An approach to reaching the poor and disadvantaged to promote health equity in rural Bangladesh

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Abstract

Although the health care system has significantly expanded in the rural areas of Bangladesh during the last two decades, the overall health status of the population has remained very poor because of the uneven distribution of health and other basic services. The study assessed the contribution of micro credit-based health interventions in reducing the differentials in the access to and utilization of health services and identified the specific interventions that might promote health equity.

Data for this study came from the demographic and health surveillance system of BRAC covering 70 villages in 10 regions of the country. The surveillance system provided updated sampling frame from where a total of 3,208 households were selected at random for the survey. One adult woman from each sampled household was selected for the interviews. The survey provided basic socioeconomic information of the households, health status and access to health care and their participation in micro-credit program. In-depth interviews were also conducted with key informants such as community health volunteers, local health care providers and the vulnerable individuals to assess the needs and availability of the health care services for the poor. Data were collected in September 2001.

Findings revealed significant socioeconomic differentials in the access to and the utilization of health care in the study communities. Education and landownership were strong predictors of the health service use. Gender differential in health care was not significant. The access to and use of health care were much higher among the micro-credit program participants than non-participants. The health care for the poor should not only be subsidized but the mode of services must be appropriate to reach them. Subsidized treatment and medicines for the extreme poor, targeted and appropriate health services, and closer monitoring of the performance of health service providers was identified as prioritized interventions for the poor.

Health services promotion at the grassroots level was costly when it was one-dimensional program. The credit-based health promotion was cost-effective since other components such as income generating activities, adult literacy and basic curative services were added to the package. The study concludes that expanded health services, integrated with poverty-focus development program, can significantly improve the access to and the utilization of health services among the poor in developing countries.

Introduction

Equal opportunity for health has been considered a desirable social goal. Everyone is expected to have a fair chance to attain the full health potential and that none should be excluded from achieving this. Improving the health of the poor and reducing health inequalities have become the central goals of many development programs (Wagstaff 2002). Four dimensions of fair resource allocation in health such as equal access, equal utilization, equal quality of care for equal need, and equity in outcome are emphasized (Krasnik 1996). Equal access, however, depends upon the availability of services, organizations and financial capacity.

Although the health services has significantly improved in the developing countries over the past few decades, substantial inequalities in health outcomes between nations, socioeconomic groups and individuals have remained (Leon and Walt 2001). Among the problems identified were the lack of knowledge, access to health care and inability to buy the services among the poor. The inequalities in health are determined by economic development, income distribution, work environment, family structure, gender role, community influences and individual behavior (Ostlin, George and Sen 2001). Although there is a growing interest in the health equity issue, very little is known about the importance of inequalities in determining health service utilization and the impact of interventions on inequalities in health (Wagstaff 2002).

Generally men are more susceptible to illness and death than women for generic reasons (Waldron 1983; Kutzin 2001). Such gender variation in morbidity and mortality, however, does not explain the inequality in health outcomes and health services utilization between women and men. The service delivery in health system is not gender-sensitive and the hard-core poor have remained the out-of-reach of the health care system. In the traditional societies, the decision to seek health services is generally not made by women themselves rather by the other male members of the household (Acsadi and Johnson-Acsadi 1993). In most cases, they need permission from their husband to seek care even in emergencies. For example, the Muslim cultural tradition restricts women to see male health care providers (Kutzin 2001). Generally women, with a lower level of control over household resources, have limited authority on health outcomes for them and their families (Wagstaff 2002). Evidence suggests that health benefits for both women and their children are correlated with increasing involvement of women in income generating opportunities in Bangladesh (Evans et al. 2001). It can be concluded, therefore, that gender is a fundamental basis for grouping people that determines unequal access to resources and discriminatory social and public policies (Ostlin, George and Sen 2001).

The utilization of health care services by very poor was deterred significantly by user fees as most of them were unable to pay the cost of care (Timyan et al. 1993). Under the structural adjustment

policy, the most developing countries are under the pressure to reduce government expenditure on health and to reorganize the health sector to bring in private provision and payments for service (Leon and Walt 2001). The poorest are expected to suffer a greater burden of ill health although they use limited health services than do the rest of the population (Kutzin 2001). In many poor countries, a sizeable proportion of the poor spent more than half of their non-food expenditure on health care (Wagstaff 2002). Thus, poverty and social deprivation are strongly associated with poor health status, more illnesses and death at earlier ages (Leon and Walt 2001).

