

Monitoring the status of health equity in Bangladesh: the BHEW Survey 2002

Syed Masud Ahmed¹
Abbas Bhuiya²
AKM Masud Rana¹
Abdullahel Hadi¹
Simeen Mahmud³
Abdus Salam⁴
Mushtaque Chowdhury¹

March 2003

Bangladesh Health Equity Watch
Dhaka, bangladesh

¹ BRAC

² ICDDR,B

³ BIDS

⁴ BBS

Monitoring the status of health equity in Bangladesh: the BHEW Survey 2002

Table of Contents

- I. Introduction
 - a. Background
 - b. The Bangladesh Health Equity Watch
 - c. Current status of monitoring system in Bangladesh

- II. Materials and Methods
 - a. WATCH: BRAC's health and development monitoring system
 - b. Sampling and data collection
 - c. Field operation
 - d. Quality control and data collection

- III. Results
 - a. Demographic and socioeconomic characteristics
 - b. Morbidity
 - c. Immunization
 - d. Health-seeking behaviour
 - e. Antenatal and postnatal care
 - f. Family Planning
 - g. Access to health facilities

- IV. Discussion
 - a. Differences by area
 - b. Differences by SES
 - c. Differences by gender

- V. Policy Implications

- VI. Annexures

Introduction

Background

Equity in health is defined as “the absence of systematic and potentially remediable differences in one or more aspect of health across populations or population subgroups defined socially, economically, demographically, or geographically” (ISEqH 2001). More simply, this is health inequalities which are deemed unfair or unjust. Its principles are derived from the fields of philosophy, ethics, economics, medicine, public health, and others. The subsets of health inequalities that are judged unjust or unfair constitute health inequities.

Born in 1971 after a devastating war, Bangladesh is a land of immense beauty and potential. In its short history, Bangladesh has faced a daunting challenge of improving the health of its people and made remarkable progress. Over the last two decades, Bangladesh has witnessed a large decline in mortality despite economic backwardness and inadequate health services. During the period 1981-1996, the crude death rate dropped from approximately 15 to 9 per 1,000 population. In the same period the child mortality rate also dropped from approximately 20 to 7 per 1,000 population (BBS 1990, 1996). Bangladesh ranks among the Extreme poor and most densely populated countries in the developing world, with less than 45 percent of its population having access to primary health care services beyond childhood immunization and family planning (UNDP 1997). Malnutrition rates are among the highest in the world, with more than one-third of infants born annually classified as being of low birth weight (<2.5 kg). Approximately two-thirds of children less than six years of age are underweight or stunted, and over 17 percent are moderately to severely wasted (BBS 1997). With its growing population and rural to urban migration, the size of the population living in urban slums has been growing rapidly. It is apprehended that a large proportion of the Bangladesh population will live in urban slums in the next 30 years.

Although a large majority of the population in the country is subject to abject poverty, studies conducted in the Seventies and Eighties documented the existence of socioeconomic differentials in mortality (D’Souza and Bhuiya 1982). It is also one of the few countries in the world in which gender differentials in life expectancy and child survival contradict expected patterns that reflect

women's biological advantage (D'Souza and Chen 1980; Bhuiya, Zimicki, and D'Souza 1986; Koenig and D'Souza 1986; Bhuiya, Wojtyniak, and Karim 1989; Sen 1990; Ministry of Health and Family Welfare 1998). Many national and small-area-based surveys have documented large male-bias in child survival following the first five months of life, when the influence of social factors such as male preference in intra-household food distribution and sickness care become apparent (Chen, Huq, and D'Souza 1981; Bhuiya et al. 1987). Indeed, gender bias in favor of males is so ingrained in the social consciousness that even female education, the often cited panacea for improved child health and survival, appears to have no perceptible effect (Chaudhury et al. 2000; Bhuiya and Streatfield 1991).

Of late, the situation is getting better in terms of reducing gender and socioeconomic gaps in mortality in Bangladesh. A recent examination of Data from Matlab indicated that the gain in mortality reduction for children during the last twenty years was much greater for females and in children from the Extreme poor households (Bhuiya et al., 2001). In terms of the impact of woman-focused poverty alleviation programmes, a beneficial effect on the health and mortality of the programme participants was also observed implying a reduction in rich-poor gap (Chowdhury and Bhuiya, 2001).

While the decline in mortality is impressive, it is not known whether the decline has been equal for all groups in the population nationally. Specifically, are differentials between socioeconomic and gender groups closing? What is the situation in the urban slums or in difficult to reach areas usually inhabited by ethnic minorities compared to the rest of the country. Similar questions can also be asked about the morbidity, nutritional status, utilization and accessibility of the healthcare services. Also important to know is the resource allocation and expenditure on health services by the public and private sector equity sensitive. Based on the answers of the above questions on a continual basis policy makers and programme personnel can devise appropriate strategies to avoid inequity in health status of the population. With the above background the Bangladesh Health Equity Watch (BHEW) was launched.

Bangladesh Health Equity Watch (BHEW)

BHEW is a Bangladeshi initiative established to determine whether the health situation in the country is improving and if these improvements are equitable. It is a collaborative initiative of four organisations that share a common concern for equitable health and development in Bangladesh: Bangladesh Bureau of Statistics (BBS), Bangladesh Institute of Development Studies (BIDS), BRAC and ICDDR,B. BHEW is an active approach for monitoring and addressing inequity in health and health care through partnership of key stakeholders. It moves beyond mere description and passive monitoring of equity indicators to a set of concrete actions designed to effect real change in reducing unacceptable disparities in health and health care.

The BHEW has its origin from an international initiative, The Global Health Equity Initiative (GHEI), started by a small group of researchers in 1996 unified by their concern over growing inequities in health within countries. The GHEI has now evolved from a research-focused initiative to an action-based programme aimed at policy oriented monitoring and remediation of inequities in health. In November 1999, a group of practitioners and technical experts met in Chile with the aim of taking forward the research and policy agenda for monitoring equity in health. The vision emanating from that meeting was that:

“By the year 2015 every country should have an integrated system for monitoring health inequities that informs, monitors and evaluates health and other socio-economic policies. The systems should be responsive to the national or local contexts in terms of priority indicators to be monitored and strengthened by access to a common global fund of knowledge and technical expertise”

As a step towards this vision, an international meeting convened in South Africa in August 2000 launched monitoring initiatives (or ‘health equity gauges’) in 14 countries. Equity gauges measure aspects of the health care system, but above all are concerned with tracking gaps in health status among population groups at the national or sub-national level. A particular focus is placed on the social determinants of health disparities. Fair distribution is a fundamental organising principle of the work, with the involvement of key health system’s stakeholders in

development and implementation of the project. The *Global Equity Gauge Alliance (GEGA)* was established to provide support to the emerging gauges (McCoy et al. 2000).

The Global Equity Gauge Alliance (GEGA)



The 14 gauges represented in the GEGA encompass different approaches to measuring inequity: three have a citywide focus, two an emphasis on resource allocation, and the remaining, including the Bangladesh Health Equity Watch, are centred around national survey –related data.

