

Use-Pattern of Oral Contraceptive in Rural Bangladesh : A Case Study of Sulla

by

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This paper deals with oral contraceptors, their socio-demographic status the reasons as to why they accepted oral contraceptive, and the pattern of use. The data employed were obtained from a multi-sectoral rural project (in Sulla) undertaken by the Bangladesh Rural Advancement Committee. The "single decrement life table approach" has been used to assess the duration and pattern of use among the participants. Cumulative continuation rates for all acceptors were found to be higher in Sulla than other observers have found elsewhere in the country. This is attributed to specific characteristics of the users as well as other programmes being carried out in the area. Classifying contraceptors by reasons for contraceptive use provides results which may be helpful to policy makers.

I. INTRODUCTION

Oral contraception, as a method of controlling fertility, has gradually become important in Bangladesh both within and outside the government programme. The Government services have not yet been able to provide a full mix of contraceptives to the population, although this is a declared policy. That is probably the reason why the pill, which is both non-clinical and more readily available, is recently found to be more popular than other methods to the clients. Its distribution increased more than twenty-fold within only two years of its introduction in 1971 by the Family Planning Programme [12]. Available recent statistics confirm that the same trend continued sharply during the first plan period (except for

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the year 1976/77) [17, Table 13 1].¹ Programme activities of voluntary organizations in this field also confirm the popularity of pill amongst the clients.

In spite of this, our knowledge about the experience of women who have accepted this method so far is limited. If oral contraception is to be emphasised as a method of limiting births, assessment of its use-pattern in our society is necessary because with the increase in the number of acceptors, the degree of fertility control comes to depend on the effective use of the method. But only a few follow up studies have been done to date to explore the use pattern and factors affecting it. This paper is a modest attempt to fill in this gap by examining the behaviour of oral contraceptors, especially in relation to their socio-demographic status in our society.

This paper consists of five sections : Section II presents a brief review of the literature, and describes the source and nature of data, research methodology and their limitations. Section III examines the characteristics of acceptors and explains the reason behind pill acceptance. Section IV considers the acceptors' continuation and dropout pattern and looks into the reasons for discontinuation. Section V presents some concluding remarks.

II. REVIEW OF LITERATURE, DATA AND METHODOLOGY

Review of Literature

Several factors which may affect the behaviour of pill acceptors have been identified in a number of studies both in the developed and developing societies [4; 5; 8; 9; 10; 11; 12; 13; 14; 15; 19; 20; 21]. Some of the more important factors that have been found to affect continuation rates are religion, age, parity, education, occupation of the heads of households, user's desire for additional sons or daughters and the age of the youngest child.

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¹The reason for low figure in 1976/77 is not known.

It is conceptually feasible to postulate, on the basis of *a priori* reasoning, a number of hypotheses regarding the relationships between continuation rate and the factors mentioned above. But a careful review of the relevant literature warns us against such *a priori* hypothesisation because the studies differ in their findings about correlation between continuation rates and socio-demographic variables. For instance, Frank-Tietze study [8] showed only minor differences in the continuation rates according to age and parity while other studies reveal marked variation with respect to both age and parity, especially to the latter. Westoff-Ryder [21] and Jones and Mauldin [9] showed that younger women (aged less than 30 years) had higher continuation rates than older women in the USA and Bombay. Majumdar [15] and Khan [13] also observed a similar pattern in West Bengal and Bangladesh respectively. But Kanitkar [11] found the highest continuation rates among women aged over 35 for the first six months and so. Westoff-Ryder [21] further observed that women with lower parity had higher continuation rates than women with higher parity, but Kanitkar [11] and Khan [13] found higher continuation rates for this group of women only for the first seven cycles or so.

Both Kanitkar [11] and Westoff-Ryder [21] found that continuation rates were positively related with education. Majumdar [15] and Khan [21 ; 22] also observed the same pattern. But according to Frank-Tietze study [8], women at both ends of educational achievement scale have lower continuation rates than women at an intermediate level of education. Higher continuation rates were also found by Chan in Hong Kong among literates, but he concluded that "women without formal education are not inefficient users of Pills" [5]. Rao's study similarly evidenced very high continuation rates in Sri Lanka among a group of women of whom more than three-fourths were illiterate [19].

The above review shows that the same variable may affect the use-pattern of oral contraceptives differently in different populations. So instead of postulating any *a priori* hypothesis, we shall try to discern in this paper the kind of relationships that exist in our own country between continuation rates and socio-demographic variables.

Data

The data employed in this study relate to a project area in rural Bangladesh, known as Sulla. The Bangladesh Rural Advancement Committee (BRAC), a voluntary organization involved in rural development activities has gradually developed a number of sectoral programmes in this area since January, 1972. This project area comprises parts of both Sunamganj

and Habiganj subdivisions of Sylhet district and includes 220 villages scattered in an area of about 160 sq. miles. The total population of the area is 130,000, the majority (about 70%) of whom are engaged in agriculture [2 ; 3; 7].

The family planning programme of the project began in January 1974. The programme in its first two years covered 71,835 persons, according to the information provided by resident Lady Family Planning Organisers (LFPOs), the grassroot level workers of BRAC. By February 1976, more than 20% of all eligible couples² in the area were using contraceptives and most of them were on the pill [3 ; 7]. In this programme the pill is supplied by LFPOs to the clients at their residence just one day before the termination of the previous cycle. LFPOs, Paramedics and Shayestha Shevikas (nurses) with pre-service and in-service training attend to the case of side effects in addition to their motivational and follow up work. The health programme is supervised by four physicians in the area.

BRAC conducted an "Oral Pill Follow up Survey" from mid-February to mid-March 1976 collecting information of the pill users retrospectively since the date of their pill acceptance. The original sample comprised of all the acceptors (numbering 3,086), but only 77 per cent of them could be actually interviewed. Failures occurred due to multiple reasons, the most common being migration out of the project area [3]. Of all the acceptors, 1.3% refused to be interviewed, and 6% were found to be falsely reported. All the enumerators in the survey were females and received training for one week in the field activities. The data represent a cross section of women in the rural society.

Methodology

As regards research methodology, we have first looked at the percentage distribution of acceptors by the reasons for accepting oral contraception. Thereafter, we have attempted at a more rigorous analysis of data with the help of the "single decrement life table approach" [1, 18] to assess the duration for which use of contraception was continued.

