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Urban Slum Dwellers "Willingness to Pay"

A Study of the *MANOSHI* Delivery Centres in Dhaka

Ziaul Islam
Elizabeth Oliveras
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Marge Koblinsky

BRAC Research & Evaluation Division

icddr,b
KNOWLEDGE FOR GLOBAL LIFESAVING SOLUTIONS

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EXECUTIVE SUMMARY

Since 2007 BRAC has been developing the *Manoshi* programme that is targeted at reducing maternal and under-five child mortality and morbidity in urban slums of Bangladesh. Alongside capacity development of community health workers and birth attendants, community empowerment, linkages with government agencies and NGOs- the *Manoshi* programme has a unique feature of catering essential healthcare for pregnant/lactating women and children through its *Delivery Centres (birthing huts)*[1] located within slums. Social programmes like *Manoshi* need to maintain a balance between coverage and sustainability. For planning future sustainability of the programme it is important on the part of the programme management to assess slum dwellers willingness to pay a registration fee at the time that a pregnancy is enrolled by the *Manoshi* delivery centre and the consequences on coverage and volume of services if such a fee is introduced in post-grant period. To address these queries, this study was specifically aimed at:

- assessing the "*willingness to pay*" (WTP) for *Manoshi* delivery centre services among the residents of urban slums, *and;*

- identifying factors that the programme can change to influence household or individual willingness to pay.

In order to gather the necessary evidence a cross-sectional survey was conducted with 920 respondents living in the catchment area of three selected delivery centres in *Korail* (*Boubazar*), *Sabujbagh* (*Purba-maniknagar)* and *Kamrangirchar* (*koilarghat)* slums from March through September 2008. The survey applied the standard procedures of 'Contingent Valuation Method' (CVM). Respondents included in the study were *married women of reproductive age* (MWRA), and their husbands –who were interviewed separately. The categories of MWRAs included were, currently pregnant women, non-pregnant women with under-5 children, and newlywed women. The questionnaire was

[1] Delivery Centres are the formal names for BRAC "Birthing Huts" for MNCH care. For more information about the delivery centres, please refer to, *The "Birthing Hut" Facilities of MANOSHI: A Two-Part Paper, Exploring the Inception and Post-Inception Phases of Urban Delivery Centres of Dhaka,* Marufa Aziz Khan & Syed Masud Ahmed, *MANOSHI* Working Paper No 7, October 2009

extensively pre-tested in a non-study slum to validate the prior assumptions about current spending for safe delivery and under-5 child healthcare.

Results of the study revealed that the majority of slum residents were willing to pay a registration fee indicating a high level of private demand for *Manoshi* delivery centres. Overall 96% of respondents voluntarily agreed to pay the fee asked with 20% of respondents willing to pay exactly the amount that was asked (Tk[2]. 250-400) and 76% willing to pay a bit more than the amount asked (Tk. 450-750). Only 4% of the respondents were willing to pay an amount (Tk. 100-200) that was less than the given price. The large majority of respondents in all three categories reported that the amount they were willing to pay was within their capacity and that they wanted to avoid pregnancy related complications that might incur more costs. Furthermore, the amount that the respondents were willing to pay was close to their spending practice in the recent past for similar services from alternate sources (prior to *Manoshi* programme). Payment by instalments was preferred by the large majority of the respondents. However, to ensure adequate coverage and better acceptance of the charging system, the programme should consider the preferred mode of payment along with a safety net/waiver arrangement for the poorest of the poor.

Given the findings of the survey, we recommend introducing a registration fee of Tk. 400 per couple, payable in instalments with provision of waiver or safety net for those who would not be able to pay Tk. 400. We hope keeping provision for full or partial waiver of the fee will allow the programme to maintain its coverage among the relatively poorer section of the slum population while maximizing payments from those who can pay. This will provide maximum cost recovery and support the sustainability of the programme. Given that the range of prices asked was based on careful pre-testing, which resulted in amounts that appear to be reasonable and perhaps a bit low for the majority of the respondents, major differences between hypothetical and actual willingness to pay are unlikely. However, to check the validity of the survey data, a quick piloting of the above-mentioned registration fee among the same population surveyed may be undertaken before implementing fees on a large scale.

[2] Tk is short for Taka, the national currency of Bangladesh; Tk 70 roughly equals USD 1.

