

Poverty status and differential access to health services in RDHC area

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Summary findings

This paper examined the equity status of different poverty groups in the use of health services in two rural areas of Bangladesh. Using multistage sampling method a total of 80 villages were selected from the Bogra and Dinajpur sadar *upazilas* (subdistrict) for the study. A total of 4,003 households in those villages were visited for collecting data on mortality and fertility while health service related data was collected from a sub-sample of 1,032 households. A poverty index constructed with three variables (viz., household landholding, education of household head, and perceived annual food security status of household) categorised the households into three groups included extreme poor, moderate poor and non-poor.

While examining different indicators by poverty status the data indicated that the proportion of the infants given colostrum was the highest among the extreme poor (100%). This was followed by exclusive breastfeeding (56%). The extreme poor also had the highest CBR (32/1,000 population), prevalence of diarrhoea (10.4%) and general illnesses (23%). The percentage of fully immunised children, and IMR (80/1000 live births) were highest among the moderate poor. In contrast to all other study groups, the non-poor were both the biggest users of most services examined in the study, and the least prone to IMR, CBR and illness incidence during last pregnancy of women (23%). On the whole, out of 25 study indicators the non-poor was best in 14, the extreme poor in 2 and the moderate poor in one.

The above mentioned scenario revealed considerable differences between poverty groups in many health indicators. However, when the status of the extreme and the moderate poor was compared with better off groups on a set of 25 indicators, the data showed that the extreme poor was better in 2 indicators and the moderate poor in 11.

Overall, the disparities between the poor and the non-poor were significantly skewed in 9 indicators. However, the analysis showed a reduction in the gaps between the poor and the non-poor in some indicators such as child immunisation, women's TT vaccination, VAC coverage, and family planning method use was also evident. This may be attributed to the interventions of BRAC and other NGOs.

Analysis of health equity by poverty status (extreme poor, moderate poor and non-poor) demonstrated skewed health inequities between the poor and non-poor. Moreover, considerable differences were also found between the extreme and moderate poor in various health indicators. This warrants a special programme with appropriate safety net to addressing the pressing health needs of the extreme poor.

Introduction

Disparities in the use of health services by different social groups are well documented across various settings particularly in developing countries. In Bangladesh, such disparities seem to be greater, causing serious concern. There seems to be a large disparity even between various groups of the poor in health service utilisation. Empirical evidence reveals that the poorest segment of the population is deprived of most health services in Bangladesh. This is considered a threat to the productivity and equitable development of human resources in the country. BRAC is also concerned with the growing health inequities and their consequences. To offer health services to the most needy, BRAC initiated health programmes in many parts of the country. The Reproductive Health and Disease Control (RHDC) programme has been the cornerstone to many BRAC health initiatives. From the beginning, the BRAC health services were open to all the community people, but in late 1997, BRAC shifted its approach to specially focus on the pressing health needs of the poor who joined the NGOs' micro-finance activities.

So far very few studies have focused on the poverty status and equity of health service utilisation. This study, as part of a more comprehensive study on the impact of the RHDC programme, examined the poverty and equity statuses of the health service users in RHDC programme area.

Methods and materials

Using the multistage sampling methods, a total of 80 villages were selected from the Bogra and Dinajpur sadar *upazilas* (subdistrict) for the study. A total of 4,003 households in those villages were visited to collect data on mortality and fertility, while health service related data were collected from a sub-sample of 1,032 households (25% of the total). The latter households were chosen using the systematic sampling method. Primarily responsible and competent mothers were interviewed by visiting households. Alongside the mothers other competent members (such as household heads or elders) of the households were also consulted on information concerning sensitive variables such as landholding, etc.

