Socioeconomic Development And Human Well-being:
BRAC-ICDDR,B Joint Research Project, Matlab
(Phase II)

Report on the First Seasonal Round Survey: Health economy
(Key preliminary findings)

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Executive Summary

The BRAC-ICDDR,B Joint Research Project consists of two phases of research, analysis and interpretation that takes place over a 6 year project cycle. Initiated in 1992, research in Phase I (1992-'95) involved a large cross-sectional survey and a series of exploratory studies to assess existing differences in the populations prior to BRAC's RDP intervention. These studies sought to elucidate the socioeconomic and environmental context within which the BRAC's programmes would operate. Informed by the baseline and exploratory studies referred to above, the currently operating Phase II of this project (1995-'98) involves both in-depth and longitudinal investigations of the hypotheses generated during Phase I of research. This report documents the health component of the first of the three rounds of longitudinal data collected during summer, rainy and dry seasons respectively beginning the middle of April 1995.

Selection of Villages & Households: In all, 14 villages out of 60 villages in the DSS area from the four research cells were chosen where baseline survey was done in 1992. The survey targeted to cover all households in the selected villages. There were altogether 4097 households in these 14 villages as obtained from the 1993 census of ICDDR,B. However, there were non-responses from some households. For collecting household information, the household head was approached. In most cases, the heads were male members. In the absence of male household head, other responsible member who can provide reliable information about the household was approached. Information on health was mostly obtained from the spouse of the male household head or the female household head or any knowledgeable women in the household. The survey administered three sets of questionnaires on i) household composition and socioeconomic status; ii) questionnaires for ever married women and, iii) questionnaire for currently married men. A variety of measures were implemented to ensure the quality of the data. In all, data were collected for 19,262 persons from 3,687 surveyed households during first round.

Results:

Socio-demographic characteristics of the study population: The proportion of under-fifteen is significantly less and fifteen plus is significantly more in NTG HHs compared to BRAC member HHs (p<.001), for both sexes. Interestingly, the proportion of elderly males (65 years and above) in NTG HHs is more than double than in BRAC member HHs, but not the females. Also, there is more males of the above age group compared to females among NTG HHs.

Individuals from BRAC member HHs are significantly more (p<.001) literate than those from TG non-member HHs (p<.001), for both sexes. Exactly the same trend is seen when we consider schooling for more than 5 years among this population. However, the proportion of women having more than 5 years of schooling is uniformly less compared to the males, irrespective of BRAC membership status of the households. This proportion becomes more than double in case of TG HHs.

Evidently, there is clear-cut difference in the distribution of occupation among the two sexes. Major proportion of the males are 'student' while majority of the females are engaged in 'housework.' Highly significant difference (p<.001) in occupation exists between BRAC member HHs and the other two categories. The proportion of males earning their living from 'farming' is about two to

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three times more for those from NTG HHs compared to BRAC member and TG non-member HHs respectively. The proportion of 'self-employment' is much greater in BRAC member HHs compared to either TG non-member or NTG HHs and the proportion of 'wage-labour' is much more in case of TG non-member HHs than BRAC member HHs. Again, majority of the males who are engaged in 'service' and 'trade' are from NTG HHs. In case of females, greater proportion of women from BRAC member HHs is engaged in 'service' than the other two categories of HHs.

Illness episodes, types of illness and it's management: The reference period for collecting information on prevalence of illness was past 15 days from the day of survey. At aggregate membership level, a significantly lower proportion of males and females were ill among BRAC member HHs compared to TG non-member HHs (p<.001). Interestingly, the proportion of ill among BRAC member HHs was similar to those from NTG HHs which is also reflected in the fact that the difference between these two categories of HHs was not statistically significant.

There was no significant difference in illness profile among males and females of the three types of study HHs. The most frequently reported illness was fever of various types. The second and third most common illness reported were problems involving digestive tract and pain/aches of various types in different parts of the body respectively.

Around 15-20% of the ill persons went without any treatment of whatever kind. Highly significant difference (p<.001) exists between ill individuals of BRAC member and TG non-member HHs in treatment seeking while this difference is significant between BRAC member and NTG members at a lower level (p<.05). Allopathic treatment, whether sought from qualified professionals, para-professionals or non-qualified quacks, appears to be the dominant system of treatment sought in the study area. BRAC member HHs sought treatment more from qualified and non-qualified allopathic practitioners while those from TG non-member HHs sought treatment more from para-professionals. The NTG HHs sought more of qualified professionals compared to the TGs. 'Traditional' healers are comparatively less contacted (around 10%) by this population. 'Allopathic' treatment is less sought for females compared to males and also, the proportion without treatment is more among females than males. There was no significant difference in the time period between recognition of illness and commencement of treatment.

It is seen that at aggregate membership level, more than Taka fifty was spent during the reference period in around 40% of cases irrespective of BRAC membership status of the household. Also, the difference between BRAC member and TG non-member HHs was significant for males (p<.001), but not the females.

Domestic hygiene and sanitation practices: No significant difference was found between BRAC member HHs and the other two categories in disposal of under-one children's stool. Majority of the respondents stated that they disposed the stool of their under-one children into surface water i.e., pond, canal, river etc. Again, there is no difference in the proportion disposing garbage in fixed place between BRAC member and TG non-member households, while significantly greater proportion of NTG HHs disposed garbage in fixed place compared to BRAC member HHs.

Data were collected about the sources of water used for household activities (other than drinking and hand washing) by interviewing the respondents and on the spot verification by the

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interviewers. Only a small proportion of HHs use tube-well water for bathing and washing utensils. Most of the HHs bath or wash utensils in pond or canals or river. There is no difference between BRAC member and TG non-member HHs though the difference with NTG HHs is highly significant (p<.001). The NTG HHs use tube-well water in greater proportion for these purposes than the TG HHs.

Conclusions: From an analysis of the above findings, the following tentative conclusions can be drawn pending further treatment of the data:

- Significant differences exist between BRAC member and TG non-member HHs and, between the former HHs and the NTG HHs in literacy (in case of NTGs only) and occupation.
- The prevalence of illness is significantly more among the TG HHs (BRAC member or not) compared to NTG HHs; also, at aggregate level there is significantly less morbidity among member HHs compared to TG non-member HHs.
- The three most common categories of illness in all cells and all types of HHs in order of frequency are: fever (of any kind), gastrointestinal diseases and pain/aches (of all types and parts of the body)
- Around an average of 20% ill persons do not receive any health care of any kind at all. The proportion is more in comparison and BRAC-only cell
- 'Para-professionals' and 'Non-qualified allopaths' are found to be the major health care providers in the study area. 'Qualified' allopaths are mostly utilised by the NTG HHs
- For majority of the ill persons, a very small amount of money (less than Tk 10/- only) is spent
- The study households fared very badly in domestic hygiene and sanitation practices irrespective of intervention cells or HHs status. The NTG HHs are slightly better than the TG HHs in this respect; also, BRAC member HHs are marginally better than TG non-member HHs
- Tube-well water is still not widely used for activities other than drinking and hand-washing in the study area

Chapter One: Introduction

1.1 Background

The introduction of BRAC's Rural Development Programme (RDP) in ICDDR,B's Demographic Surveillance Area in Matlab thana during early 1992 provided an unique opportunity for longitudinal research on the relationship between socioeconomic development and health and well-being. Accordingly, in second half of 1992, a joint research project was initiated by researchers from both institutions (1). On the part of ICDDR,B, there was a desire to evaluate the extent to which socioeconomic development might enhance the effectiveness of its health intervention. BRAC, on the other hand, grasped the opportunity to draw on ICDDR,B's demographic and health surveillance data to assess the health impact of RDP and to evaluate and refine its rural development programmes. Common to both organizations was an interest in understanding the pathways through which socioeconomic development works to influence the health and well-being of the rural poor. The project employs an iterative approach to study design that permits the development of innovative qualitative, quantitative and participatory methods to investigate the above-mentioned pathways.

The BRAC-ICDDR,B Joint Research Project consists of two phases of research, analysis and interpretation that takes place over a 5 year project cycle (2). Initiated in 1992, research in Phase I (1992-'95) involved a survey to assess existing differences in baseline conditions (e.g., attitudinal information on women's status and desired family size in addition to demographic, nutritional, socioeconomic conditions) prior to BRAC's intervention (3), as well as a series of exploratory studies. These studies sought to elucidate the socioeconomic and environmental context within which RDP operates, and to evaluate specific BRAC inputs in terms of their content, implementation and adoption by rural people. Most of these studies were conducted on small samples close to the project research station located in Uddomdi village. A mid-term review of the activities carried out in Phase I and the proposed activity for Phase II was undertaken by an international committee of experts in January 1995. The review team, while commended the progress made in the research, also cautioned against becoming too ambitious (4).

Informed by the baseline and exploratory studies referred to above, the currently operating Phase II of this project (1995-'97) involves both in-depth and longitudinal investigations of the hypotheses generated during Phase I of research. This report documents health component of the first of the three rounds of longitudinal data collected during summer, rainy and dry seasons beginning middle of April 1995.

1.2 Conceptual framework

In both developed and developing countries, a vast empirical literature consistently points to the strong influence of socioeconomic factors on health and well-being, providing opportunities for interventions (5,6). The emerging evidence on these factors along with identifying pragmatic interventions, has underlined the need for exploratory research. This type of research will help in mapping the complex interactions between them leading to health or disease. However, the large majority of studies that investigate this relationship are cross-sectional in design, and are thus not amenable to exploring the intervening pathways or mechanisms that link socioeconomic development and human well-being. As a result, these pathways are referred to with speculative

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assumptions, and remain an ill-understood "black-box" in models of socioeconomic development. This joint research project, along with assessing the impact of BRAC's development interventions on human well-being broadly defined (see below), attempts to understand these mechanisms or pathways through which positive or negative change occurs.

