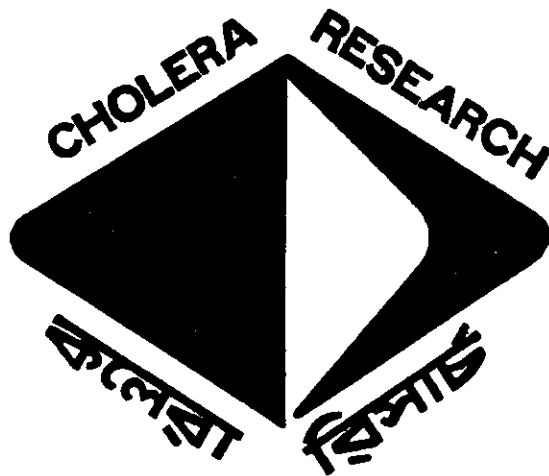


HOUSEHOLD DISTRIBUTION OF CONTRACEPTIVES
IN BANGLADESH—THE RURAL EXPERIENCE

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PREFACE

The Cholera Research Laboratory (CRL) operates under a bilateral project agreement between the government of Bangladesh and the United States of America. Research activities of CRL center on the inter-relationships between diarrheal disease, nutrition, fertility and their environmental determinants. CRL issues two types of papers: scientific reports and working papers which demonstrate the type of research activity currently in progress at CRL. The views expressed in these papers are those of authors and do not necessarily represent views of the Cholera Research Laboratory. They should not be quoted without the permission of the authors.

The paper was presented at the Regional Conference, "Village and Household Availability of Contraceptives" in Tunis, March 27-30, 1977 under the auspices of Battelle Population Study Center and the Tunisian National Office of Family Planning and Population.

ABSTRACT

In October, 1975 the Cholera Research Laboratory started a house-to-house distribution of contraceptives in the Matlab Field Surveillance Area. For this purpose the whole Field Surveillance Area was divided into two areas: one was designated as the contraceptive distribution area and the other was control area. 150 villages with a population of about 1.25 lakhs* was under distribution area and 84 villages with a population of about 1.35 lakhs* was under control area.

In the distribution area all married women aged 15-44 were supplied with oral contraceptives. Before starting the project there was only about 1% of eligible women using some modern method of birth control in this area. Household availability of contraceptives significantly promoted the contraceptive practice level from about 1% to about 15% in one year period. This indicates the level of contraceptive practice that the national program can be expected to achieve with a similar effort.

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* Lakh = 100,000.

INTRODUCTION

The experience of the family planning program in Bangladesh during the last 11 years has shown that, although the program was able to spread the message of family planning to a large fraction of the population, it achieved very little success in actually increasing contraceptive use. This low rate of contraceptive practice contrasts sharply with the need for contraception as expressed by the desire to limit child-bearing (Sirageldin et al., 1975). An impact survey found that 55% of rural and 61% of urban women did not want any more children and thus needed contraception; yet only 1.9% of rural and 3.7% of urban women were actually using a modern method of contraception (Pakistan Family Planning Council, 1973).

In order to improve the rate of contraceptive use in Bangladesh, it is essential that we obtain a better understanding of the relationships linking need, knowledge, and actual use of contraceptives. It has been proposed that lack of convenient and easy availability of contraceptives was an important factor responsible for this low use rate (Ravenholt, 1976). The relative importance of this factor in influencing contraceptive use in Bangladesh could be determined by making contraceptives adequately available in the household and then measuring the extent of change in contraceptive practice. The inadequacy of clinical facilities and the shortage of medical personnel constituted an additional justification for implementing a household contraceptive distribution system. The Cholera Research Laboratory (CRL), therefore, 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 (Khan and Huber, 1976).

OBJECTIVES OF THE PROJECT

The project will attempt to accomplish the following research objectives:

1. To assess the level of contraceptive practice in rural Bangladesh when 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 the factors determining acceptance and continued use.

Matlab was selected for implementation of this project because of the demographic information available there that will allow us to measure fertility variations in the future. The FSA (234 villages with about 260,000 people) was divided into two areas. One was designated as the contraceptive distribution area; the other areas was a control area and was served in part by the Fertility Research Project (FRP)¹ clinic. Consequently, the control area people initially had greater access to clinical family planning services.

Demarcation between the distribution and the control area was somewhat arbitrary. Because the FRP clinic had Pill acceptors from neighboring villages who needed continued supervision and surveillance by the clinic, the villages around Matlab Bazar were included in the control area.