Measuring the poverty status of rural households

Measuring the poverty status of the rural households by direct methods (such as the measurement of daily calorie intake), and by indirect methods (such as the measurement of income-expenditures) appeared to be operationally difficult. On the other hand, a single variable/indicator such as landholding, sex of household heads, etc. is not sufficient to assess the poverty status of a rural household (Halder et al. 2000, p.133). To overcome this problem, many researchers either consider a combination of variables/indicators or construct an index with several variables/indicators. In our case, we collected data on 8 variables/indicators aiming to compose an index for assessing the poverty status of the study households (Table 1). The data showed that the cell frequencies of some indicators such as sex of household heads, number of daily meals usually consumed, number of meals taken by all household members in the last 24 hours, frequency of rice (meals) eaten by the households in the last 24 hours, and mode of procuring rice for cooking were too small for a meaningful analysis. Thus, we selected three variables- landholding, household head's education and food security status for constructing an index of poverty status of the study households. The rationales for choosing these variables were:

- i) The micro-credit organisations widely use landholding to select target landless households ("landless" meaning possessing <50 decimals of land) (Sen et al. 1998, p. 13; Halder et al. 2000, p. 128, 129). A study (Sen et al. 1998) revealed that this group of households contains 71% of the extreme poor rural households. However, not all the households with this amount of land can be defined as extremely poor. About 57% of moderate poor households also belong to this category. The World Bank study (1998, p.10) found that six of every ten households possessing <50 decimals of land were very poor. In contrast, only one of 40 households owning 7.5 or more acres of land was poor.
- ii) Land alone is not enough to define the poverty status of a household. Educational attainment of the household head is also strongly correlated with the socioeconomic status of households. It is evident that the incidence of poverty is higher among illiterate households (Sen et al. 1998, p. 12; World Bank, 1998, p. 10; Halder et al. 2000, p. 134).
- iii) The study (Sen et al. 1998, p. 4) showed that self-categorisation of annual food security status is also a sensitive indicator in determining the poverty status of a

household. Based on annual food supply status, the respondents categorised their households as experiencing chronic deficit, occasional deficit, break-even or a surplus in food supply. Such self-categorisation also addresses the seasonal fluctuations of food security status of a household. Moreover, the annual food security status of a household itself represents four of the eight indicators (4-7) listed in Table 1. In view of that we selected the variable on household food security status instead of those other indicators. All three variables- land, education of household head and food security status serve as a basis for poverty measurement of a rural household. We estimated the Pearson correlation coefficient to see the correlation among these variables. The levels of correlation were as follows: between household landholding and education of household heads 0.376, between household landholding and food security status 0.297, between education of household heads and food security status 0.254. Although these results show only moderate correlation between the variables, they were statistically significant at 1% level. Thus, we finally decided to use those three variables for composing an index of the poverty status of the study households. The households were classified into three poverty categories:

Extreme poor: Households with 0-10 decimals of land, household heads with 0-2 years of education, and deficit in annual food supply.

Moderate poor: Households with 11-50 decimals of land, household heads with 3-5 years of education, and break-even in annual food supply.

Non-poor: Households with 51 or more decimals of land, household heads with 6 or more years of education, and surplus in annual food supply.

However, we found that many households did not satisfy all these conditions to be in any of the above categories. We therefore, assigned scores for each indicator ranging from zero to two. In this process, a household had a probability of receiving a maximum score of two and a minimum score of zero, where zero was the highest and two was the lowest probability of being the extreme poor. The resultant frequencies were shown in Table 2.

We then added up the scores for each variable per household. It was revealed that the maximum score received by a household was 6. We grouped the total range of scores into three intervals, and thus distributed all the households into groups depending on the

Table 1 Distribution of households by socioeconomic variables/indicators (n=1,032)

