

CONTRACEPTIVE DISTRIBUTION PROJECT
IN RURAL BANGLADESH - ONE YEAR EXPERIENCE

Douglas H. Huber
Atiqur Rahman Khan
George Curlin
Ray Langsten

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Introduction

Experience with the family planning programme for the last 11 years shows that although the past programme was able to spread the message of family planning to a large fraction of the population, it achieved very little success in promoting practice of family planning. This low rate of practice was in sharp contrast with the need for contraception as expressed by the desire to limit childbearing (1). The impact survey found that while 55% rural and 61% urban women did not want any more children and thus needed contraception, only 1.9% rural and 3.7% urban women were actually using a modern method of contraception (2). Such a large gap between need, knowledge and actual use, raised the concern to understand the underlying reasons, and it was believed that lack of convenient and easily available contraceptives is an important factor responsible for the low use rate (3). The relative magnitude of this factor can be determined by making contraceptives adequately available in the household and noting the extent of contraceptive practice it promotes.

Inadequacy of clinical facilities and shortage of medical personnel constitute additional justification for implementing a household contraceptive distribution system.

The Cholera Research Laboratory thus has undertaken a contraceptive distribution project, providing oral contraceptives and condoms on a house to house basis in the CRL Field Surveillance Area (FSA) in Matlab Thana (4).

Objectives

The project envisages to accomplish the following research objectives:

1. To assess the level of contraceptive practice in rural Bangladesh when these contraceptives are made available at the doorstep.
2. To evolve an efficient delivery system for contraceptives in Bangladesh.

3. To assess the demographic impact of a household contraceptive distribution system.
4. To identify factors determining acceptance and continued use.

Matlab was selected for implementation of this project because of the demographic information available there which will allow us to measure fertility variations in the future. The FSA comprising 234 villages with about 260,000 people was divided into two areas, half being the contraceptive distribution area and the other half serving as a control area, part of which was served by the Fertility Research Project clinic (FRP) (5). Demarkation between the distribution and the control area was somewhat arbitrary. As the FRP clinic had pill acceptors from neighbouring villages who needed continued supervision and surveillance under the clinic, the villages around Matlab Bazar were included in the control area. Thus the control area people previously had a greater access to family planning clinic service.

This differential access to family planning clinic service is reflected in slightly higher base-line contraceptive practice rate for the control area than the distribution area (2.9% against 1.1% table 1). Because the overall practice rate was very low, this difference was not considered likely to affect the experimental purpose.

Personnel

The distribution project utilized the services of Lady Village Workers (LVWs)/or dais, and Field Assistants (FA) working with CRL for field survey work in infectious diseases and other health problems. LVWs are mostly illiterate village women assigned to an area (usually one village) comprising roughly 1,000 population. Although the word "dai" means indigenous birth attendant; in fact, only 15% of the LVWs are true birth attendants. The Field Assistants (FAs) are males educated up to matriculation (10th grade).

The training given to the FAs and dais comprised only what was considered minimally necessary. The LVWs were given training for 6 part/days with one day of supervised field work. FAs received 5 days' training and periodic supervision in the field.

Distribution phase

The distribution of oral contraceptives started in October 1975 with 8 FAs and 150 dais. One dai worked with one FA during the distribution in her village. They had been previously supplied with standardized printed instructions. In the initial round of distribution the FAs distributed the pills and gave instructions with the assistance of the dais.

- ✓ All women of reproductive age (15-44 years) present in the house were given the information about oral contraceptives (OCs) and were offered the supply. If they agreed to receive the pill a supply of 6 cycles was given. In many instances a number of women in the same "bari"* were given instructions together.

In the subsequent rounds of distribution the FAs were gradually withdrawn from the job of actual distribution to a role of supervision, and the dais alone carried out the re-supply and distribution work. Dais carried a red plastic bag with contraceptives, instruction sheets and a small register to record names of clients and quantities supplied.

Although the FAs and dais were instructed not to provide any motivation beyond saying that longer child spacing can be good for health, in actual practice it was found very difficult to separate motivational efforts from simple information. Usually the husbands were absent from the household during the visit, but when present (in about 20-25% of instances) they were included in the discussion because without the husband's approval the wives were found hesitant to take the supplies.

*Bari - a bari is a collection of about 5-6 households sharing a common courtyard but with separate kitchens. The 25-35 persons living in a bari are blood related.

Base-line KAP Survey.