INTRODUCTION

Bangladesh is a country of 140 million people; nearly a quarter of whom live in urban settlements and a third of the urban population lives in slums (BDHS 2004, 2005). UNICEF forecasts that the urban poor population might rise to 30 million by 2020 (BIP and CUS, 2005). Other estimates project a doubling of the slum population in Dhaka alone to an estimated 21 million by 2015 (Islam et al, 1997). About 30% of Dhaka's population can be defined as 'hardcore poor' (defined as having per capita monthly income of US $43 or less) and 50% as poor (having per capita monthly income of US $ 65 or less) (Bangladesh Economic Review , 2005). As much as 40–70% of urban population growth is attributed to rural–urban migration. Most of the urban migrants cannot afford proper housing; many of them live on streets or in public places (road-islands, pavements, railway stations, bus and launch terminals, commercial buildings, and parks), or rent small rooms in shacks with tin or polythene roofs on vacant government or private land.

In Bangladesh the maternal mortality ratio is as high as 320 per 100,000 live births, as is under-five child mortality (85 per 1000 live births), and neonatal mortality (42 per 1000 live births). It is reported that health indicators are worse for the urban poor than the rural poor (MOHFW, 2001). Despite being in close proximity to skilled care, nearly 80 percent of the deliveries in slums are conducted by neighbours or relatives at home (Progotir Pathey, 2003). Antenatal care coverage of 55% in urban slums is much lower than the 74% in urban non-slum areas. Given this scenario of maternal care utilization, it is not surprising that newborn care utilization is virtually absent. Immunization coverage is 63% in urban slums, much lower than national and non-slum averages of 73%. In short, urban areas particularly the urban slums, present a much greater challenge for improvement of health conditions than other parts of the country and they will be a major factor for Bangladesh in achieving the Millennium Development Goals (Bangladesh Urban Health Survey 2006, 2008).

BRAC has developed the *Manoshi* programme, a community based health programme targeted at reducing maternal and child mortality in urban slums of Bangladesh. This five-year project from January 2007 through December 2011 is being led and implemented by BRAC; while ICDDR,B has been providing technical assistance to BRAC's Health Programme, and Research and Evaluation

Division (RED) in terms of monitoring, evaluation and operations research. The key objectives of the *Manoshi* programme include:

Define, test, implement and scale up five interrelated components of BRAC's "essential health services" package for women and children, and,

Develop a financing strategy for sustaining the programme in the post grant period.

Manoshi adapts BRAC's Essential Health Care Programme, which has been successful in rural Bangladesh, to the urban setting. *Manoshi* components include:

- ✓ *capacity development of community health workers and birth attendants to offer antenatal, safe delivery, postnatal, neonatal and child health care;*
- ✓ *health service provision for pregnant and lactating women, neonates and under-five children;*
- ✓ *timely referral to quality health facilities;*
- ✓ *community empowerment through development of women's groups;*
- ✓ *linkages with national and local government, community people and non-governmental organizations* (Manoshi Project Proposal, 2006).

BRAC's implementation strategy for *Manoshi* is built on its own extensive experience with taking oral rehydration therapy nationwide (Chowdhury and Cash 1996), and its rural efforts in delivering MNCH services (Chowdhury et al, 1996).

Manoshi is being gradually implemented in the urban slums of six city corporations (Dhaka, Chittagong, Sylhet, Rajshahi, Barisal and Khulna) and 15 statistical metropolitan areas of Dhaka to provide services to 8 million people throughout the programme period. The unique feature of the programme is its "Delivery Centres" (birthing huts) located within the slum, the staff of which identify all pregnancies, follow them up for antenatal care, and encourage women to give birth at a *Manoshi* delivery centres with a *trained traditional birth attendant* (TTBA) maintaining privacy and hygienic delivery. The programme also provides postnatal, neonatal, and under-five child health care. In case of complications, women are ensured comprehensive emergency obstetric care in pre-selected referral facilities, generally government medical college hospitals

run by the *Ministry of Health and Family Welfare* (MOHFW) and *Urban Primary Health Care Project* (UPHCP) facilities operated by the Ministry of Local Government, Rural Development and Co-operatives. Each Delivery Centre is staffed with trained traditional birth attendants designated as Urban Birth Attendants (*UBA*, 2 per delivery centre), Health Workers (*Shasthya Kormi*, 1 per 2000 households), female health volunteers (*Shasthya Shebika*, 1 per 200 households), Midwives (2 per branch for 6-7 delivery centre) and Programme Organizer (*PO*) for referral and supervision. The catchment population of one birthing hut is around five thousand.