Socioeconomic variables/indicators	No. of households	Percentage
<i>Landholding (decimals)</i>		
0-10	551	53.3
11-50	175	17.0
51+	306	29.7
<i>Sex of household heads</i>		
Male	1013	97.9
Female	19	2.1
<i>Education (years)</i>		
0-2	546	52.9
3-5	189	18.3
6+	297	28.8
<i>No. of meals intake per day usually</i>		
One	0	0
Two	41	4.0
Three	991	96.0
<i>No. of meals taken by all members yesterday</i>		
One	3	0.3
Two	55	5.3
Three	974	94.4
<i>Frequency of rice (meals) taken yesterday</i>		
One	13	1.3
Two	150	14.5
Three	169	84.2
<i>Mode of procuring rice</i>		
Purchase	590	57.2
Own production	437	42.3
Borrowing	3	0.3
Donation	2	0.2
<i>Food security status</i>		
Deficit	307	29.7
Break-even	406	39.3
Surplus	319	30.9

score received (Table 3). The households receiving the bottom third of the scores (0-33.3%) were labelled as extreme poor, the middle third (33.4-55.6%) as moderate poor, and the top third (66.7% or more) as non-poor. This helped us to obtain the poverty status frequency of all the study households. The resulting proportions of households were almost consistent with the findings of the Household Expenditure Survey-1995-1996 (BBS 1997, p. 33-45).

Table 2 Distribution of households by level of score assigned and poverty status (n=1,032)

Socioeconomic variables	No. of HH	Poverty status	Score
<i>Landholdings (decimals)</i>			
0-10	551	Extreme poor	0
11-50	175	Moderate poor	1
51+	306	Non-poor	2
<i>Education (years)</i>			
0-2	546	Extreme poor	0
3-5	189	Moderate poor	1
6+	297	Non-poor	2
<i>Food security status</i>			
Deficit	307	Extreme poor	0
Break-even	406	Moderate poor	1
Surplus	319	Non-poor	2

Table 3 Households by poverty status

<i>Poverty status</i>	Score	No. of household	Percent
Extreme poor	0-1	378	36.6
Moderate poor	2-3	334	32.4
Non-poor	4-6	320	31.0
Total		1032	100.0

Limitations

We used three variables to compose a poverty index. Inclusion of more indicators such as quality of dwelling houses, occupation of household heads, economic dependency, etc. might help reveal a more precise poverty status of the rural households. But these were very difficult to measure in the practical situation given the resources and the time of the study. Moreover, our main thrust of determining the poverty status of the study households was to assess the extent of health services utilisation by different poverty groups rather than carrying out a pure economic analysis. Therefore, this should not be viewed from a strict economic standpoint.

When considered the use of BRAC *shushastho*-specific services, the cell frequencies of some indicators for particular groups appeared to be small posing difficulties in interpretations and drawing effective conclusions.

Results

Use of pre and postnatal services

The RHDC mobilises pregnant women in the community to deliver their babies in hospitals and/or clinics (termed as institutional facility) equipped with basic requisite facilities. This is most important towards efficient management of any emerging obstetric complications. BRAC also established health centres known as BRAC *shushasthos* (BS) to provide easily accessible quality health and maternity services to the people. Table 4 shows that less than one-tenth of childbirths among different poverty groups in contrast to the 28% for the non-poor group took place in hospitals including BRAC *shushasthos*. The study also found that among all the 68 institutional childbirths, 62 occurred at the government and/or private hospitals and only 6 at BRAC *shushasthos*. The difference between the non-poor and both groups of the poor in the incidence of hospital based childbirth was significant ($p < 0.001$). A significantly lower proportion of the moderate poor (29.7%, $p < 0.01$) and the extreme poor (33.3%, $p < 0.005$) mothers with incidence of illnesses during their last pregnancy received treatment from the qualified/trained physicians compared to the non-poor (57.1%). However, 11.1% of the extreme poor, 16.2% of the moderate poor, and 21.4% of the non-poor mothers respectively received treatment from BRAC *shushasthos*. A majority of remaining mothers, regardless of their poverty status visited village doctors for treatment (extreme poor 42.2%, moderate poor 32.4%, and non-poor 14.3%). The rest of the sick people were not treated. Most mothers irrespective of poverty status received two or more doses of TT vaccine during their last pregnancy (extreme poor 76.0%, moderate poor 72.1%, and non-poor 82.4%).

