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The hidden cost of 'free' maternity care in Dhaka, Bangladesh

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We studied the cost and affordability of 'free' maternity services at government facilities in Dhaka, Bangladesh, to assess whether economic factors may contribute to low utilization. We conducted a questionnaire survey and in-depth interviews among 220 post-partum mothers and their husbands, selected from four government maternity facilities (three referral hospitals and one Mother and Child Health hospital) in Dhaka. Mothers with serious complications were excluded. Information was collected on the costs of maternity care, household income, the sources of finance used to cover the costs, and the family's willingness to pay for maternity services.

The mean cost for normal delivery was 1275 taka (US$31.9) and for caesarean section 4703 taka (US$117.5). Average monthly household income was 4933 taka (US$123). Twenty-one per cent of families were spending 51–100% of monthly income, and 27% of families 2–8 times their monthly income for maternity care. Overall, 51% of the families (and 74% of those having a caesarean delivery) did not have enough money to pay; of these, 79% had to borrow from a money lender or relative. Surprisingly, 72% of the families said they were willing to pay a government-levied user charge, though this was less popular among low-income families (61%).

'Free' maternity care in Bangladesh involves considerable hidden costs which may be a major contributor to low utilization of maternity services, especially among low-income groups. To increase utilization of safer motherhood services, policy-makers might consider introducing fixed user charges with clear exemption guidelines, or greater subsidies for existing services, especially caesarean section.

Introduction

Maternal mortality remains high in many developing countries.[1] Progress with the provision of safer motherhood services has been slow, but there are also social and economic constraints which limit the demand for essential obstetric care by mothers. In Bangladesh around 4% (3.9 million) of women become pregnant each year, with 96% of births delivered at home,[2] 60% assisted by traditional birth attendants. About 22% of mothers receive some form of antenatal care, 14% of births are assisted by trained personnel, and maternal mortality in Bangladesh is estimated to be 4.5 per thousand births.[3]

Recent analysis suggests that access to and use of secondary emergency obstetric services is necessary if substantial reductions in maternal mortality are to be made.[4] Even in the capital city of Bangladesh, Dhaka, utilization of government maternity services is relatively low (less than 15%) compared to urban areas of other countries in South Asia such as India and Nepal.[5] This low utilization is often attributed to cultural rather than economic reasons because most government services are supposedly free apart from a small registration fee (5 taka, US$0.13). Wealthier families may choose paying wards or private cabins costing from 50 to 220 taka (US$1.3 to 5.5) per day. It is known, however, that there are many hidden costs in any hospital visit – unofficial medical charges, the costs of porters and ayas (female helpers), travel and food expenses – which could make institutional maternity care an expensive experience for families.

Our study examined the actual costs incurred by families, and their affordability, during maternity care

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in four government hospitals in Dhaka. The aim was to measure the hidden costs in using apparently 'free' hospital maternity services, to assess whether there is an economic deterrent to utilization.

Subjects and methods

Location

The study was conducted in Dhaka, Bangladesh, in four government hospitals which provide care for mothers from all socioeconomic groups, mainly from urban and peri-urban areas: Dhaka Medical College (DMCH), Institute of Post-Graduate Medicine and Research (IPGMR), Sir Sallimullah Medical College Hospital (SSMC), Azimpur Maternity and Child Health Hospital. The first three are teaching and general referral hospitals whereas Azimpur provides only maternity and child health services.

Subjects

During July–August 1995, 220 post-partum women were interviewed, at least 50 from each of four hospitals. Sampling was incidental, and all mothers were included who had no medical or obstetric complications and were willing to be interviewed. Data were collected by direct interview of mothers in the postnatal ward in the presence of their husbands. Most questions were asked to the mothers. If confusion arose about questions relating to income and cost then the husband was addressed. A structured questionnaire was used to collect the information for quantitative data and a guide questionnaire was followed for the qualitative interview. All mothers were interviewed by the same investigator (S.N.)