Over the past few years "the Lancet" series have detailed effective interventions to improve maternal, neonatal and child health (Darmstadt et al, 2005; Campbell & Graham, 2006). Implementing these interventions remains a challenge especially in low-income settings with weak health systems. However, some demonstrations support the concept of cost-effective improvements in newborn and maternal health through strong community and household mobilization processes (Bang et al, 2005; Costello et al, 2004).

Social programmes like *Manoshi* need to maintain a balance between coverage and sustainability. As such, for planning the future of the *Manoshi* programme, it is vital to know the slum residents willingness to pay a registration fee at the time that a pregnancy is registered by a *Manoshi* delivery centre, and the consequences on coverage and volume of services if such a fee were introduced in the future. It is expected that such a fee would encourage increased compliance and contribute to cost sharing. However, willingness and ability of slum populations to pay such a fee, who will pay what and who will not, what is a reasonable amount to charge and its likely impact on coverage are yet, unclear. To address these queries a willingness to pay survey was designed to provide evidence-based information that the programme management can use in deciding whether to proceed with a registration fee, and if so, in determining how much to charge.

"Willingness to pay" (WTP) surveys usually adopts the "Contingent Valuation Method" (CVM) to help make informed pricing decisions based on feedback from targeted participants. WTP survey data permit programme managers to estimate the number of clients who would pay a given price, the amount of revenue that would be generated and the characteristics of individuals who would pay and would not pay that price. The major advantages of a WTP survey are: (1)

WTP estimates are sensitive to client's characteristics such as motivation to use the product or service and socioeconomic status; (2) direct WTP estimates are conservative; they underestimate maximum willingness to pay and protect programme managers against setting prices too high; and, (3) even clients without formal education can answer hypothetical price questions and their answers are usually internally consistent (Foreit & Foreit, 2001).

CVM is a widely used survey approach that estimates the value of a product or service by asking individuals their response to a carefully worded, hypothetical scenario presented to them. The valuation of a product or service is contingent on the hypothetical scenario that is described. This method requires a clear description of the services or product to be offered to the potential users followed by questions on the amount the participants would be willing to pay for the product considering a set price range. Hypothetical price options are set considering current spending for similar purposes, programmatic objectives of the provider, and local context of the target population. To encourage truthful responses, the respondents were reminded of the existence of other alternatives that are available, their budget constrains their ability to spend money elsewhere, and that it was acceptable not to want the service or product at the offered price. The respondents were also reminded that there was no right or wrong answer. WTP surveys also included questions on clients' socioeconomic characteristics. These questions through multivariate models were used to identify the characteristics of the clients who will or will not pay a given price, and are often used to verify the respondent's ability to pay. Some commonly used variables included education, occupation, family income, possession of durable goods, and recent spending on health care.

In order to avoid major sources of biases, the questionnaire for WTP surveys should: 1) rely on personal interviews, 2) use close-ended questions that elicit the respondents WTP a specified price for a service that is precisely described to them, 3) remind respondents that price setting or increases in existing prices reduce other consumption, 4) remind respondents that substitutes exist for the service, and, 5) ask respondents about factors that might influence their preferences (Whittington, 2002; 1998).

Instruments that are widely used in WTP surveys include standard gamble, time trade-off, and rating scales (open ended, payment scale). Researchers use different bidding formats in eliciting WTP. One of these methods includes

offering one price to each respondent from an array of several prices (A, B, C, D) so that different individuals get different price options to consider. Each questionnaire needs to have one of the selected prices marked before the interview starts and the enumerator is instructed to ask the 'marked price' only to that respondent. This method requires adequate pre-testing to verify the appropriateness of the initial price options. Another bidding format asks questions that start with low prices and move up to end up at an amount the respondent is completely sure that s/he would pay. This is followed by questions the other way round, asking questions that start with high prices and gradually moving down to an amount that the respondent is completely sure that s/he would not pay (Foreit & Fleischman, 2001; Onwujekwe et al, 2001).

Some authors believe that respondents should be given time (maybe overnight or a full day) to think about the price of the product and should be allowed to discuss it with family members/friends (Costello et al, 2004). This was been proposed as a way to elicit more accurate responses. The assumption behind this approach is that respondents may not be prepared to make a purchasing decision immediately after the initial presentation; providing more time to think allows respondents to consider more carefully both the hypothetical product or service and their budget constraints (Davis, 2004; Islam et al, 2007).