The lowest percentage of childbirths of the extreme poor (40.1%) that occurred at home were attended by trained TBAs compared with 46.6% and 51.1% of the moderate and non-poor respectively.

The highest proportion of infants (0-6 months) among the extreme poor (100%) compared to the moderate poor (83%) and the non-poor (95%) was given colostrum within 72 hours of birth. A lower proportion of the non-poor infants (45%) was exclusively breastfed compared with the extreme poor (56%) and the moderate poor (50%).

Table 4 Use of selective pre and postnatal services by poverty status

Indicators	Poverty status		
	Extreme poor	Moderate poor	Non-poor
	1	2	3
Facility-based delivery (%)			
Hospital	6.0 (11)	11.7 (18)	26.4 (33)
BS*	1.1 (2)	1.3 (2)	1.6 (2)
n	183	154	125
Illness in the last pregnancy treated (%)			
Qualified/trained physician	33.3 (15)	29.7 (11)	57.1 (16)
BS	11.1 (5)	16.2 (6)	21.4 (6)
n	45	37	28
Women received two or more doses of TT vaccine in last pregnancy (%)	76.0 (139)	72.1 (111)	82.4 (103)
n	183	154	125
Childbirths at home attended by trained TBA (%)	40.1 (67)	46.6 (61)	51.1 (46)
n	167	131	90
Colostrum fed (% of infants 0-6 months)	100.0 (16)	83.3 (10)	95.0 (19)
n	16	12	20
Exclusive breastfed (% of infants 0-6 months)	56.3 (9)	50.0 (6)	45.0 (9)
n	16	12	20

Note: 1. Figures in parentheses indicate cell frequency. * BS: BRAC Shushastho or Health Centre.

2. χ^2 Significance: Childbirth in hospital: Col. 1 vs 2 $p < 0.001$, 2 vs 3 $p < 0.001$. Illness in last pregnancy treated by qualified physicians: Col. 1 versus 3 $p < 0.005$, 2 versus 3 $p < 0.01$.

Use of general health services

Table 5 illustrates that most diarrhoea patients, regardless of poverty status received allopathic treatment (extreme poor 70.4%, moderate poor 69.8%, and non-poor 70.2%). The proportion of patients receiving no treatment was highest among the extreme poor (18.3%) and lowest among the moderate poor (12.7%), followed by the non-poor (14.9%). On the contrary, a higher percentage of diarrhoea cases among the non-poor used oral saline¹ (34.7%), in contrast with the extreme poor (24.9%), and the moderate poor (33.3%).

A substantial proportion of the patients across different groups with general illnesses (other than diarrhoea) sought treatment from village doctors (extreme poor 43%, moderate poor 43%, and non-poor 39%). On the other hand, a higher proportion of the non-poor patients (41%) than the extreme poor (35%) and the moderate poor (36%) received treatment from qualified/trained physicians. Some patients however received treatment from BRAC *shushasthos* (extreme poor 9, moderate poor 3 and non-poor 4).

¹ Packaged oral dehydration solution and any homemade fluids.

Table 5 Use of general health services use by poverty status

Indicators	Poverty status		
	Extreme poor	Moderate poor	Non-poor
	1	2	3
<i>Oral saline used in diarrhoea (%)</i>	24.9 (42)	33.3 (42)	34.7 (42)
<i>n</i>	169	26	121
<i>General illness treated (%)</i>			
Qualified/trained physician	34.7 (131)	36.2 (117)	40.8 (135)
BS	2.4 (9)	0.9 (3)	1.2 (4)
<i>n</i>	378	323	331
Children (12-23 months) fully immunized (%)	90.38 (65)	94.6 (35)	90. (39)
<i>n</i>	72	37	43
<i>Women (15-49 years) received two or more doses TT vaccine (%)</i>	77.4 (322)	79.4 (304)	77.9 (293)
<i>n</i>	416	383	376
<i>Children (6-71 months) received VAC (%)</i>	91.8 (313)	93.2 (262)	97.7 (208)
<i>n</i>	341	281	213
<i>FP method used (% of currently married women 15-49 years)</i>	58.4 (230)	57.9 (208)	54.6 (189)
<i>n</i>	394	359	346
<i>Pneumonia treatment (%)</i>			
Allopathic treatment	69.0 (29)	68.2 (30)	80.0 (24)
No treatment	16.7 (7)	18.2 (8)	3.3 (1)
<i>n</i>	42	44	30

Note: Figures in parentheses indicate cell frequency.