The role of education in determining health and health care has been well documented (Evans et al. 2001; Strauss et al. 1992). Education is more likely to positively influence the use of medical care and other relevant services (Kutzin 2001). Women, particularly the mothers, generally play the role of caregiver in most cases. Since women have the main responsibility in the households that affect health, households with educated women enjoy better health. Education, not only greatly strengthens women's ability to perform their vital role in creating healthy households, it also increases their ability to benefit from health information and to make good use of health services (World Bank 1993). Increases in social status are paralleled by increases in health and each unit increase in education yields proportionate increments in health outcomes (Evans et al. 2001). The rich countries have much greater capacity to improve their health than do the poor because the rich countries have higher level of maternal education. On the other hand, the poor countries are vulnerable to illnesses by a combination of low levels of education and poor access to health services. Thus, regardless of the increase of access to primary health care in recent years, the poor continue to suffer from the lack of access to services. The community-based non-formal education has been promoted in some countries to raise health information and reduce morbidity and mortality in childhood with marked improvement in health knowledge in many countries (Hussain, Aaro and Kvale 1997; Crane and Carswell 1992; Power 1996).

The existing health care system in Bangladesh does not serve the poor. The problems of health system are deeply rooted in the society and their transformation requires major structural changes. Several attempts have been considered to reduce inequalities in health including the vertical expansion of the health services to reach the remote communities in Bangladesh. While the program expansion provides wider scope to reduce inequalities in health, targeted approach, practiced primarily by NGOs, is regarded an effective way to improve health equity in the poorer communities.

BRAC, a non-government organization (NGO) in Bangladesh, has been providing health services for the poor through its micro credit-based development program (Hadi 2001). The micro-credit program of BRAC included not only the collateral-free credit for the poor women but a package of support services such as social awareness education and essential health care for them. Participation in such programs has the potential to change the life of poor in many ways. As credit program participants, the

poor women need to attend several awareness development meetings and skill development training sessions. The health awareness sessions cover personal hygiene, safe water and sanitation, immunization, ante and postnatal care, and family planning. The poor women were organized into small credit groups. The group formation process and the interaction among the group members create solidarity among group members. The participation in income generating schemes provides them opportunities to earn and financially contribute to their families. This new role of poor women raises their mobility, buying capacity and household decision-making process. As a result, they gain necessary strengths and means to modify their health seeking behavior and become more likely to accept innovation than others.

Given the presence of intensive micro credit-based development interventions, run essentially by the NGOs in rural Bangladesh, an investigation of the targeted health services intervention for the poor has been considered worthwhile to identify some clues for further improvement. The purpose of this study has been to i) examine the role of micro credit-based development interventions in reducing differentials in the access to and utilization of health services and ii) identify the specific health development interventions that might promote health equity.

Materials and Methods

Data for this study came from a demographic and health surveillance system covering 70 villages in 10 regions of Bangladesh where BRAC and a number of local NGOs had credit-based income generating activities. The surveillance system provided updated sampling frame from where the households were selected at random. One adult woman from each sampled household was selected for the survey. A total of 3,208 women were interviewed that provided basic socio-economic information of the households, the utilization of health care and their participation in micro-credit program. In-depth interviews were also conducted with 100 key informants with community health volunteers, health care providers and the vulnerable individuals in the study villages. Such intimate discussion provided information regarding the health needs of the poor and availability of the health services in the communities. Data for this study were collected in September 2001.

The assumption to be examined in this study was that the participation of the women in credit programs would significantly reduce socioeconomic differentials in the access to and use of health services. Two indicators of health equity were estimated viz. access to care and the utilization of services. *Access to health* care was defined as the ability of the household to receive basic health services when needed. *Use of health services* was measured by asking whether any household member sought health care from the medically trained service provider when in need. Only women from poor households were eligible to participate in micro-credit programs. In identifying the poor households in rural areas, NGOs

generally consider landless households where the household members sell their manual labor to others for survival. In this study, 'the eligible to participate' was defined as women of those households where the breadwinners were laborers and where the household owned less than 50 decimals of land. Since all women were not eligible to participate in NGO-led programs, the sample women were categorized into three groups: i) poor women who participated in the program, ii) poor but did not participate, and iii) not-eligible non-poor women.