There are several indicators used to assess reliability in WTP surveys. These include non-responsiveness, yea-saying, and the starting point bias. A respondent is considered non-responsive if she answers, "don't know" to all price probe(s) and maximum price questions. Yea-saying bias occurs when a respondent agrees with amounts as offered by the interviewer. Starting point bias occurs when starting questions at a higher price produces a higher willingness to pay. Validity of responses can be assessed theoretically by looking at the association between WTP and socioeconomic status and impact of motivation on WTP (Raymond & Smith, 2006). However, the greatest challenge to the CVM is whether responses to hypothetical questions are representative of respondents' behaviours when faced with actual decisions (hypothetical versus actual payment) or how well does theoretical WTP predict what people are actually willing to pay. A simulated market experiment in which respondent's hypothetical WTP is compared with their actual purchase decision is one approach to assessing criterion validity (Bhatia & Fox-Rushby, 2003).

OBJECTIVES

- Assess the "willingness to pay" (WTP) for *Manoshi* delivery centre services by the residents of urban slums
- Identify factors that the programme can change to influence household or individual "willingness to pay" for *Manoshi* delivery centre services.

METHODOLOGY

A cross sectional survey was conducted of 920 respondents in three slums of Dhaka city (Table 1) from March through September, 2008, a time at which the programme had been operating several delivery centres in each of these slums for more than a year. Based on convenience of access and availability of household particulars of potential respondents; one delivery centre in each of the three slums was chosen. The survey sample was then taken from the catchment population of the selected delivery centres. The survey applied standard procedures of CVM to assess respondents' willingness to pay for the delivery centre services. Before implementation of the survey, approval of the ethical review committee of ICDDR, B was obtained.

Table-1: Distribution of survey respondents by slum and Manoshi delivery centre

Slum	Delivery centre	Number of Respondents
Korail	Boubazar	306
Kamrangir char	Koilarghat	310
Sabujbagh	Purba Maniknagar	304
Total		**920**

Respondents

Respondents were couples eligible to participate in the *Manoshi* programme: *married woman of reproductive age* (MWRA) and their husbands. The MWRA included currently pregnant and non-pregnant women with under-5 children who were current users of delivery centres, and newlywed women. Non-pregnant women with under-5 children included those who had delivered their babies during the six months prior to the survey using the delivery centre and other

mothers of under-5 who had been using a delivery centre for child health care. Those who did not want any more children or who had adopted permanent contraception were excluded.

Sample Size

To calculate the required sample size for the survey we assumed that 50% of the participants would be willing to pay a registration fee.

$$N = \frac{(z\alpha+z\beta)^2 x\ p(1-p)}{d^2},$$

$$= (1.96+0.84)^2 x\ 0.50x0.50/(0.05)^2$$

= **871** (considering 10% non-response; 784÷ 0.9=871)

(where 'zα' at 5% significance level is 1.96, 'zβ' for 80% power is 0.84, probability of willingness to pay 'p' is 50% and precision for the study 'd' is 5%).

Furthermore, we assumed that the proportion of different categories of respondents would not vary substantially across the delivery centre catchment populations and that equal numbers of each group would be recruited in the three slums. Proportionate sample size was calculated for currently pregnant women, and non-pregnant women with under-5 child for each delivery centre (at the prevalence rate of 7 and 9 percent respectively) based on unpublished data from a slum survey of the Demand Based Reproductive Health Commodity Project that was conducted in 2007 by ICDDR,B (HSID, ICDDR,B, 2007). The required samples were as follows:

Pregnant women = 61
Non-pregnant women with <5 children = 78
Newlywed women = 20

Currently pregnant women, and non-pregnant women with under-5 children were randomly selected from the lists available from the delivery centres; all of their husbands were invited to participate. Newlyweds were purposively selected; as lists of newlyweds are not maintained by the delivery centres. They were identified with the help of other respondents and slum residents. An attempt was made to achieve the estimated sample (159 women plus 159 husbands for a total of 318 per slum) in each of the selected delivery centre; however the actual sample is shown in Tables 1 and 2.

Table 2: Distribution of respondents by category

Category	MWRA Number	Percent	Husbands (n)	Total (N)
Currently pregnant	180	39	180	360
Non-pregnant with under 5 child	220	48	220	440
Newlywed women	60	13	60	120
Total	460		460	**920**

Training of Data Collectors

Four data collectors (two females and two males), and one field supervisor were recruited for the survey. Before starting the survey, they went through a weeklong orientation and training at ICDDR,B that included a briefing on the study background, objectives, methodology and study setting by the Principal Investigator. Then the Bengali version of the questionnaire and voluntary consent form were thoroughly discussed and some initial minor corrections were made in light of their feedback.