Although an overwhelming majority of the children (12-23 months) received all doses of all the 6 antigens of EPI (Expanded Programme on Immunisation) vaccines², the proportion was lower for the extreme poor (90%) than the moderate poor (95%), and the non-poor (91%). Table 5 indicated that a majority of women (15-49 years) received two or more doses of TT vaccine. The proportion was slightly lower among the extreme poor (77.4%) than the moderate poor (79.4%), and the non-poor (77.9%). An overwhelming majority of the children (6-71 months) received vitamin A capsule during 6 months recall period with a trivial difference across the study groups. However, the coverage was highest among the non-poor children (98%) compared to the extreme poor (92%) and the moderate poor (93%).

A lower percentage of currently married women (15-49 years) among the non-poor used family planning methods (55%) than the moderate poor (58%), and the extreme poor (58%). About 68% of the moderate poor patients resorted to allopathic

² Diphtheria, Pertussis, Tetanus Toxoid (DPT), Oral Polio Vaccine (OPV), Measles and Bacilli Calmette-Guerin (BCG).

treatment for pneumonia as opposed to 80% of the non-poor and 69% of the extreme poor. The use of homeopathic treatment appeared to be the second favourite among all the groups with the lowest among the moderate poor (extreme poor 19%, moderate poor 14%, and non-poor 23%). Notably, a substantial proportion of the pneumonia cases among the extreme poor (17%) and the moderate poor (18%) was not treated.

Practice of personal hygiene

Table 6 shows that the modest proportion defaecating in slab latrines were the households of the extreme poor (15%), compared to the moderate poor (23%) and the non-poor (32%). The differences between the two groups were significant (extreme poor versus moderate poor $p<0.005$, and non-poor $p<0.001$ and moderate poor versus non-poor $p<0.01$). Use of pit latrine also demonstrated a similar pattern across all the poverty groups. The extreme poor had the lowest use of pit latrine (8%), compared to the moderate (20%) and the non-poor (31%). The extent of pit latrine use revealed a significant difference between the study groups (extreme poor versus moderate poor and non-poor $p<0.001$, and moderate poor versus non-poor $p<0.01$).

Table 6 Practice of personal hygiene by poverty status

Indicators	Poverty groups			χ^2 Significance
	Extreme poor	Moderate poor	Non-poor	
	1	2	3	
<i>Place of defaecation (% of households)</i>				
Slab	14.6 (55)	22.8 (76)	32.2 (103)	Col. 1 vs 2 $p<0.005$, 1 vs 3 $p<0.001$, 2 vs 3 $p<0.01$
Pit	8.2 (31)	20.4 (68)	31.3 (100)	Col. 1 vs 2 $p<0.001$ 1 vs 3 $p<0.001$ 2 vs 3 $p<0.005$
<i>n</i>	378	334	320	
Presence of ash/soap near latrine (% of households)	54.0 (128)	63.2 (156)	78.9 (209)	Col. 1 vs 2 $p<0.05$, 1 vs 3 $p<0.001$, 2 vs 3 $p<0.001$
<i>n</i>	237	247	265	
Hand washing before meals (% of respondents)	99.7 (377)	100.0 (334)	99.7 (319)	
<i>n</i>	378	334	320	
Tooth cleaning everyday (% of respondents)	93.9 (355)	97.3 (325)	97.2 (211)	Col.1 vs 2 and 3 $p<0.05$
<i>n</i>	378	334	320	

Note: Figures in parentheses indicate cell frequency

Ash/soap holders in the vicinity of latrines were physically verified in the cases where respondents claimed to have used ash/soap for hand washing after defaecation. A significantly lower number of the extreme poor (54%) and the moderate poor households (63%) had ash/soap than the non-poor (79%) (extreme poor versus moderate poor $p<0.05$ and non-poor $p<0.001$ and moderate poor versus non-poor $p<0.001$). Besides, most respondents across all the study groups reported to have washed hands before taking meals.