The life table rates for continuation have been constructed for all acceptors as well as for several cohorts of women defined by the time reference of orals acceptance, reasons for acceptance and socio-demographic status. The term 'continuation' is used to denote the fact that a

² Married women, fecund (aged 10-49) and currently living with husbands.

client, on the date of enquiry, was still practising the method that she had previously accepted. The base for assessment of continuation is the total number of acceptors who started using the oral contraceptives [6]. In order to construct the life table rates, several questions were carefully designed to determine when a woman began her first cycle, whether she was still using the pill (on the date of enquiry), when she stopped using it and for what reasons, and what was the total number of cycles of use. For the purpose of this study, we have assumed that a woman who adopted a packet of pills is covered for one woman-cycle. It is further assumed that the loss rate is uniform and those who stop using it at a given period of time are on an average exposed only half of the time to the rate of pregnancy or the other rate of decrements [1].³

Limitation

The life table approach could be more accurate in the case of IUD where by definition the contraceptive method is used continuously from insertion to removal. In the case of oral contraception, the data on continuation is bound to be less reliable for obvious reasons [6]. In order to construct life table continuation rates for contraceptive practice, the following information is needed: (1) date of onset of contraception (2) dropout status of clients (continuing or discontinuing) and (3) date of discontinuation. Such information is likely to be inaccurate in the case of oral contraception and traditional methods.

Since the data were collected from a 'retrospective survey' the problem of loss of information due to follow up failure does not arise. The accuracy of these data may instead suffer from recall lapse [1]. The assumption that a packet of pills supplied to a woman covered one woman-cycle is likely to overestimate the continuation rates if there was any irregularity during the cycle. During the survey period, however, care was specifically taken to minimise these problems with the help of cross-questions. There is also a technical hitch to this method because the use of pills is related to menstrual cycles rather than calendar months [1]. Thus in the process of data analysis, cycles not calendar months were considered as time indicator in order to avoid any bias of overestimation.

The proportion of users with multiple dropout is likely to overestimate the life table rates when the analysis is based on more than one

³See Appendix A for details of life table construction.

segment.⁴ However, the number of multiple users in this analysis was rather too small (37 out of 2,359 users) to inflate the result.⁵ About 98.5% of acceptors had only one continuous segment. A few clients switched over to other methods (30 out of 2,359) during the period of observation and were classified in the terminal status "others".

III. CHARACTERISTICS OF ACCEPTORS AND REASONS FOR PILL ACCEPTANCE

Characteristics of Acceptors

Among 2,359 acceptors, 37% are Muslims and 63% are Hindus. The age distribution of acceptors (aged 10-49) shows that 11% are under 25 years of age, 54% are within 25-34 years and 35% are aged 35 and above. Median age of acceptors is 31.6 years and mean number of living children is 3.9. About 75% of acceptors and 53% of their husbands have no formal education. Seventy nine per cent and 5% of heads of households are engaged in agriculture and fishing respectively while the remainders are engaged in non-agricultural activities like small business, services, etc.

BRAC conducted a "Base-line Survey" in Sulla area during October-November 1975 [2]. Nineteen out of 189 villages were surveyed covering 2,329 households and 13,007 people. Some basic characteristics of female population in the area are available from this survey and can be roughly compared to those of acceptors. From the viewpoint of religion, the distribution of population shows that 35% and 65% are Muslims and Hindus respectively. The age distribution of females (aged 10-49) indicates that 47% are under 25 years of age, 25% are within 25-34 years and 28% are aged 35 and above. The median age of female population is 20 years and mean number of living children is 3.5. About 81% of females and 62% of males have no formal education. Seventy per cent of heads of households are engaged in agriculture, about 5% are engaged in fishing and the remainder are engaged in other non-agricultural activities [2]. This comparison shows that in terms of general socio-demographic characteristics the 'acceptors' group is quite representative of the overall female population in the area.

⁴ A segment is defined as the period from the commencement of use to the termination of use or to the date of enquiry when there is no termination.

⁵ With or without the cases of multiple users (37), the continuation rates were found virtually the same.

Reasons for Accepting Oral Contraception

In this sub-section we undertake to examine the distribution of acceptors by reasons for using the pill—an important matter, since we assume that the effective use of orals is closely related to the purpose for which the clients have started to practise them. In this case, the determining question was “why do you practise oral pill as a method of family planning?” It appears from Table I that 47% of all acceptors have practised oral contraception for birth spacing purpose and 48% have used them to avoid any further pregnancy. But this attitude varies more with the demographic characteristics than with the social characteristics of acceptors, as we are going to see.

TABLE I
PERCENTAGE DISTRIBUTION OF ACCEPTORS BY
REASONS FOR ACCEPTING THE ORAL PILLS

Reasons (1)	Acceptors	
	Number (2)	Percentage (3)
All*	2359	100.0
Spacing birth	1099	46.6
Stop child bearing	1136	48.2
Others	74	3.1
Not known/No response	50	2.1

* 4 schedules were lost for unknown reasons.

It appears from Table II that a greater number of Muslim users (51%) have accepted orals with a view to avoiding any more pregnancy. A large majority of younger women (81% of those aged under 25 and 70% of those aged between 25-29) and women with lower parity (78% of those with 0-2 living children) have accepted orals for the purpose of spacing pregnancies; while the majority of older women (aged 30 and above) and women with higher parity (3 and over) have used them to stop pregnancy altogether. Thus younger acceptors have been more inclined to use contraception for postponement while older acceptors have been contracepting to a large extent for total termination of child bearing. The Table further shows that majority of mothers with lower age of the

youngest child have accepted orals for spacing births. Moreover, about 93% of women desiring additional sons are using the pill as birth spacing method and 90% of women desiring no additional sons have reported to be using the pill as a terminal method. Similarly more than 90% of women desiring one or more additional daughters are using the method for the purpose of postponing births and 72% of women desiring no additional daughters have reported to be using the method to avoid any more pregnancy.

TABLE II
PERCENTAGE DISTRIBUTION OF ACCEPTORS BY SOCIO-DEMOGRAPHIC
STATUS AND REASONS FOR ACCEPTING ORAL CONTRACEPTION

Specific Characteristics	Reasons				Total
	Spacing Birth	Stopping Birth	Others	Not Known/No Response	
1	2	3	4	5	6
Religion					
Muslim	45.5	51.4	1.3	1.8	100
Hindu	47.2	46.3	4.2	2.3	100
Age					
< 25	80.5	7.9	6.8	4.0	100
25-29	70.2	25.3	2.5	2.1	100
30-34	40.8	54.6	2.4	2.2	100
35 +	20.3	75.4	2.0	1.2	100
No. of Living Children					
0 - 2	77.9	11.0	7.7	3.4	100
3 - 5	41.8	55.2	1.2	1.7	100
6+	14.2	83.0	1.5	1.3	100
Acceptor's Education					
No education	45.4	49.5	3.0	2.1	100
Some education	48.6	46.0	3.6	1.8	100
Education 5+	51.7	42.3	3.4	2.7	100
Husband's Education					
No education	45.8	49.1	3.4	2.0	100
Some education	48.1	45.0	3.4	3.1	100
Education 5+	47.6	48.0	2.6	1.8	100

(Contd.)

TABLE II (Contd.)