This differential access to family planning clinic service is reflected in a slightly higher baseline contraceptive practice rate for the control area than for 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 (FAs) 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

¹The Fertility Research Project 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 MARRIED FECUND WOMEN AGED 15-44
 QUARTERLY SURVEYS, MATLAB, OCTOBER 1975-NOVEMBER 1976

Use Status	Contraceptive Distribution Area					Control Area				
	Oct. 1975 (N=4,583) %	Feb. 1976 (N=4,072) %	May 1976 (N=4,157) %	Aug. 1976 (N=4,141) %	Nov. 1976 (N=4,253) %	Nov. 1975 (N=3,660) %	Apr. 1976 (N=3,618) %	June 1976 (N=3,482) %	Sept. 1976 (N=3,407) %	Nov. 1976 (N=3,495) %
Current use:										
Oral con- traceptives	0.7	17.0	15.4	12.4	10.3	2.2	2.9	3.2	2.6	2.1
Condoms	0.02	0.4	0.9	1.2	3.8	0.2	0.2	0.3	0.2	0.2
Other methods	<u>0.3</u>	<u>0.5</u>	<u>0.7</u>	<u>0.7</u>	<u>0.9</u>	<u>0.5</u>	<u>0.6</u>	<u>0.6</u>	<u>1.1</u>	<u>1.3</u>
Total	1.1	17.9	17.0	14.3	15.0	2.9	3.7	4.0	3.9	3.6

roughly 1,000 people. Although the word "dai" means indigenous birth attendant, in fact only 15% of the LVWs are true birth attendants. The FAs are males educated up to matriculation.

DISTRIBUTION PHASE

The distribution of oral contraceptives (OCs) started in October 1975 with eight FAs, and 150 dais. Each dai worked with one FA during the distribution in the village. Both 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 household contacted were given the information about OCs and were offered the supply. If they agreed to receive the Pill, a supply of six cycles was given. In many instances, a number of women in the same bari² were given instructions together.

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

Although the FAs and dais were instructed not to provide any motivation beyond saying that longer child spacing could 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 visits. When the husbands were present (about 20-25% of the time), they were included in the discussion because without their approval the wives were reluctant to take the supplies.

BASELINE KAP SURVEY

An extensive KAP survey was conducted immediately before the distribution to provide benchmark information, against which the

² A bari is a collection of five or six households sharing a common courtyard but with separate kitchens. The 25 to 35 persons living in a bari are blood-related.

changing levels of contraceptive behavior with its social, psychological, economic, and programmatic correlates can be determined in the future. The size of the sample was 1,077 women, representing equally both the distribution and the control areas.

Preliminary analysis showed that 2.4% of the women used a modern method and 4.9% used traditional methods. Twentythree percent knew where to obtain contraceptives; 16% named the FRP clinic in Matlab as the source. Of the women contacted, 35.7% indicated a willingness to practice contraception at some time-- 24.9% of these named the Pill as the method they would use. The injectable contraceptive was the second most popular; the IUD was named by none.

CONTRACEPTIVE USE PREVALENCE SURVEYS

A contraceptive use prevalence survey was planned to be carried out before the distribution, at three-month intervals during the year following the distribution, and at six-month intervals thereafter. The baseline prevalence was conducted in October 1975, and the second through fifth surveys were repeated at roughly three-month intervals after the distribution of contraceptives. Only the data from a 20% sample of villages in the contraceptive and control areas are 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.
- Source of contraceptives.

CONTRACEPTIVE PRACTICE

The first round of distribution took 62 days. Of the total of 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 six cycles of Pills. These women will be categorized 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 fecund (not menopausal) was 1.1% for the distribution area and 2.9% for the control area (see Table 1). The fact that the control-area use rate is slightly higher than the rate for the entire area is probably due to the chance inclusion of more villages close to the Matlab clinic in the control area. Oral contraceptive use rose appreciably in the first few months following distribution, but this rate has steadily declined since the second survey. Condom use increased after a special distribution and instruction effort following the fourth survey. After this effort, the overall contraceptive use rate increased again slightly to 15% at the 12-month survey. The control area was the target of a one-week nationwide oral contraceptive campaign between the first and second surveys. However, the results do not seem appreciable (see Figure 1).

At 12 months after the distribution, Hindus showed a 2.5% higher rate of use than did Muslims (see Table 2). However, in

TABLE 2

CONTRACEPTIVE USE RATE FOR HINDU AND MUSLIM WOMEN
12-MONTH SURVEY, MATLAB, NOVEMBER 1976

Use Status ^a	Contraceptive Distribution Area			Control Area		
	Hindu (N=597) %	Muslim (N=3,656) %	Total (N=4,253) %	Hindu (N=314) %	Muslim (N=3,181) %	Total (N=3,495) %
Current use:						
Oral con- traceptives	10.1	10.4	10.3	8.3	1.5	2.1
Condoms	5.4	3.5	3.8	0.3	0.2	0.2
Other methods	<u>1.7</u>	<u>0.7</u>	<u>0.9</u>	<u>3.5</u>	<u>1.1</u>	<u>1.1</u>
Total	17.1	14.6	14.9	12.1	2.8	3.6

^aAll married fecund women, aged 15-44, who were present for the interview.