For the purposes of this study, a broad concept of human well-being is employed which encompasses seven dimensions including mortality, morbidity, nutritional status, fertility, household livelihood and income, women's lives and the environment (7). BRAC's RDP influences these different dimensions through a web of intersecting pathways. In the following section, health that is, mortality and morbidity is described in terms of a number of hypothesisized pathways which link them to BRAC's socioeconomic interventions.

Among the most important proximate determinants of morbidity and mortality decline is a decrease in disease transmission and medical complications, an increase in resistance to infection and a decrease in the severity and duration of illness. It is hypothesized that these proximate determinants are mediated through three principal pathways. The first pathway links decreased morbidity and mortality with health care services provided by BRAC's Essential Health Care (EHC) and ICDDR,B's Maternal Child Health-Family Planning (MCH-FP) Programme. It is hypothesised that preventive health and nutrition behaviour such as immunisation and vitamin supplementation, installation and use of tube-wells and sanitary latrines, planned family formation, maintenance of personal and domestic hygiene, home gardening and adoption of healthy food habits etc. work to limit disease susceptibility and transmission, reduce the severity and duration of morbidity and decrease mortality rates. Mortality decline among infants and mothers is also anticipated as better maternal nutrition and antenatal care ensures healthy foetal growth, increased birth weight and clean child birth. BRAC's EHC also promotes timely referral to secondary care in the case of life-threatening complications.

A second pathway links credit programmes and other income generating activities to an overall improvement in household socioeconomic status. Greater available income will contribute to better environmental conditions within household, permit greater spending on health and nutrition and increase access to and use of good quality health care services by BRAC, ICDDR,B, Govt. and/or qualified practitioners. It is hypothesized that these income effects will enable early illness detection and management, timely referral and improved nutritional status.

The third pathway links the psycho-social and human capital benefits of functional education, training and economic activity to an improvement in women's socioeconomic status and ultimately to greater household health as they tend to allocate a large share of their income to meet the health and nutritional needs of household members. The status, self-worth and confidence that women acquire as a result of their involvement in economic activity enables them to more competently manage health and illness at home, and enhance their ability to access and interact with formal health care system. Reduced gender disparity, improved husband-wife communication and increased participation in household decision making which occur as women assume control over their lives and resources, mediate this process.

Fig 1: Hypothesized Pathways linking BRAC's RDP inputs to health of beneficiary household members

Health In-puts	Credit , training & related in-puts	Membership in BRAC's VO
1. BRAC: mainly preventive (water & sanitation, health & nutrition education, contraceptives, curative medicine for minor illnesses) 2. ICDDR,B: both preventive and curative(all MCH-FP services)	Increased Household Income ↓ More spending on food and health	Human capital development ↓ Income-earning activities ↓ Contribution to household income

| Preventive health & nutrition behaviour ↓ Changes in personal and domestic hygiene ↓ Hygienic physical environment | • Quantity and quality of Food Intake • Nutritional status of household members • Capacity to meet unexpected health expenses • Access and utilization of health care facilities • Less physical violence in the family | Empowerment ↓ • Health Decision-making • Knowledge of and access to health care facilities • Husband-wife health communication • Communication with health care personnel • Gender discrimination |

| • Increased resistance to infection and decreased disease transmission • Better management of illness episodes and increased use of "modern medicine" | • Increased resistance to infection and decreased disease transmission • Better management of illness episodes and increased use of "modern medicine" | • Better management of illness episodes • Increased use of "modern medicine" |

Reduced morbidity ⟶ Reduced mortality

1.3 Scope and objectives of the study

The general objective of the health component of the study is to explore the effects of various RDP in-puts including EHC on morbidity, treatment seeking behaviour, expenditure on health and domestic hygiene practices. This report documents the first, i.e., baseline conditions with regard to the above factors obtaining at the time of survey round (mid-April '95 to mid August '95). When this data will be compared with the 2nd (mid-August '95 to mid-December '95) and 3rd round (mid-December '95 to mid-April '95) data, one can examine the changes in the above variables, if any, over a period of one year (April '95-April '96).

Chapter Two : Methods and Materials

2.1 Study Design

A common sampling frame and the same four cell study design that was followed in conducting the baseline survey during '92 was utilized in designing this longitudinal seasonal survey (3). These cells are: villages with BRAC intervention, villages with ICDDR,B intervention, villages with both BRAC and ICDDR,B intervention and lastly, comparison villages without any of the two above interventions (having usual Govt. interventions). This research design permits the comparison of the impact of the two programmes independently, and in combination. Also, three rounds of data spread over a year will permit the comparison of changes in the same cell over a specified period of time. The design also is sensitive to the fact that the impact of BRAC programmes may not be confined to the target group because of deficiencies in the application of eligibility criteria. For these reasons, all the three types of persons and households - BRAC members, non-members who are eligible to be members and non-members who are not eligible - were included in the research. Similar care was taken to ensure that the actual impact of BRAC Vs ICDDR,B was captured. To ensure this more households were sampled from BRAC areas.

The following figure shows that cell A includes those villages which are exposed to the programmes of both BRAC and ICDDR,B, cell B includes those exposed to the programmes of ICDDR,B only, cell C those of BRAC only while the last cell D includes those that have not being exposed to either although the usual government health services are present. The 4 cell design also permits the comparison of the situation prevailing during the time 0 with the situation prevailing during time 1. Here, it is assumed that changes or modifications observed during this period would be largely explained by the interventions made by BRAC and ICDDR,B.

A_0 BRAC + ICDDR,B	B_0 ICDDR,B Only
A1	B1
C_0 BRAC Only	D_0 Comparison
C1	D1

2.2 Sampling Strategy

Selection of Villages : In all, 14 villages out of 60 villages in the DSS area from the four research cells were chosen where baseline survey was done in 1992. While preparing this list, precaution was taken to exclude two types of villages as far as possible: villages that would be at risk of river erosion in the near future and villages that were situated on both sides of the embankment. Thus, out of these 14 villages, 9 were from outside the embankment, 4 from inside the embankment while only 1 from both-sides of the embankment.

Selection of Households & Respondents : The survey targeted to cover all households in the selected villages. There were altogether 4097 households in these 14 villages as obtained from the 1993 census of ICDDR,B. However, there were non-responses from some households. Concerning the non-response households, repeated visits at adequate intervals were made to find

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a responsible member for gathering information. Some households did not exist at all owing to migration, river erosion and others. Owing to the above factors, the coverage of the first round survey was 3,687 households (see Table below). For collecting household information, the household head was approached. In most cases, the heads were male members. In the absence of male household head, other responsible member who can provide reliable information about the household was approached. Information on health was mostly obtained from the spouse of the male household head or the female household head or any knowledgeable women in the household.

Table: Distribution of the study households according to BRAC membership status and programme intervention

BRAC membership status of the HH	BRAC+ ICDDR.B	BRAC Only	ICDDR,B Only	Comparison	Total
BRAC member HH	323	263	--	--	586
BRAC eligible non-member HH	259	248	530	542	1579
BRAC non-eligible non-member HH	355	418	369	221	1363
Total	937	929	899	763	3528

2.3 Survey Instruments

The seasonal longitudinal survey consists of structured questionnaires administered by trained interviewers. It consists of three sets of questionnaires: i) one on household composition and socioeconomic status; ii) questionnaires for ever married women and, iii) questionnaire for currently married men. Some of the questions are pre-coded while the others open but amenable to post-coding. Questionnaires were pre-tested to ascertain their simplicity and whether clearly understood to the respondents. All questions were phrased in Bangla.

2.4 Data Management

Databases were created to compile information and to facilitate statistical analysis. Coding manuals were used by professional coders in Head Office. A computer programme was developed to identify data inconsistency. Using key variables cross-matching was performed which was very important in linking database files and carrying out analysis.

2.5 Quality Control

A variety of measures were implemented to ensure the quality of the data. Pre-testing allowed us to identify which questions were not understood by the respondents and which might yield incorrect information. The sensitivity of the required information was carefully evaluated and the questions framed accordingly, so that the respondents did not feel unease to respond.

Four field stations in the villages of Uddomdi and Narayanpur outside the embankment and Gourangabazar and Shahabazkandi inside embankment were established. Qualified investigators were grouped into four base teams to carry out the survey. Both male and female investigators were included in the four teams. Senior members of the research project provided training to the field investigators. They explained the purpose of the research, the meaning of different concepts and variables used in the questionnaire, the art of building rapport with the respondents and asking questions of sensitive nature etc. Before the actual survey began, the four teams were

deployed to their respective bases for two weeks to get a first hand knowledge of the villages and build rapport with the villagers and to pre-test and repeat-test the survey instruments. In addition refresher training occurred every month for the investigators. There were supervisors for all field stations who facilitated trouble-shooting in the field work, and who randomly cross-checked the data collected. Whatever errors were identified at the time of field editing were verified in the field again.

To test the reliability and validity of the data, two independent one person teams were constituted. The teams visited the four bases at random and cross-checked certain specific indicators from all households surveyed in the previous day. These were later independently entered in the computer and analysed. The variations between the main survey and the second were found to be within acceptable limit (less than 5%).

Chapter Three: Results

In all, data were collected for 19,262 persons from 3,687 surveyed households during first round. The distribution of these individuals in different cells according to BRAC membership status of the household and intervention cell is shown in the following Table:

Table: Distribution of the study population according to BRAC membership status of the household and intervention cell

BRAC membership status of the HH	BRAC+ ICDDR.B	BRAC Only	ICDDR,B Only	Comparison	Total
BRAC member	1694 (34%)	1522 (28%)	--	--	3216
BRAC eligible non-member	1204 (24%)	1217 (23%)	2562 (55%)	2822 (67%)	7805
BRAC non-eligible non-member	2072 (42%)	2649 (49%)	2124 (45%)	1396 (33%)	8241
Total	4970	5388	4686	4218	19262

3.1 Socio-demographic characteristics

3.1.1 Introduction
Information related to education and occupation was collected for those aged 6 years and above. The following sections present these socio-demographic data according to the four cells study design that is based on different combinations of programme intervention.