1	2	3	4	5	6
Occupation of Heads of Households					
Occupation 1	47.8	47.6	3.2	1.3	100
Occupation 2	47.1	46.1	4.0	2.7	100
Occupation 3	45.9	50.4	1.9	1.9	100
Occupation 4	42.5	50.7	2.2	4.4	100
Occupation 5	41.3	56.9	0.9	0.9	100
Occupation 6	50.4	39.8	7.1	2.7	100
Age of Youngest Living Child					
0-18 Months	55.6	41.0	1.1	2.3	100
29-36 Months	50.3	46.1	1.3	2.2	100
37-54 Months	41.4	56.7	1.4	0.5	100
35+	27.5	66.4	5.1	0.9	100
Not known/No response/ Not applicable	47.4	19.3	25.5	7.9	100
Desire for Additional Sons					
1	92.8	0.2	5.1	1.9	100
2	92.7	—	5.7	1.6	100
3+	92.9	—	5.1	2.0	100
Desire for no additional sons	8.5	89.6	1.2	0.8	100
Not known/No Response	81.5	—	5.8	12.7	100
Desire for Additional Daughters					
1	91.4	0.2	9.3	2.0	100
2	90.2	—	7.8	2.0	100
3+	66.7	—	16.7	16.7	100
Desire for no additional daughters	25.5	72.3	1.5	0.8	100
Not known/No response	81.6	—	5.8	12.6	100

Notes :

- 1) In some cases, a few acceptors did not provide the information needed to classify them into the appropriate groups. In those cases, we have shown the percentage distribution on the basis of respondents' information alone. We believe, however, that this exclusion will not affect the result materially since in each case the number of non-respondents is relatively very small.
- 2) Occupation codes 1-6 stand for the following :
 - Occupation 1 : Farmers who cultivate own land only
 - Occupation 2 : Farmers who cultivate own land and leased land
 - Occupation 3 : Farmers who cultivate only leased land and who are landless
 - Occupation 4 : Non-agricultural labourers, bussiness and others
 - Occupation 5 : Service-holders
 - Occupation 6 : Fishermen

The data relating to education and occupation of heads of households show no marked differences either in favour of "spacing" or "stopping" births among the various groups of acceptors.

IV. CONTINUATION AND DROPOUT OF ACCEPTORS

Continuation and Dropout Status

The success of any contraceptive programme depends on the continued and effective use of the method employed. The life-table continuation rates for pill acceptors are shown for the period, January 1974 to February 1976 (Table III, Col. 2). The data as earlier stated relate mostly to the first segment, i. e., the experience of clients from the start of use untill the first discontinuation or the date of enquiry for continuing users. Standard error as computed is also shown against each rate.

The cumulative continuation rates appear to be impressive in the Sulla Programme area. It shows a trend of slow and steady decline as the clients advance over the cycles. The percentage of acceptors continuing for 3 cycles is 82 and for 6 cycles is 71. But the rate further declines to 61% after 12 cycles and 52% after 18 cycles. The proportion of continuing users stands at 44% after 24 cycles.

TABLE III
CUMULATIVE CONTINUATION RATES FOR ORALS BY LENGTH OF EXPOSURE
(PER CENT PER CYCLES), SULLA, JANUARY 1974 TO FEBRUARY 1976

Length of Exposure (cycles)	Cumulative Continuation Rates					
	+ All Acceptors (N=2331)		*First Cohort (N=891)		**Second Cohort (N=1440)	
	Continuation (per cent)	Standard Error	Continuation (per cent)	Standard Error	Continuation (per cent)	Standard Error
(1)	(2)	(3)	(4)	(5)	(6)	(7)
0	100.0					
3	82.0	0.8	82.1	1.3	81.9	1.1
6	71.2	1.0	71.0	1.5	71.7	1.4
9	64.5	1.1	64.7	1.6	64.2	1.7
12	60.7	1.2	61.3	1.6	59.0	2.1
15	54.6	1.4	54.9	1.7	54.6	2.9
18	51.8	1.5	51.9	1.7		
21	47.6	1.9	47.6	1.9		
24	44.3	2.6	44.4	2.2		

+28 acceptors did not specify either cycles of use or terminal status and they were excluded from analysis.

*Acceptors entered between January 1974 and January 1975.

**Acceptors entered between February 1975 and February/March 1976.

It is sometimes dangerous to look into the cumulation of acceptors over several years, because in that case computation of continuation rates by the life table approach might be vitiated, especially if there are a large number of recent acceptors. In particular, this situation may result in artificially high continuation rates. In order to check whether the finding of our analysis suffers from this kind of distortion, we have segregated all acceptors into two cohorts according to the year of pill acceptance. The first cohort comprises those women who accepted the pill between January 1974 and January 1975 and the second cohort includes those who accepted between February 1975 and February/March 1976. When these two cohorts are compared with each other or with the cohort of all acceptors, almost no differences are visible between the corresponding rates (Table III).⁶

TABLE IV
DROPOUT RATES FOR ORALS BY SPECIFIED INTERVAL OF USE,
SULLA JANUARY 1974 TO FEBRUARY 1976

Length of Exposure (cycles)	*Dropout Rates (Per cent)		
	All Acceptors	First Cohort	Second Cohort
(1)	(2)	(3)	(4)
0-3	6.0	6.0	5.0
3-6	4.4	4.5	4.2
6-9	3.1	3.0	3.5
9-12	2.0	1.8	2.7
12-15	3.4	3.5	2.5
15-18	1.7	1.8	—
18-21	2.7	2.7	—
21-24	2.3	2.3	—

$$*D = \frac{P-p}{C}$$

whereas, D = Dropout rate

P-p = Percentage decrease in the continuation rates during the interval.

C = Number of Cycles.

Table IV shows the percentage of dropouts at the 3-cycle interval for these cohorts. The highest percentage of dropout is observed between 0-3 cycles and the lowest between 15-18 cycles. As shown in Appendix Table A (2), most of those who have discontinued contraceptives declared

⁶It is further evidenced from this comparison that recall biases have not affected our analysis to the extent that we apprehended earlier in the case of all acceptors.

under the regular government programme, was the control group. Contraceptive prevalence surveys were conducted before the distribution of contraceptives and every three months thereafter [16]. The baseline survey was carried out in October 1975 and the second one in February 1976, covering 100% eligible women in the area, and subsequent quarterly survey were undertaken on a 20% sample. Continuation rates were observed for each successive quarterly cohort of acceptors. The results of first and second cohort, being highest among the four, are shown in the Table for comparison.

TABLE V
CUMULATIVE CONTINUATION RATES OBSERVED IN SULLA,
COMPANIGANJ AND MATLAB BY LENGTH OF EXPOSURE

Length of Exposure (cycles)	Cumulative Continuation Rates			
	Sulla	Companiganj	Matlab	
			First Cohort	Second Cohort
(1)	(2)	(3)	(4)	(5)
0	100.0	100.0	—	—
3	82.0	60.5	57.1	49.4
6	71.2	48.3	44.5	37.9
9	64.5	43.8	37.6	34.1
12	60.7	43.0	32.3	26.3
15	54.6	—	31.3	—
18	51.8	—	—	—

Source: Column (3) is calculated from unpublished data on Companiganj Project and columns (4) and (5) from [16, Table IV].

