areas both with respect to the overall cohort and the nonslum and slum users taken individually. Switch to clinical methods among the related cohorts at both the comparison areas was found to be around two percent.

Table 1: Endline contraception status of the cohort of the home-supplied pill/condom users, by location of residence

In Percentage

Status	Nonslum	Slum	Total
Intervention areas			
Hazaribag (PHCC strategy)			
Dropout	11	5	10
Continued use	66	64	66
Outmigration	23	31	24
Total	100	100	100
(N)	(521)	(148)	(669)
Gandaria (CSP strategy)			
Dropout	22	37	25
Continued use	59	45	56
Outmigration	19	18	19
Total	100	100	100
(N)	(550)	(134)	(684)
Comparison areas			
Wari (Doorstep CBD)			
Dropout	16	18	18
Continued use	70	67	67
Outmigration	14	15	15
Total	100	100	100
(N)	(713)	(122)	(835)
Siddiquebazar (Doorstep CBD)			
Dropout	21	30	23
Continued use	69	57	67
Outmigration	10	13	10
Total	100	100	100
(N)	(931)	(196)	(1,127)

The cohort of nonusers identified at the outset of the intervention was similarly followed throughout the field-testing period to assess the effect of the intervention component on selective/targeted home visits on acceptance of modern family planning among the nonusers. Broadly two conditions were presumed to happen with these couples as well: either they could turn into FP modern method users as a result of the special focus of the intervention on the nonusers, alternatively they could still remain as nonusers, despite the intervention efforts. Another situation was possible, as mentioned earlier, not because of the intervention, but because of the urban specificity, a segment of these nonusers could migrate out of the intervention area (change residence) leaving them beyond the monitoring process.

After-intervention (endline) contraception status of the cohort of nonusers identified in the beginning of the intervention has been presented in Table 2. As seen from here, in total 31 percent of modern contraceptive nonusers at Hazaribag and 27 percent at Gandaria became acceptors of modern family planning during the selective home visitation approach. The corresponding rates for the comparison areas were eight percent for Wari and nine percent for Siddiquebazar. Modern contraceptive acceptance rate under the new approach was significantly higher than that of the conventional doorstep strategy for both Hazaribag and Gandaria ($p<0.05$).

A third of nonslum and a fourth of slum nonusers of Hazaribag, and little more than a fourth of both slum and nonslum nonusers of Gandaria accepted modern family planning methods during the intervention period. The acceptance rate by slum and nonslum clients was considerably higher in the intervention sites than in the comparison ones.

It was also found that the modern contraceptive acceptance rate was higher at the PHCC (Hazaribag) area compared to that in the CSP (Gandaria) intervention site, both in relative (by four percentage points) and absolute terms (485 at Hazaribag versus 454 at Gandaria). The rate of acceptance was, however, a little higher for the nonslum segment in the PHCC intervention site, and the other way around for the slum segment in the CSP intervention area.

Table 2: Endline contraception status of the cohort of modern FP nonusers, by location of residence

In Percentage

Status	Nonslum	Slum	Total
Intervention areas			
Hazaribag (PHCC strategy)			
Accepted method	34	25	31
Continued nonuse	49	47	49
Outmigration	17	28	20
Total	100	100	100
(N)	(1,169)	(394)	(1,563)
Gandaria (CSP strategy)			
Accepted method	27	28	27
Continued nonuse	57	50	55
Outmigration	16	22	18
Total	100	100	100
(N)	(1,167)	(516)	(1,683)
Comparison areas			
Wari (Doorstep CBD)			
Accepted method	9	5	8
Continued nonuse	79	81	79
Outmigration	12	14	13
Total	100	100	100
(N)	(1,343)	(319)	(1,662)
Siddiquebazar (Doorstep CBD)			
Accepted method	10	6	9
Continued nonuse	80	79	80
Outmigration	10	15	11
Total	100	100	100
(N)	(1,833)	(578)	(2,411)

Discussion

Contrary to the initial fear that the shift away from the doorstep distribution strategy would result in a decrease in the family planning performance, the CPR considerably increased in both the intervention areas: from the pre-intervention level of 63 percent to 68 percent at the Hazaribag (PHCC) intervention area, and from 55 percent to 57 percent at the Gandaria (CSP) intervention area. The corresponding increases at the two comparison areas were: from 61 percent to 63 percent at Wari, and from 60 percent to 63 percent at Siddiquebazar. The PHCC-based strategy also produced an increase in the use of clinical methods by two percentage points (from 20 percent to 22 percent), while there was no corresponding change at Gandaria and Wari, and a slight decrease at Siddiquebazar.

Within both the alternative strategies, there was remarkable increase in the use of commercial sources, such as pharmacies and shops; and other static sites, like government and NGO clinics for obtainment of the FP methods. In the PHCC-based strategy at Hazaribag, the corresponding increase was from 42 percent to 50 percent, while in the CSP-based strategy at Gandaria, from 38 percent to 64 percent. No such discernable change was evident in the comparison areas.

As it appeared from the results, in both the intervention areas, the absolute number of new acceptors was much higher than the corresponding dropouts. Shifting away from the conventional doorstep CBD did not appear detrimental in terms of dropouts among the previously home-supplied pill and condom users. In fact, within the clinic-based alternative at Hazaribag, the dropout rate was rather much lower than the usual discontinuation evident in the conventional doorstep CBD strategy. The less costly strategy of selective visitation to provide intensive motivation to the nonusers with fewer number of fieldworkers produced encouraging results in recruiting new acceptors which, in turn, contributed to the rise in CPR of the intervention areas.

The results from the CSP-based alternative strategy at Gandaria, however, indicated that urban women, although willing to obtain their contraceptive commodities from out-of-home sources, were not motivated to go out to the community service points that predominantly provided them with the pills and condoms. Findings from the static clinic-based (PHCC) alternative strategy tested at Hazaribag have shown that provision of a broader range of reproductive and other essential family health services was more conducive in supporting continuation of contraceptive use, and switching of the contraceptors to more sustainable methods of family planning (clinical methods) as well.

The quantitative growth in the CPR in the PHCC-based strategy, in conjunction with the change in method-mix in favour of clinical methods, and change in source-mix in favour of commercial and fixed-site clinics for the obtainment of FP methods, clearly indicated the comparative advantage of the clinic-based strategy in terms of sustainable programme performance over the conventional doorstep CBD and the CSP-based strategies.

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