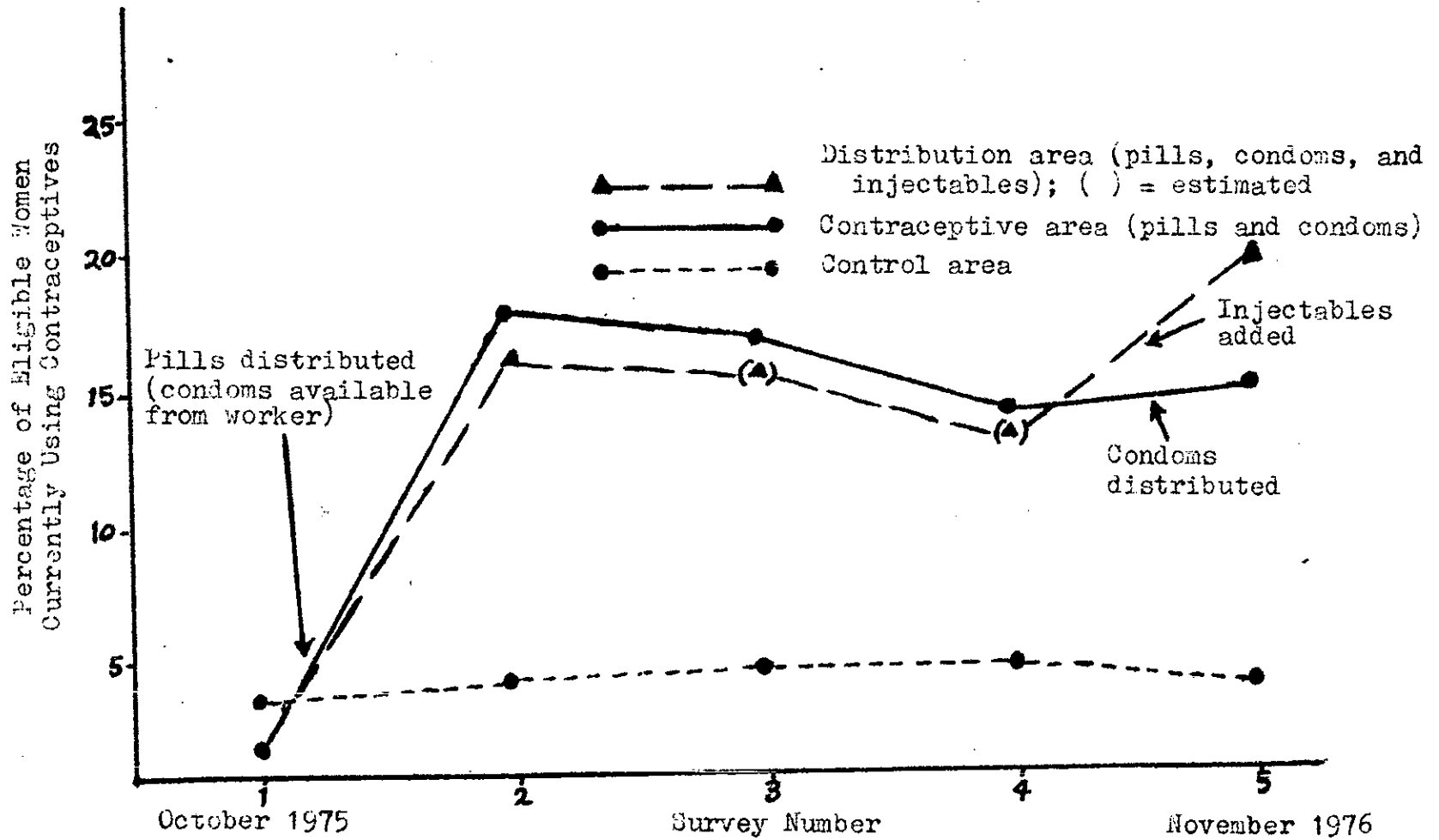


Fig. 1. The effects of distribution on contraceptive use rates in distribution and control areas. Figures are based on quarterly surveys in Matlab from October 1975 to November 1976

the control area the differential was much greater, perhaps because Hindu women have greater mobility and are therefore more able to visit the Matlab Fertility Research Clinic.