It is worthwhile to note that the continuation rates for any given number of cycles is highest in the Sulla area and the magnitude of the difference is quite large. For example, the continuation rate after 6 cycles for Sulla is 71%, for Companiganj it is 48%, and in Matlab it is 45% for the first cohort and 38% for the second. Figure 1 also provides a clear indication of the differential pattern of cumulated continuation rates over time as appeared in Sulla, Companiganj and Matlab projects.

Even after allowing for the possible effects of methodological diffe-

to have done so for medical reasons.⁷ But the proportion of those who have discontinued because of planned or accidental pregnancy is also important. Using the same data, BRAC analysed the percentage of drop-outs by reasons and found that 39% discontinued for medical reasons, 19% because they were planning to have an additional child and 16% discontinued due to accidental pregnancy [3]. However, after continued use, the proportion of those discontinuing for medical reasons drops to a low level.⁸

Among the discontinuers, the overwhelming majority claimed that they had stopped contracepting completely. Only a few discontinuers reported that they had switched over to other methods of contraception [3].⁹

As a comparative analysis with some data available from other sources may be of interest, Table V compares our data with Companiganj and Matlab project data. Companiganj is a thana located in the district of Noakhali. Christian Commission for Development in Bangladesh (CCDB) under an agreement with the Ministry of Health and Family Planning has undertaken an Integrated Health Services Project for a period of five years. It provides services to the eligible couples through clinics, sub-centres, and home visits by both males and females. The data referred to here were collected during January 1974 to April 1975. Of all acceptors, numbering 1459, 170 i.e., 11.7% were lost to follow up, primarily due to migration out of the project area, and were excluded from the analysis. The cases followed up fall into two groups: (a) acceptors of 1975 i.e., those who were seen in April 1975 or known to have dropped out before 1975, (b) acceptors of 1974 i.e., those who were seen in March or April 1975 or known to have dropped out before then.

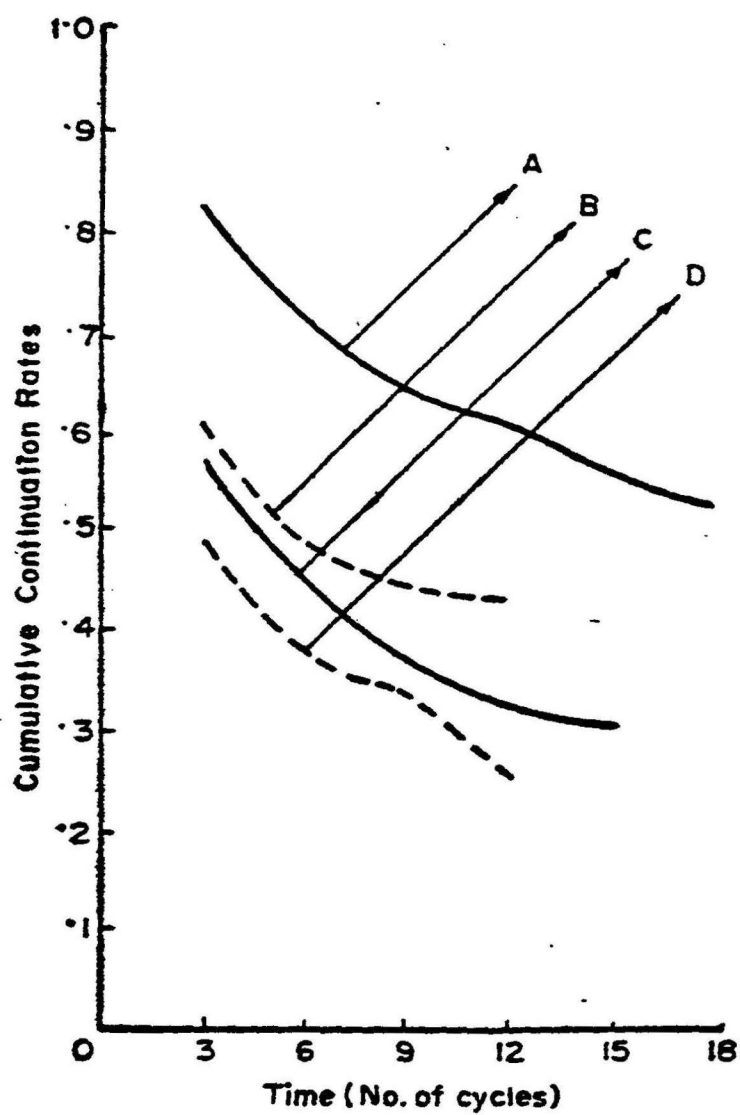
Matlab Thana is located in the district of Comilla. The Cholera Research Laboratory in collaboration with the Ministry of Health and Population initiated, in October 1975, a house-to-house distribution programme of non-clinical methods of contraception (oral pills and condoms) in 150 villages of the Matlab Surveillance Area [16]. The remaining 84 villages,

⁷Medical reasons include all kinds of side-effects that according to the women concerned had occurred due to the use of pills, viz., vomiting, headache, dizziness, neurosis disability, mental weakness, fatigue, skin disease, disease of breast, irregular menses, bleeding between periods: disease of uterus, weight gain or loss, jaundice, etc.

⁸Details of side-effects will be examined in a forthcoming paper.

⁹The distribution of those who discontinued because either they themselves or their husbands had switched over to other methods are as follows: IUD 2, Condom 5, Vasectomy 10, Foam 5, Rhythm 3, other Traditional Methods 5.

COMPARISON OF SULLA PROGRAMME WITH OTHER PROGRAMMES



Note:

A = Sulla

B = Companiganj

C = Moulvibazar (1st Cohort)

Figure 1

Sulla : (1) the clients are well motivated, regularly followed up and persuaded by the field staff; (2) a number of paramedics are assigned with duties to provide sufficient medical care and attention to the case of side-effects; (3) the clients' level of consciousness and aspiration for better living may be particularly high among participants since the majority of clients (79%) reported that they were participating in other sectoral programmes intended to improve their economic condition and raise their level of consciousness. Moreover, we have seen that nearly half of the clients reported that they were using orals as a terminal method, and this attitude might also have helped them to continue over a longer period.

Differentials in Continuation

In order to identify the factors behind contraceptive behaviour pattern, we have looked into the cumulative continuation rates for different socio-demographic groups of clients in addition to the observed rates for "spacers" and "stoppers".