The BHEW aims to accomplish these tasks by four major activities. These are:

- 1) compilation and analysis of existing data from secondary sources to map the disparity in health among various socioeconomic, gender, and regional groups;
- 2) convincing various organizations to incorporate information on socioeconomic characteristics, geographical location, health outcome, proximity of health services and their utilization to the existing data collection systems of various agencies;
- 3) collection of relevant data from a nationally representative sample and eventually establishment of a new system in a nationally representative sample which can be adopted by the Governmental system;
- 4) dissemination of the findings among the policy makers, researchers, NGO leaders, and members of civil society in a regular fashion to facilitate actions to minimize inequity; and

5) development of national capacity to carryout equity focus research and analysis.

To fulfill the third task, BHEW reviewed the current status of monitoring system in Bangladesh.

Current status of monitoring system in Bangladesh

As of now Bangladesh does not have any national data collection system, which is primarily focused for monitoring the status of health equity in terms of health outcomes, illness, and utilization of modern health services. However, there are various data collection systems in place. They range from purposively selected small-area-based samples to nationally representative ones. Some of them are longitudinal in nature and some are cross sectional and done periodically. The ones based on nationally representative samples in a longitudinal fashion include the Sample Registration System (SRS) of the Bangladesh Bureau of Statistics (BBS). This has been in place since 1980 and covers mainly mortality and fertility along with household socioeconomic information. SRS included both urban and rural samples with around 60,000 households. At present SRS is not fully active.

Another new initiative taken by the BBS in 1994 is its Multiple Indicator Cluster Survey (MICS) to monitor the national progress made in implementing the agenda for children and women as agreed in the world summit in 1990. The survey has been carried out yearly and provides prevalence data on some broad domains. The domains are mortality (U5MR, IMR, Deaths from ARI and diarrhoea among children, MMR), EPI coverage (DPT3, OPV3, measles, tuberculosis among 12-23 year old children, TT2 among pregnant women), management of diarrhoea (use of ORT and ORS, feeding during diarrhea), maternal health (ANC, use of trained birth attendants), breast feeding (exclusive breast feeding during first three months, introduction of complementary food, breast feeding among 20-23 months of age), nutrition (birth weight, iodine deficiency disorders, vitamin A deficiency, nutritional anthropometry), water and sanitation (source of drinking water, use of sanitary latrines), family planning (contraceptive prevalence rate, total fertility rate), and education (adult literacy, school enrolment and completion of five years of schooling). Details of the methodology and findings from the surveys can be seen in the annual reports (see for example, BBS and UNICEF, 1999). The MICS essentially uses a modified version of the EPI cluster survey technique. It provides estimates for each of the country's 64

districts, which can be aggregated to obtain Divisional and national estimates. The survey also provides estimates for rural, urban, and ethnic minorities living in hilly areas. A total of 60,000 households are included in the survey. The households surveyed during 1994 were repeated in 1995, 1996/97, 1997/98, and in 1999 and formed a panel data set for the nation.

Another nationally representative survey done bimonthly since 1989 by the Hellen Keller International is on nutritional status of children. The survey covers 7,200 households with samples from both urban and rural areas and collects information on anthropometry, morbidity, and household socioeconomic status. BRAC, a national NGO, collect information on primary education from a nationally representative sample. BRAC uses its countrywide infrastructure network to carry out this activity. BRAC also has a similar but small-scale operation to monitor health and development indicators from selected areas of the country. Bangladesh Demographic and Health Survey (BDHS), carried out once in two years, is another repeated cross sectional yet nationally representative data collection system. BDHS usually collects information on mortality, fertility, and healthcare utilization. Among the small-area based data collection system ICDDR,B's health and demographic surveillance is an important one. It has been in place since Sixties covering a rural population of 200,000 and collects information on birth, death, migration, marriage and divorce, and family planning use on a monthly basis. The system is computerized and allows prospective follow-up of individuals. A collaborative project between ICDDR,B and BRAC to study the impact of BRAC's poverty alleviation programmes on health and human well-being also has been carried out in the same area.

As seen from the foregoing review, Bangladesh does not have a national system of monitoring health equity per se. It does have necessary experiences to launch one, either by expanding the scope of the existing ones or by initiating a new one using the experiences from the existing ones. There are advantages and disadvantages associated with either option. Widening the scope of the existing systems by augmenting equity relevant information means the systems have to be flexible to accommodate some new indicators and perhaps should also have continuity for a reasonable time period. On the other hand, launching a new one will mean the opportunity to take the best from the existing ones and to be able to tailor it to meet the need of the present challenge. Considering the time and resources required for launching a new system, BHEW has

opted for the first approach. Of the existing systems, *Watch* Project of BRAC has been found suitable for the proposed survey for two reasons. First, Watch DSS sites are widely distributed throughout the country (see map). Secondly, the system has been generating demographic and health data since 1995. The historical background with a descriptive introduction to Watch is given in the next section.

Materials and Methods

WATCH: BRAC's health and development surveillance system

Commissioned in 1995 (new phase)¹, *Watch* is an intensive monitoring system of BRAC covering approximately 65,000 population in about 13,000 households spread over 70 villages in ten regions of Bangladesh where BRAC, Grameen Bank, Proshika, BRDB and a number of local NGOs have been operating credit-based income generating activities. The regions were selected to be representative of the rural Bangladesh. In each region, BRAC operates a field research station to cover approximately 1,000 families in neighboring 6 to 8 villages. Two female and one male field investigators routinely visit all families of the study villages each month and record relevant information (birth, death, migration, marriage, EPI etc.) on the registers. Information is then entered onto computers in BRAC head office in Dhaka.

To capture the equity dynamics in the urban areas and in the ethnic communities, two more sites (one urban and one from hill tracts area) were added to the existing Watch sites. The urban site was purposively selected from the Dhaka metropolitan area (poor and low-middle households in six randomly chosen thanas and a slum area). For the ethnic site, sadar thana of the Bandarban district was selected because it has a diversified group of ethnic minorities (Chakma, Marma, Mro, Khyang, Bangalee, Tripura). A total of 3,000 households from Dhaka urban area and 1,200 households (200 households randomly selected from a list prepared for each ethnic group residing in areas within a radius of approximately 3 km from the centre of Bandarban township and under the sadar thana) from Bandarban area were added to the existing Watch system. Thus,

¹ The *Watch* began in 1986 as a project of BRAC's Research and Evaluation Division in three unions of Manikganj district. Its main purpose was to monitor changes in the health and demographic indicators as a result of BRAC's presence. Over the years, it was expanded to other areas in phases to monitor not only the effects of BRAC presence, but other microcredit organisations as well. The latest restructuring was done in 1995 to give it a more national representation.

the Dhaka urban area mainly represents the urban poor (poor+low-middle households) while the Bandarban area represents a mixture of households from all socioeconomic categories (see below).

Sampling and Data collection

Sampling was straightforward: 200 households were randomly selected from each of the 13 sites (eleven old and two new), giving a total of 2,600 households. Two sets of pre-tested structured questionnaires were administered by trained field interviewers during April-May 2002 to the sampled households. The first set collected information on demographic and socioeconomic characteristics of the study population while the second set collected information on morbidity, EPI, health-seeking behaviour, pregnancy care services, family planning and related information.

