

Does Service Accessibility Reduce Socio-economic Differentials in Maternity Care Seeking? Evidence from Rural Bangladesh

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Extended Abstract

Background:

In Bangladesh maternal mortality as well as associated maternal morbidity is a serious public health concern – the maternal mortality ratio is estimated to be 600 per 100,000 live births (WHO, 2001). Primary causes of maternal mortality are eclampsia, hemorrhage, abortion, sepsis, and obstructed and/or prolonged labor (Rahman et al., 2002; Fauveau et al, 1988). However, most of these deaths can be prevented through proper and timely care seeking and adequate management. Antenatal care seeking and care seeking during delivery and the postpartum period are crucial to save mothers lives from complications related to pregnancy and childbirth. However, study results show that only a third of pregnant women seek antenatal care, and 12% receive delivery care from medically trained providers (NIPORT, 2001). Not much is known about the determinants of care seeking behavior of women during pregnancy, delivery and postpartum period. Our aim is to fill the gaps in the research and evidence related to antenatal care seeking and care seeking during delivery among women in rural Bangladesh. It is hoped that the findings from this research will help design better policy and program interventions to deal with such an important public health problem in Bangladesh.

Objectives:

Our specific objectives are: 1) to examine the socio-economic differentials of maternity care seeking; 2) to determine whether availability and accessibility of health services reduce any socio-economic differentials in maternity care seeking.

Data:

We use longitudinal data from the “Maternal Morbidity Prospective Study” conducted by Bangladesh Institute of Research for Promotion of Essential and Reproductive Health and Technologies (BIRPERHT). Data were collected from the sample selected from the rural area of all regions of Bangladesh through multi-stage simple random method. A total of 1019 married pregnant women up to and including 24 weeks of gestation were enrolled in this prospective study. Enrolled women were followed every month during their pregnancy, and interviewed through structured questionnaires by the trained interviewers.

Of 1019 enrolled women, 992 were available for at least one antepartum interview, and 961 women were available for interview during delivery.

Methods:

We use multi-level logistic regression method for this analysis. To ascertain the determinants of antenatal care seeking, hierarchically structured antenatal data are analyzed, where the same individuals are measured or followed up for more than one occasion (up to and including 9). Follow-ups are clustered within individuals that represent the level 2 units with follow-up occasions the level 1 units. Moreover, individuals are grouped into different clusters, which represent level 3 units. As the outcome variable, antenatal care seeking is dichotomous, to model for the probabilities and to control for the correlation at individual and cluster level, three level random effect logistic regression model is used.

$$\text{Log (Pr (Y}_{ijk}=1)) / (\text{Pr (Y}_{ijk}=0)) = \beta_0 + \beta_{1ijk} x_{1ijk} + \dots + \beta_{1ijk} x_{1ijk} + \mu^2_{ij} + \mu^3_i \dots (1)$$

Where, i = cluster, j = individual, k = follow-up at time t=1,2,9 during antenatal period, Y_{ijk}= antenatal care seeking, X^s = covariates, β^s = vectors of parameters to be estimated, μ²_{ij} = random intercept for individual j in cluster i (level 2), μ³_i = random effect of cluster i (level 3)

However, two level random effect logistic regression method is used to analyze the delivery care seeking of women who were interviewed at one point of time and selected from different clusters (level 2 units).

$$\text{Log (Pr (Z}_{ij}=1)) / (\text{Pr (Z}_{ij}=0)) = \beta_0 + \beta_{1ij} x_{1ij} + \dots + \beta_{1ij} x_{1ij} + \mu^2_i \dots \dots \dots (2)$$

Where, i = cluster, j = individual, Z_{ij}= delivery care seeking from trained provider, X^s = covariates, β^s = vectors of parameters to be estimated, μ²_i = random effect of cluster i (level 2)

The main predictor variables are socio-economic status (SES) [household level resources] and women’s empowerment [personal level resources]. SES is measured by per capita monthly household expenditure, and women’s empowerment is measured by their gainful employment. Service accessibility is the effect modifier, and is measured by time taken to reach the health center.

Results:

Preliminary multivariate analysis shows that women's socio-economic status and women's empowerment are significantly associated with women's care seeking from trained providers during delivery. Compared to women from low SES, high SES women are 4.3 times more likely to seek delivery care from trained providers. Similarly, empowered women are 3.2 times more likely to seek delivery care from trained providers compared to unempowered women. Accessibility of health services significantly reduces the difference in delivery care seeking between women from high and low SES, and also reduces the difference between empowered and unempowered women. However, in case of antenatal care seeking, women's empowerment appears to be statistically significant. Empowered women are 1.4 times more likely to seek antenatal care compared to their counterparts. Service accessibility, however does not appear to have any significant effect on women's antenatal care seeking.

Conclusions:

Socio-economic disparity in antenatal and delivery care seeking is significant in rural Bangladesh. Service accessibility significantly reduces the socio-economic differentials in delivery care seeking, but does not affect antenatal care seeking among women in rural Bangladesh.

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