3.1.2 Age distribution of the study population
Tables 3.1A and 3.1B show the age composition of the study population by BRAC membership status of the HH for males and females respectively. At aggregate membership level, there is significant difference between BRAC member and Non Target Group (NTG i.e., BRAC non-eligible) HHs while no such difference exists between BRAC member and TG non-member HHs. The proportion of under-fifteen is significantly less and the proportion of persons above 15 years is significantly more in NTG HHs compared to BRAC member HHs (p<.001), for both sexes. Interestingly, the proportion of elderly males (65 years and above) in NTG HHs is more than double than in BRAC member HHs, but not the females. Also, there is more males of the above age group compared to females in NTG HHs.

At cell level, the proportion of under-five children is found to be significantly greater in TG HHs compared to NTGs for both sexes, in non-BRAC cells.. With regard to elderly persons, the same trend as at the aggregate level is seen in all four cells and for both sexes (Appendix Table 3.1X and 3.1Y).

Table 3.1A: Age composition of males by BRAC membership status of the household at aggregate level, Matlab 1995

Variables	% males from					
	BRAC member HHs	Non-member HHs		All	X²	
		TG	NTG	HHs	(2) vs (3)	(2) vs (4)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Age (yrs)						
0-4	11.9	12.2	10.3	11.3		
5-14	31.9	31.7	24.7	28.7		
15-49	44.5	43.9	47.2	45.4	NS	P<.001
50-64	8.2	8.8	9.8	9.1		
65 and above	3.5	3.4	7.9	5.4		
N	1561	3854	4080	9495		

Table 3.1B: Age composition of females by BRAC membership status of the household at aggregate level, Matlab 1995

Variables	% females from					
	BRAC member HHs	Non-member HHs		All	X²	
		TG	NTG	HHs	(2) vs (3)	(2) vs (4)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Age (yrs)						
0-4	11.2	12.2	9.3	10.8		
5-14	29.2	27.2	23.9	26.1		
15-49	47.7	47.9	49.5	48.5	NS	P<.001
50-64	7.6	8.9	12.0	10.0		
65 and above	4.3	3.8	5.3	4.5		
N	1655	3951	4161	9767		

3.1.3 Literacy and years of schooling

The literacy and schooling years of the study population are presented in Tables 3.2A & 3.2B for males and females respectively. Literacy is enumerated in terms of ability to read, write or sign name while education is enumerated in terms of years of any kind of formal schooling attended/currently attended by the individual. At aggregate membership level, individuals from BRAC member HHs are significantly more (p<.001) literate than those from TG non-member HHs (p<.001), for both sexes. Exactly the same trend is seen when we consider schooling for more than 5 years among this population. However, the proportion of women having more than 5 years of schooling is uniformly less compared to the males, irrespective of BRAC membership status of the households. This proportion becomes more than double in case of TG HHs. This trend is also seen at cell level, and for both sexes (Tables 3.2X and 3.2Y).

Table 3.2A : Literacy and years of schooling of males by BRAC membership status of the household at aggregate level, Matlab 1995

	% males from					
Variables	BRAC member HHs	Non-member HHs		All	X²	
		TG	NTG	HHs	(2) vs (3)	(2) vs (4)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Literacy						
Can write and/or read	55.0	46.3	75.6	60.6	P<.001	P<.001
Can't do either/can sign only	45.0	53.7	24.4	39.4		
Years of schooling						
None	37.3	44.4	20.1	32.6		
1-5	47.4	44.0	41.7	43.5	P<.001	P<.001
5+	15.3	11.6	38.2	23.9		
N	1304	3303	3621	8325		

Table 3.2B : Literacy and years of schooling of females by BRAC membership status of the household at aggregate level, Matlab 1995

	% females from					
Variables	BRAC member HHs	Non-member HHs		All	X²	
		TG	NTG	HHs	(2) vs (3)	(2) vs (4)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Literacy						
Can write and/or read	40.5	34.7	61.1	47.2	P<.001	P<.001
Can't do either/can sign only	59.5	65.3	38.9	52.8		
Years of schooling						
None	51.6	57.5	34.2	4634		
1-5	41.7	37.2	41.8	39.9	P<.01	P<.001
5+	6.7	5.3	24.1	13.7		
N	1401	3303	3621	8325		

3.1.4 Occupation

The occupational distribution of the study population is shown in Tables 3.3A and 3.3B for males and females respectively. For the purpose of the survey, 'Occupation' was defined as the activity in which the concerned individual spends major part of her/his time in a working day. The information was obtained from head of the HH or any knowledgeable adult member of the HH who was present at the time of survey. Occupation is categorised into eight major groups. 'Farming' designates those persons who have their main income from operation of agricultural land. The category 'wage labour' includes both farm and non-farm day labour. The category 'service' includes employment with fixed monthly remuneration and 'trade' includes big business in the thana bazar or other big places of trade and commerce in the area. 'Self-employment' includes petty trade and business such as running various types of retail shops and activities like poultry farming, handicrafts, pottery, rickshaw-pulling, fishing etc. 'Housework' is used for activities associated with household chores, mainly performed by women in the context of rural Bangladesh. 'Others' includes very old, retired persons, unemployed youths, beggars, vagabonds etc.

Table 3.3A: Occupation of males by BRAC membership status of the household at aggregate level, Matlab 1995

Variables	BRAC member HHs	Non-member HHs		All	X²	
		TG	NTG	HHs	(2) vs (3)	(2) vs (4)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Agriculture	10.2	7.3	22.8	14.7		
Wage labour	17.8	23.0	4.1	13.8		
Service	7.6	7.9	11.5	9.4		
Trade	7.9	9.6	9.6	9.3		
Self-employment	12.9	9.7	3.2	7.3	P<.001	P<.001
Housework	0.9	0.8	1.1	1.0		
Student	38.9	36.3	42.0	39.2		
Others	3.8	5.4	5.6	5.2		
N	1257	3021	3385	7663		

Evidently, there is clear-cut difference in the distribution of occupation among the two sexes. Major proportion of the males are 'student' while majority of the females are engaged in 'housework.' Highly significant difference (p<.001) in occupation exists between BRAC member HHs and the other two categories. The proportion of males earning their living from operation of agricultural land i.e., 'farming' is about two to three times more for those from NTG HHs compared to BRAC member and TG non-member HHs respectively. The proportion of 'self-employment' is much greater in BRAC member HHs compared to either TG non-member or NTG HHs. On the other hand, the proportion of 'wage-labour' is much more in case of TG non-member HHs than BRAC member HHs. This is much less in case of NTG HHs. Again, majority of the males who are engaged in 'service' and 'trade' are from NTG HHs, irrespective of membership status or intervention cell. In case of females, greater proportion of women from BRAC member HHs is engaged in 'service' than the other two categories of HHs.

In cells where BRAC intervention (BRAC+ICDDR,B or BRAC-only) is present, fewer proportions of males from BRAC member HHs are engaged in wage-labour compared to TG non-member HHs. Interestingly, a lesser proportion of females from BRAC member HHs are engaged in 'housework' and a slightly greater proportion of the same category of females are engaged in 'service' compared to TG non-member HHs, only in cells where BRAC intervention (BRAC+ICDDR,B or BRAC-only) is present--- a non-significant difference. This difference is reversed among TG HHs in the other cells where BRAC is not operating. (Tables 3.3X and 3.3Y).

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Table 3.3B: Occupation of females by BRAC membership status of the household at aggregate level, Matlab 1995

Variables	%females from					
	BRAC member HHs	Non-member HHs		All	X²	
		TG	NTG	HHs	(2) vs (3)	(2) vs (4)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Agriculture	0.1	0.0	0.1	0.1		
Wage labour	0.7	0.5	0.1	0.4		
Service	2.7	0.9	1.8	1.6		
Trade	0.3	0.2	0.1	0.2		
Self-employment	1.5	1.5	0.4	1.0	P<.001	P<.001
Housework	58.6	63.5	59.7	61.0		
Student	34.2	29.5	35.6	33.0		
Others	1.9	3.8	2.2	2.8		
N	1348	3157	3534	8039		

3.2 Illness episodes, types of illness and it's management

3.2.1 Illness episodes

The prevalence of illness during the reference period (within last 15 days from the day of survey) for males and females by BRAC membership status of the HH is shown in Table 3.4. At aggregate membership level, a significantly lower proportion of males and females were ill among BRAC member HHs compared to TG non-member HHs (p<.001). Interestingly, the proportion of ill among BRAC member HHs was similar to those from NTG HHs which is also reflected in the fact that the difference between these two categories of HHs was not statistically significant.

The difference in prevalence of illness between those from BRAC member HHs and TG non-member HHs was not significant in cells with BRAC intervention (Table 3.4.X). On the contrary, the proportion of ill greatly increased to around 20-30% among TG HHs in cells without BRAC intervention, more so in case of females. However, in all cells, the prevalence of illness is greater among those from TG HHs compared to the non-eligible HHs, irrespective of BRAC membership status.