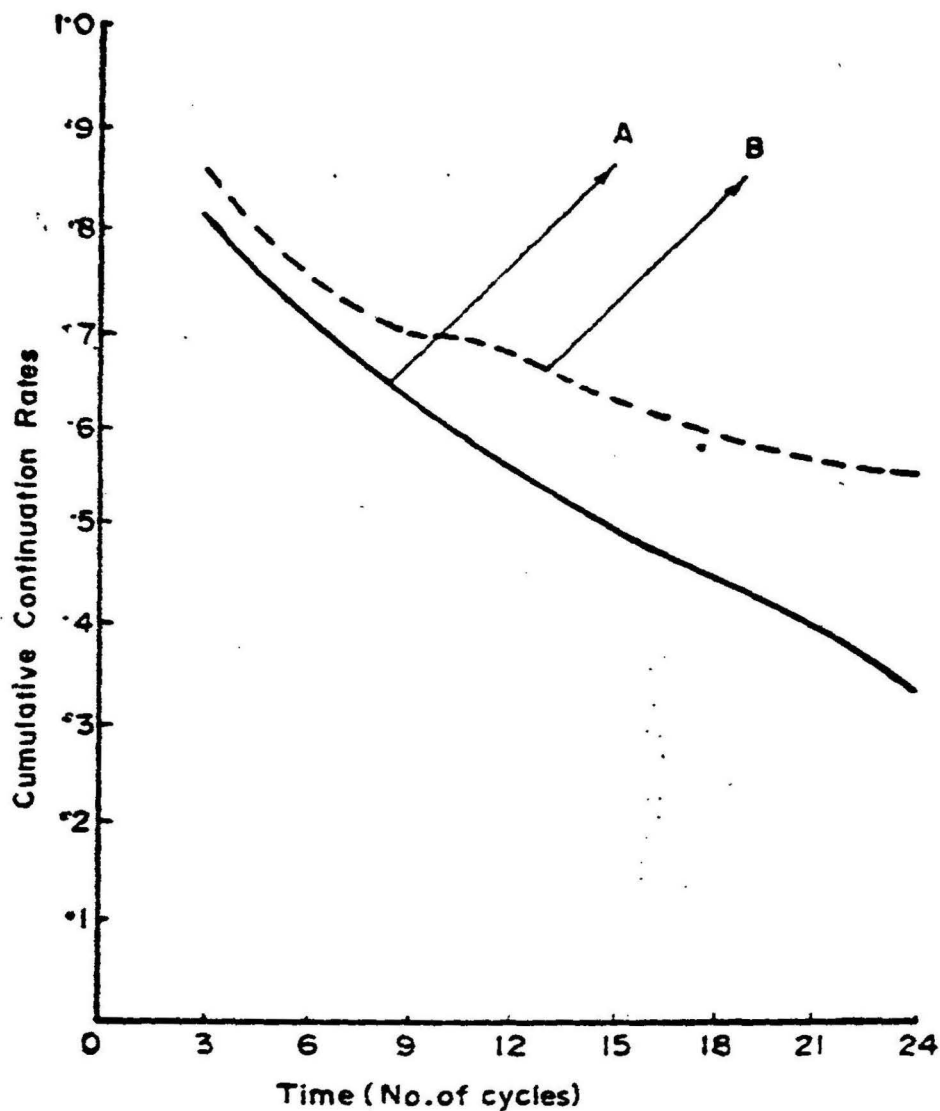
TABLE VI
CUMULATIVE CONTINUATION RATES FOR PILL ACCEPTORS :
BY LENGTH OF EXPOSURE (PER CENT PER CYCLES) AND
REASONS FOR ACCEPTANCE, SULLA, JANUARY 1974
TO FEBRUARY 1976

Length of Exposure (cycles)	Cumulative Continuation Rates			
	Spacers		Stoppers	
	Per cent	S. E.	Per cent	S. E.
(1)	(2)	(3)	(4)	(5)
0	—	—	—	—
3	80.5	1.3	86.1	1.1
6	70.7	1.5	75.8	1.4
9	62.2	1.7	70.2	1.6
12	56.3	1.9	67.7	1.6
15	48.6	2.1	62.9	1.8
18	45.0	2.3	60.4	1.9
21	39.7	2.7	56.3	2.2
24	33.4	4.0	55.3	2.4

"Spacers" Vs. "Stoppers"

Before we look into the differentials by socio-demographic variables, we should find out the continuation rates for "spacers" and "stoppers", because we believe that a comparison of the continuation rates for these two groups can help us explain the acceptors' contraceptive behaviour.

COMPARISON OF SPACERS AND STOPPERS BEHAVIOUR



Note:

A = Spacers

B = Stoppers

Figure 2

Figure 2 based on Table VI shows higher continuation rates for the cohort of "stoppers" at any given number of cycles. The magnitude of differences, depicted by curves with corresponding rates, is markedly visible and becomes progressively wider as the acceptors in the two groups are cumulated over increasing number of cycles. The higher continuation rates for "stoppers" is undoubtedly an expected behaviour.

TABLE VII
CUMULATIVE CONTINUATION RATES (PER CENT) OF ORAL CONTRACEPTION BY LENGTH OF EXPOSURE AND SOCIO-DEMOGRAPHIC STATUS OF ACCEPTORS, SULLA, JANUARY 1974 TO FEBRUARY 1976

Specific Characteristics (1)	Length of Exposure (cycles)			
	6 (2)	12 (3)	18 (4)	21 (5)
a) Religion				
Muslim	73.5	64.5	57.2	54.7
Hindu	69.8	58.4	48.8	43.8
b) Age				
<25	65.5	53.8	44.8	—
25-29	72.2	60.3	49.7	46.3
30-34	70.6	58.1	53.8	47.2
35+	72.8	64.6	54.3	50.2
c) Number of Living Children				
0-2	65.8	52.7	43.7	38.2
3-5	75.1	64.4	56.0	51.6
6+	70.0	63.1	52.3	49.3
d) Acceptors' Education				
No education	70.6	60.0	49.4	47.3
Some education	72.2	61.9	52.7	49.4
Education 5+	72.9	61.5	53.8	50.0
No response/Not known	(*)	(*)	(*)	(*)
e) Husbands' Education				
No education	70.1	60.9	50.0	45.3
Some education	71.8	58.3	50.6	48.6
Education 5+	72.9	63.0	54.0	51.1
No response/Not known	(*)	(*)	(*)	(*)

(Contd.)

TABLE VII (Contd.)

	(1)	(2)	(3)	(4)	(5)
f) Occupation of Heads of Households					
Occupation 1	69.4	58.9	50.3	45.8	
Occupation 2	69.1	57.3	48.6	43.9	
Occupation 3	74.6	62.4	53.3	50.9	
Occupation 4	73.9	66.6	58.5	—	
Occupation 5	69.2	59.4	50.0	37.5	
Occupation 6	74.1	67.2	62.6	—	
g) Age of Youngest Living Child					
0-18 Months	63.1	47.6	35.4	—	
19-36 ..	77.9	68.1	58.3	53.8	
37-54 ..	74.9	64.3	55.7	51.9	
55+ ..	66.7	56.9	48.5	42.8	
No response/Not known/					
Not applied	60.0	52.3	46.1	—	
h) Desire for Additional Sons					
1	71.6	56.8	41.4	33.1	
2	67.8	51.1	47.5	—	
3+	72.1	66.2	55.5	51.5	
Desire for no additional sons	74.4	66.1	58.3	54.5	
No response/Not known	53.2	44.5	31.6	27.1	
i) Desire for Additional Daughters					
1	58.8	65.5	43.6	35.7	
2	61.2	40.3	30.6	—	
3+	(*)	(*)	(*)	(*)	
Desire for no additional girls	74.8	65.5	57.4	53.6	
No response/Not known	53.5	45.0	32.2	27.6	