An overwhelming majority of the respondents irrespective of their poverty status stated that they cleaned their teeth everyday but the proportion was lowest for the extreme poor (94%) compared with the moderate poor (97%), and the non-poor (97%). The differences between the extreme poor and the other two groups were significant (extreme poor versus moderate poor $p<0.05$ and non-poor $p<0.05$).

Impact status by poverty groups

Table 7 presents a higher number of infant deaths per 1,000 live births among the moderate poor (80) than the extreme poor (67) and the non-poor (40). Crude death rate (CDR) per 1,000 population was the highest (8) among the extreme poor compared with the moderate poor (7) and the non-poor (7). While the crude birth rate (CBR) per 1,000 population was significantly higher among the extreme poor (32), followed by the moderate poor (26), it was the lowest among the non-poor (19) (extreme poor versus moderate and the non-poor $p<0.05$ and $p<0.001$ respectively, and moderate poor versus non-poor $p<0.025$). Almost all the births among all the study groups were live (extreme poor 98%, moderate poor 98% and non-poor (99%).

The prevalence of diarrhoea significantly increased with the increase in the poverty levels (extreme poor 10.6%, moderate poor 8.1%, and non-poor 7.8%) (extreme poor versus moderate poor $p<0.05$ and non-poor $p<0.025$). The prevalence of general illnesses (except diarrhoea) was higher among the extreme poor (23%) than the moderate poor (21%) and the non-poor (21%).

Between 22.6% and 24.6% of mothers regardless of their poverty status reported illnesses during their last pregnancy. The proportion was the highest among the extreme poor (24.6%) followed by the moderate poor (24%) and the non-poor (22.6%).

Table 7 Impact status by poverty groups

Indicators	Poverty status		
	Extreme poor	Moderate poor	Non-poor
	1	2	3
IMR/1,000 live births	66.7 (12)	79.5 (12)	40.3 (5)
Crude death rate/1,000 population	8.0 (46)	7.0 (42)	7.0 (45)
Crude birth rate/1,000 population	31.8 (183)	25.6 (154)	19.4 (125)
Live birth (%)	98.4 (180)	98.1 (151)	99.2 (124)
n	183	154	125
Diarrhoea prevalence (%)	10.5 (169)	8.1 (126)	7.8 (121)
n	1631	1561	1547
Prevalence of general illnesses (%)	23.2 (378)	20.7 (323)	21.4 (331)
n	1631	1561	1547
Mother's illness status during last pregnancy (%)	24.6 (45)	24.0 (37)	22.6 (28)
n	183	154	124

Notes: 1. Figures in parentheses indicate cell frequency. 2. χ^2 Significance: CBR: Col. 1 vs 2 $p < 0.05$, 1 vs 3 $p < 0.001$. Diarrhoea: Col. 1 vs 2 $p < 0.05$, 1 vs 3 $p < 0.01$.

Discussion

Overall, the data primarily revealed substantial inequities across many study indicators³ between all the study groups, regardless of their poverty status (Tables 4-7). But when considering various groups of the poor together and comparing against the non-poor, the degree of differentiation across indicators was even greater. This may be the general trend in countries where a mechanism for equity control is non-existent.

