

PROVISION OF DELIVERY CARE SERVICE AND ITS CORRELATES IN BANGLADESH

INTRODUCTION

In Bangladesh, with a large population among the poorest in the world, maternal mortality, as well as associated maternal morbidity, is a serious public health concern. The current estimated maternal mortality ratio is 194 per 100,000 live births. Health services in Bangladesh are provided both through public and private sectors. Although public sector is the main source of family planning and reproductive health services, the private sector also contribute significantly to family planning services and health.

The Bangladesh Demographic and Health Surveys (BDHS) 2011 revealed that delivery in health facilities is 29 percent, while home deliveries were rated at 71 percent. The Demographic and Health Surveys (DHS) conducted in other countries suggest that the private sector provides 51% of health care in Sub Saharan Africa, 66% in South-East Asia and as much as 79% in South Asia. Factors that prevent women from receiving or seeking health care during pregnancy and childbirth include inadequate services, poverty, distance, lack of information, and cultural practices. In Bangladesh studies have found that education, household socioeconomic status, and urban-rural residence are consistently significant predictors of service utilization.

The health care that a woman receives during pregnancy, at the time of delivery, and soon after delivery is important for the survival and well-being of both the mother and the child. Most government initiatives to improve reproductive health have tended to focus on what can be done to improve skills, resource management and referral systems within the public. The objective of this paper is to examine the association between sources of delivery care services and its differentials such as women's residence, economic position, educational status and access to BCC in Bangladesh. In this paper, we also revisit the question of whether the expansion of the role of private providers in Bangladesh has led to reduce disparities in delivery care services.

DATA

Bangladesh Demographic and Health Survey (BDHS) (conducted in 1993-94, 1996-97, 1999-2000, 2004, 2007 and 2011) of Bangladesh dataset was used in this study. BDHSs are a two-stage nationally representative survey which covers seven administrative divisions. At the first stage the primary sampling units were chosen from the available information provided the Bangladesh Bureau of Statistics based on census data. A total of around 304 to 316 primary sampling units (PSUs) were selected for all the BDHSs with probability proportional to size. After the selection of the primary sampling units, all households in each of the selected areas were mapped and listed. A systematic sample of households was then selected from these lists for each of the surveys.

METHODS

In order to assess different indicators over the period, the study used a number of statistical tools including bi-variate and multivariate analyses. Socio-economic status was assessed by constructing a household 'wealth index' based on principal components analysis and household asset. Bi-variate analysis was used to investigate the choice of utilization of reproductive health

service provision (e.g., public, private, NGO etc) in Bangladesh. This study used multinomial logistic regression model. The dependent variables are place of delivery, source of delivery care services. Each of the variables recoded into nominal (*polychotomous*) variable with 3 categories. The place of delivery care recoded as 1=Public facility, 2=Private facility, 3=Home respectively. The use of health services provision is expected to be influenced by demographic (place of residence, geographical division), social (women's education), economic (wealth quintile) and programmatic (access to mass media and visit by field workers) factors. To control the influence of these variables, multivariate analysis with the main effects of selection of service provider and other variables was used to examine the preference of Bangladeshi women for selecting private sector for their health care services.

Results

The proportion of births delivered at a health facility is notably higher in urban areas as compared to the rural areas. Further, the facility delivery has increased significantly in the urban areas as compared to the rural areas. In urban areas preference of public facility for giving birth has not been increased but the preference of private facility has increased significantly in last two decades. For example, in 1993-4 place of delivery at private facilities were only 9 percent but it has increased almost 3 times (25 percent) in 2011 (Table 1). In rural area the facility delivery (both public and private) among women has increased but no significant difference found between public facility delivery and private facility delivery.

The socio-economic status of women has positive impact on the likelihood of delivering at a health facility. Women's education is one of the most influential determinants of knowledge, attitudes, and behavior. The educational attainment of a population is an important indicator of level of socioeconomic development as well as status in the society. Women who have secondary and higher education, the preference of facility delivery has been increasing. Table 6 shows that in 1993-4, only 8 percent of women received delivery service from public facility whereas it was almost double in 2011. The proportion of selecting private facility was higher than public facility for giving birth among women who have secondary and higher education.