The general demographic and socioeconomic data were furnished by the head of the household, while specific information on EPI, recent household illness and related health-seeking behaviour etc. was provided by the spouse of the household head or any knowledgeable female member of the family present at the time of survey. All acute illness episodes occurring among household members during the preceding two weeks were elicited and information gathered on symptoms and whether treatment was sought. Reported symptoms were classified into categories or “types” of illnesses by means of a pre-tested coding system, and cross-checked by a physician. For example, the reported symptoms of fever and productive cough, associated with difficulty in breathing, were coded as 'pneumonia'. When more than one episode of illness was reported, data were collected with reference to the major illness, i.e. that which was the longest in duration. In cases where health care providers were consulted additional information was obtained on the type of practitioner, and associated costs including service fees, medicine and transportation.

Data on types of health care sought were obtained by asking the respondent about the nature and order of treatment measures undertaken at home or outside the home. These treatments were subsequently grouped into five categories. The category ‘self-care/self-treatment’ comprised of instances where no medication was used and instances in which common home remedies were employed such as ORS. Traditional methods include treatment-seeking within faith healing and

traditional systems of medicine such as consultation with *kabiraji/hakimi* and homeopathic practitioners (Ahmed 1993). The ‘semi-qualified’ category of treatment-seeking consists of consultations with: *palli chikitsoks* (village practitioners receiving a year-long training in diagnosing and treating common rural ailments); medical assistants (who complete a three-year medical programme); and government and non-government community health workers who receive some basic preventive and curative health training. The category ‘Qualified allopaths’ is comprised of licensed practitioners who have undergone professional medical training. Together, para-professionals and qualified allopaths represent formal providers of ‘medical care’. The final category, ‘Informal/unqualified’ care is made up of itinerant drug sellers, untrained pharmacy salesmen, and roadside “quacks” that provide medical advice and treatment with little or no professional training.

Wealth index

Wealth index was constructed following the method developed by Filmer and Pritchett (2000). The assets included for developing the index were: table, bed cot, quilt, watch, radio, television, bi-cycle and electricity. Each of the variables was recoded into categorical dichotomous (yes, no) variable. A total of 8 dichotomous variables were created and standardized. The principal component analysis was run with all constructed variables with certain criteria. The component score coefficient matrix was multiplied by the standardized variables to produce factor scores which were termed as household wealth score. The wealth scores were further classified into quintiles.

Field operation

All field interviewers and supervisors recruited for the survey had completed higher secondary education or above, and the majority had previous field experiences. In Bandarban area, interviewers came from different ethnic groups so that respondents of particular ethnic groups can be interviewed by the interviewers from the same ethnic origin. The five-day training organized for the interviewers (separately held in the Bandarban area) consisted of didactic lectures followed by practice sessions at different households outside the sample villages. These were backed by long de-briefings at the end of the day. Teams of interviewers, each led by an experienced supervisor, were deployed in base villages about one or two days before beginning

of the survey for rapport building activities. The day-to-day field activities of the teams were fine-tuned by field researchers based in BRAC offices. The whole survey activity was supervised and managed by the study coordinator who made frequent field visits for spot checking the quality of interviews and providing assistance and guidance when needed. Whenever necessary, re-interview was done by the supervisors for securing reliable and valid data. Households were visited on three repeated occasions at intervals, if the first attempt was not successful due to absence of the respondents. When these repeated attempts failed, the interview was called-off for the particular household.

Quality control and data analysis

Efforts to improve the reliability and validity of data reporting included the use of culturally appropriate language, limiting the recall period of illness to 15 days, and deploying an independent quality control team to spot-check households randomly within three days of the main survey. In cases where inconsistencies were noted, interviewers were accompanied by field supervisors until quality standards were met. Both prior to and during the survey, all interviewers received rigorous training on questionnaire content, probing techniques and strategies to establish rapport and neutrality essential to complete and accurate data collection.

Each completed questionnaire was scrutinized in the field and at the field office on the same day of interview. Further scrutiny occurred at the Dhaka Head Office when data were cleaned and coded. Range and internal consistency checks were performed before entering data in computer. Fox Pro was used for data entry and SPSS ver 10 was used for data analysis. A preliminary data analysis plan was developed in keeping with the objectives of the study. In this report, data are presented in univariate and bivariate tables with frequencies and percentages. Comparisons between the rural and urban (Dhaka and Bandarban) population is made for selected variables of interest.

Results

Demographic and socioeconomic characteristics

The results begin with a brief profile of the demographic and socioeconomic characteristics of the study population and their households, which will be followed by key findings. Among the study households, the hill tracts (Bandarban) area had major concentration of ‘extreme poor’ (lowest wealth quintile) households while the urban (Dhaka) area had the major concentration of ‘least poor’ (highest wealth quintile) households (Table 1). Similarities in the greater concentration of ‘Ultra-poor’ (defined by landholdings below 10 decimals) households as well as percentage of household heads’ without formal schooling between hill tracts (Bandarban) area and the rural areas, in marked contrast to the urban (Dhaka) area, was noted in the findings. Interestingly, electricity connection was lowest in proportion in the hill tracts (Bandarban) area, where the country’s major hydroelectric facility is located, compared to the other two areas, and was less than half in proportion to that in the rural areas. On the other hand, households surviving on agriculture (own-farm) were more frequent in the hill tracts (Bandarban) area while the proportion engaged in service was the lowest among the three areas. The proportion of female-headed households was more than double in plain land [(rural+urban (Dhaka))] compared to hill tracts (Bandarban) area. Also, hill tracts (Bandarban) area was characterised by larger household size (>5 members in the household) than the plain land areas.

Table 3 presents demographic and socioeconomic characteristics of the study population according to geographic location of the households and sex. The age profile reflects national distribution, more than one-third of the population being under 15 years of age. Schooling over five years was much less common among the hill tracts (Bandarban) population compared to the other two areas. A gender difference (favouring males) in case of schooling over five years was prominent in this area, but non-existing in the plain land areas. No tangible variation in the proportion of currently married population was observed across the study areas.

Self-employment in agriculture and wage-labour were the two main occupations in hill tracts (Bandarban) area while self-employment in non-agricultural activities and fixed salaried employment (service) were the two main occupations in urban (Dhaka) area. In the rural areas, self-employment in non-agricultural activities and wage-labour appeared to be the most common

occupation. In all areas, women were mostly involved in domestic chores, the proportion being least in urban (Dhaka) area. Involvement with NGOs was found to be much more common in the hill tracts (Bandarban) area than the other two areas.

Morbidity

Morbidity prevalence (14 days recall) by selected background characteristics is shown in Table 4. Higher morbidity prevalence was significantly associated with household characteristics like location, labour-selling status, SES (proxy: wealth quintiles), formal schooling status of household head, and individual characteristics like extremes of age (Table 4.). Thus, households in urban (Dhaka) area, labour-selling households, households belonging to the lowest wealth quintile ('extreme poor'), households whose head was lacking formal schooling, and the very young and the elderly were found to have greater morbidity prevalence than the comparables. Fever, rheumatism (pain and aches in different parts of the body) and gastrointestinal diseases were the three most common illnesses found across the study areas. However, the morbidity profile varied significantly according to the geographical location of households but not SES (proxy: wealth quintiles) or sex. (Table 5). Gastrointestinal illnesses and rheumatism (body pain/aches) were more prevalent in the hill tracts area while fever and respiratory illnesses were more prevalent in the Dhaka urban area. Diseases of skin, eye and ENT were higher in the rural area than the other two areas.