An extensive KAP survey was conducted immediately before the distribution to provide bench mark information, in relation to which a changing level of contraceptive behaviour can be determined in the future with its social, psychological, economic and programmatic correlates. The size of the sample was 1077 women equally from both distribution and control areas.

Preliminary analysis showed 2.4% of the women using a modern method and 4.9% using traditional methods. 23% knew where to get contraception, 16% naming the FRP clinic in Matlab as the place to go. 35.7% indicated a willingness to use contraception at some time, 24.9% of whom named pills as the method they would use. Injectable was the second most popular and IUD was named by none.

Contraceptive use prevalence surveys.

A contraceptive prevalence survey was planned to be carried out before the distribution and thereafter every three months in the first year and every six months afterwards. The base-line prevalence was conducted in October 1975 and the 2nd through 5th surveys were repeated at roughly 3 month intervals after the distribution of contraceptives. Only data from a 20% sample of villages in the contraceptive and control areas will be presented here. Six items of information were collected on the first survey; these were parity, date of last pregnancy termination, menstrual status, current contraceptive use, contraceptive use in the last three months and the source.

Contraceptive Practice

The first round of distribution took 62 days. Out of the total 23,395 eligible women in the distribution area 19,027 (81.3%) were contacted and 4,368 (18.7%) were absent from the household. An additional 8.2% were contacted on a second round. Of the 19,027 women contacted initially 13,987 (68.8%) accepted the supply of 6 cycles of pills. These women we will categorize as contraceptive recipients because they agreed to receive the supply without any commitment to use them.

The baseline rate of contraceptive practice for all women contacted who were married and not menopausal (fecund) was 1.1% for the contraceptive area and 2.9% for the control area (Table 1). This 20% sample control area use rate is slightly higher than the rate for the entire area probably due to the chance inclusion of more women close to the Matlab clinic. Oral contraceptive use rose appreciably in the first few months following distribution and this rate has steadily declined since the second survey. Condom use increased after a special distribution and instruction effort following the 4th survey. Related to this the overall use rate increased again slightly in the contraceptive area to 15.0% at 12 months. The control area was served by a one week nation-wide oral contraceptive campaign between the 1st and 2nd surveys. However, the results do not seem appreciable. During the year more women have been receiving injectable contraceptives at the Fertility Research Clinic in Matlab.

At 12 months after the distribution area Hindus have a 2.5% higher rate of use than Muslims (Table 2). However, in the control area the differential is much greater. This may relate to Hindu women having greater morbidity and are therefore able to attend the Matlab Fertility Research Clinic.

Menstrual status has been recorded for each woman when interviewed on the quarterly surveys. Because of seasonal fluctuations in fertility a direct comparison is difficult between the contraceptive and control area, except for the 12 month survey. On this survey both areas were covered simultaneously whereas previous survey proceeded sequentially, first in the contraceptive area and second in the control. The proportion reporting pregnancy was 15.3% in the contraceptive area and 17.8% in the control. There is an excess in the artificial category "menstruating on the pill" for the contraceptive area, as we would expect. Correspondingly, fewer contraceptive area women report they are menstruating naturally and fewer are in the period of post-partum amenorrhea. Presumably some of these women have been shifted into the "menstruating on pill category". These data suggest women in the contraceptive area may be experiencing pregnancy at a rate 14% below the control area. However, the possibility of reporting bias exists, and therefore, birth data must be compiled before conclusions can be drawn.

If under-reporting of pregnancy (or delayed reporting of the pregnant condition) exists, this may become apparent by examining sequential surveys for the same women. Table 4 shows the menstrual status for those women who were present for interviews on each of the five surveys. The contraceptive area generally shows fewer women reporting pregnancy for each survey after the contraceptive distribution; however the difference in timing between areas again makes direct comparison difficult. The proportion of all married women who were present on all 5 surveys was the same (60.8%) for both areas. However, the large number of one-or-more-time absentees still leaves open another question of bias due to possible differentials in pregnancy among this group.

Women not reporting an early pregnancy on survey two would be obviously pregnant on survey three. Bias in the contraceptive area might present as a relatively greater increase in reported cumulative pregnancies on survey 3 and 4 in comparison with the control area. However, figure 1 shows the rate of increase is greater for women in the control area. Between April 24 and Nov.12 an estimated 14.8% of contraceptive area women reported a new pregnancy compared with 18.5% for the control area.