3.2.2 Types of illnesses

The respondent, usually female (e.g., wife of household head or mother in case of children), was asked to describe the symptoms for each ill individuals in the household as far as s/he can recall. When the ill person was present at the time of the survey, information was obtained directly from her/him. Categories of illnesses were deduced from lay reporting of symptoms using a comprehensive coding system and later, these diagnoses were randomly cross checked by the concerned investigator. For the purpose of presentation, these illnesses are grouped into seven (males) to eight (females) types: fever (all types); gastro-intestinal illness (including gastric);

Table 3.4 : Prevalence of illness of study population during last 15 days by sex and BRAC membership status of the household at aggregate level, Matlab 1995

Variables	BRAC member HHs	Non-member HHs		All	X^2	
		TG	NTG	HHs	(2) vs (3)	(2) vs (4)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Had illness during last 15 days						
Male	12.3	20.4	12.0	15.4	P<.001	NS
N	1498	3641	3831	8970		
Female	13.5	20.4	14.2	16.6	P<.001	NS
N	1609	3854	4028	9491		

illnesses related to nutrient deficiencies (e.g., anaemia); respiratory illnesses; skin/eye/ENT illnesses; illnesses related to RTI/pregnancy; pain/aches (of all types and varieties) and lastly, the others.

There was no significant difference in illness profile among males and females of the three types of study HHs. The most frequently reported illness was fever of various types. The second and third most common illness reported were problems involving digestive tract and pain/aches of various types in different parts of the body respectively (Tables 3.5.A & 3.5.B). Similar distribution was seen in all intervention cells, irrespective of sex and BRAC membership status of the household (Tables 3.5.X and 3.5.Y). No significant difference is evident between different categories of households and intervention cells.

Table 3.5A : Types of illness (males) by BRAC membership status of the household at aggregate level, Matlab 1995

Variables	BRAC member HHs	Non-member HHs		All	X^2	
		TG	NTG	HHs	(2) vs (3)	(2) vs (4)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Fever	49.5	47.9	43.0	46.5		
Gastrointestinal diseases	21.2	22.5	23.6	22.7		
Deficiency diseases(e.g., anaemia)	1.6	1.3	2.2	1.6		
Respiratory diseases	4.9	5.5	6.3	5.7	NS	NS
Skin/Eye/ENT diseases	4.3	3.4	2.2	3.1		
Pain/aches	9.8	9.3	9.2	9.3		
Others	8.7	10.0	13.5	13.5		
N	184	184	458	1383		

Table 3.5.B : Types of illness (females) by BRAC membership status of the household at aggregate level, Matlab 1995

Variables	BRAC member HHs	Non-member HHs		All	X²	
		TG	NTG	HHs	(2) vs (3)	(2) vs (4)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Fever	41.9	43.1	37.4	40.9		
Gastrointestinal diseases	20.3	19.0	20.1	19.6		
Deficiency diseases(e.g., anaemia)	2.8	1.5	2.4	2.1		
Respiratory diseases	7.4	5.7	5.1	5.7		
Skin/Eye/ENT diseases	3.2	4.6	2.8	3.7	NS	NS
Pregnancy/Rep. tract diseases	0.9	1.0	2.1	1.4		
Pain/aches	16.6	13.7	16.1	15.0		
Others	6.9	11.3	14.0	11.7		
N	217	786	572	1575		

The header "% females from" spans columns (2), (3), (4), and (5).

3.2.3 Management of illness

Data on types of treatments were obtained by asking the respondent about treatment measures undertaken first either at home or outside home (e.g., contacting health care provider or HCP). These are categorised into six groups for convenience. The category 'home remedies' comprises both traditional (e.g., herbal medicine) and modern (e.g., analgesic & anti-pyretic tablet) home remedies including oral rehydration solutions (ORT). 'Para-professionals' consists of Palli Chikitsoks (village practitioners), Medical Assistants and different types of Government and non-Government community health workers who have got some kind of formal institutional training and treat mainly with allopathic drugs. The non-qualified practitioners of allopathic medicine like dispensers of drugs in pharmacies are designated as 'Non-qualified allopathic'. All kinds of faith healing and traditional systems of medicine like kabiraji/hakimi including homeopathy is included in the 'Traditional/homeopathic' group. The 'qualified allopathic' included professionals like MBBS, LMF or "National" doctors.

Around 15-20% of the ill persons went without any treatment of whatever kind. Highly significant difference (p<.001) exists between ill individuals of BRAC member and TG non-member HHs in treatment seeking while this difference is significant between BRAC member and NTG members at a lower level (p<.05). Allopathic treatment, whether sought from qualified professionals, para-professionals or non-qualified quacks, appears to be the dominant system of treatment sought in the study area. BRAC member HHs sought treatment more from qualified and non-qualified allopathic practitioners while those from TG non-member HHs sought treatment more from para-professionals. The NTG HHs sought more of qualified professionals compared to the TGs. 'Traditional' healers are comparatively less contacted (around 10%) by this population. 'Allopathic' treatment is less sought for females compared to males and also, the proportion without treatment is more among females than males.

Interestingly, the proportion of ill persons seeking no treatment was greatest in BRAC-only cell, irrespective of BRAC membership or TG status of the household, more so in case of females (Tables 3.6.X and 3.6.Y). No significant difference exists in types of treatment sought at cell level with the exception of BRAC-only cell in case of males (e.g., members using more home

remedies and para-professionals than the TG non-members, p<.05); and ICDDR,B-only cell in case of females (e.g., NTGs using more qualified allopathic than the TGs, p<.05).

Table 3.6A : Types of treatment sought (males) by BRAC membership status of the household at aggregate level, Matlab 1995

Variables	BRAC member HHs	% Individuals from		All	X²	
		Non-member HHs				
		TG	NTG	HHs	(2) vs (3)	(2) vs (4)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Home remedies	8.7	7.2	8.6	7.8		
Qualified allopathic	12.0	8.8	15.4	11.4		
Para-professionals	22.8	41.3	32.9	36.0		
Non-qualified allopathic	25.5	17.6	17.8	18.7	P<.001	P<.05
Faith-healing/homeopath	13.6	9.9	10.7	10.7		
No treatment	17.4	15.3	14.7	15.4		
N	184	739	456	1379		

Table 3.6.B : Types of treatment sought (females) by BRAC membership status of the household at aggregate level, Matlab 1995

Variables	BRAC members	% Individuals from		All	X²	
		Non-members				
		TG	NTG	HHs	(2) vs (3)	(2) vs (4)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Home remedies	7.9	5.9	6.9	6.5		
Qualified allopathic	12.0	5.1	14.2	9.4		
Para-professionals	18.5	42.4	28.1	33.9		
Non-qualified allopathic	24.1	15.0	17.4	17.1	P<.001	P<.05
Faith-healing/homeopath	11.1	8.3	12.1	10.1		
No treatment	26.4	23.3	21.3	23.0		
N	216	781	569	1566		

3.2.4 Commencement of treatment

Respondents were asked about the time interval between the onset of illness and initiation of treatment. The results are shown in Tables 3.7.A & 3.7.B In all areas and in all types of HHs, treatment for majority of the ill persons was initiated within 72 hours of illness. Only a smaller proportion of ill persons' treatment was delayed until after 5 days of commencement of illness. There was no significant difference in initiation of treatment, either at aggregate membership level or at cell level (Tables 3.7.X and 3.7.Y).

Table 3.7A : Days since onset of illness when treatment began for ill persons (males) by BRAC membership status of the household at aggregate level, Matlab 1995

Variables	% Individuals from				X^2	
	BRAC member HHs	Non-member HHs		All		
		TG	NTG	HHs	(2) vs (3)	(2) vs (4)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
≤1 day	18.5	27.4	26.7	25.9		
2-3 days	60.5	49.4	50.3	51.3		
4-5 days	12.1	12.7	11.8	12.3	NS	NS
6+ days	8.9	10.5	11.1	10.5		
N	124	449	296	869		

Table 3.7.B : Days since onset of illness when treatment began for ill persons (females) by BRAC membership status of the household at aggregate level, Matlab 1995

Variables	% Individuals from				X^2	
	BRAC member HHs	Non-member HHs		All		
		TGs	NTGs	HHs	(2) vs (3)	(2) vs (4)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1 day	17.4	29.2	21.5	24.6		
2-3 days	54.5	44.9	49.8	48.2		
4-5 days	15.9	15.0	13.8	14.7	NS	NS
6+ days	12.1	10.9	14.8	12.5		
N	132	414	325	871		

3.2.5 Cost of treatment

Total cost of treatment was calculated by adding expenses for medicine, HCP's fees and transportation costs (if incurred), during the last 15 days associated with each illness. These are shown in Tables 3.8.A & 3.8.B for the two sexes respectively. It is seen that at aggregate membership level, more than Taka fifty was spent during the reference period in around 40% of cases irrespective of BRAC membership status of the household. Also, the difference between BRAC member and TG non-member HHs was significant for males (p<.001), but not the females. There was also no significant difference in the amount of money spent at cell level either for the males or the females with two exceptions, BRAC-only and ICDDR,B-only cells in case of females (Tables 3.7X and 3.7Y).

Table 3.8A : Total expenditure within last 15 days for ill persons (males) by BRAC membership status of the household at aggregate level, Matlab 1995

Variables	BRAC members	Non-members		All		
		TGs	NTGs		(2) vs (3)	(2) vs (4)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Total Expenditure (in Taka)						
0-10	19.0	20.5	14.2	18.2		
11-20	16.8	17.5	17.8	17.5	P<.001	NS
21-50	26.3	27.4	23.5	26.0		
50+	38.0	34.5	44.5	38.3		
N	137	584	353	1074		

(Header: % Individuals from)

Table 3.8B : Total expenditure within last 15 days for ill persons (females) by BRAC membership status of the household at aggregate level, Matlab 1995

Variables	BRAC members	Non-members		All		
		TGs	NTGs		(2) vs (3)	(2) vs (4)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Total Expenditure (in Taka)						
0-10	21.9	25.2	15.6	21.2		
11-20	17.8	19.0	16.3	17.9	NS	NS
21-50	20.5	26.1	22.0	23.9		
50+	39.7	29.7	46.0	37.1		
N	146	548	404	1098		

3.3 Household sanitation practices

Data on household sanitation practices and source of water used for purposes other than drinking and washing hands (over 90% reported to be using tube-well water for these purposes) were obtained from wife of the male household head or female household head. The results are presented in the following sections.