Immunization

Immunization status of children against the six common childhood illnesses (included in the EPI programme) is presented in Table 6 according to various background characteristics. Interestingly, with the exception of age and geographical location, other household characteristics did not have any significant affect on the status of complete immunization. The proportion of completely immunized children was lower in hill tracts (Bandarban) area compared to the plain lands. It increased with age, with a persistent gender discrimination marginalizing girls, beyond one year of age.

Health-seeking behaviour

Majority of the ill persons (39%) were either self-treated at home with the help of various home remedies like ORS, analgesics, antacids, vitamins, herbals etc or instances where rest and general nursing care by household members sufficed without using any medication at all, which might have also happened due to lack of money to spend (Table 7). Geographical location, SES (proxy: wealth quintiles) and labour-selling status of households were found to be significantly associated with the type of treatment sought by the study population. Self-care/self-treatment was more prevalent while ‘modern’ allopathic treatment (qualified and semi-qualified) was less prevalent in the hill tracts (Bandarban) area compared to the other areas. Self-care/self-treatment decreased while qualified allopathic care increased with better wealth quintiles. The low SES households relied more on self-care/self-treatment, traditional care and unqualified allopathic treatment compared to other better-off households. Labour-selling households had more treatment seeking from the traditional system and unqualified allopaths and less from qualified allopaths than non labour-selling households.

Expenditure due to illness

Table 8 presents data on the total costs incurred by the households for the treatment of illness in the last 15 days. Majority of the households spent taka fifty or less for treatment during the 15-days recall period, the proportion being much less in case of households from hill tracts (Bandarban) area compared to the other two plain land areas. While analysed by wealth quintiles of the households, the usual gradient is observed: poorest households spending less and better-off households were spending more.

Antenatal and postnatal care

Proper care during pregnancy and childbirth is important for health of both the mother and her child. During ANC visits, screening for complications (e.g., anaemia, pre-eclampsia and infections) is done and advice on a range of issues including place of delivery and referral of mothers with complications is given. Table 9 presents data on pregnancy care services received with respect to the youngest living child. Findings reveal that only around 1/3rd of the currently married women of 15-49 years received ANC services which dropped dramatically in case of PNC services to around 1/5th of the cases. All the selected background characteristics except

wealth quintiles were found to be significant for availing ANC services. However, mother's age and household's location was not found to be important in seeking PNC services. Proportion of seeking PNC services increased progressively with higher wealth quintiles. In contrast to ANC and PNC services, the proportion of mother receiving TT (Tetanus Toxoid) was much higher, significantly so for mothers hailing from households of higher wealth quintiles, mothers with 5+ yrs of schooling, mothers from rural areas, and teen age mothers.

Place of check-up

Tables 10 and 11 shows the places visited by the women for availing ante-natal and post-natal check-up respectively. Household's SES (proxy: wealth quintiles) appeared to be the most influencing factor in deciding the place of seeking these services. Location of the households and occupation of the household heads', in addition, were important for accessing ANC services. Utilisation of Government hospitals were lowest in the hill tracts (Bandarban) area, and use of private MBBS doctors was lesser for the wage-labour households

Delivery Care

Both place of delivery and kind of assistance during delivery are important factors for delivery outcome and health of the mother and the newborn. This is because the above factors determine the environment of delivery, i.e., whether or not management of complications is possible in a hygienic environment. Table 12 displays distribution of births by place of delivery, and selected background characteristics. Most of the deliveries took place at marital home while only an insignificant proportion of the deliveries occurred in any govt. health facilities. Women's age below 35 years, residence in urban (Dhaka) area, non labour-selling households and households with higher wealth quintiles were significantly associated with delivery at any government health facilities. Majority of the deliveries were attended by untrained birth attendants and experienced neighbours or relatives (Table 13.). Women who either had more than 5 years of schooling or hailed from non labour-selling households or better-off households (higher wealth quintiles) were more likely to be delivered by a professional attendant at health facilities.

Family Planning

Around 52% of the eligible women were currently using any contraception (Table 14). Household characteristics like geographical location and wealth quintiles, and individual characteristics like age and years of formal schooling were significantly associated with contraceptive prevalence. The prevalence was more among women from rural areas, women from lower wealth quintiles, women aged 20 to 34 years, and women with more than five years of schooling. The hill tracts (Bandarban) had the lowest prevalence of contraception among the three areas. Pills were used more frequently, followed by Injection (Table 15). No significant differences were observed in different methods use by the study population according to selected background characteristics.

The most common source of contraceptives was found to be the large cadre of community health workers, both from the government and the non-government infrastructure, especially so for the hill tracts area. Medicine shops were the next most common source, especially in the rural area. In the hill tracts area, most of the UH & FWCs/UHCs were beyond a distance of three kilometres while most of these were within 1 Km distance in the plain land areas (Table 16).

Discussion

Health status in Bangladesh has shown a steady improvement since independence, especially in the last decade. There is some progress in reducing IMR and MMR since independence, as well as increasing childhood immunization and contraceptive prevalence. There is evidence that the health of the disadvantaged section of the population (in terms of geographical location, SES gender etc.) has not improved as much as it has for the better-off groups. The quality of life of the general population is still very low. We are confronted with the challenging task of providing equitable, accessible, efficacious and high quality health care services to the population at large, the majority of whom live at or below the poverty line. To effect necessary restructuring of the health sector to address these issues, we need to document the current situation to feed the policy makers and programme implementers. The current report (BHEW baseline survey 2002) aims to fulfill this knowledge gap through monitoring the status of health inequity with respect to some selected health outcomes.

Prior to discussion of results, however, several limitations warrant mentioning. First, the urban samples. In the Dhaka area, sites were selected purposively to exclude the affluent areas of the city and households belonging to middle and above SES. Also, it included a cluster of slum population as well. This was done to keep the sample comparable to the larger rural sample. On the other hand, the Bandarban urban sample was selected in such a way that it represented the major ethnic groups living in the area. To get a representative sample of the different ethnic groups, sometimes sample had to be taken from peri urban areas (within 3 km radius), and also equal numbers of households were included. Thus, the Dhaka urban sample represents a mixture of households belonging to low SES and some middle SES while the Bandarban urban sample was a mixture of all types of households.

Secondly, the BRAC Watch sites in rural areas were mostly situated where some kind of BRAC programme was present and the BRAC programme is non-randomly placed with especial emphasis on the presence of a commercial bank nearby. So the rural sites may not be truly representative of the country. However, as can be seen from the Map, the sites are geographically representative.

In this section we will try to briefly describe the differences observed in various variables of interest with respect to geographical areas, SES of households and, the gender.

Differences by area

Geographical location of the study households was a significant determinant of the differences observed in the health outcomes studied. Findings revealed marginalized position of the hill tracts (Bandarban) area compared to plain land areas with respect to the concentration of ‘ultra-poor’ households, literacy, livelihood, childhood immunization, contraception, pregnancy and professional delivery care, and access to static government health facilities. Morbidity prevalence was much lower in the hill tracts (Bandarban) area. However, the prevalence of gastrointestinal diseases in the hill tracts area was higher than plain land areas and is no doubt a function of the poor state of water and sanitation. Some specific interventions for rapid improvement of health in CHT can be provision of safe drinking water and improvement of environmental sanitation, and large scale health promotion efforts in a culturally acceptable way.