In fact, while examining different indicators by poverty status the data indicated that the proportion of the infants given colostrum was the highest among the extreme poor (100%). This was followed by exclusive breastfeeding (56%). They also had the highest incidence of CBR (32/1,000 population), prevalence of diarrhoea (10.6%) and general illnesses (23%). The percentage of fully immunised children and incidence of IMR were highest among the moderate poor. In contrast to all other study groups, the non-poor were the biggest users of the following services: childbirth at hospital (26.4%) and BRAC *shushastho* (2 or 1.6%), trained TBAs in childbirth at home (51%), qualified physicians including BRAC *shushastho* doctors for treating general illnesses (42%) and

³ This study analysed 25 indicators. Two of them such as 'childbirth at BRAC *shushastho*', for all the study groups and 'general illnesses treated at BS' for the moderate poor and the non-poor with very small cell frequency were dropped from the discussion.

illnesses of women during the last pregnancy (79%), allopathic drugs for treating pneumonia (80%), receiving two or more doses of TT vaccine for women during their last pregnancy (83%), using slab or pit latrine for defecation (32% 31% respectively), VAC intake by children (98%), the presence of ash/soap nearby latrines (79%) and daily dental care (97%). Besides, they had lowest incidence of IMR, CBR and illness incidence during last pregnancy of women (23%).

But the comparisons between the extreme poor and the moderate poor showed that the former were better than the latter in the following indicators: use of two or more doses of TT vaccine for women during their last pregnancy (76% versus 72%) and incidence of IMR (67 versus 80). On the contrary, a greater proportion of childbirths among the moderate poor than the extreme poor occurred in hospitals including BRAC *shushsthos* (13% versus 7%), used trained TBAs during childbirth at home (47% versus 40%), defaecated in slab latrines (23% versus 15%) as well as pit latrines (20% versus 8%), held ash/soap nearby latrines for washing hands after defaecation (63% versus 54%) and dental care (97% versus 94%), and illness incidence during last pregnancy treated at BRAC *shushasthos* (16% versus 11%). But compared to the moderate poor, the non-poor had the lower use of FP methods (58% versus 55%), two or more doses of TT vaccine for women (79% versus 78%) and exclusive breastfeeding (45% versus 50%). Besides, compared to the non-poor, they had higher IMR (80 versus 40) and CBR (26 versus 19). A higher proportion of couples of the extreme poor as against the non-poor used FP methods (58% versus 55%). The CDR was also higher among the extreme poor than that of the non-poor (8 versus 7). On the whole, the non-poor was best in 14 indicators studied, the extreme poor in 2 and the moderate poor in one.

The above scenario revealed considerable differences between poverty groups in many health indicators. However, when the status of the extreme and the moderate poor was compared by number of indicators the data showed that the extreme poor was better in 2 indicators and the moderate poor in 11. On the whole, the disparities between the poor and the non-poor were significantly skewed in 9 indicators. But why do health inequities exist between different poverty groups? Is it due to a lack of programmatic emphasis or various socio-cultural and economic barriers? The following section explores

possible factors responsible for inequities among various poverty groups, with implications particularly for the extreme poor.

Although both government and non-governmental agencies run a number of development interventions including health in Bangladesh, many of them could not fully succeed in reaching the poorest population. Hashemi (1996) found that the micro-credit programmes of Grameen Bank and other NGOs failed to effectively target and identify the extreme poor for intervention. Perhaps, the operational definition of the target population of these micro-credit programmes was not sensitive enough to detect and include the extreme poor in the programmes. Moreover, the extreme poor were not considered to be the micro-credit worthy. Thus, the micro-credit programmes systematically miss this group. This is a strong imperative to redefine the target population and undertake special programmes to address the pressing needs of the extreme poor. Otherwise, the community level development achievements may backfire and intensify socioeconomic disparities despite significant improvement in the economic position of the programme participants individually.

Chowdhury et al. (1997) also found that the standard programme of BRAC had not been much successful in enrolling the poorest of the poor effectively. However, there is another side to this. The poor who got enrolled in the BRAC programme gained substantial socioeconomic benefits. Studies indicated that the programmes that used target approach for development had been successful in improving well-being of the programme participants including nutrition and mortality status as well as reduced inequity in health between the poor participants and the non-poor (Chowdhury et al. 2000; Karim et al. 1995). But the challenge is how to maximise the enrolment of the extreme poor in the programme? Provision of some facilities in terms of safety net and a special service package is believed to be helpful to ensure their inclusion in the programme.