3.3.1 Household sanitation practices

No significant difference was found between BRAC member HHs and the other two categories in disposal of under-one children's stool. Majority of the respondents stated that they disposed the stool of their under-one children into surface water i.e., pond, canal, river etc (Table 3.9). Again, there is no difference in the proportion disposing garbage in fixed place between BRAC member and TG non-member households, while significantly greater proportion of NTG HHs disposed garbage in fixed place compared to BRAC member HHs. It was also the same for cells having BRAC intervention (BRAC+ICDDR,B and BRAC-only) (Table 3.9X).

3.3.2 Source of water for household activities

Data were collected about the sources of water used for household activities (other than drinking and hand washing) by interviewing the respondents and on the spot verification by the interviewers (Table 3.10). Only a small proportion of HHs use tube-well water for bathing and washing utensils. Most of the HHs bath or wash utensils in pond or canals or river.

Table 3.9 : Household sanitation practices by BRAC membership status of the household and intervention cell, Matlab

Variables	Types of households					
	BRAC member HHs	Non-member HHs		All	X^2	
		TGs	NTGs		(2) vs (3)	(2) vs (4)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Stool disposal/place of defaecation of children (1-5yr)						
Surface water	58.6	75.1	61.4	67.5		
Fixed place/sanitary latrine	41.4	24.9	38.6	32.6	p<.000	NS
N	280	722	505	1507		
Disposal of garbage						
Anywhere outside courtyard	41.3	39.5	31.5	36.4		
Fixed place	58.7	60.5	68.5	63.6	NS	P<.001
N	276	534	626	1436		

Table 3.10 : Source of water for purposes other than drinking by BRAC membership status of the household and intervention cell, Matlab 1995

Variables	Types of households					
	BRAC member HHs	Non-member HHs		All	X^2	
		TG	NTG	HHs	(2) vs (3)	(2) vs (4)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Water for bathing						
Tube-well	1.7	2.5	7.7	4.3	NS	P<.001
River/canal/pond	98.3	97.5	92.3	95.7		
Water for washing utensils						
Tube-well	6.2	7.6	18.3	11.4	NS	P<.001
River/canal/pond	93.8	92.4	81.7	86.6		
N	584	1476	1235	3295		

There is no difference between BRAC member and TG non-member HHs though the difference with NTG HHs is highly significant (p<.001). The NTG HHs use tube-well water in greater proportion for these purposes than the TG HHs.

In BRAC-only cell, the proportion using tube-well water for either bathing or washing utensils is more in case of TG non-member HHs compared to member HHs while this is totally reversed in case of BRAC+ICDDR,B cell. On the other hand, the proportion using tube-well water for this purpose is more for the NTG HHs compared to TG HHs in cells without BRAC intervention.

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The difference between member and TG non-member HHs is significant in case of BRAC-only cell (p<.05) but not BRAC+ICDDR,B cell. However, the difference between TG and NTG HHs is significant (p<.05 to <.001), excepting water for bathing in the comparison cell (Table 3.10X).

Chapter Four: Discussion and conclusions

4.1 Discussion

In this chapter, an attempt is made to discuss the key findings and later, to draw some tentative conclusions regarding implications of the data in evaluating RDP's impact on health and well-being.

4.1.1 Socio-demographic characteristics of the study population

Presence of proportionately more under-five children among the poorer households (whether BRAC member or not) reflects the commonly observed association between increased family size and the prevalence of poverty. Again, greater proportion of elderly population (65+ years) among better-off HHs may be due to ageing of the population as a 'result' of lower fertility/mortality among them. Absence of any significant difference between member and non-member poor households indicates that RDP is yet to make any effect on the age composition of the study population.

The significant difference in literacy between member and non-member poor HHs in BRAC cells as well as aggregate membership level (for both sexes) may be attributed to BRAC's Non Formal Primary Education (NFPE) programme targeting mainly the poor HHs (90%). However, this may also be due to self-selection of the households. This difference between member and non-member households is present only at aggregate membership level, but not at cell level when years of schooling is considered.

Significant difference in occupational distribution of males between member and non-member poor households (e.g., decrease in wage labour and increase in self-employment for member HHs) in BRAC-only cell and aggregate membership level may be an indirect effect of BRAC's credit activities. In many studies it has been found that a major proportion of loans disbursed to the female VO members are being utilised by the spouse or some other male member of the household. However, this difference between member and non-member poor households is not seen in case of females at cell level, though it was significant at aggregate membership level. The major occupation of the females remains to be household-work, whether from poor or better-off households. Loans may be marginally changing the occupation pattern of the females but more time is needed to have a demonstrable effect.

More than 1/3rd of the study population being 'student' points to the heavy dependency ratio in Bangladeshi household.

4.1.2 Illness episodes, types of illness and management

The self-perceived illness described in this survey depended upon the perception and reporting of symptoms by individuals themselves or by a knowledgeable woman in the household. Such information is highly sensitive to many factors like language and wording of the questions, length of the recall period, the timing of the enquiry and proxy reporting. In this study, rapport building by the interviewers with study population before the survey, repeated pre-testing of the survey instruments to fine-tune language, wording and sequence, limiting the recall period to two

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weeks and use of a comprehensive pre-tested coding system tried to address these limitations as far as possible.

The identical illness profile in all cells and all types of households is a reflection of the influence of similar environmental and other contextual factors in the study area. The most common illnesses are those related to unhygienic environment such as fever and illnesses related to gastrointestinal tract. Apparently, time has to be given for development intervention like RDP, which mostly acts indirectly, to make any visible effect on the morbidity pattern of the relevant community.

A large proportion of the rural people go without treatment, of any kind. Also, difference exists between males and females in this regard. This is a deplorable situation, especially for women's' health, given the large health infrastructure---both Government and to a certain extent NGO's, currently existing in rural Bangladesh. The findings of this survey also reconfirmed that allopathic medicine, whether used by qualified or non-qualified practitioners, is fast replacing traditional therapies including faith-healing in the rural areas. Initiation of treatment within 72 hours of commencement of illness indicates the health consciousness in the study population. Low average expenditure on health ($\leq$ Tk 10/-only) when morbidity burden is quite substantial (around 10-20%), shows the poor household economic condition of as well as low priority given to health by the study population.

4.1.3 Household sanitation practices

The poor condition of the household hygiene with regard to disposal of children's stool and kitchen garbage, use of clean water for bathing and washing utensils in the study area in spite of continued activities of ICDDR,B and BRAC and others (Government and NGO) reinforces the fact that change in behaviour takes a long time to take effect and is influenced by a host of contextual factors related to socioeconomic condition, tradition, culture etc. This will require more research on the applied aspects of behaviour modification which may help the Policy planners to design more culture-sensitive programmes for speedy changes in behaviour.

4.2 Conclusions

From an analysis of the above findings, the following tentative conclusions can be drawn pending further treatment of the data:

- There are significant differences in literacy (in case of NTGs only) and occupation among the different intervention cells. Significant differences also exist between BRAC member and TG non-member HHs and, between these HHs and the NTG HHs. To give some examples:
  - a) % of under-5 children is more among TG HHs (BRAC member or not) compared to NTG HHs
  - b) % of persons above 65 years is more among NTG HHs compared to their eligible counterparts
  - c) % having more than 5 years of formal schooling is about three to four times more among the NTG HHs compared to TG HHs (BRAC member or not)
  - d) % earning their living by operation of farm land is more among the NTG HHs

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- The prevalence of illness is significantly more among the TG HHs (BRAC member or not) compared to NTG HHs; also, at aggregate level there is significantly less morbidity among member HHs compared to TG non-member HHs.
- The three most common categories of illness in all cells and all types of HHs in order of frequency are: fever (of any kind), gastrointestinal diseases and pain/aches (of all types and parts of the body)
- Around an average of 20% ill persons do not receive any health care of any kind at all. The proportion is more in comparison and BRAC-only cell
- 'Para-professionals' and 'Non-qualified allopaths' are found to be the major health care providers in the study area. 'Qualified' allopaths are mostly utilised by the NTG HHs
- For majority of the ill persons, a very small amount of money (less than Tk 10/- only) is spent
- The study households fared very badly in domestic hygiene and sanitation practices irrespective of intervention cells or HHs status. The NTG HHs are slightly better than the TG HHs in this respect; also, BRAC member HHs are marginally better than TG non-member HHs
- Tube-well water is still not widely used for activities other than drinking and hand-washing in the study area

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Table 3.1X : Age composition of males by BRAC membership status of the household and intervention cell, Matlab 1995

Variables	BRAC + ICDDR,B cell						BRAC-only cell					
	BRAC members	Non-members		Cell total	X^2		BRAC members	Non-members		Cell total	X^2	
		TGs	NTGs		(2) vs (3)	(2) vs (4)		TGs	NTGs		(8) vs (9)	(8) vs (10)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Age (yrs)												
0-4	11.6	15.5	10.4	12.1			12.1	12.5	11.6	12.0		
5-14	30.7	27.5	22.7	26.6			33.3	28.9	24.5	27.9		
15-49	45.7	45.1	48.1	46.5	NS	p<.001	43.2	45.7	46.7	45.5	NS	P<.001
50-64	8.9	8.6	9.9	9.2			7.4	9.4	9.8	9.0		
65 and above	3.1	3.3	8.9	5.6			4.0	3.5	7.4	5.5		
N	828	614	1034	2476			733	606	606	2655		