EPI coverage and contraceptive prevalence was also lower in this area compared to the other two plain land areas. Majority of those becoming ill relied on self-care/self-treatment. This is not due to aversion to 'modern' allopathic treatment, as revealed in case of availing ANC/PNC care from MBBS doctors, use of allopathic treatment for illness episodes and seeking contraceptives from the community health workers trained in allopathic medicine, but due to poor accessibility to government health facilities. In 60% of cases, these were beyond 3 km from their villages.

Results also raised several issues of concern. Firstly, the results show that the predominant type of health care sought was from the unqualified allopathic providers. Of concern is the fact that they present a formidable barrier in providing appropriate treatment of diseases. These practitioners rarely follow standard therapies. Rather, treatment tends to be a function of negotiation between patient and provider regarding what the patient or their families can afford. Medicines are usually sold per tablet, capsule or spoon in the case of syrup on the basis of what is described by a relative. Seldom is there the direct examination of the patient (Ashraf et al. 1982). Interventions to modify inappropriate and dangerous health seeking practice like this is clearly needed. Patient empowerment through information, education and the provision of basic pharmaceutical training among allopathic prescribers represent possible areas for intervention (Trostle 1996; Thawani & Gharpure 1997; Kamat & Nichter 1998)

Differences were also observed between rural and urban areas (Dhaka) in the plain land, though not as prominent as for hill tracts. The Dhaka urban population fared worse compared to their rural counterparts in terms of concentration of low SES households, greater prevalence of morbidity, greater treatment-seeking from unqualified allopath and lesser use of medical treatment (qualified and semi-qualified allopaths), and lastly, contraceptive prevalence. On the other hand, they were better than their rural counterparts regarding pregnancy and delivery care services by professionally qualified attendants and better physical access to the government health facilities.

Differences by SES

Differences in health outcomes by socioeconomic status (proxy: wealth quintiles) was rather straightforward: worst outcome was associated with lowest wealth quintiles ('extreme poor') of the households/individuals. This was especially seen in case of morbidity prevalence, self-management of illness when becoming ill, treatment-seeking from formal allopathic practitioners (qualified/semi-qualified), seeking antenatal and postnatal care, antenatal and postnatal check-up by MBBS doctors, and delivery at government health facilities by professional attendants etc. However this trend was not seen in case of immunization and contraception.

Differences by gender

Gender differences in the health outcomes were observed in the survey as a trend unfavourable to women: greater morbidity prevalence, completed immunization status and greater propensity to self-care/self-treatment when ill in cases of women. However, none of these differences were found to be statistically significant.

Implications: From a discussion of the above, a few programmatic implications can be summarised:

1. The study findings reveal that the hill tracts (Bandarban) area is a disadvantaged area in terms of availability, accessibility and affordability of Government/NGO health facilities and need-based services compared to the plain land areas. This is also the case in the rest of Chittagong Hill Tracts (CHT) area as revealed in the other study as well (Rafi and Chowdhury). Any future health interventions in the area should be sensitive to these differences and aim at increasing static health facilities for these marginalized group of the population.
2. The study results highlight the importance of SES, in accessing health care of any sort, especially allopathic care, across the different study groups. The well-known relationship between morbidity, type of treatment-seeking and expenditure on health with low household SES is also reiterated in this study. Efforts to address the health needs of the poor need to be integrated with development interventions that improve socioeconomic

status, and increase the capacity for informed decision-making and accessing qualified health care.

3. Though not explicit, there is a trend of gender inequities present in the study population. Although burden of disease was same among females as among males, their probability of seeking any health care outside of household was found to be less than the males. This fact belies the complexity and strength of ethnic and socio-cultural forces that prevent women from perceiving ill health sufficiently important to warrant treatment.

Acknowledgement

References

- Ashraf A, Chowdhury S, Streefland P. 1982. Health, disease and health care in rural Bangladesh. *Soc Sci Med* 47(6):779-794.
- Bangladesh Bureau of Statistics (BBS). 1990. Patterns, Levels, and Trends in Mortality and Regional Life Tables for Bangladesh: Evidence from Sample Vital Registration System, 1981-88. Statistics Division, Ministry of Planning, Dhaka.
- Bangladesh Bureau of Statistics (BBS). 1996. Bangladesh Health and Demographic Survey: Summary Findings, 1994 and 1995. Statistics Division, Ministry of Planning, Dhaka.
- Bangladesh Bureau of Statistics (BBS). 1997. Progotir Pathey: Achieving the Goals for Children in Bangladesh. Statistics Division, Ministry of Planning, Dhaka.
- Bangladesh Bureau of Statistics (BBS) and UNICEF. 1999. *Progothir Pathey* (Towards Development). Dhaka: Bangladesh Bureau of Statistics and UNICEF.
- Bhuiya A., Chowdhury M, Ahmed F, and Adams A. 2001. Bangladesh: an intervention study of factors underlying increasing equity in child survival.. In Evans T., Whitehead M., Diderichson F., Bhuiya A., and Wirth M. edited *Challenging Inequities in Health: From Ethics to Action*. New York: Oxford University Press.
- Bhuiya, A., and Streatfield, K. 1991. Mother's education and survival of female children in a rural area of Bangladesh. *Population Studies* 45: 253-264.
- Bhuiya, A., D'Souza S, and Zimicki S. 1986. Levels and differentials in child nutritional status and morbidity in a rural area of Bangladesh. *Journa of Tropical Pediatrics*, 32(1):17-23.
- Bhuiya, A., Wojtyniak, B., and Karim, R. 1989. Malnutrition and child mortality: are socioeconomic factors important? *Journal of Biosocial Science*, 21: 357-364.
- Bhuiya, A., Wojtyniak, B., D'Souza, S., Nahar, L., and Shaikh, K. 1987. Measles case fatality among the under-fives: a multivariate analysis of risk factors in a rural area of Bangladesh. *Social Science and Medicine*, (24)5: 439-443.
- Chen, L.C., Huq E. and D'Souza , S. 1981. Sex bias in the family allocation of food and health care in rural Bangladesh. *Population and Development Review*, 7 (1): 55-70.
- Chowdhury AMR and Bhuiya A. 2001. Do poverty alleviation programmes reduce inequities in health? Bangladesh experience. In D. Leon and G Walt edited *Poverty Inequality and Health: An International Perspective*. London: Oxford University Press. pp: 312-332.
- D'Souza, S., and Bhuiya, A. 1982. Socioeconomic differentials in mortality in a rural area of Bangladesh. *Population and Development Review*, 8(4): 753-769.