Women becoming pregnant in this period would therefore be 20% fewer than in the control area. A reduction this great seems implausible and may be related to pregnant women having a higher rate of absenteeism in the contraceptive area. Another possibility of course remains that the fertility behaviour in the two areas may be inherently different for other reasons.

Another way of looking at the occurrence of pregnancy is by the number of new pregnancies reported on each survey per 1000 woman months of exposure to married life (Table 5). Again the risks of pregnancy appears higher for the control area except in the last interval. As the risks of pregnancy was higher in the summer months for both groups and the last interval begins earlier for the contraceptive area, this may explain the higher rate. Alternatively some pregnancies may have simply been temporarily delayed for these women.

Two special groups deserve mention, even though complete data is not yet available. Six villages of the 20% sample in the contraceptive area received special instructions. Women were told not to begin taking oral contraceptives until this breastfeeding child was 18 months old. If the child died or their menses started before 18 months post-partum, then they may begin oral contraceptives. The object was to avoid the substitution effect of oral contraceptives for the fairly effective fertility control measure of lactational amenorrhea. This period of infertility has a median duration of 18-20 months for Matlab women and roughly 5-8% of pregnancies usually occur before menstruation begins. Therefore, if women began OCs on this instruction schedule only 2.5-4% theoretically would become unintentionally pregnant before starting. The benefit could be that women predestined to use oral contraceptives for only a few months would still manage to delay the next pregnancy somewhat. Another consideration is the argument that OCs may decrease breast-milk flow, cause the woman to stop breastfeeding, and if she then discontinued contraception her period of post-partum infertility would be shortened. In this situation OCs could actually make fertility increase. The best way to address the potential program and biologic effects seemed to be a direct application of different instructions. Oral contraceptive use has remained lower in these villages as one would expect (Table 6). The proportion of women in various menstrual categories may be somewhat adversely affected, although the numbers may be too small to draw conclusions at present (Table 7).

The other sub-group is those villages accessible to Matlab in the control area. These three villages (20% of the control area population) account for over half the control area users and their contraceptive use rate is approaching the contraceptive area. Over one fourth of these users receive injectables from the FRP clinic.

Introduction of injectable contraceptives:

With increasing interest shown in injectable contraceptives offered through a number of Government and non-Governmental programmes we decided, at the request of Government, to

assess the potential of this method in our programme when offered in addition to pills and condoms. Accordingly we provided this method along with pills and condoms on a house-to-house basis on 6 villages.

A male field worker, accompanied by the CRL dai for each of the 6 villages, introduced the new method, explaining potential side effects and avoiding any implication that either the pill or the injectable was superior. Women were allowed to select either the 3 month or 6 month dose and the male worker gave the injection in the arm. The male field worker (with the dai) again visited 2 weeks after the initial canvas and thereafter at 1 month intervals. On each visit he offered pill, condom, or injectable to those who had not accepted, and he enquired about any complaints.

The addition to injectables in August 1976 raised the contraceptive use rate of 50% in these 6 villages. In November these villages remained 33% above the sample villages in the distribution area (Table 9).

In addition the menstrual status categories compare favourably with the other areas on the last survey (Table 9). Previous surveys did not reveal these villages to have a mortably low proportion pregnant.

One program variable which does not appear to improve contraceptive use in this population is the color of the condom (Table 10). Areas where colored condoms were distributed do not demonstrate a higher rate of condom use 4 months after distribution.

References:

1. Sirageldin, I, Hossain, M. and Caine, M.: Family Planning in Bangladesh. An Empirical Investigation. The Bangladesh Development Studies, Vol. III, No. 1 January, 1975.
2. Pakistan Family Planning Council, Pakistan Impact Survey, 1973.
3. Ravenholt, R.T., "Maximizing Availability of Contraceptives Through Household Distribution". Keynote address delivered at the regional workshop on Village and Household Availability of Contraceptives, Manila, June 7-10, 1976.
4. Khan, A.R. and Huber, D.H.: Household Contraceptive Distribution Program in Rural Bangladesh - Six months' Experience", paper presented at the regional workshop on Village and Household Availability of contraceptives, Manila, June 7-10, 1976.
5. Fertility Research Programme is a collaborative venture between the Johns Hopkins University and the Government of Bangladesh and is undertaking contraceptive research in Dacca and Matlab.