Variables	ICDDR,B-only cell				Comparison cell			
	TGs	NTGs	Cell total	X^2	TGs	NTGs	Cell total	X^2
				(2) vs (3)				(6) vs (7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Age (yrs)								
0-4	10.6	9.2	9.9		12.1	9.3	11.2	
5-14	30.8	25.1	28.2		35.6	27.6	32.9	
15-49	46.9	48.6	47.7	P<.001	39.8	44.8	41.5	P<.001
50-64	8.4	9.1	8.7		9.0	10.6	9.5	
65 and above	3.3	7.9	5.4		3.6	7.6	4.9	
N	1229	1034	2263		1405	696	2101	

Table 3.1Y : Age composition of females by BRAC IIII membership status of the household and intervention cell, Matlab 1995

Variables	BRAC+ICDDR,B cell						BRAC-only cell					
	BRAC members	Non-members		Cell total	X^2		BRAC members	Non-members		Cell total	X^2	
		TGs	NTGs		(2) vs (3)	(2) vs (4)		TGs	NTGs		(8) vs (9)	(8) vs (10)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Age (yrs)												
0-4	10.0	9.7	7.5	8.9			12.4	11.9	9.6	10.9		
5-14	27.7	24.4	23.7	25.3			30.9	30.1	23.6	27.1		
15-49	50.9	51.2	51.2	51.1	NS	P<.001	44.1	43.9	48.0	46.0	NS	P<.001
50-64	7.7	9.5	11.6	9.7			7.5	10.3	13.0	10.8		
65 and above	3.6	5.3	6.1	5.0			5.1	3.8	5.9	5.2		
N	866	590	1038	2494			789	611	1333	2733		

Variables	ICDDR,B-only cell				Comparison cell			
	TGs	NTGs	Cell total	X^2	TGs	NTGs	Cell total	X^2
				(2) vs (3)				(6) vs (7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Age (yrs)								
0-4	11.9	9.5	10.9		13.7	11.1	12.8	
5-14	27.8	24.3	26.2		26.5	24.0	25.6	
15-49	48.4	49.6	48.9	P<.01	47.8	49.4	48.3	P=.05
50-64	8.6	11.4	9.8		8.3	12.0	9.5	
65 and above	3.3	5.1	4.1		3.7	3.4	3.6	
N	1333	1090	2423		1417	700	2117	

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Table 3.2X : Literacy and years of schooling of males by BRAC membership status of the household and intervention cell, Matlab 1995

Variables	BRAC + ICDDR,B cell						BRAC-only cell					
	BRAC members	Non-members		Cell total	X²		BRAC members	Non-members		Cell total	X²	
		TGs	NTGs		(2) vs (3)	(2) vs (4)		TGs	NTGs		(8) vs (9)	(8) vs (10)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Literacy												
Can write and/or read	55.7	49.3	80.5	64.9	P<.05	P<.001	54.1	44.6	75.0	62.5	P<.01	P<.001
Can't do either/can sign only	44.3	50.7	19.5	35.1			45.9	55.4	25.0	37.5		
Years of schooling												
None	38.0	44.1	16.3	30.1			36.5	42.6	18.7	28.9		
1-5	45.1	40.0	38.1	40.9	NS	P<.001	50.0	43.6	43.0	45.0	NS	P<.001
5+	16.9	15.9	45.6	29.0			13.5	13.8	38.3	26.1		
N	698	487	894	2079			606	500	1118	2224		

Variables	ICDDR,B-only cell				Comparison cell			
	TGs	NTGs	Cell total	X² (2) vs (3)	TGs	NTGs	Cell total	X² (6) vs (7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Literacy								
Can write and/or read	44.7	74.9	58.7	P<.001	47.2	70.6	55.2	P<.001
Can't do either/can sign only	5.3	25.1	41.3		52.8	29.4	44.8	
Years of schooling								
None	46.4	21.8	35.0		43.4	26.0	37.4	
1-5	42.4	39.4	41.0	P<.001	47.4	48.1	47.6	P<.005
5+	11.2	38.8	24.0		9.2	26.0	15.0	
N	1045	903	1948		1154	595	1749	

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Table 3.2Y : Literacy and years of schooling of females by BRAC membership status of the household and intervention cell, Matlab 1995

Variables	BRAC + ICDDR,B cell						BRAC-only cell					
	BRAC	Non-members		Cell	X^2		BRAC	Non-members		Cell	X^2	
	members	TGs	NTGs	total	(2) vs (3)	(2) vs (4)	members	TGs	NTGs	total	(8) vs (9)	(8) vs (10)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Literacy												
Can write and/or read	38.7	39.6	67.1	51.0	NS	P<.001	42.5	35.8	59.2	49.3	P<.05	P<.001
Can't do either/can sign only	61.3	60.4	32.9	49.0			57.5	64.2	40.8	50.7		
Years of schooling												
None	54.3	56.0	30.3	44.5			48.7	52.7	34.1	42.3		
1-5	38.9	34.7	40.1	38.4	NS	P<.001	44.9	43.0	42.4	43.3	NS	P<.001
5+	6.9	9.3	29.6	17.1			6.4	4.3	23.4	14.4		
N	742	507	923	2172			659	509	1152	2320		

Variables	ICDDR,B-only cell				Comparison cell			
	TGs	NTGs	Cell	X^2	TGs	NTGs	Cell	X^2
			total	(2) vs (3)			total	(6) vs (7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Literacy								
Can write and/or read	37.4	61.9	48.6	P<.001	29.6	54.4	38.0	P<.001
Can't do either/can sign only	62.6	38.1	51.4		70.4	45.6	62.0	
Years of schooling								
None	56.0	33.8	45.8		61.6	41.0	54.6	
1-5	39.4	42.1	40.7	P<.001	33.7	42.3	36.6	P<.001
5+	4.5	24.0	13.5		4.7	16.7	8.8	
N	1118	949	2067		1169	597	1766	

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Table 3.3X : Occupation of males by BRAC membership status of the household and intervention cell, Matlab 1995

	BRAC + ICDDR,B cell						BRAC-only cell					
Variables	BRAC members	Non-members		Cell total	X²		BRAC members	Non-members		Cell total	X²	
		TGs	NTGs		(2) vs (3)	(2) vs (4)		TGs	NTGs		(8) vs (9)	(8) vs (10)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Farming	7.5	8.2	21.8	13.8			13.3	12.9	26.3	19.8		
Wage labour	17.8	24.5	2.6	12.8			17.8	27.0	4.4	13.1		
Service	8.4	8.7	13.3	10.6			6.7	7.0	13.6	10.3		
Trade	8.4	5.4	9.3	8.1			7.3	8.2	5.6	6.6		
Self-employment	15.3	13.2	4.1	10.0	NS	P<.001	10.0	5.9	2.2	5.2	P<.01	P<.001
Housework	1.2	1.1	1.9	1.5			0.5	1.5	1.2	1.1		
Student	36.4	34.1	42.5	38.5			41.8	34.4	43.7	41.1		
Others	4.9	4.8	4.5	4.7			2.6	3.2	3.1	3.0		
N	678	461	858	1997			579	474	1081	2134		

	ICDDR,B-only cell				Comparison cell			
Variables	TGs	NTGs	Cell total	X²	TGs	NTGs	Cell total	X²
				(2) vs (3)				(6) vs (7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Farming	4.5	18.0	10.8		7.2	25.3	13.5	
Wage labour	22.0	4.0	13.6		21.6	6.0	16.2	
Service	8.2	9.5	8.8		7.6	8.1	7.8	
Trade	11.7	14.0	12.8		10.0	11.1	10.4	
Self-employment	13.4	3.8	8.9	P<.001	6.4	2.8	5.2	P<.001
Housework	0.8	0.9	0.8		0.4	0.2	0.3	
Student	32.5	40.3	36.1		41.6	40.8	41.3	
Others	7.0	9.6	8.2		5.1	5.8	5.3	
N	1010	877	1887		1076	569	1645	

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Table 3.3Y: Occupation of females by BRAC membership status of the household and intervention cell, Matlab1995

	BRAC + ICDDR,B cell						BRAC-only cell					
Variables	BRAC members	Non-members		Cell total	X^2		BRAC members	Non-members		Cell total	X^2	
		TGs	NTGs		(2) vs (3)	(2) vs (4)		TGs	NTGs		(8) vs (9)	(8) vs (10)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Farming	0.1	--	--	0.0			0.2	--	0.2	0.1		
Wage labour	0.8	0.2	0.2	0.4			0.5	0.2	0.1	0.2		
Service	2.2	1.0	2.5	2.1			3.2	0.8	1.9	2.0		
Trade	0.3	0.2	--	0.1			0.3	0.2	--	0.1		
Self-employment	1.0	2.2	0.2	0.9	NS	P<.05	2.1	1.2	0.5	1.1	NS	P<.01
Housework	61.9	66.1	58.9	61.6			54.8	61.7	60.9	59.3		
Student	31.8	27.6	36.3	32.8			36.9	33.3	35.4	35.4		
Others	1.8	2.6	1.9	2.0			2.1	2.5	1.1	1.7		
N	720	493	915	2128			628	483	1114	2225		

	ICDDR,B-only cell				Comparison cell			
Variables	TGs	NTGs	Cell total	X^2 (2) vs (3)	TGs	NTGs	Cell total	X^2 (6) vs (7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Farming	--	--	--		0.1	0.3	0.2	
Wage labour	0.5	--	0.2		0.9 \	0.2	0.7	
Service	1.0	1.6	1.3		0.7	1.0	0.8	
Trade	0.3	0.2	0.2		0.2	--	0.1	
Self-employment	1.5	0.8	1.1	P<.05	1.3	--	0.8	P<.01
Housework	64.6	59.7	62.4		61.9	58.5	60.8	
Student	29.2	34.4	31.6		29.1	36.6	31.7	
Others	3.0	3.2	3.1		5.8	3.3	5.0	
N	1083	929	2012		1098	576	1674	