- D'Souza, S. and Chen, L.C. 1980. Sex differentials in mortality in rural Bangladesh. *Population and Development Review*, 6(2): 257-270.
- International Society for Equity in Health (ISEqH). 2001. *Working definitions 2001* (<http://www.equityhealth.com>).
- Kamat VR, Nichter M 1988 Pharmacies, self-medication and pharmaceutical marketing in Bombay, India. *Soc Sci Med* 47(6):779-94.
- Koenig, M. A. and D'Souza, S. 1986. Sex differentials in childhood mortality in rural Bangladesh. *Social Science and Medicine* 22 (1): 15-22.
- Ministry of Health and Family Welfare. 1998. *Health and Population Sector Programme, 1998 - 2003: Programme implementation plan, Part-I*. Ministry of Health and Family Welfare, Government of the People's Republic of Bangladesh, Dhaka.
- Rafi M and Chowdhury AMR (editors). 2001. *Counting the Hills: Assessing Development in Chittagong Hill Tracts*. Dhaka: The University Press Ltd.
- Sen, A.K. 1990. More than 100 million women are missing. *The New York Review* Dec 20th: 61-66.
- Thawani V, Gharpure .1997. Empowering patients. *Regional Health Forum* 2(1):51-4.
- Trostle J. 1996. Inappropriate distribution of medicines by professional in developing countries. *Soc Sci Med* 42(8): 1117-1120.
- United Nations Development Program. 1997. *Human Development Report 1997*. New York: Oxford University Press.

Table 1: Distribution of study households by socioeconomic status %

	Wealth Quintiles					N
	Extreme poor	2	3	4	Least poor	
<u>Place of Residence</u>						
Hill tracts (Bandarban)	50.7	23.9	17.4	4.5	3.5	201
Urban (Dhaka ¹)	20.4	12.4	11.9	11.9	43.3	201
Rural	24.1	10.0	38.0	14.0	14.0	2221

Table 2: Characteristics of the study households' by location %

	Location of the Households			
	Hill tracts (Bandarban)	Urban (Dhaka)	Rural	All
Households' landholdings (decimals)				
<10	30.3	100.0	34.1	38.8
10 - 49	10.9	--	29.7	26.0
50 – 500	33.3	--	33.6	31.0
500+	25.4	--	2.7	4.2
Households' assets				
Radio	34.3	46.8	31.7	33.0
Watch	59.7	66.7	54.3	55.7
Cycle	1.5	2.0	20.7	17.8
Electricity	15.4	91.5	31.4	34.8
Household heads' schooling (years)				
No schooling	65.2	46.8	61.1	60.3
1-5	24.9	37.3	26.8	27.4
5+	10.0	15.9	12.2	12.3
Household heads' occupation				
Wage labour	39.8	30.8	44.9	43.5
Agriculture (own-farm)	38.8	0.5	17.3	17.7
Service	18.4	62.2	25.0	27.4
Domestic chores	3.0	6.5	12.7	11.5
Female headed household	6.0	13.9	14.7	14.0
Household size				
≤ 5	65.2	78.6	69.3	69.7
5+	34.8	21.4	30.7	30.3
N	201	201	2221	2623

¹ Include some slum areas as well

Table 3: Socio-demographic characteristics of the study population by study areas and gender %

	Hill tracts (Bandarban)			Urban (Dhaka)			Rural		
	M	F	All	M	F	All	M	F	All
Age (years)									
<15	35.0	39.7	37.5	33.4	30.2	31.8	35.7	34.0	34.8
15-49	52.1	49.0	50.4	56.9	64.5	60.8	51.5	54.3	53.2
≥ 50	13.0	11.3	12.1	9.7	5.3	7.4	12.8	11.7	11.9
N	486	531	1017	413	437	850	5365	5326	10691
Formal schooling years (6+yrs)									
None	52.2	66.4	59.5	34.6	45.3	40.1	41.7	48.2	45.0
1-5	35.4	26.9	31.0	48.5	38.3	43.2	42.2	36.7	39.5
5+	12.4	6.8	9.5	16.9	16.4	16.6	16.1	15.0	15.6
N	418	443	861	361	384	745	4561	4656	9307
Occupation (6+yrs)									
Self-employment (agri.)	23.2	3.4	13.0	0.3	0.5	0.4	12.3	0.7	6.5
Self-employment (non-agri)	11.0	1.6	6.2	34.6	9.4	21.6	24.5	1.7	13.1
Wage-labour	20.3	7.7	13.8	0.3	0.3	0.3	16.3	0.4	8.3
Service	5.3	1.4	3.3	29.9	15.6	22.6	7.8	0.9	4.3
Student	28.2	24.2	26.1	19.9	19.5	19.7	28.6	28.2	28.4
Domestic chores	3.1	52.4	28.5	1.4	44.5	23.6	2.5	63.3	32.9
Others ¹	8.9	9.5	9.2	13.6	10.2	11.8	8.0	4.7	6.3
N	418	443	861	361	384	745	456	4656	9307
Marital status (10+yrs)									
Never married	37.7	35.8	36.7	41.0	31.6	36.1	43.5	29.6	36.5
Currently married	58.0	57.2	57.6	59.0	59.3	59.1	55.2	59.9	57.6
Other	4.3	7.0	5.7	--	9.1	4.7	1.3	10.5	5.9
N	371	383	754	322	351	673	4135	4180	8315
Involvement with NGOs (10+yrs)	26.7	31.8	29.4	2.4	2.5	2.5	4.7	5.4	5.0
N	486	531	1017	403	437	850	5365	5326	10691

¹ beggar, unemployed, too old/sick to work etc.

Table 4: Morbidity prevalence by selected background characteristics %

Characteristics	%	N
Location of Households		
Hilltracts (Bandarban)	5.5	1017
Urban (Dhaka)	13.8	850
Rural	12.5	10691
χ^2 significance	<i>p</i> <0.01	
Wealth quintiles		
Extreme poor	14.0	2922
2	11.8	1323
3	11.8	4399
4	11.6	1701
Least poor	10.1	2213
χ^2 significance	<i>p</i> <0.00	
Occupation of household heads		
Labour selling	13.3	5302
Non-labour selling	11.0	7256
χ^2 significance	<i>p</i> <0.00	
Formal schooling of household heads		
None	13.0	7487
1-5	10.9	3476
5+	9.5	1595
χ^2 significance	<i>p</i> <0.00	
Age (years)		
<5	26.6	1372
5-14	9.2	3004
15-49	8.9	6685
50-59	14.4	757
≥60	21.8	740
χ^2 significance	<i>p</i> <0.00	
Sex		
Male	11.7	6264
Female	12.2	6294
χ^2 significance	<i>ns</i>	

Table 5: Morbidity profile by selected background characteristics %

	Fever	Body pain	GI illnesses	Respiratory illnesses	Skin/Eye/ENT illnesses	Others*	N
Location of households							
Hill tracts (Bandarban)	32.1	20.8	18.9	3.8	5.7	18.9	53
Urban (Dhaka)	47.4	10.3	11.2	19.8	3.4	7.8	116
Rural	33.4	19.1	12.3	11.5	6.4	17.3	1311
χ^2 significance			$p < 0.01$				
Wealth quintiles							
Extreme poor	35.4	16.5	14.5	13.3	3.9	16.5	407
2	34.2	19.4	10.3	14.2	6.5	15.5	155
3	36.4	19.4	11.1	9.9	5.9	17.4	506
4	33.0	18.8	13.1	11.5	10.5	13.1	191
Least poor	29.9	19.0	12.2	12.7	6.8	19.0	221
χ^2 significance			ns				
Sex							
Male	35.6	17.7	12.7	12.1	6.5	15.3	733
Female	33.3	19.1	12.2	11.6	5.8	17.9	747
χ^2 significance		ns					
%	33.4	19.1	12.3	11.5	6.4	17.3	100.0

*Anaemia, reproductive health diseases, malnutrition, pregnancy-related problems etc.