It is also important to note that the proportion of birth delivered at private facilities has increased sharply among the well-off women from 6.6 percent in 1993-94 to 35.8 percent in 2011. In contrast, home delivery has decreased significantly among the well-off from 85.2 percent in 1993-94 to 40 percent in 2011. Almost 36 percent of the women from the richest quintile deliver in a private facility in 2011, while the same is only 2.8 percent among the poor quintile. However, it can be concluded that the poor still prefer to deliver at home, while the private sector plays an important role in providing delivery care to the well-off. With respect to HPNSDP 2016 target on achieving equity in facility delivery, i.e. a proportion less than 1:4 between the lowest and the highest quintiles, Bangladesh has made some progress in reducing the wide gap between the poorest and the richest in use of facilities for delivery. In 2011 it is observed that a level of 9.9 percent among the lowest and 59.8 among the highest wealth quintiles having births in health facilities –this translates to a ratio of 1:6.

Twenty percent of those women who have access to mass media chose private facility and 15 percent of them chose public facility to birth delivery in 2011 while it was 3.2 percent and 3.9

percent in 1993-4. Moreover, women who have no mass media access are relied on only home delivery for their child birth.

Choice of delivery care service: Public facility to Home

The regression analysis shows that in 2011, the likelihood of preferring delivery at public facility relative to home delivery would be expected to 4.4 times higher than 1996 given the other variables in the model are held constant. In other words, in 2011 women are more likely to prefer public facility relative to home delivery than 1996 (Table 2).

The women of richest quintile are 3.5 times more likely to prefer delivery at public facility relative to home than the poorest quintile. The women with secondary and above education are 4 times more likelihood to deliver their child birth at public facility relative to home. Similarly, those who have mass media access are 1.4 times higher likelihood to prefer public facility delivery relative home than who have no access. Women in rural areas are 58 percent less likely to public facility delivery relative to home than women in urban areas.

Choice of delivery care service: Private facility to Home

Like public facility it is also found that the likelihood of preferring delivery at private facility among relative to home delivery would be expected to 5.7 times higher in 2011 than 1996. There is significantly increasing trends of private facility in last two surveys. Women in rural areas are 45 percent less likely to private facility delivery relative to home than women in urban areas. The women with secondary and above education are 5.9 times more likelihood to deliver their child birth at private facility relative to home. The women of richest quintile are 10 times more likely to prefer delivery at private facility relative to home than the poorest quintile. Similarly, those who have mass media access are 1.5 times higher likelihood to prefer private facility delivery relative home than who have no access. The women in Khulna and Rajshahi divisions are also more likely to prefer private facility to home than Barisal division.

Conclusion

It is accepted that attaining MDG5 depends on widespread improvements in the facility delivery in developing countries. More attention should be given to the wider social determinants of reproductive health, including education, and to the factors associated with their interaction with health provision, when devising strategies to reduce maternal mortality and to achieve the MDG for maternal mortality. Finally, promoting female education, especially primary and higher education, as well as continued health education, will lead to select health facility.

Table 2: Multinomial Logistic Regression dependent variable is market share delivery facility
(Home is the most frequently preferred place is the reference group)

Variables		Public facility to home (OR and 95% CI)	Private facility to home (OR and 95% CI)
Survey year	1996-7 (RC)	1.00	1.00
	1999-2000	2.61 (2.15-3.16)	0.20 (0.13-0.29)
	2004	2.07 (1.70-2.52)	1.20 (0.96-1.50)
	2007	2.50 (2.06-3.04)	2.42 (1.96-2.99)
	2011	4.38 (3.64-5.27)	5.69 (4.68-6.92)
Place of residence	Urban (RC)	1.00	1.00
	Rural	0.42 (0.38-0.47)	0.53 (0.47-0.60)
Division	Barisal (RC)	1.00	1.00
	Chittagong	0.92 (0.74-1.15)	0.81 (0.62-1.05)
	Dhaka	1.27 (1.03-1.57)	1.27 (0.98-1.63)
	Khulna	2.07 (1.65-2.60)	2.03 (1.55-2.66)
	Rajshahi	1.58 (1.27-1.97)	1.44 (1.11-1.87)
	Sylhet	1.14 (0.87-1.48)	0.84 (0.60-1.16)
Level of education	No education (RC)	1.00	1.00
	Primary	1.79 (1.55-2.06)	1.68 (1.36-2.07)
	Secondary	4.03 (3.51-4.63)	5.14 (4.23-6.25)
Wealth index	Poorest (RC)	1.00	1.00
	Poorer	0.95 (0.79-1.14)	1.60 (1.22-2.09)
	Middle	1.20 (1.01-1.42)	2.03 (1.56-2.63)
	Richer	1.83 (1.55-2.17)	3.41 (2.65-4.40)
	Richest	3.48 (2.92-4.15)	9.99 (7.73-12.91)
Mass media access	No (RC)	1.00	1.00
	Yes	1.39 (1.24-1.55)	1.49 (1.28-1.74)