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Table 3.4X: Prevalence of illness during last 15 days of study population by sex, BRAC membership status of the household and intervention cell, Matlab 1995

	BRAC + ICDDR,B cell						BRAC-only cell					
Variables	BRAC members	Non-members		Cell total	X^2		BRAC members	Non-members		Cell total	X^2	
		TGs	NTGs		(2) vs (3)	(2) vs (4)		TGs	NTGs		(8) vs (9)	(8) vs (10)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Had illness during last 15 days												
Male	12.7	15.8	10.1	12.4	NS	P<.001	11.8	15.3	10.1	11.8	NS	P<.001
N	802	590	977	2369			696	574	1226	2496		
Female	12.7	12.0	9.6	9.6	NS	P<.001	14.3	13.7	12.3	13.2	NS	P<.001
N	842	584	1013	2439			767	593	1283	2643		

	ICDDR,B-only cell				Comparison cell			
Variables	TGs	NTGs	Cell total	X^2	TGs	NTGs	Cell total	X^2
				(2) vs (3)				(6) vs (7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Had illness during last 15 days								
Male	27.0	16.2	22.1	P<.001	18.7	11.8	16.4	P<.001
N	1170	975	2145		1307	653	1960	
Female	30.5	20.9	26.2	P<.001	17.2	14.1	16.2	NS
N	1311	1060	2371		1366	672	2038	

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Table 3.5X : Types of of illness (males) by BRAC membership status of the household and intervention cell, Matlab 1995

Variables	BRAC + ICDDR,B cell						BRAC-only cell					
	BRAC members	Non-members		Cell total	X²		BRAC members	Non-members		Cell total	X²	
		TGs	NTGs		(2) vs (3)	(2) vs (4)		TGs	NTGs		(8) vs (9)	(8) vs (10)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Fever	52.9	43.0	53.5	50.0			45.1	36.4	39.5	40.1		
Gastro-intestinal diseases	17.6	24.7	20.2	20.7			25.6	22.7	22.6	23.6		
Deficiency diseases (e.g.,anaemia)	2.0	3.2	2.0	2.4			1.2	4.6	2.4	2.8		
Respiratory diseases	8.8	7.5	6.1	7.5	NS	NS	--	6.8	8.1	5.4	NS	NS
Skin/Eye/ENT diseases	2.0	3.2	2.0	2.4			7.3	9.1	0.8	5.1		
Pain/aches	9.8	7.5	9.1	8.8			9.8	10.2	8.9	9.5		
Others	6.9	10.8	7.1	8.2			11.0	10.2	17.7	13.5		
N	102	93	99	294			82	88	124	294		

Variables	ICDDR,B-only cell				Comparison cell			
	TGs	NTGs	Cell total	X²	TGs	NTGs	Cell total	X²
				(2) vs (3)				(6) vs (7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Fever	48.7	36.1	44.5		52.9	49.4	52.0	
Gastro-intestinal diseases	21.5	29.1	24.1		23.0	18.2	21.8	
Deficiency diseases (e.g., anaemia)	0.3	1.9	0.8		0.8	2.6	1.2	
Respiratory diseases	6.6	4.4	5.9	NS	2.9	7.8	4.0	NS
Skin/Eye/ENT diseases	1.9	2.5	2.1		3.3	3.9	3.4	
Pain/aches	12.0	10.1	11.4		6.1	7.8	6.5	
Others	8.8	15.8	11.2		11.1	10.4	10.9	
N	316	158	474		244	77	321	

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Table 3.5Y : Types of illness (females) by BRAC membership status of the household and intervention cell, Matlab 1995

	BRAC+ICDDR,B cell						BRAC-only cell					
Variables	BRAC members	Non-members		Cell total	X²		BRAC members	Non-members		Cell total	X²	
		TGs	NTGs		(2) vs (3)	(2) vs (4)		TGs	NTGs		(8) vs (9)	(8) vs (10)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Fever	51.4	50.0	42.3	47.8			32.7	39.5	36.1	35.8		
Gastrointestinal diseases	14.0	20.0	19.6	17.5			26.4	22.2	16.5	20.9		
Deficiency diseases	3.7	4.3	--	2.6			1.8	--	4.4	2.6		
Respiratory diseases	7.5	14.3	4.1	8.0			7.3	1.2	5.7	5.2		
Skin/Eye/ENT diseases	1.9	5.7	2.1	2.9	NS	NS	4.5	4.9	1.9	3.4	NS	NS
Pregnancy/Rep. tract diseases	--	--	2.0	0.8			1.8	2.4	3.2	2.6		
Pain/aches	15.9	2.9	15.5	12.4			17.3	17.3	16.5	16.9		
Others	5.6	2.9	14.4	8.0			8.2	12.3	15.8	12.0		
N	107	70	97	274			110	81	158	349		

	ICDDR,B-only cell				Comparison cell			
Variables	TGs	NTGs	Cell total	X² (2) vs (3)	TGs	NTGs	Cell total	X² (6) vs (7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Fever	42.3	34.2	39.4		43.8	42.1	43.3	
Gastrointestinal diseases	17.3	23.9	19.6		20.4	17.9	19.7	
Deficiency diseases	1.8	2.7	2.1		0.9	1.1	0.9	
Respiratory diseases	5.3	5.4	5.3		5.5	4.2	5.2	
Skin/Eye/ENT diseases	2.3	2.7	2.4	NS	8.1	5.3	7.3	NS
Pregnancy/Rep. tract diseases	0.8	0.9	0.8		1.3	3.2	1.8	
Pain/aches	16.8	14.9	16.1		10.6	18.9	13.0	
Others	13.8	15.3	14.3		9.4	7.4	8.8	
N	400	222	622		235	95	330	

First seasonal round: Health 32

Table 3.6X : Types of treatment sought (males) by BRAC membership status of the household and intervention cell, Matlab 1995

	BRAC + ICDDR,B cell						BRAC-only cell					
Variables	BRAC members	Non-members		Cell total	X²		BRAC members	Non-members		Cell total	X²	
		TGs	NTGs		(2) vs (3)	(2) vs (4)		TGs	NTGs		(8) vs (9)	(8) vs (10)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Home remedies	7.8	11.8	12.1	10.5			9.8	4.5	9.7	8.2		
Qualified allopath	13.7	17.2	21.2	17.3			9.8	12.5	18.5	14.3		
Para-professional	21.6	21.5	20.2	21.1			24.4	8.0	16.9	16.3		
Non-qualified allopathic	27.5	23.7	20.2	23.8	NS	NS	23.2	33.0	24.2	26.5	P<.05	NS
Faith-healing/homeopath	14.7	15.1	15.2	15.0			12.2	17.0	13.7	14.3		
No treatment	14.7	10.8	11.1	12.2			20.7	25.0	16.9	20.4		
N	102	93	99	294			82	88	124	294		

	ICDDR,B-only cell				Comparison cell			
Variables	TGs	NTGs	Cell total	X²	TGs	NTGs	Cell total	X²
				(2) vs (3)				(6) vs (7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Home remedies	6.0	5.7	5.9		7.8	7.9	7.8	
Qualified allopath	7.3	10.2	8.3		6.2	13.2	7.8	
Para-professionals	42.9	44.6	43.4		58.8	51.3	57.1	
Non-qualified allopath	22.9	17.8	21.2	NS	2.9	3.9	3.1	NS
Faith-healing/homeopath	9.5	8.9	9.3		5.9	3.9	5.3	
No treatment	11.4	12.7	11.9		18.5	19.7	18.8	
N	315	157	472		243	76	319	

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Table 3.6Y: Types of treatment sought (females) by BRAC membership status of the household and intervention cell, Matlab 1995

Variables	BRAC + ICDDR,B cell						BRAC-only cell					
	BRAC	Non-members		Cell	X²		BRAC	Non-members		Cell	X²	
	members	TGs	NTGs	total	(2) vs (3)	(2) vs (4)	members	TGs	NTGs	total	(8) vs (9)	(8) vs (10)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Home remedies	6.6	10.0	6.2	7.3			9.1	13.8	12.1	11.5		
Qualified allopath	10.4	8.6	17.5	12.5			13.6	5.0	19.1	14.1		
Para-professional	30.2	22.9	18.6	24.2			7.3	12.5	10.2	9.8		
Non-qualified allopathic	22.6	22.9	18.6	21.2	NS	NS	25.5	27.5	24.2	25.4	NS	NS
Faith-healing/homeopath	12.3	10.0	16.5	13.2			10.0	11.3	11.5	11.0		
No treatment	17.9	25.7	22.7	21.6			34.5	30.0	22.9	28.2		
N	106	70	97	273			110	80	157	347		

Variables	ICDDR,B-only cell				Comparison cell			
	TGs	NTGs	Cell	X²	TGs	NTGs	Cell	X²
			total	(2) vs (3)			total	(6) vs (7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Home remedies	3.8	3.6	3.7		5.6	6.4	5.8	
Qualified allopath	4.8	11.8	7.2		4.8	8.5	5.8	
Para-professionals	46.8	37.1	43.3		51.1	46.8	49.8	
Non-qualified allopath	17.8	16.7	17.4	P<.05	3.5	6.4	4.3	NS
Faith-healing/homeopath	10.0	12.2	10.8		3.9	8.5	5.2	
No treatment	17.0	18.6	17.6		31.2	23.4	28.9	
N	400	221	621		231	94	325	

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Table 3.7.X : Days since onset of illness when treatment began for ill persons (males) by BRAC membership status of the household and intervention cell, Matlab 1995