Table 6: Completed immunization by sex and selected background characteristics%

Characteristics	Completed immunization against all six EPI diseases				
	%			N	
	M	F	All	M	F
Age (months)					
0-11	13.5	15.8	14.7	155	152
12-23	83.8	77.9	80.8	130	131
24-59	92.0	90.1	91.1	476	446
χ^2 significance		<i>p<0.001</i>			
Location of households					
Hill tracts (Bandarban)	56.7	67.1	62.4	67	82
Urban (Dhaka)	79.1	71.7	75.3	43	46
Rural	76.2	73.2	74.8	651	601
χ^2 significance		<i>p<0.001</i>			
Wealth quintiles					
Extreme poor	71.0	68.9	69.9	221	241
2	73.3	72.7	73.1	90	77
3	74.9	71.6	73.3	263	250
4	83.3	74.0	78.9	84	77
Least poor	75.7	83.3	79.1	103	84
χ^2 significance		<i>ns</i>			
Occupation of household heads					
Wage-labour	74.1	69.0	71.5	347	368
Other	75.1	75.9	75.5	417	361
χ^2 significance		<i>ns</i>			
Formal schooling (yrs) of household heads					
None	73.2	72.1	72.6	452	451
1-5	76.0	75.5	75.5	208	196
5+	78.2	67.1	67.1	101	82
χ^2 significance		<i>ns</i>			
%	74.6	72.4	73.6		

Table 7: Health-seeking behaviour by selected background characteristics %

Characteristics	Type of health care sought in last 15 days					N
	Self-care/self-treatment	Traditional	Unqualified allopaths	Semi-qualified allopaths	Qualified allopaths	
Location of households						
Hill tracts (Bandarban)	52.8	5.7	24.5	7.5	9.4	53
Urban (Dhaka)	49.1	3.8	30.2	4.7	12.3	106
Rural	37.1	5.6	21.8	18.3	17.3	1238
χ^2 significance			$p<0.01$			
Wealth quintiles						
Extreme poor	45.0	4.2	23.2	16.3	11.3	970
2	46.2	3.5	27.3	16.1	7.0	373
3	36.6	6.4	22.5	17.8	16.7	54
4	33.9	5.6	25.0	15.0	20.6	
Least poor	30.5	6.7	16.2	17.6	29.0	
χ^2 significance			$p<0.001$			
Occupation of household heads						
Wage-labour	38.1	6.8	25.0	17.3	12.9	649
Other	39.0	4.3	20.5	16.4	19.8	748
χ^2 significance			$p<0.01$			
Formal schooling (yrs) of household heads						
None	41.3	7.5	19.0	19.8	12.3	592
1-5	38.8	3.8	21.3	15.0	21.3	310
5+	21.4	3.6	28.6	17.9	28.6	124
χ^2 significance			ns			
Age (years)						
<5	39.6	4.4	24.6	15.7	15.7	338
5-14	36.4	6.3	27.7	15.8	13.8	253
15-49	38.3	5.3	21.2	16.9	18.3	580
50-59	34.8	7.6	16.3	21.7	19.6	92
≥ 60	44.0	5.2	17.9	17.9	14.9	134
χ^2 significance			ns			
Sex						
Male	37.4	5.9	23.4	18.2	15.0	692
Female	39.7	5.0	21.7	15.5	18.2	705
χ^2 significance			ns			
%	38.6	5.4	22.5	16.8	16.6	100.0

Table 8: Costs incurred for treatment of illness in the last 15 days by selected background characteristics %

	Total costs incurred (Taka)			N
	≤ 50	51-150	150+	
Location of households				
Hill tracts (Bandarban)	43.4	26.4	30.2	53
Urban (Dhaka)	73.3	12.1	14.7	116
Rural	61.7	19.7	18.6	1311
χ^2 significance		$p < 0.01$		
Wealth quintiles				
Extreme poor	67.8	17.2	15.0	407
2	71.6	18.1	10.3	155
3	60.9	21.1	18.0	506
4	54.5	24.6	20.9	191
Least poor	53.4	15.4	31.2	221
χ^2 significance		$p < 0.001$		
Sex				
Male	61.3	19.4	19.4	733
Female	62.7	19.3	18.1	747
χ^2 significance		ns		

Table 9: Pregnancy care services received for the youngest living child by selected background characteristics %

	Pregnancy care services received for the youngest living child			
	ANC	PNC	TT	N
Location of households				
Hill tracts				
(Bandarban)	22.6	22.6	51.3	115
Urban (Dhaka)	39.3	14.3	61.9	84
Rural	37.9	18.0	80.5	983
χ^2 significance	<i>p</i> <0.01	<i>ns</i>	<i>p</i> <0.00	
Wealth quintiles				
Extreme poor	42.3	8.9	64.1	337
2	44.7	16.3	75.2	141
3	44.4	20.4	82.5	406
4	46.0	23.7	84.4	135
Least poor	45.7	28.8	80.4	163
χ^2 significance	<i>ns</i>	<i>p</i> <0.001	<i>p</i> <0.001	
Occupation of household heads				
Wage-labour	29.5	14.1	74.8	559
Other	42.9	21.8	77.7	623
χ^2 significance	<i>p</i> <0.01	<i>p</i> <0.00	<i>ns</i>	
Age of mothers				
<20	47.8	23.9	87.0	139
20-34	37.7	18.5	77.5	816
35+	27.8	14.5	67.4	227
χ^2 significance	<i>p</i> <0.01	<i>ns</i>	<i>p</i> <0.00	
Formal schooling (yrs) of mothers				
None	29.2	15.3	71.9	662
1-5	44.3	22.1	79.5	366
5+	50.0	21.4	87.7	154
χ^2 significance	<i>p</i> <0.00	<i>p</i> <0.05	<i>p</i> <0.00	
%	36.5	18.2	76.3	100.0

Table 10: Place of antenatal check-up for the youngest living child by selected background characteristics %

	Ante-natal care received in				N
	Satellite clinic	Govt. Hospitals	Private MBBS	Others	
Location of households					
Hill tracts (Bandarban)	15.4	26.9	46.2	11.5	26
Urban (Dhaka)	12.1	30.3	57.6	--	33
Rural	27.1	45.6	16.9	10.5	373
χ^2 significance		$p < 0.00$			
Wealth quintiles					
Extreme poor	20.3	53.6	17.4	8.7	69
2	37.0	30.4	23.9	8.7	46
3	23.4	46.7	18.6	11.4	167
4	37.3	33.9	22.0	6.8	59
Least poor	18.7	41.8	29.7	9.9	91
χ^2 significance		$p < 0.01$			
Occupation of household heads					
Wage-labour	30.3	43.6	13.3	12.7	165
Other	22.1	43.1	27.0	7.9	267
χ^2 significance		$p < 0.01$			
Age of mothers (yrs)					
<20	36.4	50.0	11.4	2.3	64
20-34	22.8	42.5	23.7	11.1	305
35+	30.2	42.9	19.0	7.9	63
χ^2 significance		ns			
Formal schooling (yrs) of mothers					
None	29.0	40.4	20.2	10.4	193
1-5	21.0	48.8	21.6	8.6	162
5+	24.7	39.0	26.0	10.4	77
χ^2 significance		ns			
%	25.2	43.3	21.8	9.7	100.0