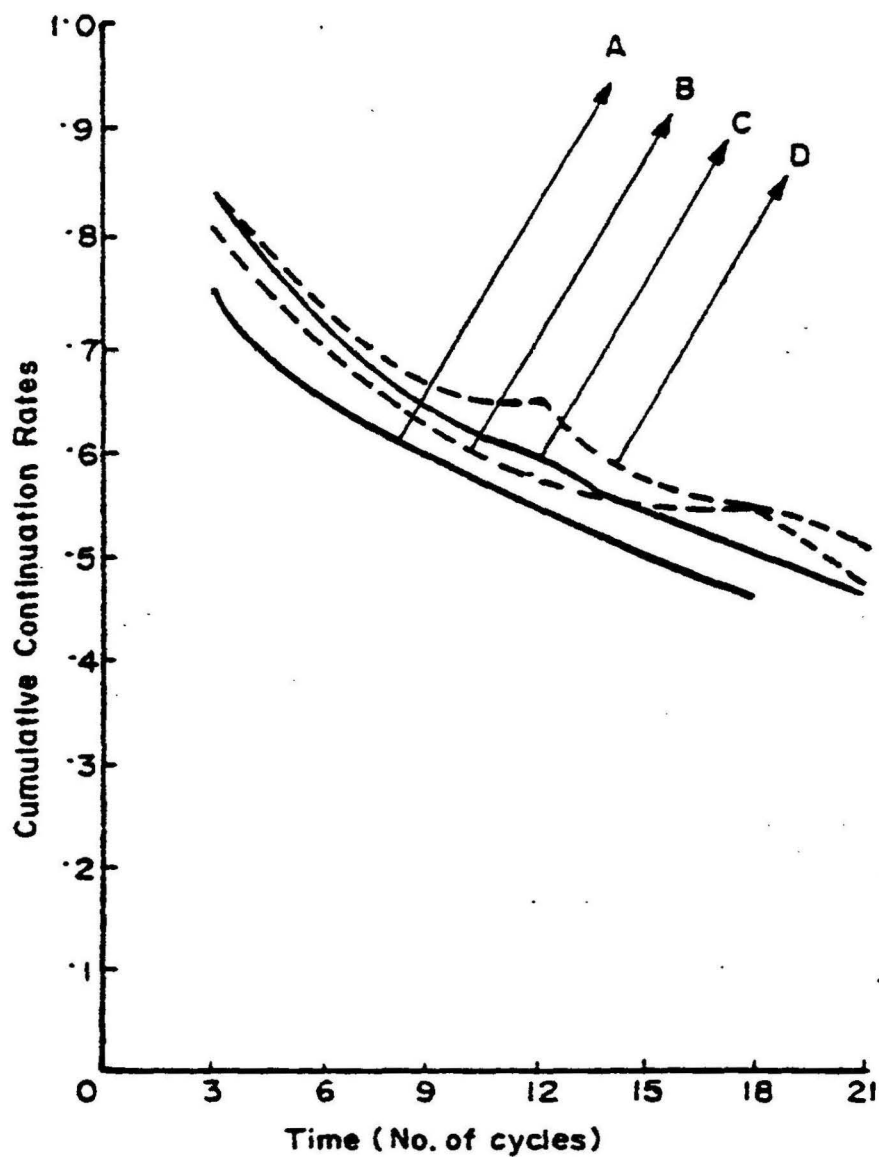
Notes : (1) The parentheses with star indicate that the number of acceptors was below 15 and their case was not analysed.

(2) For the meaning of occupation codes, see notes to Table II.

Religion

Against the received idea that the Hindus might have a more consistent behaviour in using contraception, the cumulative continuation rates for the Muslims in Sulla are found to be strikingly higher than for the Hindus at all cycles, although their age distributions do not differ widely Table VII.

COHORTS BEHAVIOUR WITH AGE



Note:

A = < 25

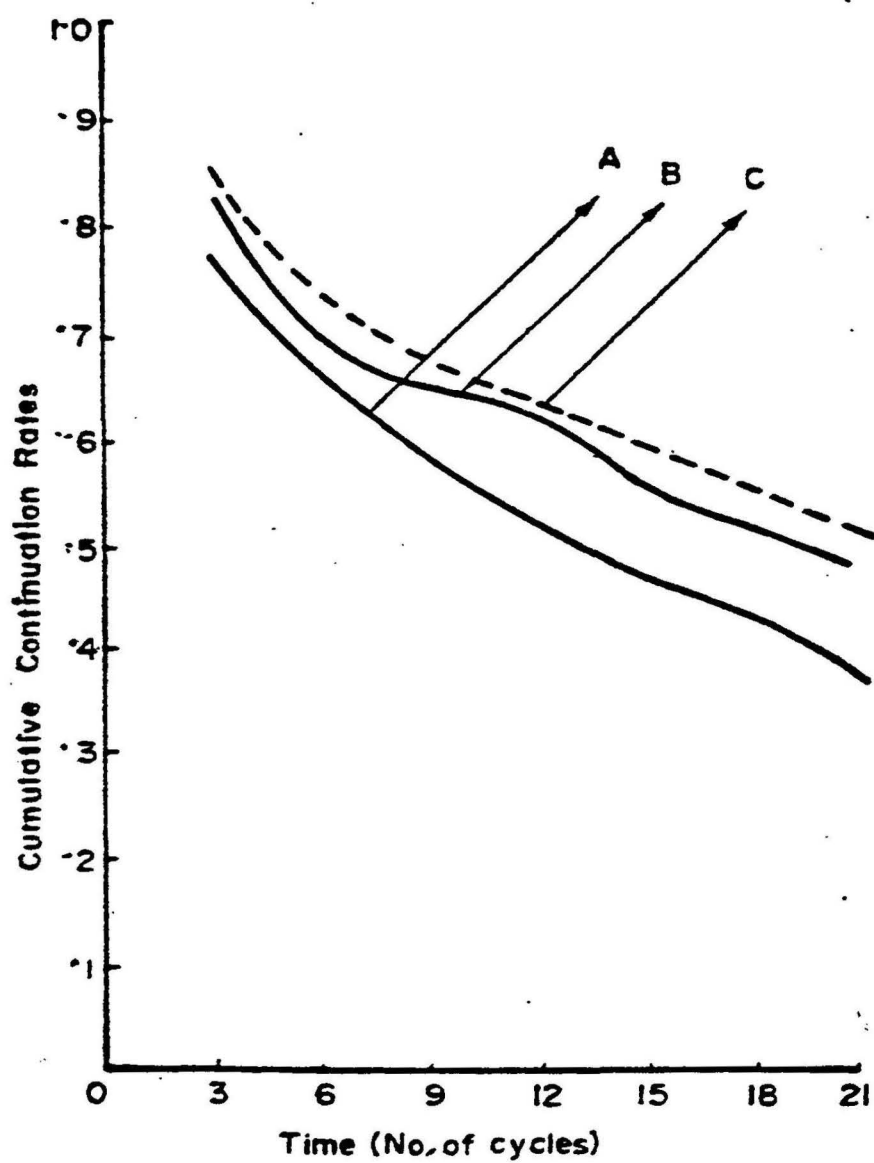
B = 25-29

C = 30-34

D = 35+

Figure 3

COHORTS BEHAVIOUR WITH No. OF LIVING CHILDREN



Note :
 A = 0 - 2
 B = 3 - 5
 C = 6 +

Figure 4

In the previous section we have seen that a greater proportion of the Muslims are inclined to use the pill as a means of stopping child bearing. This attitude might have resulted in a more persistent use of the method. Concurrently the proportion of users who discontinue in favour of an additional planned pregnancy is also smaller among the Muslims.