In addition to credit program participation, there were other predictor variables that explained the variation of health service use in the analytical model. These were education of women, media exposure, land ownership and labor sale status. *Education of women* was coded as no education, schooling up to 5 years and schooling beyond 5 years. *Labor sell status* of the household was coded as the households where the members had to sell manual labor for their survival or otherwise. *Amount of land owned* by the household was categorized into landless, land owned <200 decimals and land owned 200+ decimals. Women's *exposure to media* was coded as exposed and not exposed.

It should be noted that cross-sectional data without random assignment of sample women between non-participation and participation in credit program might generate biased estimates because women who were relatively innovative might be more likely than others to join the credit program activities (Pitt *et al.*, 1999). The influence of possible selection bias was adjusted by employing multivariate analyses (Aldrich and Nelson, 1984).

Table 1 here

Results

Profile of the study population

The socio-economic background profile of the sample women by their participation in credit program are shown in Table 1. Illiteracy among women was widespread in the study villages as 69% never went to school while only 10.1% completed primary schooling. As expected, both the mean years of schooling and literacy were lower among the non-poor than the poor. Among the poor, it appears that non-participants were better educated than the participants. More than a half (52.1%) of the study households were landless. No variation in the ownership of land was found by program participation although the mean amount of land owned was higher among the program participants and non-participants. Most of the poor households had to depend on selling their manual labor for their livelihood. The prevalence of labor households was higher among the program participants (61.7%) than the non-participants (57.3%). Exposure to media in rural settings in Bangladesh was very poor as only 19.5% women had access to media. When compared among the poor women, the non-participants appeared to be relatively better

exposed than the program participants. The population profile indicates that the differences between the program participants and non-participants were minor and that the existence of selection bias to become the participant of credit program activities can be ignored.

Table 2 here

Correlates of health services

The differences in health services indicators viz. access to basic health care and the use of services from the medically trained professionals by selected socio-economic factors were estimated in Table 2. Only a third of the households (34%) had access to medical care when they were sick and only 16.6% of the households had actually sought any medically trained professionals when in need. Both indicators appeared to be positively associated with the credit program participation ($p<.01$). Level of education among women was an important determinant of health equity. The access to and the use of health care increased with the level of education ($p<.01$). Access to health was also positively associated with the media exposure. The health care system in Bangladesh has not been gender sensitive and, as a result, the access and utilization of health services were higher among men than women. However, the gender variation in the health indicators was not statistically significant. The household ownership of land and labor sale status were strongly ($p<.01$) associated with the access to care but not with the utlization of health services.

Table 3 here

The net effects of micro-credit program participation on the access to and the use of health services were estimated by employing multivariate analysis (Table 3). The participation in the credit program increased the access to care ($p<.10$) when the influences of other explanatory variables such education, media exposure, gender, landownership and labor sale status were controlled. On the other hand, education appeared to significantly influence the access to care. Among the other explanatory variables, labor sale status was found significant indicating that the access to health care in the better-off households was 39% higher than the labor households.

The role of program participation was found more prominent in explaining the use of health care. As Table 3 shows that the program participants were 56% more likely to use health care ($p<.01$) than the non-participants when the influences of other socio-economic factors were controlled. Among the other socio-economic predictor variables, none of the variables were found significantly associated with use of health care although the relationships between them were in expected direction.

Table 4 here

Perceived interventions

Intensive discussion with the community regarding the reasons of the lack of access, problems of using health services by the poor and their perceived needs of the health care provided some valuable insights that could be used in redesigning the existing health care system in the rural communities in Bangladesh (Table 4).

In an attempt to identify the most pressing need for the poor, subsidized treatment and medicines (41%) for the extreme poor and vulnerable individuals received priority. The utilization of health was low among the poor not only because they were not adequately informed about the availability of services but also they had very limited access to those services. One major obstacle has been their inability to pay the costs for the services. When asked the reason of not seeking a doctor when someone was sick in the household, one women responded, '*Usually we do not go to a doctor. We are poor and have not money to pay the fees and buy the medicines.*' The variation in the use of services was very high even among the poor in the study villages suggesting that the gap in the utilization of health care among the poor could be significantly reduced by subsidizing the services. Is providing free or subsidized services for all possible? While the Family Welfare Centers (FWCs) of the government and NGO-run health centers have been providing basic health services in the study villages with high subsidies, both the quality and quantity of the services were grossly inadequate and largely inaccessible to the poor. One health provider reacted, '*We try to serve them. But the poor do not come to us.*' The reason, however, was not unknown to him. '*The allocation of drugs and other supplies are inadequate and the supplies are irregular. We cannot satisfy them all.*' The poor always received less priority and less attention in the public health facilities and the very poor were left out.