Table 1

Contraceptive Use Rate for Mar
Quarterly Surveys, 20% Sampl

	Contraceptive Distribution									
	1st		2nd		3rd		4th			
Women Contacted	4583		4072		4157		4141			
Current Use:	No.	@	No.	%	No.	%	No.	%		
Oral Contra- ceptive	34	0.7	694	17.0	642	15.4	512	12.4		
Condom	1	.02	16	0.4	36	0.9	50	1.2		
IUD	1	.02	11	0.3	12	0.3	14	0.3		
Injection	4	.09	-	-	1	.02	-	-		
Sterilization	4	.09	7	0.2	10	0.2	11	0.3	18	
Others	6	.13	3	.07	4	0.1	5	0.1	4	0.09%
Total	50	1.1	731	17.9	705	17.0	592	14.3	636	15.0
									107	2.9

127 3.6

Table 2

Contraceptive Use Rate for Hindu and Muslim Women on 12 Months
Survey Matlab, November, 1976

	Contraceptive Distribution Area						Control Area					
	H	%	M	%	T	%	H	%	M	%	T	T
Eligible Women*	597	14.0	3656	86.0	4253	100.0	314	9.0	3181	91.0	3494	100.0
Current Use:												
Oral Contra-												
ceptive	60	10.1	379	10.4	439	10.3	26	8.3	48	1.5	74	2.1
Condom	32	5.4	128	3.5	160	3.8	1	0.3	5	0.2	6	0.2
IUD	6	1.0	7	0.2	13	0.3	3	1.0	6	0.2	9	0.3
Injection	1	0.2	1	0.03	2	0.04	5	1.6	23	0.7	28	0.8
Sterilization	2	0.5	16	0.4	18	0.4	2	0.6	6	0.2	8	0.2
Others	1	0.2	3	0.8	4	0.09	1	0.3	1	0.03	2	0.06
Total	102	17.1	534	14.6	636	14.9	38	12.1	89	2.8	127	3.6

* All married fecund women, aged 15-44

Table 3

Distribution of Menstrual Status for All Married Women
Aged 15-44 on 12 month Survey, Matlab,
November, 1976

<u>Menstrual Status</u>	<u>Contraceptive Distribution Area</u>		<u>Control Area</u>	
	<u>Frequency</u>	<u>%</u>	<u>Frequency</u>	<u>%</u>
Menstruating	1558	32.9	1401	36.4
P.P.A.	1204	25.4	1091	28.3
Pregnant	725	15.3	685	17.8
Menopausal	358	7.6	254	6.6
Amenorrhea for other reason	259	5.5	208	5.4
Menstruating on pill	455	9.6	79	2.1
Undetermined	52	1.1	31	0.8
N.A.	128	2.7	101	2.6
Total Present	4739		3850	

Table 4

Distribution of Menstrual Category for Contraceptives
for the 5 Quarterly Surveys. All women Present
October 1975 - November 1975

Menstrual Status	Contraceptive Distribution									
	Base-line	%	3ms	%	6ms	%	9ms	%		
Menstruating	1108	34.3	907	28.1	901	27.9	957	29.7		
Post-partum Amenorrhea	1315	40.8	872	27.0	821	25.4	847	26.3		
Pregnant	396	12.3	417	12.9		15.3	555	17.2		
Menopause	251	7.8	292	9.1		8.4		8.1		
Amenorrhea for other	143	4.4	188	5.8	208	6.4	139	4.3		
Menstruating on Pill	-	-	540	16.7	527	16.3	413	12.8	357	11.1
Undetermined	13	0.4	10	0.3	7	0.2	53	1.6	35	1.1
Total	3226*	100.0	3226	100.0	3226	100.0	3226	100.0	3226	100.0

2.5	1.7	100.0
45	2675	100.0
2675*	100.0	100.0

*60.77% of total eligible **60.77%

Table 5

Risk of Pregnancy in Contraceptive and Control Areas,
Matlab Oct. 1975 - Nov. 1976

<u>Contraceptive Area</u>		<u>Control Area</u>	
<u>Interval between Surveys</u>	<u>Pregnancy Rate*</u>	<u>Interval between Surveys</u>	<u>Pregnancy Rate*</u>
Oct. 4 - Feb. 28	22.6	Nov. 8 - Apr. 24	30.2
Feb. 29 - May 7	37.8	Apr. 25 - June 10	52.4
May 8 - Aug. 7	38.1	June 11 - Sept. 11	44.0
Aug. 8 - Nov. 12	22.2	Sept. 12 - Nov. 12	19.8

*New pregnancies reported per 100 woman months
for married women 15-44 present on each of 5 survey