Maternity care expenditure

Detailed questions were asked about expenditure on medical supplies, tips, ayas (these are hired female helpers who care and run errands for mothers during the perinatal period – their use is widespread because nursing care is limited and husbands cannot afford to stop working), transport to and from hospital, additional food costs while in hospital, and hospital fees. Details about monthly family income were recorded.

Affordability and willingness to pay a user charge

In order to assess affordability, actual expenditure in relation to monthly family income was measured. Couples were also asked 'do you have enough money at home from savings to cover the costs of maternity care?'. If not, they were asked about the source of funds such as borrowing from a relative or commercial moneylender. In order to assess user opinion on willingness to pay user charges in government facilities, couples were asked 'Are you willing to pay if the government charges for normal delivery, caesarean section, forceps etc.?' The interviewer then explored how user charges might be introduced.

Results

Characteristics of interview respondents

The mean age of mothers interviewed was 25 years (range 15–36). Twenty-five per cent of mothers and 14% of husbands were illiterate. Ninety-seven per cent of husbands were employed, the majority as salaried personnel in government service or business. Mean monthly income was 4933 taka (US$123.3) with a median value of 3000 taka (US$75). Fifty-one per cent had a monthly family income of less than 3000 taka (US$75), 31% from 3000–7000 taka (US$75–175), and 18% of cases had greater than 7000 taka (US$175). Not surprisingly our study population had a mean income above the national average which reflects their urban background, and the fact that wealthier households are likely to self-refer to hospital.

116 (53%) had normal deliveries and 104 (47%) had caesarean section. 163 (74%) mothers came from within Dhaka city of whom 63% had a normal delivery, whereas 57 (26%) came from outside Dhaka and of these mothers 75% had caesarean section.

Sixty-five per cent of mothers had delayed seeking care. Thirty-eight per cent of mothers stated that the main reason for this delay was that money was not readily available at home. The commonest form of transport used for coming to hospital was a 'baby taxi' (58%), and 10% used a hired ambulance.

The mean duration of stay in hospital for normal delivery was three days (range 1–7), and for caesarean section, nine days (range 5–10).

Maternity care expenditure

Overall and itemized expenditure estimates for maternity care, for normal and caesarean deliveries are shown in Table 1. The mean cost of a normal delivery was 1275 taka (US$31.9), and for caesarean section, 4703 taka (US$117.5). Although most of the increased expenditure for a caesarean was on medical supplies, the combined expenditure on travel, food and

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Table 1. Expenditure by mode of delivery

Items	Normal delivery				Caesarean section			
	No. (%) who spent on each item	Mean in taka	Median	Range	No. (%) who spent on each item	Mean in taka	Median	Range
Medicine	112 (97)	494	400	0–2564	104 (100)	2574	2450	462–5000
Blood	6 (5)	24	0	0–870	27 (26)	127	0	0–1800
Travel	116 (100)	260	175	5–1750	104 (100)	780	660	5–1860
Food	112 (97)	164	121	0–640	101 (97)	602	500	0–2000
Hospital fees	116 (100)	76	5	5–160	104 (100)	78	5	5–770
Ayas	109 (94)	152	145	0–500	98 (94)	400	465	0–900
Tips	105 (91)	105	66	0–500	97 (93)	142	90	0–420
TOTAL								
Taka	116 (100)	1275	1000	100–4000	104 (100)	4703	4500	1150–8000
US$		$31.9				$117.5		

Note: 40 taka = US$1

the hire of an 'aya' was more than three times the amount spent for a normal delivery.

Seven mothers (four who had normal deliveries and three who had caesareans) were so poor they had no money for food. They ate hospital supplied food which they shared with their attendants.

Affordability

Expenditure on maternity care as a percentage of family monthly income is shown in Table 2. Overall, 21 % of families were spending 50–100 % of monthly income, and 27 % of families 1–8 times their monthly income, for maternity care. Table 3 shows the numbers (and percentages) of mothers who had insufficient money to pay for care from savings, and the source of any funds raised. Seventy-four per cent of caesarean mothers had insufficient funds, and 79 % of those who had insufficient funds borrowed from a relative, friend or moneylender.