What should be done, therefore, to increase access of the poor to the health care services? Several NGO-led health service providers in the study villages shared their experience in mobilizing the poor, particularly women and children, to receive health services in the satellite and outreach centers. '*Once the mothers see the benefits of getting their children immunized, they will continue to come to our outreach centers.*' one community health volunteers of a large NGO claimed.

Some of the development organizations have been running micro-finance programs in the study villages where only the poor were eligible to participate in those programs. Among other services, primary health care - focusing on immunization, family planning, safe water and sanitation – were reported to be very successful in reducing mortality and improving overall health status among the poor (Chowdhury and Bhuiya 2001). Thus, the targeted approach in providing basic services for the poor was preferred (17%) by a significant proportion of the community. A larger group, however, felt that the

service delivery system of the targeted approach should be redesigned to reach the most vulnerable group of the poor who were unable to come to the community health facilities. They were the women, the sick and the elderly among the very poor households. The community (27%) felt that one way of reaching that group was to identify those vulnerable groups by the community health volunteers and provide health services through mobile health team. Although home-based or mobile services will likely to raise the cost of providing health care in the community, it is expected that this approach, if integrated with other development interventions, will ultimately be cost-effective (Hadi 2001).

One major theme that emerged from the in-depth discussions with the community has been the neglect and negative attitude of the health service providers towards the poor. While talking regarding the need of improving provider-patient relationship, one poor man bluntly reacted, '*The doctors (providers) examine the rich more carefully. They do not provide attention to us.*' This has been also true for the private practitioners as well. Recognizing the fact that the duplicity in orientation and treating the patients was deeply rooted in our cultural values, it was observed by a significant proportion (14%) of the community that appropriate attention should be paid to this issue. This could be done through close monitoring of the performance of health service providers (13%) at various levels by local pressure groups on a regular basis.

In-depth discussions with the various segments of the community has provided some insights and identified some clues that could be linked with a health development intervention to reduce the health inequality at the grassroots level. The findings regarding the problems and the needs of the poor presented here are only indicative and should not be considered as conclusive.

Discussion

Overall, the health services were largely inadequate in the rural communities in Bangladesh. The study revealed that the poor and women were generally deprived of health care in rural areas. Although the access to care were relatively higher than the actual use of health care, the expansion of the health care system in the last two decades had produced very little in improving health equity in the rural communities because the programs were targeted to the general public and not specifically designed for the poor (Hadi 2001). The poverty-focused credit-based development interventions on the other hand, paid more attention to the need of the poor to promote equity in access and the use of health care. It appears that gender inequality in health services has reduced and the variation was insignificant. This may not, however, be the case for other parts of the country. The presence of pro-poor and gender-focussed development program might have reduced the use of health services in the study villages. Education of women has significantly strengthened their ability to benefit from health services. As most

poor women were illiterate in Bangladesh, the print media were not appropriate. On the other hand, the electronic media such as television were not affordable to most poor households.

This study attempted to identify mechanisms to reach the poor and disadvantaged at the grassroots level. The purpose has been to reduce the critical gap between availability and accessibility health services that cause exclusion of a large proportion of the poor population. In Bangladesh where incomes of the poor are too low to buy a minimum essential package, the provision should be developed to provide essential services free of charge or according to a sliding scale of fees and subsidize essential clinical services for easily identified subgroups of the population. This can be achieved by promoting more equitable distribution of health resources focusing not only on the size of the population but also on the burden of diseases (Whitehead et al. 2001). The principles of equity perspectives in gender, human rights and social justice should be the accompanying attributes of the health development strategy. An essential element of this strategy should be the sensitization of the community about the benefits of this approach, inclusion of the poor in decision making and raising access of the poor to basic health resources and services. The promotion of such new health products for the poor will reduce the problems of limited mobility, discrimination and the high opportunity costs of seeking care by women.

Since the main focus of the health program should be equitable health development, the current health system should include pro poor health components in it. Re-allocation of health resources to improve locally available care and promote outreach may be a viable option. Unlike a uniform health package, the health awareness program should be tailored to address the specific needs of the locality identified by the poor. The information package should cover such issues as availability of services, e.g., where and when children can get immunized, what local food can be consumed to reduce malnutrition, how basic hygiene and sanitation norms can be maintained at the affordable costs, etc.