Research Tool

The questionnaire that was administered during separate household interviews with *married women of reproductive age* (MWRAs) and their husbands had four sections: 1) respondent's general information (face sheet), 2) respondent's socioeconomic background, 3) past experience and knowledge of safe delivery and child health care, and 4) the contingent valuation scenario and WTP questions.

Scenario Description

Before the fourth section of the questionnaire was administered; a carefully worded description of delivery centre services including their benefits, referral arrangement, and current and possible future financing mechanism, particularly in the post-grant period was read. Respondents were reminded of their other household spending, existence of alternate sources of similar care, their budgetary constraints, and that it was acceptable not to want the service at the price asked. It was also pointed out that there was no right or wrong answer. Each respondent was presented with the aforementioned description (read-out by the interviewer) before the WTP questions were asked. After clearly presenting

the scenario; the WTP questions began with an inquiry into the respondent's interest in the delivery centre, followed by a question on one of the four pre-assigned prices. They were then asked reasons for agreeing or disagreeing to pay, followed by a question on the maximum amount they were willing to pay. Finally, a question was asked about the respondent's perception of the quality of care of the delivery centre and its relation to their willingness to pay, if any.

Pre-test

The questionnaire was extensively pre-tested with 44 couples (88 interviews were separately taken with husbands and wives) in non-study slum areas. This large number of pre-test interviews was necessary to validate our prior assumptions about current household spending for safe delivery and under-5 child health care. The price questions were pre-tested with lower to higher prices based on current spending information received from these respondents for similar services from alternate sources. Finally four prices were selected (Tk. 250, 300, 350, 400) based on maximum responses received in the pre-test. Then the data collectors went through one-to-one interview practice sessions using the final version of the questionnaire. Prior to actual household interviews, the data collectors and their field supervisor visited the selected delivery centres and talked with the concerned BRAC staff to become familiar with the household locations and modus operandi of the delivery centres.

Data Collection

Household particulars of the respondents were collected from the user list and enrolment register found at *Koilarghat* delivery centre of *Kamrangirchar* slum and *Purba-Maniknagar* delivery centre of *Sabujbagh* slum. However, the user list and enrolment register at *Boubazar* delivery centre of *Korail* slum was found to be incorrect and to have missing information. Therefore, the study team corrected and updated the user list of *Boubazar* delivery centre through extensive visits to the catchment households over a period of three weeks and then selected the required number of respondents randomly using the updated user list. List of newlyweds were not available at any of the selected delivery centres because they are not considered current users of the delivery centres. Newlywed couples were therefore; purposively selected in each of the three sites. Community members were asked to identify newlywed couples and those couples that were interviewed were asked to identify other such couples.

One of the aforementioned four prices was randomly marked in each questionnaire beforehand by the field supervisor so that each respondent was presented with one price from the array of four. WTP of different respondents was thus assessed for different price options as detailed in Table 3.

Table 3: Distribution of pre-assigned price by respondents

Pre-assigned price	Respondents (N=913)* %	
Tk. 250	236	25.8
Tk. 300	248	27.2
Tk. 350	224	24.5
Tk. 400	205	22.5

* Seven respondents were not interested in delivery centre and they were finally excluded

Half of the respondents in each study site were given *time to think (TTT)* overnight or a day; for these respondents, the interviewer recorded responses to the first three sections of the questionnaire on the first day, and revisited those houses on the following day to complete the last section of the interview. The remainder of the respondents had *no time to think (NTT),* and their entire interview was completed in a single session.

Male data collectors interviewed husbands and female data collectors interviewed wives, separately, after obtaining written consent. The data collectors and field supervisor maintained an interview schedule to keep track of the required number and categories of respondents interviewed and follow up visits as deemed necessary.

Data Analysis

After editing, the data were entered into visual Fox Pro-version 6.0 and cleaned. Univariate and bivariate analyses were done using SPSS and the results were presented by frequency distribution, cross-tabulation, mean and median.

Principal component analysis was done using STATA version 10 to relate asset score to respondent's willingness and ability to pay. Assets included were income, dwelling characteristics (presence of electricity, source of water, type of toilet, floor, wall roof materials) and possession of durable goods (almirah, table, chair, bed, watch, functioning radio, two-in-one, television, sewing machine, fan,

cell phone, bicycle, rickshaw and van). Correlation between WTP and income was also assessed to disaggregate respondent's WTP by income.