BRAC's Income Generation for Vulnerable Group Development (IGVGD) programme is a good example of a programme that effectively identifies and addresses the special needs of the destitute (Hashemi 1996). BRAC may model its health programmes based on the learning from IGVGD and make provisions for a special health package including social health insurance for the poorest. This approach can be continued

until the extreme poor are alleviated from their present status of low health service utilisation. A study (Sharif 1996) suggested that an effective poverty reduction strategy should keep three levels of poverty in mind when developing appropriate mechanisms to cater for the pressing needs of the poverty groups. The overriding goal will be to lead people out of their respective poverty levels until they are freed from poverty altogether.

The poverty status of a household is a major determinant of the use of health services. According to Margaret Skold (1998) poverty is both the cause of ill-health and vulnerability in people, and an obstacle for delivering effective health care. Reduced demand for services, lack of continuity or compliance with medical treatment and increased transmission of infectious diseases are the result. Many case studies (Saurborn et al. 1994 and McPake 1993) revealed that increase in user fees or price of health care has had the tendency to reinforce existing inequalities in accessing the health services unless exemptions were made to protect the poor. Skold (1998, p. 12) noted:

In 1991 Zimbabwe introduced rigorous fee collection at public health services in order to reduce the fiscal deficit. The cost recovery programme had a clear negative impact on the health of many poor people who were no longer able to afford the costs..... In view of the adverse effect of user fees on the poor, Zimbabwe withdrew the cost recovery programme from rural clinics in 1995.

In Bangladesh, the introduction of user fees in health service might have affected the demand of health care among different groups of the poor. Thus, it is believed that the extreme poor are deprived of health services. Sometimes, the lack of money to pay for transport may also prevent them from accessing health services which, are provided free of charge, such as immunisation. High social costs in terms of the distance to health facilities and many hours away from paid work may also prevent the poor from seeking sufficient health services. This was compounded by the differential behaviour of the providers and intimidation. These factors eventually lead the poor toward 'self exclusion.'

However, the link between poverty and health is tangible. Poverty undermines health, renders people more vulnerable, and reduces work capacity and productivity resulting in low income. Again, low income leads to poverty and poor health. Many researchers have found that an individual's position in society is indicative of health

status. A paper (British Medical Association 1995) noted that inequalities in health run right across the whole society regardless of economic status. Macintyre (1994) remarked that the relationship between socioeconomic status and health exists in all societies and is apparent throughout. There exists a linear relationship between socioeconomic circumstances and health, even amongst those with higher socioeconomic status.

The inequality in health service utilization can not be explained by a single factor alone. Rather, it is likely to be the result of a complex interplay of genetics, biological, social, environmental, cultural, and behavioural factors. The poverty alleviation and empowerment programmes have not taken sufficient action to actively include the poorest people in their initiatives. Halder, et al. (2000) commented that although BRAC membership made a greater contribution in reducing poverty for relatively better-off among the poor households, the existing BRAC Development Programme could not be the only alternative to alleviate the poverty level of the poorest in the long run. Further consolidation of the programmes may be necessary to increase the coverage and adoption of appropriate strategies to include the poorest to a greater extent. Sen (1999) advocated that the poorest and the most vulnerable merit separate attention in the overall context of community-based intervention strategy so that they could be “visibilised” and their voices and specific needs could be heard.

Conclusion

In conclusion, the results and the discussion demonstrated highly skewed health inequities between the poor and the non-poor. But considerable differences of varying degrees were also observed even between the extreme and moderate poor. In fact, the moderate poor appeared to be considerably better than the extreme poor in many indicators in the study. Thus, the overall condition of the extreme poor warrants a special programme with appropriate safety net to addressing their pressing needs of health.

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