Menstrual status was recorded for each woman when she was interviewed in the quarterly surveys. Because of seasonal fluctuations in fertility, a direct comparison cannot be made between the distribution and control areas, except in the 12-month survey (Table 3). On this survey both areas were covered simultaneously, whereas previous surveys proceeded sequentially--first in the distribution area and second in the control area. The proportion of respondents reporting pregnancy was 15.3% in the distribution area and 17.8% in the control area. There was an excess in the category "menstruating--on the Pill" for the distribution area, as expected. Correspondingly, fewer women in the distribution area

TABLE 3

DIFFERENCES IN MENSTRUAL STATUS FOR ALL MARRIED WOMEN AGED 15 TO 44, 12-MONTH SURVEY, MATLAB, NOVEMBER 1976

Menstrual Status	Contraceptive Distribution Area		Control Area	
	Frequency	%	Frequency	%
Menstruating	1,558	32.9	1,401	36.4
Postpartum amenorrhea	1,204	25.4	1,091	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 the Pill	455	9.6	79	2.1
Undetermined	52	1.1	31	0.8
Not applicable	<u>128</u>	2.7	<u>101</u>	2.6
Total	4,739		3,850	

reported that they were menstruating naturally, and fewer were experiencing postpartum amenorrhea (some of these women have presumably shifted into the "menstruating--on the Pill" category). These data suggest that women in the distribution area may be experiencing pregnancy at a rate of 14% below that of the control area. However, the possibility of reporting bias means that birth data must be compiled before firm conclusions can be drawn.

CONTRACEPTIVE USE IN RELATION TO AGE AND PARITY

As seen in Table 4, users were distributed principally in the 20-44 year age group, with the highest use rate in the 30-39 year

TABLE 4
ORAL CONTRACEPTIVE USE RATES OF FECUND ELIGIBLE WOMEN
IN THE CONTRACEPTIVE DISTRIBUTION AREA, BY AGE AND
PARITY, SIX-MONTH SURVEY, MATLAB, APRIL 1976

Characteristic	Total Number Contacted	Users	
		No.	%
Age:			
15-19	755	35	4.6
20-24	849	98	11.5
25-29	805	145	18.0
30-34	891	209	23.5
35-39	628	169	26.9
40-44	292	51	17.2
Unknown	<u>476</u>	<u>19</u>	<u>4.0</u>
Total	4,696	726	15.5
Parity:			
0-1	677	39	5.8
2-3	921	102	11.1
4-5	906	193	21.3
6-7	736	182	24.7
8-9	458	118	25.8
10+	193	69	35.8
Unknown	<u>805</u>	<u>23</u>	<u>2.9</u>
Total	4,696	726	15.5

SOURCE: Khan and Huber, 1976.

range. Use rates also increased quite consistently for women of higher parity (i.e., the total number of live births for the woman). No significant correlation of contraceptive use with education or occupation has been determined.

SIDE EFFECTS

A survey of 1,500 contraceptive recipients was undertaken to investigate the problem of side effects. The survey results suggest that the incidence of side effects was a significant problem; moreover, their type and pattern are somewhat different from what was anticipated. Bleeding is a common problem, but dizziness is more significant as a factor in discontinuation of Pill use. The study found that:

- Dizziness (head spinning or light-headedness) was the most common complaint. It was more common among women discontinuing use (53%) than those continuing use (39%). Intermenstrual bleeding prolonged or heavy periods, and burning sensations were the next most common complaints, but these were not related to discontinuation.
- Thirty percent of those women who had at first used oral contraceptives had since discontinued use. Significantly more of those discontinuing complained of side effects than those continuing use. Sixty-two percent of those initiating use reported one or more side effects that they attributed to the Pill.
- Obviously incorrect usage was noted among 12.5% of women using the Pill at any time, and the rate was higher for those who discontinued.

The management of side effects may prove to be a significant aspect of the Pill program, and ultimate program performance may depend on how this problem is handled. The experience gathered from the government Pill program through informal sources suggests that appropriate instructional counseling is a key issue. Prior information and reassurance about the possibility of side effects enable women to anticipate and

endure them better. In this context, it is suggested that part of the intervillage variation in Pill usage may result from differences among the dais in their efforts to counsel and reassure potential users. Further investigation in this area is desirable.

DISTRIBUTION OF CONDOMS

A special condom distribution was conducted throughout the area using male FAs and the village dai, with special graphic instructions for condom use. Based on the preferences that villages indicated on the pretest, the drawings were quite explicit. However, no opposition to the drawings was expressed by village elders or Muslim leaders. This was a surprise to some, who felt there might be objections in this mainly orthodox Muslim society. Distribution throughout the 143 villages aroused no opposition to this approach.