Willingness to pay a user charge

Willingness to pay a user charge was higher among couples with higher incomes and better education (Table 4). Although 72 % were in favour of user charges from the structured questionnaire, the semi-structured discussions suggested attitudes were mixed. Many of the higher income and higher educated couples wanted clearly advertized charges for different services (e.g normal delivery, forceps, caesarean section), as this would save them from unforeseen expenditure.

Discussion

Our results show that although by western standards maternity care in Bangladesh is cheap (in Washington, USA, in 1991 a normal delivery cost US$4500 and a caesarean US$7000[6]), the economic burden of apparently free hospital maternity care is significant, and likely to deter utilization by a majority of mothers. There are unpredictable costs, e.g. if a caesarean section is needed the cost of care is quadrupled. The high proportion of caesarean sections (47 %) in our study sample probably resulted from both reasonable indications, e.g. referred high risk cases, and unnecessary interventions by staff either for convenience or out of fear of making a mistake.

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Table 2. Expenditure on maternity care as a percentage of family monthly income

Maternity care expenditure as % of family monthly income	Normal delivery no. (%)	Caesarean section no. (%)	Total no. (%)
Less than 50%	93 (80)	21 (20)	114 (52)
51–100%	21 (18)	26 (25)	47 (21)
101–800%	2 (2)	57 (55)	59 (27)
Total	116 (100)	104 (100)	220 (100)

Table 3. Affordability of maternity care

	Number (%) with insufficient money to pay for care
Normal delivery (n=116)	35 (30)
Caesarean section (n=104)	77 (74)
Total (n=220)	112 (51)
Source of funds when money insufficient (n=112)	**Number (%)**
Borrow from:	
relatives or friends	69 (61)
money lender	20 (18)
Advance from employers	9 (8)
Sold livestock	5 (5)
Pledged valuables/land	5 (5)
Used business capital	3 (3)
Sold rice/food crop	1 (1)

Clearly this needs further investigation. We did not study non-users to test whether cost acted as a deterrent, but other studies in Bangladesh suggest that the expense of medical care acts as a barrier to those seeking maternity care.[7,8] It would be interesting to conduct a prospective community-based survey of women enrolled in the antenatal period to compare users of hospital deliveries with non-users, and to evaluate qualitatively the reasons given by non-users, and whether economic factors were an important deterrent.

What are the implications and options for policy-makers whose strategic aim is to increase the utilization of safer motherhood services? Firstly, the government could spend more to ensure that medical and ancillary services at the hospital are actually free at the point of delivery. This is probably not feasible within the existing health budget. Approximately 50% of the existing Government of Bangladesh health budget is already allocated to secondary and tertiary care.[9]

Secondly, they could introduce a fixed charge in government hospitals to cover the cost of antenatal care and delivery (whether normal or caesarean section), and give staff clear guidelines about fee exemption policy. User charges could be beneficial if they are set below the current hidden costs, include adequate exemptions for the poor, and are linked to a drive to improve quality of services. The level of fees would need to be calculated in the light of discussions with community representatives and the level of cost recovery that is deemed appropriate. Caution is needed because the poor are the main users of government services and may be deterred by even low user fees.[7] However, this option would remove the unpredictability of maternity care costs for users, and might improve the quality of care if the finance generated is re-invested at a local level, thereby giving an incentive to staff and users alike.