Table 6

Contraceptive Use Rate for Married Fecund Women in
Villages Receiving Special Instructions and
Villages with Access to FP Clinic, Matlab,
5th Survey, November 1976

	<u>Contraceptive Area</u> <u>"Start at 18 mo."</u> <u>Villages*</u>		<u>Control Area</u> <u>Villages</u> <u>Accessible</u> <u>to Matlab**</u>	
Women Contracted	746		653	
<u>Current Use:</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
Oral Contraceptive	48	6.4	49	7.5
Condom	32	4.3	4	0.6
IUD	2	0.3	3	0.5
Injection	-	-	22	3.4
Sterilization	3	0.4	2	0.3
Others	-	-	-	-
<u>Total</u>	<u>85</u>	<u>11.4</u>	<u>80</u>	<u>12.3</u>

* Women instructed to begin oral contraceptives when youngest child aged 18 months (instead of 6 mo. for remainder of contraceptive area) unless menses begin earlier.

** Adjacent to or within 2 miles by water transport of Matlab Family Planning Clinic.

Table 7

Distribution of Menstrual Status for Married Women in
Special Instruction Villages and Villages Accessible
to Matlab F.P. Clinic, 5th Survey, Nov. 1976

<u>Menstrual Status</u>	<u>Contraceptive Area</u> <u>"Start at 18 mo."</u> <u>Villages</u>		<u>Control Area</u> <u>Villages</u> <u>Accessible</u> <u>to F.P. Clinic</u>	
	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
Menstruating	278	33.3	250	35.1
P.P.A.	218	26.1	182	25.5
Pregnant	147	17.6	118	16.5
Menopause	56	6.7	34	4.8
Amenorrhea for Other Reason	37	4.4	33	7.4
Menstruating on Pill	46	5.5	48	6.7
Undertermined	20	2.4	2	0.3
N.A.	33	4.0	26	3.6
Total	835	100.0	713	100.0

Table 8

Contraceptive Use Rate for Married Fecund Women 15-44 in
Villages Offered Injectable Contraceptives*,
Matlab, Oct. 1975-Nov. 1976

	Six Injectable Villages					
	1st		2nd		3rd	4th 5th
Women Contacted	1042		947			970
Current Use:	No.	%	No.	%		No. %
Oral Contracep- tive	10	1.0	151	16.0		33 3.4
Condom			1	0.1		10 1.0
IUD			1	0.1		2 0.2
Injection	1	0.1				140 14.4
Sterilization			1	0.1		5 0.5
Others						4 0.4
Total	11	1.1	154	16.2		194 20.0

* Injectable (Depo-Proval added in August 1976)

Table 9

Distribution of Menstrual Status for All Married Women
Aged 15-44 in Villages Offered Injectable Contra-
ceptives** Matlab, October 1975-November 1976

Menstrual Status	Six Injectable Villates*					
	No.	1st %	No.	2nd %	No.	5th %
Menstruating	443	39.5	329	33.0	341	32.7
P.P.A.	402	36.7	288	28.9	311	29.8
Pregnant	153	13.9	149	14.9	123	11.8
Menopause	53	4.8	50	5.0	56	5.4
Amenorrhea for other reason	49	4.5	46	4.6	73	7.0
Menstruating on Pill or injection	-	-	135	13.5	116	11.1
Undetermined	5	0.5	-	-	6	0.6
N.A.	1	0.5	-	-	18	1.6
Total	1096	100.0	997	100.0	1044	100.0

** Injectables (Depo-provera) added in August 1976.

* First, second and Fifth Surveys only conducted in these villages.

Table 10

Contraceptive Use Rate for Married Fecund Women
 Aged 15-44 - Colored and Plain Condom
 Area - Matlab Nov. 1976

	<u>Colored Condoms Distributed</u>		<u>Plain Condoms Distributed</u>		<u>Combined Areas</u>	
Women contacted	2507		1757		4264	
Current Use	<u>No.</u>	<u>(%)</u>	<u>No.</u>	<u>(%)</u>	<u>No.</u>	<u>(%)</u>
Oral Contraceptive	280	(11.2)	158	(9.0)	438	(10.3)
Condoms	88	(3.5)	73	(4.2)	161	(3.8)
Other	20	(0.8)	17	(1.0)	37	(0.9)
	—	—	—	—	—	—
Total	388	(15.5)	248	(14.1)	636	(14.9)
	—	—	—	—	—	—