Age

The analysis reveals that, in general, older women tend to have higher cumulative continuation rates (Table VII). For any given number of cycles the rates are the lowest for the group aged under 25, while the percentage continuing for each cycle is the highest for the group aged 35 and above. This pattern seems to reflect the behaviour of two distinct groups of women, viz., those who reported the pill use for spacing births and those who reported it as a terminal method, the proportion discontinuing for planned pregnancy being higher in the former group than in the latter. It also appears that women belonging to the age group 25-29 are more persistent users of the pill. In fact the pattern observed in this group for the first 6 cycles does not differ from the pattern observed among women aged 35 and above. However, with the increase of cycles, marked differentials begin to appear (Figure 3). This can perhaps be explained by the fact that 70% of women aged 25-29 accepted orals for spacing purpose, so that discontinuation in favour of an additional pregnancy may have increased with the increase in number of cycles.

Parity

The lowest continuation rates are found among pill acceptors with parity 0-2 (Table VII). Moreover, the difference in the rates between this group and the others becomes progressively wider as the number of cycles increases (Figure 4). The women in this parity group (0-2) are presumably very fertile. Clearly, they have not yet completed their expected family size, since 78% of them are reported to be contracepting for the purpose of spacing births: and for them planned pregnancy appears to be the prime reason for higher rate of discontinuation. The proportion reporting discontinuation due to medical reasons is also quite large within this group. Orals are used most persistently by women belonging to the parity group 3-5 as evidenced by their higher continuation rates. For women of parity 6 and over, the relatively low continuation rate upto 6 cycles is noteworthy. For them, medical reasons and reaching menopause appear to be the main causes for contraceptive discontinuation.

Literacy

A comparison of three categories of education, viz., no formal education, some education and 5 years or more of completed schooling for either acceptors or their husbands is presented in Table VII. The continuation rates are marginally higher for women who have completed five years' or more schooling. There is no marked differences between other groups. Likewise, acceptors who reported the level of their husbands' education to be 5 or more years' of schooling have slightly higher continuation rates than those whose husbands were declared to have no formal education or some education. This suggests that the persistent use of oral contraception is positively related with spouses' education beyond primary level. However, only marginally lower continuation rates observed in other groups support the contention [5] that the couples without formal education or with some education are not inefficient users of the pill if properly motivated.

Working Status

As mentioned earlier working status of heads of households is considered as a "proxy" indicator in order to determine the working status of acceptors. There are no marked differentials in the continuation rates among the various cultivators' groups or with the service-holders' groups (Table VII). But it appears that acceptors in the households of fishermen and other non-agricultural labourers have higher continuation rates on the whole, although the magnitude of differences is quite small. The reason behind this difference is, however, difficult to identify.

Age of the Youngest Child

It appears from Table VII that the percentage of cumulative continuation rates is the lowest for women whose youngest child was aged between 0-18 months. Two reasons may account for the higher discontinuation rate in this group: (1) most of the clients were lactating mothers and they might have thought that they were under natural protection, and (2) as 56% of them reported the use of orals for postponing births, they might have decided at certain stage to plan for additional children. Mothers with the youngest child aged 55 or more months have comparatively lower continuation rates probably because of biological factor, viz., most or at least many of them may have reached menopause.

Additional Children

It is apparent from Table VII that the continuation rates are higher for those acceptors who do not desire any additional sons while the continuation rates for those who desire one or more additional sons are lower. Likewise, the continuation rates are higher for women desiring no additional daughters than for those desiring one or more additional daughters. Thus the data suggest that the effective use of orals is inversely related to the desire for additional children.

V. CONCLUDING REMARKS

This study deals with oral contraceptors: their characteristics, the reasons for which they have accepted orals and their contraceptive behaviour. Two distinct groups of women were first identified: (1) women who have accepted orals for spacing births, and (2) those who have accepted for total termination of child bearing. The former group is younger and is composed of women having fewer living children and desiring additional babies. The latter group is comparatively older and the women in this group have a greater number of living children and they generally desire no additional babies. Use-pattern of oral pills as identified by the indicator 'life table continuation rates' is lower in the former group than in the latter.

This finding has an important implication for programme officials and policy makers. Firstly, younger women and women with lower parity may be encouraged to accept and continue with a temporary method like oral contraception which will help them in spacing pregnancies. Secondly, the relatively older women and women with higher parity may be encouraged to adopt a suitable terminal method like tubal-ligation, or vasectomy for their husbands, which will help them stop child bearing.

One of the main purposes of this study was to determine why some women discontinue oral contraception while others do not. Apart from 'method failure', it is observed that women who have accepted orals for spacing purpose gradually discontinue as they later on decide to have more children. But according to the discontinuers themselves medical and health reasons are by far the most important reasons for stopping contraception—a finding which is equally supported by Matlab data [13]. A bio-medical analysis should be specifically undertaken to assess whether the various brands of oral pills distributed in the programme

area or other areas of Bangladesh are actually suitable for Bangalee women. Moreover, medical facilities and attention should be made available to obviate the problems of side effects experienced by the contraceptors, especially at the initial cycles of use. Paramedics and health clinics can go a long way towards solving this problem; but health infrastructure remains very poor in the rural areas and would need high priority to meet the present demand.

A question of primary importance is whether an overwhelming majority of women who are rural and illiterate in our society will effectively use the orals. The data show an overall high continuation rate over a period of time in the Sulla project area and this suggests that the pill can be an acceptable and effective method for the womenfolk in our society.

Another important question that needs to be answered is whether it is possible to replicate this result in other regions of Bangladesh, and if so, how? To seek answer to this question, it is not unwise to look at the operational setting of BRAC. Besides having an effective operational structure, a sense of dedication is created among BRAC workers who work on team basis. What is important is that the eligible couples are persuaded again and again and the clients are well motivated. The acceptors are regularly followed up and in the case of side-effects, they are provided with medical care. Clinical facilities are also provided to the patients when necessary. Functional education activities as well as group and community discussions seem to be helpful in enhancing the level of motivation of the couples. The programme for economic support as conducted by BRAC is equally important. All this along with other sectoral programmes has probably raised the level of aspiration for better living among the participants. Furthermore, accessibility to the family planning services and pattern of distribution has been carefully designed to ensure efficient performance.