Thirdly, they could promote private sector provision by offering the same subsidy as at government

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Table 4. Willingness to pay a user charge by income and education of husband

	Number (%) of respondents willing to pay			
	Yes	No	Undecided	Total
Monthly income (taka)				
Less than 3000	68 (61)	37 (33)	7 (6)	112 (100)
3001–7000	55 (82)	8 (12)	4 (6)	67 (100)
> 7000	35 (85)	4 (10)	2 (4)	41 (100)
Total	158 (72)	49 (22)	13 (6)	220 (100)
Education level				
Illiterate	15 (48)	14 (45)	2 (7)	31 (100)
Primary–Secondary	58 (68)	23 (27)	4 (5)	85 (100)
Higher Secondary	85 (82)	12 (11)	7 (7)	104 (100)
Total	158 (72)	49 (22)	13 (6)	220 (100)

facilities to registered and audited private maternity facilities which provide basic maternity care at the same fixed user charge. This might be expensive and would need careful regulation.

Fourthly, they could explore the feasibility of local insurance schemes to cover the costs of all thana health complex (district health centre) services, including maternity care. This would require a high level of political and administrative coordination. Of the four options outlined, cost-recovery from a fixed user charge is probably the most feasible politically.

Crucial issues for cost-recovery are willingness to pay and ability to pay. Surprisingly our study indicates that willingness to pay is quite high in Dhaka although hypothetical interview data has to be treated with caution. Ability to pay, however, is limited in most Bangladeshi households. Other studies in Tanzania[10] and elsewhere have shown that the costs incurred when using 'free' government services may place too great a burden on the poor. Given the reality of the existing economic costs of maternity care, an official user charge might be more equitable than the status quo, but its introduction would need broad negotiation and clear publicity about the level and quality of service to be provided. Pilot studies are needed, firstly to evaluate whether a more 'transparent' fixed user charge would entice current non-users who might be worried about running up excessive bills, and secondly to determine the level of user charge needed to cover existing maternity costs in government institutions at different levels. Clearly, midwife-run units at district or thana complex level would be much cheaper than tertiary hospitals in the capital city.

What happens if families cannot afford maternity charges in Dhaka? Of the 112 mothers with insufficient funds, most (69%) borrowed from relatives or friends (Table 3). Nearly one-third, however, needed to get the money elsewhere, through loans from commercial moneylenders, advances from employers or by selling assets such as livestock or grain. Given that our group of mothers were socioeconomically above average suggests that this problem of settling debts would be much greater for current non-users. Maybe rural credit banks for women, based on the successful Grameen model, could provide loans at lower rates of interest to cover maternity care expenditure.

At the same time policy-makers have to ensure that reforms do not lead to excessive expectations or to an increase in demand which existing services cannot meet. Also finance is not the only problem. There

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is little doubt that many government health services in Bangladesh are inefficient, and demoralized staff do not receive the incentives (e.g. pay and promotion opportunities) nor the local community support that is necessary to maintain a high quality of service.

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Biographies

Shamsun Nahar trained in medicine at Dhaka Medical College and worked as a medical officer for five years in thana health complexes in rural Bangladesh. From 1987 to 1994 she was a lecturer in the Department of Maternal and Child Health at the National Institute of Preventive and Social Medicine, Dhaka, where her research interests included studies on sexually transmitted diseases, adolescent health and nutritional status in pregnancy. She has postgraduate qualifications from Bangladesh in FP-MCH and research methodology, and has completed an MSc in Mother and Child Health at the Institute of Child Health, University of London. She is currently working as a research consultant in Dhaka, and plans to study for a PhD in health economics.

Anthony Costello trained in medicine at Cambridge University and the Middlesex Hospital. After postgraduate training in paediatrics, mostly at University College London Medical School and associated hospitals, he became a medical officer and subsequently a field director with Save the Children Fund in Nepal. Since 1990 he has been based at the Centre for International Child Health at the Institute of Child Health, University of London, where he is a Reader in International Child Health and an Honorary Consultant Paediatrician at the Hospital of Tropical Diseases. His main research interests are in the epidemiology of the perinatal period and the development of improved maternity and neonatal services in resource-poor countries. With local collaborators he is working on research projects in Nepal, Bangladesh, Pakistan and Yemen. He has also acted as a consultant on development projects for UNDP, the World Bank, ODA, USAID and WHO.

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