It was felt that a vigorous educational effort for condom distribution was necessary, since this method was little used despite general availability. Condoms had been available in many shops and bazaar markets for several years before this project, and condom use on the baseline survey was reported at 0.005% (one out of 18,624 couples). After the initial distribution, condoms were available from the dais in every village. Despite this availability, the condom use rate increased to only 1.2% on the nine-month survey. Three months after our special distribution the reported rate was 3.8%.

Colored condoms were distributed in half the distribution area; in the other half, identically manufactured plain condoms were distributed. A sheet of instructions and one dozen condoms were left with each of the roughly 45% of eligible couples receiving the supply. The field workers reported that, although couples found the colored condoms more attractive, they otherwise expressed no preference between colored condoms and plain condoms.

Three months after the distribution, no meaningful difference in condom use could be shown between the two areas (see Table 5). Although use in both areas increased somewhat, the prevalence of use in both areas may be too small to support any firm conclusions at this time.

TABLE 5

CONTRACEPTIVE USE RATES FOR MARRIED FECUND COUPLES BY
COLORED AND PLAIN CONDOM DISTRIBUTION AREAS
MATLAB, NOVEMBER 1976

Women Contacted	Colored Condoms Distributed (N=2,507)		Plain Condoms Distributed (N=1,757)		Combined Areas (N=4,264)	
	No.	%	No.	%	No.	%
Current use:						
Oral con- traceptives	280	11.2	158	9.0	438	10.3
Condoms	88	3.5	73	4.2	161	3.8
Other methods	20	0.8	17	1.0	37	0.9
Total	388	15.5	248	14.1	636	14.9

INTRODUCTION OF INJECTABLE CONTRACEPTIVES

Because increasing interest had been shown in injectable contraceptives offered through a number of government and non-governmental programs, it was decided, at the request of the government, to assess the potential of this method in the program when offered in addition to condoms and pills. Accordingly, injectable contraceptives were provided along with condoms and pills on a house-to-house basis in six villages.

A male FA, accompanied by the CRL dai for each of the six 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 three-month or six-month dose, and the male FA gave the injection in the arm. He and the dai made a return visit two

weeks after the initial visit and at one-month intervals thereafter. On each visit he offered the Pill, condoms, or the injectable dose to those who had not accepted contraceptives, and inquired about any complaints.

The addition of injectables in August 1976 raised the contraceptive use rate by 50% in these six villages. In November these villages remained 33% above the sample villages in the distribution area (see Table 6). Additionally, the "contraceptive mix" shifted toward a very effective method rather than toward a less effective method (condoms).

TABLE 6

CONTRACEPTIVE USE RATE FOR MARRIED FECUND WOMEN AGED 15-44
IN SIX VILLAGES OFFERED INJECTABLE CONTRACEPTIVES^a
MATLAB, OCTOBER 1975-NOVEMBER 1976

Use Status	October 1975 (N=1,042)		February 1976 (N=974)		November 1976 (N=970)	
	No.	%	No.	%	No.	%
Current use:						
Oral contraceptives	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
Other methods					4	0.4
Total	11	1.1	154	16.2	194	20.0

^aInjectables (Depo-Provera) added in August 1976.

IMPLICATIONS

The project is expected to generate useful evidence that could lead to improved program performance. The interim observations to date have important implications for the program:

1. Household availability of contraceptives significantly promoted the contraceptive practice level from about 1% to about 15%. This indicates the level of contraceptive practice that the national program can be expected to achieve with a similar effort. One may conclude that the difference in practice rates between the distribution and control areas are largely explainable by availability of contraceptives.
2. The use rate is lower than the proportion of women (36%) expressing their intention to use contraception. While this is partly attributable to the problems associated with technology, the pattern of intervillage variation, and the tendency toward clustering of users in the initial stage, it suggests the existence of other factors responsible for the differential level of practice. An important category of potential factors relates to characteristics of the dai. Among these are such factors as (1) her image, (2) her experience, (3) the frequency of visits, (4) the nature and quantity of information given during counseling, and (5) the reassurance provided concerning anticipated or actual side effects.
3. Intervillage variation also suggests that if the conditions of the high-practice villages are duplicated in other villages, it may be possible to maximize contraceptive use.

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CRL publications can be obtained from Publications Unit, Cholera Research Laboratory, G.P.O. Box 128, Dacca - 2.

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B. Working Paper:

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C. Scientific Report:

No. 1. Double round survey on pregnancy and estimate of traditional fertility rates by A.K.M. Alauddin Chowdhury.

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