RESULTS

Sociodemographic Profile

The majority of the MWRA were 15–24 years old while their husbands were largely over age 25 years (Table 4). While less than 15% of the women were older than 30 years, 33.3% of men were aged 30–39 years and 12.2% were aged 40 years or older. Overall, 15.4% of the sample was newly married. A majority of the women (85%) were engaged in house work; a small proportion (7%) was garments workers, maidservant, day labourers and small traders. Most husbands were employed in rickshaw-pulling, small trade, day labour and petty jobs. Most respondents had children (Table 4). More than one-third of respondents had no formal education (Table 4). Amongst those with some education, women were better educated.

Table-4: Household and individual characteristics

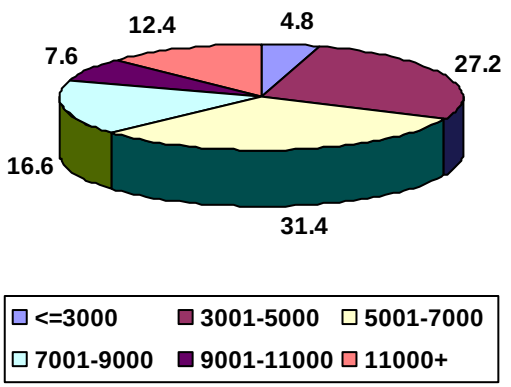
Characteristic	**MWRA % (n=460)**	**Husband % (n=460)**
Age in years		
15-19*	23.0	0.7
20-24	36.3	20.0
25-29	25.9	33.9
30-34	9.8	20.7
35 +	5.0	24.8
Marital status		
Not newly married	82.4	86.7
Newly married	17.6	13.3
Occupation		
Housewife/housework	85.2	---------
Rickshaw-puller	--------	24.6
Small business/trader	1.5	23.3
Service (low class job)	0.9	19.3
Day labourer	1.9	13.5
Garment worker	6.5	3.2
Driver (taxicab/CNG)	----	3.0

Hawker	-------	2.6
Maid servant	2.4	-------
Tailor	0.7	1.3
Unemployed	-----	0.9
Student	0.4	0.2
Others	0.4	8.0
Schooling		
None	34.1	35.8
1-5 years	43.5	40.8
Living children	% (n=379)	% (n=399)
Yes	86.8	84.8
None	13.2	15.3

* All respondents were aged 16 years or older.

Five percent of the respondents belonged to a comparatively low income group with monthly family income of <=Tk. 3000 only (Figure 1). Less than one-third of the respondents (31.4%) had monthly family income of Tk. 5001 to 7000**.** Around 17% had monthly income between Tk.7001 and 9000. The proportion of respondents belonging to a comparatively higher income group (Tk 11000 and more/month) was 12.4%. The median monthly family income was Tk. 6000.

Figure 1: Monthly family income



Respondent's Knowledge and Experience with Safe Delivery

The results are presented in three categories that represent the status of the women (pregnant women, non-pregnant with children under-5, and newlyweds) and their husbands.

Thirty six percent of the respondents were aware of the minimum required number of visits for *antenatal care* (ANC) checkups. The group with non-pregnant women (with under-5 children) and their husbands had the highest proportion of correct knowledge while 29% of newlywed couples did not know this information (Table 5).

Table-5: Respondent's knowledge of and preference for safe delivery care

Variables	**PW & H* (n=359) %**	**NPW & H* (n=441) %**	**NW & H* (n=120) %**	**Total (N=920) %**
Knowledge about required ANC visits				
3 times	31.2	41.0	30.8	35.9
>3 times	52.6	46.3	40	48.3
Don't know	15.3	12.7	29.2	15.9
Preferred ANC providers				
Delivery centre	74.9	53.7	35.8	59.7
Govt. hospital	10.3	18.1	28.3	16.4
Private lady doctor	3.6	7.0	16.7	7.0
NGO clinic (UPHC)	4.7	8.4	5.8	6.6
NGO health worker	3.3	5.9	4.2	4.7
Others	1.1	2.9	5.8	2.6
Don't know	0.8	1.6	1.7	1.3
Knowledge of pregnancy danger signs*				
Vertigo	84.7	83.4	77.5	83.2
Swollen legs/oedema	66.0	71.2	45.8	65.9
Vaginal bleeding	25.6	25.2	10.0	23.4
High pressure	1.7	3.2	2.5	2.5
Weight loss	1.4	1.6	1.7	1.5
Child does not move	7.0	7.0	0.8	6.2
Vomiting	24.5	24.7	32.5	25.7
Convulsion	12.3	11.1	6.7	11.0
Pain in abdomen	3.3	6.1	5.0	4.9
Anaemia	0.6	1.4	0.8	1.0
Fever	9.2	5.2	1.7	6.3
Pain in arms	1.4	1.1	2.5	1.4