Table 11: Place of postnatal check-up for the youngest living child by selected background characteristics %

	Post-natal care received in				N
	Satellite clinic	Govt. hospitals	Private MBBS	Others	
Location of households					
Hill tracts (Bandarban)	11.5	15.4	65.4	7.7	26
Urban (Dhaka)	8.3	33.3	58.3	--	12
Rural	18.6	46.3	24.3	10.7	177
χ^2 significance		<i>ns</i>			
Wealth quintiles					
Extreme poor	16.7	46.7	23.3	13.3	30
2	17.4	21.7	52.2	8.7	23
3	18.1	42.2	28.9	10.8	83
4	21.9	43.8	25.0	9.4	32
Least poor	12.8	46.8	34.0	6.4	47
χ^2 significance		<i>p<0.05</i>			
Occupation of household heads					
Wage labour	22.8	39.2	24.1	13.9	79
Other	14.0	43.4	35.3	7.4	136
χ^2 significance		<i>ns</i>			
Age of mothers					
<20	31.8	45.5	18.2	4.5	32
20-34	16.3	38.8	34.4	10.6	150
35+	12.1	54.5	24.2	9.1	33
χ^2 significance			<i>ns</i>		
Formal schooling (yrs) of mothers					
None	19.8	42.6	29.7	7.9	101
1-5	18.5	40.7	29.6	11.1	81
5+	6.1	42.4	39.4	12.1	33
χ^2 significance		<i>ns</i>			
%	17.2	41.9	31.2	9.8	100.0

Table 12: Place of delivery of the youngest living child by selected background characteristics %

	Place of delivery			N
	Marital home	Natal home	Health facilities	
Location of households				
Hill tracts (Bandarban)	94.8	1.7	3.5	115
Urban (Dhaka)	70.2	20.2	9.5	84
Rural	72.8	23.5	3.7	983
χ^2 significance		$p<0.05$		
Wealth quintiles				
Extreme poor	78.0	19.6	2.4	337
2	82.3	17.0	0.7	141
3	77.6	19.5	3.0	406
4	65.9	27.4	6.7	135
Least poor	62.0	27.0	11.0	163
χ^2 significance		$p<0.001$		
Occupation of household heads				
Wage-labour	75.5	22.4	2.1	559
Other	74.2	20.1	5.8	623
χ^2 significance		$p<0.05$		
Age of mothers (yrs)				
<20	53.3	42.4	4.3	139
20-34	72.5	22.9	4.5	816
35+	92.1	5.7	2.2	227
χ^2 significance		$p<0.00$		
Formal schooling (yrs) of mothers				
None	75.8	21.4	2.8	662
1-5	73.1	20.5	6.4	366
5+	73.8	21.4	4.8	154
χ^2 significance		ns		
%	74.8	21.2	4.1	100.0

Table 13: Type of attendant at delivery for the youngest living child by selected background characteristics %

	Type of attendant at delivery (for the youngest living child)				N
	Trained TBA*	Untrained TBA	Neighbours/ relatives	Professionals at health facilities	
Location of households					
Hill tracts (Bandarban)	53.0	21.7	22.6	2.6	115
Urban (Dhaka)	19.0	53.6	19.0	8.3	84
Rural	16.1	38.4	40.0	5.6	983
χ^2 significance			<i>ns</i>		
Wealth quintiles					
Extreme poor	16.3	46.0	34.7	3.0	337
2	21.3	30.5	45.4	2.8	141
3	20.0	36.2	38.4	5.4	406
4	23.7	31.9	37.0	7.4	135
Least poor	22.7	36.2	29.4	11.6	163
χ^2 significance			<i>p<0.01</i>		
Occupation of household heads					
Wage-labour	16.8	38.1	40.8	4.3	559
Other	22.6	37.6	33.2	6.6	623
χ^2 significance			<i>p<0.01</i>		
Age of mothers					
<20	26.1	28.3	38.0	7.6	139
20-34	19.7	37.4	37.0	5.9	816
35+	18.1	43.2	35.7	3.1	227
χ^2 significance					
Formal schooling (yrs) of mothers					
None	18.9	36.7	41.4	3.1	662
1-5	21.0	40.4	30.6	7.9	366
5+	21.4	36.4	31.8	10.4	154
χ^2 significance			<i>p<0.00</i>		
%	19.9	37.8	36.8	5.4	100.0

*TBA: Trained Birth Attendant

Table 14: Contraceptive use by currently married women (15 – 49 years) by selected background characteristics %

	Currently using contraception %	N
Location of Households		
Hill tracts (Bandarban)	40.0	115
Dhaka (Urban)	50.0	84
Rural	53.6	983
χ^2 significance	$p < 0.05$	
Wealth quintiles		
Extreme poor	39.5	337
2	54.6	141
3	55.9	406
4	61.5	135
Least poor	58.3	163
χ^2 significance	$p < 0.001$	
Occupation of household heads		
Wage-labour	51.3	559
Other	52.6	623
χ^2 significance	<i>ns</i>	
Age of women (yrs)		
<20	48.9	139
20-34	54.5	816
35+	44.1	227
χ^2 significance	$p < 0.05$	
Formal schooling (yrs) of women		
None	48.9	662
1-5	53.0	366
5+	63.0	154
χ^2 significance	$p < 0.05$	
%	52	1192

Table 15: Methods used by currently married women (15 – 49 yrs) by selected background characteristics %

	Type of methods used				N
	Pill	Injection	Condom	Others ¹	
Location of households					
Hill tracts (Bandarban)	78.3	6.5	6.5	8.7	46
Urban (Dhaka)	73.8	7.1	14.3	4.8	42
Rural	75.1	14.6	6.6	3.6	527
χ^2 significance		<i>ns</i>			
Wealth quintiles					
Extreme poor	72.9	9.8	8.3	9.0	133
2	75.3	16.9	5.2	2.6	77
3	78.4	13.7	5.7	2.2	227
4	73.5	18.1	4.8	3.6	83
Least poor	72.6	9.5	12.6	5.3	95
χ^2 significance		<i>ns</i>			
Age of women (yrs)					
<20	72.7	18.2	6.5	2.6	77
20-34	76.5	12.3	7.8	3.4	438
35+	72.0	15.0	5.0	8.0	100
χ^2 significance		<i>ns</i>			
Formal schooling (yrs) of women					
None	74.7	14.8	6.2	4.3	324
1-5	77.3	11.9	7.7	3.1	194
5+	73.2	12.4	9.3	5.2	97
χ^2 significance		<i>ns</i>			

¹ permanent methods, traditional methods like abstinence, safe-period, withdrawal etc.

Table 16: Source of contraceptives and distance to Health and Family Welfare Centre (H & FWC) by location of households %

	Location of the households			
	Hill tracts (Bandarban)	Urban (Dhaka)	Rural	All
Source of Contraceptives				
CHWs (GO/NGO)	81.4	56.1	49.5	52.3
Medicine shops	16.3	29.3	40.0	37.5
Others	2.3	14.6	10.5	10.2
Distance to H & FWC				
≤ 1 Km	22.7	96.4	61.2	60.1
1 – 3 Km	17.3	3.6	32.0	28.5
3+ Km	60.0	--	6.8	11.5
N	110	84	940	1134