We do not mean to suggest that the structural organisation of BRAC could be replicated everywhere: what we intend to suggest, however, is that the factors behind the success in Sulla should be identified and taken into account while trying to replicate Sulla's success elsewhere.

REFERENCES

1. Balakrishnan, T.R. *et al.*, "Analysis of Oral Contraceptive Use through Multiple Decrement Life Table Techniques", *Demography*, Vol. 7, No. 4, 1975.

13. Khan, Atiqur Rahman *et al.*, "Preliminary Experience with a Clinic Based Oral Contraceptive Programme in Rural Bangladesh", *FRP Report No. 8*, Cholera Research Laboratory, Dacca, 1976.
14. Lapham, R.J. and Mauldin P.W., "National Family Planning Programmes: Review and Evaluation", *Studies in Family Planning*, Vol. 3, No. 3, 1972.
15. Majumdar *et al.*, "Use of Oral Contraceptives in Urban, Rural and Slum Area," *Studies in Family Planning*, Vol. 3, No. 9, 1972.
16. Osteria, T. *et al.*, *Assessment of the Matlab Contraceptive Distribution Project-Implications for Program Strategy* (Working Paper No. 4), Cholera Research Laboratory, Dacca, 1978.
17. Planning Commission, Government of the Peoples' Republic of Bangladesh, *The First Five Year Plan 1973-78*, Dacca, 1973.
18. Potter R.G., "Application of Life Table Techniques on Measurement of Contraceptive Effectiveness", *Demography*, Vol. 3, No. 2, 1966.
19. Rao, P.V., "Reduction in the Birth of a Community through the Use of Oral Contraceptives", paper presented at the Seminar on Modern Contraception, Bombay, 1965.
20. Ryder, N.B. and Westoff, C.F., "Use of Oral Contraception in the United States, 1965", *Science*, Vol. 153, 1966.
21. Westoff, C.F. and Ryder, N.B., "Duration of Use of Oral Contraceptives in the U. S. 1960-1965", *Public Health Reports*, Vol. 83, No. 4, 1968.

Appendix A

In order to construct life table the following notations are used [1] :

X = duration in three monthly units.

$N_x^{(n)}$ = number of women using pills at the beginning of the period X .

P_x = number of women terminating use of pills to become pregnant during the period X .

M_x = number of women terminating use of pills for medical and health reasons during the period X .

A_x = number of women terminating use of pills for accidental pregnancy during the period X .

F_x = number of women terminating use of pills for fear of the method or due to husbands' unwillingness during the period X .

D_x = number of women terminating use of pills since they no longer require it during period X .

O_x = number of women terminating use of pills for all other reasons¹ during the period X .

$$T_x = P_x + M_x + A_x + F_x + D_x + O_x$$

W_x = number of users last observed during the period X .

The decrement rates for various causes as computed are called net rates [1]. The formula for calculation of net rates are as follows :

$$q_x^{(p)} = P_x / N_x^{* (n)}, \text{ etc.}$$

$$\text{where } N_x^{* (n)} = N_x^{(n)} - (W_x/2)$$

This allows a provision that if the loss rate is uniform, those who stop use of the pill in a given period of time are "on an average exposed only half the time to the risk of pregnancy or other decrements" [1].

$$q_x^{(n)} = q_x^{(p)} + q_x^{(m)} + q_x^{(a)} + q_x^{(f)} + q_x^{(d)} + q_x^{(o)}$$

$$\text{and } p_x^{(n)} = 1 - q_x^{(n)}$$

¹Other reasons include religious bar, no supply of pills, sterilized cases, switched over cases to other methods, etc.

while, $P_x^{(n)} = \prod_{x=1}^x P_x^{(n)}$

$P_x^{(n)}$ is known as continuation rate at the end of X period of time in oral contraception use.

Standard errors have been computed with the following formula [1] :

$$1 = \text{SE. of } P_x^{(n)} = P_x^{(n)} \left[\sum_{x=1}^x \frac{q_x^{(n)}}{P_x^{(n)} N_x^{(n)}} \right]^{\frac{1}{2}}$$

APPENDIX TABLE A (1)

ALL ACCEPTORS : ORAL CONTRACEPTIVES BY LENGTH OF USE AND CURRENT STATUS, SULLA

Length of Exposure (cycles)	Current Status								
	Planning Pregnancy	Medical Reasons	Accidental Pregnancy	Fear Method /Husbands, Unwillingness	Don't Need Any More	Others	Total having Discontinued	Continuing Users	All Acceptors N = 2331*
X	P X	M X	A X	F X	D X	O X	T X	W X	T + W X X
0-3	64	111	58	42	43	64	362	414	796
4-6	43	53	31	11	22	23	183	293	476
7-9	19	32	18	3	10	10	92	166	258
10-12	12	14	10	2	2	4	44	109	153
13-15	9	20	6	5	9	7	56	183	239
16-18	3	6	4	—	1	4	18	122	140
19-21	4	6	2	—	3	1	16	146	162
22-24	2	1	1	1	—	—	5	66	71
25+	1	1	—	1	1	—	3	53	36
Total	156	244	130	65	91	113	799	1532	2331

* 28 acceptors did not specify their cycles of use or terminal status and they were excluded from analysis.

APPENDIX TABLE A (2)

ALL ACCEPTORS: DECREMENTAL RATES BY CAUSE OF TERMINATION AND LENGTH OF EXPOSURE

Length of Exposure (cycles)	No. at Beginning N _x	Adjusted No. Exposed N [*] (T) N _x	Probability of Termination							1-q _x ^(f) = p _x ^(T)	Cumulative Continuation Rates (T) P _x	S. E.
			Planning Pregnancy (p)	Medical Reasons (m)	Accidental Pregnancy (a)	Fear Method (f)	Don't Need (d)	Others (o)	Total (T)			
			q _x	q _x	q _x	q _x	q _x	q _x	q _x			
0-3	2331	2124	.0301	.0522	.0273	.0197	.0202	.0301	.1798	.8202	.8202	.008
4-6	1535	1389	.0309	.0381	.0223	.0079	.0158	.0165	.1317	.8683	.7121	.010
7-9	1059	976	.0194	.0327	.0184	.0031	.0102	.0102	.0942	.9058	.6451	.011
10-12	801	747	.0180	.0187	.0133	.0026	.0026	.0053	.0589	.9411	.6071	.012
13-15	648	557	.0161	.0359	.0107	.0089	.0161	.0125	.1005	.8995	.5481	.014
16-18	409	348	.0086	.0172	.0114	—	.0028	.0114	.0517	.9483	.5178	.015
19-21	269	196	.0204	.0306	.0102	—	.0153	.0051	.0816	.9184	.4755	.019
22-24	107	74	.0270	.0135	.0135	.0135	—	—	.0675	.9325	.4434	.026
25+	36	20	—	.0500	—	.0500	.0500	—	.1500	.8500	.3769	.057