Blurred vision	3.6	3.4	0.8	3.2
Others	12.3	8.4	9.2	10.0
Place for Delivery*				
Home with TTBA	29.8	27.7	36.7	29.7
Home with others	20.6	20.9	16.7	20.2
Delivery centre	63.5	56.2	30.8	55.8
Govt. facility	19.8	22.9	31.7	22.8
Clinics (Private)	9.5	16.3	20.8	14.2
Clinics (NGO)	1.4	0.7	1.7	1.1

*PW=Pregnant Women; H=Husband; NPW=Non-Pregnant Women; NW=Newlywed

The majority of the respondents mentioned *Manoshi* delivery centres as their preferred place for ANC checkups followed by government hospitals, private lady doctors and NGO clinics involved in the Urban Primary Health Care Programme (UPHCP) (Table 5).

High proportions of respondents in all three categories mentioned oedema, vaginal bleeding and vertigo as danger signs of pregnancy followed by vomiting, convulsion, fever and no foetal movement. Other than vomiting, newlyweds were less likely than either of the other groups to mention pregnancy related danger signs (Table 5).

With regard to their preferred location for a safe delivery, the majority of the respondents mentioned *Manoshi* delivery centres, especially pregnant and non-pregnant women, and their husbands. Newlyweds most commonly mentioned at home with a TTBA and around half of all respondents (50.2%) preferred home as place of safe delivery (Table 5).

The majority of the respondents in all three categories mentioned that prior to the *Manoshi* they visited private doctors and pharmacies when they fell ill.

Table 6: Source of treatment for self and children prior to Manoshi programme

Source of treatment	**PW & H* (n=359)**	**NPW & H* (n=441)**	**NW & H* (n=120)**	**Total (N=920)**
Private MBBS doctor	42.3	49.4	50.0	49.7
Govt. hospital	10.0	10.9	5.0	9.8
Pharmacy	44.3	32.0	43.3	38.3
NGO clinic/UPHCP	3.1	5.0	0.8	3.7
Homeopath/Herbal	----	1.8	-----	0.8
Others (Specify)	0.3	0.9	0.8	0.7

*PW=Pregnant Women; H=Husband; NPW=Non-Pregnant Women; NW=Newlywed

Referring to the period one year prior to the beginning of the *Manoshi* programme, the majority of currently pregnant and non-pregnant women with under-5 children and their husbands reported that their last child was born at home. Only 11% of respondents used government hospitals or maternity centres. More of the currently non-pregnant women (16%) used public facilities when their last child was born than did currently pregnant women (4.3%) (Table 6).

Table 7: Place of last delivery and amounts spent on delivery prior to *Manoshi*

Variables	**PW & H* (n=230)**	**NPW & H* (n=315)**	**Total** (N=545)**
Place of delivery			
Home (attended by untrained people)	94.3	74.6	82.9
Home (attended by trained TBA)	0.4	4.1	2.6
Govt. hospital/maternity	4.3	15.9	11.0
Private clinic	0.9	2.2	1.3
Cash amounts spent (Taka)	(n=115)	(n=307)	(n=422)
None	33.0	29.6	30.6
<100	4.3	1.3	2.1
100	33.9	27.7	29.4
101- 500	8.3	8.8	8.8
501- 1000	17.4	26.1	23.7
>1000	2.6	6.5	5.5
Amounts spent in kind (Taka)	(n=147)	(n=179)	(n=326)
<100	-	11.2	6.1
100	83.0	78.2	80.4
101- 500	9.5	5.0	7.1
501- 1000	0.7	1.7	1.2
>1000	6.8	3.9	5.2

*PW=Pregnant Women; H=Husband; NPW=Non-Pregnant Women
** Only women who delivered during the year prior to Manoshi and their husbands were included

A third of the total respondents that delivered their youngest child during the reference period did not spend cash for their deliveries. Overall 29.4% of the respondents had spent Tk.100 and 23.7% had spent Tk.501 to 1000 for delivery last time. Only 6% had cash spending more than Tk.1000 during their last childbirth. Reported spending by non-pregnant women with under 5 children and their husbands was slightly higher than that by pregnant women and their husbands (Table 7).