Variables	BRAC + ICDDR,B cell						BRAC-only cell					
	BRAC	Non-members		Cell	X²		BRAC	Non-members		Cell	X²	
	members	TGs	NTGs	total	(2) vs (3)	(2) vs (4)	members	TGs	NTGs	total	(8) vs (9)	(8) vs (10)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
≤1 day	13.9	14.7	17.3	15.4			25.0	12.5	19.5	18.9		
2-3 days	65.3	47.1	56.8	56.6			53.8	55.4	57.3	55.8		
4-5 days	11.1	19.1	16.0	15.4	NS	NS	13.5	23.2	12.2	15.8	NS	NS
6+ days	9.7	19.1	9.9	12.7			7.7	8.9	11.0	9.5		
N	72	68	81	221			52	56	82	190		

Variables	ICDDR,B-only cell				Comparison cell			
	TGs	NTGs	Cell	X²	TGs	NTGs	Cell	X²
			total	(2) vs (3)			total	(6) vs (7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
≤1 day	46.8	44.3	46.0		19.5	25.9	21.1	
2-3 days	40.4	40.5	40.4		56.8	44.4	53.0	
4-5 days	6.4	7.6	6.8	NS	12.4	11.1	12.1	NS
6+ days	6.4	7.6	6.8		11.2	18.5	13.0	
N	156	79	235		169	54	223	

Table 3.7.Y : Days since onset of illness when treatment began for ill persons (females) by BRAC membership status of the household and intervention cell, Matlab 1995

Variables	BRAC + ICDDR,B cell						BRAC-only cell					
	BRAC members	Non-members		Cell total	X²		BRAC members	Non-members		Cell total	X²	
		TGs	NTGs		(2) vs (3)	(2) vs (4)		TGs	NTGs		(8) vs (9)	(8) vs (10)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
≤1 day	13.9	18.6	16.7	16.0			21.7	11.6	5.3	11.7		
2-3 days	58.3	46.5	50.0	52.5			50.0	51.2	50.5	54.3		
4-5 days	12.5	14.0	12.1	12.7	NS	NS	20.0	18.6	17.0	18.3	NS	NS
6+ days	15.3	20.9	21.2	18.8			8.3	18.6	19.1	15.7		
N	72	43	66	181			60	43	94	197		

Variables	ICDDR,B-only cell				Comparison cell			
	TGs	NTGs	Cell total	X²	TGs	NTGs	Cell total	X²
				(2) vs (3)				(6) vs (7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
≤1 day	41.8	44.7	42.9		21.5	12.9	18.9	
2-3 days	42.4	41.7	42.2		45.8	50.0	47.1	
4-5 days	10.3	8.7	9.8	NS	20.1	19.4	19.9	NS
6+ days	5.4	4.9	5.2		12.5	17.7	14.1	
N	184	103	287		144	62	206	

Table 3.8X : Total expenditure within last 15 days for ill persons (males) by BRAC membership status of the household and intervention cell, Matlab 1995

Variables	BRAC + ICDDR,B cell						BRAC-only cell					
	BRAC members	Non-members		Cell total	(2) vs (3)	(2) vs (4)	BRAC members	Non-members		Cell total	(8) vs (9)	(8) vs (10)
		TGs	NTGs					TGs	NTGs			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Total expenditure (in Taka)												
0-10	16.5	13.7	14.1	14.8			22.4	9.5	13.5	14.8		
11-20	19.0	9.6	15.4	14.8	NS	NS	13.8	14.3	20.2	16.7	NS	NS
21-50	26.6	37.0	21.8	28.3			25.9	27.0	12.4	20.5		
50+	38.0	39.7	48.7	42.2			37.9	49.2	53.9	48.1		
N	79	73	78	230			58	63	89	210		

Variables	ICDDR,B-only cell				Comparison cell			
	TGs	NTGs	Cell total	(2) vs (3)	TGs	NTGs	Cell total	(6) vs (7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Total expenditure (in Taka)								
0-10	24.9	15.3	21.8		20.9	12.9	18.9	
11-20	18.4	15.3	17.4	NS	20.3	22.6	20.9	NS
21-50	24.9	33.9	27.8		27.3	21.0	25.7	
50+	31.8	35.5	33.0		31.6	43.5	34.5	
N	261	124	385		187	62	249	

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Table 3.8Y : Total expenditure within last 15 days for ill persons (females) by BRAC membership status of the household and intervention cell, Matlab 1995

Variables	BRAC + ICDDR,B cell						BRAC-only cell					
	BRAC members	Non-members		Cell total	(2) vs (3)	(2) vs (4)	BRAC members	Non-members		Cell total	(8) vs (9)	(8) vs (10)
		TGs	NTGs					TGs	NTGs			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Total expenditure (in Taka)												
0-10	17.3	13.0	20.6	17.4			27.7	26.0	10.9	19.4		
11-20	16.0	21.7	14.7	16.9	NS	NS	20.0	12.0	17.8	17.1	NS	P<.05
21-50	23.5	28.3	19.1	23.1			16.9	30.0	17.8	20.4		
50+	43.2	37.0	45.6	42.6			35.4	32.0	53.5	43.1		
N	81	46	68	195			65	50	101	216		

Variables	ICDDR,B-only cell				Comparison cell			
	TGs	NTGs	Cell total	(2) vs (3)	TGs	NTGs	Cell total	(6) vs (7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Total expenditure (in Taka)								
0-10	29.2	15.4	24.4		20.5	17.8	19.6	
11-20	20.6	16.7	19.2	P<.001	17.2	15.1	16.5	NS
21-50	23.6	26.5	24.6		29.1	20.5	26.3	
50+	26.6	41.4	31.7		33.1	46.6	37.5	
N	301	162	463		151	73	224	

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Table 3.9X : Domestic hygiene practices by BRAC membership status of the household and intervention cell, Matlab 1995

	BRAC + ICDDR.B cell						BRAC-only cell					
Variables	BRAC	Non-members		Cell	X²		BRAC	Non-members		Cell	X²	
	members	TGs	NTGs	total	(2) vs (3)	(2) vs (4)	members	TGs	NTGs	total	(8) vs (9)	(8) vs (10)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Disposal of children's (<1yr) stool												
Surface water	81.3	97.4	88.1	88.37			82.9	77.3	75.5	78.2		
Fixed place	14.6	2.6	7.1	8.52	NS	NS	14.3	22.7	22.6	20.0	NS	NS
Others	4.2	---	4.8	3.10			2.9	---	1.9	1.8		
N	48	39	42	129			35	22	53	110		
Disposal of garbage												
Anywhere outside courtyard	39.5	38.8	26.4	34.1			43.4	57.3	36.0	42.3		
Fixed place	60.5	61.2	73.6	65.9	NS	P<.05	56.6	42.7	64.0	57.7	NS	P<.001
N	147	134	182	463			129	96	250	475		

	ICDDR.B-only cell				Comparison cell			
Variables	TGs	NTGs	Cell	X²	TGs	NTGs	Cell	X²
			total	(2) vs (3)			total	(6) vs (7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Disposal of children's (<1yr) stool								
Surface water	80.0	76.3	78.6		72.5	73.1	72.6	
Fixed place	10.8	18.4	13.6	NS	22.0	23.1	22.2	NS
Others	9.2	5.3	7.8		5.5	3.8	5.2	
N	65	38	103		91	26	117	
Disposal of garbage								
Anywhere outside courtyard	31.4	23.3	27.8		37.1	41.9	38.7	
Fixed place	68.6	76.7	72.2	NS	62.9	58.1	61.3	P<.01
N	153	120	273		151	74	225	

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Table 3.10X : Source of water for purposes other than drinking by BRAC membership status of the household and intervention cell, Matlab 1995

Variables	BRAC + ICDDR,B cell						BRAC-only cell					
	BRAC members	Non-members		Cell total	X^2		BRAC members	Non-members		Cell total	X^2	
		TGs	NTGs		(2) vs (3)	(2) vs (4)		TGs	NTGs		(8) vs (9)	(8) vs (10)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Water for bathing												
Tube-well	1.3	---	5.6	2.5	NS	P<.01	2.2	6.0	13.3	8.3	P<.05	P<.001
River/canal/pond	98.7	100.0	94.4	97.5			97.8	94.0	86.7	91.7		
Water for washing utensils												
Tube-well	6.1	5.4	18.6	10.3	NS	P<.001	6.2	9.3	23.7	14.8	P<.05	P<.001
River/canal/pond	93.9	94.6	81.4	89.7			93.8	90.7	76.3	85.2		
N	311	260	319	890			273	216	392	881		

Variables	ICDDR,B-only cell				Comparison cell			
	TGs	NTGs	Cell total	X^2	TGs	NTGs	Cell total	X^2
				(2) vs (3)				(6) vs (7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Water for bathing								
Tube-well	1.8	3.8	2.6	P<.05	3.0	6.6	4.0	NS
River/canal/pond	98.2	96.2	97.4		97.0	93.4	96.0	
Water for washing utensils								
Tube-well	3.6	10.5	6.4	P<.001	12.0	20.9	14.4	P<.01
River/canal/pond	96.4	89.5	93.6		88.0	79.1	85.6	
N	503	343	846		498	182	680	

Annextures

i Seven dimensions of human Well-being

ii The Study Design

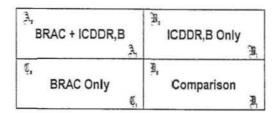| A₀ BRAC + ICDDR,B A₁	B₀ ICDDR,B Only B₁
C₀ BRAC Only C₁	D₀ Comparison D₁

Figure :   The four cell study design

A_0 = MCH-FP + BRAC at time zero
A_1 = MCH-FP + BRAC at certain time after zero time
B_0 = MCH-FP only at time zero
B_1 = MCH-FP only at certain time after zero time
C_0 = BRAC only at time zero
C_1 = BRAC only at certain time after zero time
D_0 = None at time zero
D_1 = None at certain time after zero time