Unless the basic health needs of the poor are addressed and illnesses among the poor are significantly reduced, the development interventions to reduce poverty would be redundant (Hadi 1996). Inaccessibility to health services and exclusion from mainstream health care institutions may be reduced by targeting the poor and expanding the basic health services to the outreach. The mainstreaming of the health program can be achieved by expanding the existing system adopting new health delivery strategy to ensure that the very poor know about the essential health care, get access to and the adequate use of health services and ensuring that patients from the very poor households get access to free or subsidized health services. Since cost is one of the main barriers to the use of health services, a mechanism to provide financial assistance in cases of medical emergencies should be established.

The policy options to improve health of the future should include testing new initiatives and systemic interventions that will help designing the most effective health intervention models. Health services promotion at the grassroots level was costly when it was one-dimensional program. The credit-

based health services, on the other hand, were cost-effective since other components such as income generation, adult literacy and basic curative services were added to the package. The study, therefore, argues that the credit-based health services should be expanded. The expansion of the health care system for the poor can contribute in many ways. For example, essential health care package for the poor will reduce the incidence of diseases that, in turn, will reduce the total health care costs. The expansion of health products is also likely to reduce workday losses that raise income, particularly among the poor. As have seen, the health needs as well as the health outcomes vary according to socioeconomic categories. The proposed health care system, thus, needs to move beyond the one-size-fits-all model of health care. In other words, the health care for the poor should not only be subsidized but the mode of services must be appropriate to reach them. The study concludes that expanded health services, integrated with poverty-focus development program, can significantly improve the access to and the utilization of health services among the poor in developing countries.

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Table 1. Profile of sample women by their participation in micro-credit program

Background variable	Poor			Non-poor	All women
	Non-participant	Active participant	*P*	Not eligible	
Education of women					
No education	73.9	76.7	<.05	51.6	69.0
I – V	18.9	18.9		26.9	21.0
V +	7.2	4.4		21.6	10.1
Mean school year	*1.28*	*1.04*		*2.89*	*1.62*
Land ownership (decimal)					
Landless	70.4	70.5	ns	---	52.1
1 - 199	29.6	29.5		48.4	34.5
200 +	---	---		51.6	13.5
Mean amount of land	*11*	*15.6*		*305*	*89.3*
Labor sale					
Sale labor	57.3	61.7	ns	4.9	45.0
Not sale	42.7	38.3		95.1	55.0
Exposure to media					
Not exposed	82.5	83.9	<.05	73.4	80.5
Exposed	17.5	16.1		26.6	19.5
N	1375	996		837	3208

ns=not significant.

Table 2. Health service indicator by socio-economic factor

Socioeconomic factors	Health service	
	Access	Utilization
All	34.0	16.6
Credit program		
Not participated	29.9	13.8
Participated	32.6	20.6
Not eligible	43.0	17.0
P-value	*<.01*	*<.01*
Education of women		
No education	30.4	16.2
I – V	39.0	17.8
V +	50.7	18.9
P-value	*<.01*	*ns*
Exposure to media		
Not exposed	32.9	16.8
Exposed	39.0	16.8
P-value	*<.05*	*ns*
Gender		
Male	35.2	17.4
Female	32.8	15.8
P-value	*ns*	*ns*
Land ownership (decimal)		
Landless	30.6	15.7
1 - 199	34.2	15.9
200 +	47.6	17.6
P-value	*<.01*	*ns*
Labor sale		
Sale	27.6	16.4
Not sale	39.7	17.2
P-value	*<.01*	*ns*

ns=not significant.

Table 3. Odds ratios for selected explanatory variables of the health service controlling for gender, land ownership and exposure to media

Explanatory variables	Health service		
	Access		Utilization
Credit program			
Not participated	1.00		1.00
Participated	1.15*		1.56***
Not eligible	1.27*		1.59*
Education of women			
No education	1.00		1.00
I – V	1.29*		1.15
V +	1.81***	1.26	
Labor sale status			
Sale labor	1.00		1.00
Not sale	1.39***	1.02	
- 2 Log likelihood	2141.0		1527.7
Pseudo R squared	0.041		0.013

* $p<0.10$
** $p<0.05$
*** $p<0.01$

Table 4. Perceived needs of health services for the poor

Perceived needs	%
Free treatment and medicines	41
Awareness raising	28
Home or mobile health services	27
Targeted services	17
Caring to the poor	14
Low cost medicine	13
Close monitoring of the health program	13
More health provider	11