Most of the respondents (80.4%) had spending in kind that was equivalent to Tk. 100 during their last delivery. Whereas 11% of non-pregnant women and their husbands reported lesser amount of in kind spending, 17% of pregnant women reported more than Tk.100, with 7% reporting over Tk. 1000 of in kind spending (Table 7).

Respondent's WTP for *Manoshi* Delivery Centres

(**N.B.** The results in terms of WTP have been further sub-divided into *no-time-to-think (NTT)* and *time-to-think (TTT)* groups under each category of samples.)

Almost all respondents (including hundred percent of newlyweds) were interested in using *Manoshi* delivery centres (Table 8). However, seven out of 920 respondents said that they were not interested in delivery centre services (three of the currently pregnant group along with their husbands, and four of the non-pregnant group and their husbands). They preferred delivery at their parent's village home or other private providers. Some of them expressed dissatisfaction with the BRAC staff's behaviour. Considering their lack of motivation, questions on willingness to pay were not asked to them resulting in 913 respondents for WTP questions.

Table-8: Respondents interest in Manoshi delivery centre

Response	**PW & H* (n=359) %**		**NPW & H* (n=441) %**		**NW & H* (N=120) %**	
	NTT (n=188)	TTT (n=171)	NTT (n=221)	TTT (n=220)	NTT (n=70)	TTT (n=50)
Interested in *Manoshi* delivery centre	98.9	99.4	98.6	99.5	100.0	100.0
Not interested in *Manoshi* delivery centre	1.1	0.6	1.4	0.5	----	----

*PW=Pregnant Women; H=Husband; NPW=Non-Pregnant Women; NW=Newlywed
no-time-to-think (NTT); time-to-think (TTT)
Only women who delivered in the one year prior to *Manoshi* and their husbands were included.

Almost all who expressed their interest in using delivery centres were willing to pay the pre-assigned price (or even more) that was offered to them. However, a small proportion of respondents expressed their inability to pay the pre-assigned price, but said they were willing to pay a lesser amount (Table 9).

Table 9: Respondents willing and unwilling to pay pre-assigned price

Response	PW & H* (n=356) %		NPW & H* (n=437) %		NW & H* (n=120) %	
	NTT (n=186)	TTT (n=170)	NTT (n=218)	TTT (n=219)	NTT (n=70)	TTT (n=50)
Yes, (willing to pay the price asked for, and more)	96.2	97.6	97.2	94.1	97.1	100.0
No, (unwilling to pay the price asked for, but willing to pay less)	3.8	2.4	2.8	5.9	2.9	----

*PW=Pregnant Women; H=Husband; NPW=Non-Pregnant Women; NW=Newlywed
no-time-to-think (NTT); time-to-think (TTT)

As a whole 76% of the respondents were willing to pay an amount that was higher than the pre-assigned price while 4% were willing to pay an amount that was less than the pre-assigned price. Twenty percent of the respondents were willing to pay the pre-assigned price that was asked (Table 10). Having time to think did not affect the proportion of respondents that was willing to pay a minimal amount of less than Tk. 200 but respondents who had time to think were somewhat more likely to select an amount between Tk. 250-400 rather than an amount above Tk. 450 (Table 10).

Table 10: Respondents by prices willing to pay

Willing to pay	NTT (n=474)	TTT (n=439)	Total (N=913)
Lesser amount (Tk. 100-200)	4.0 (19)	4.1 (18)	4.0 (37)
Equal amount (Tk. 250-400)	17.0 (81)	22.3 (98)	19.6 (179)
Higher amount (Tk. 450-750)	79.0 (374)	73.6 (323)	76.3 (697)

no time-to-think (NTT); time-to-think (TTT)

With regard to the pre-assigned prices, the most commonly accepted amount was Tk. 300 among the pregnant and non-pregnant MWRA and their husbands while for newlyweds it was Tk. 250 (Table 11). Around one-third of the newlywed respondents were only willing to pay Tk. 250. 25% of the MWRA agreed to this amount. In all groups, more respondents given TTT accepted only this low level of willingness to pay compared to those who had NTT.

Table 11: Willingness to pay pre-assigned price for delivery services

Price (Tk.)	PW & H* (n=356)			NPW & H* (n=437)			NW & H* (n=120)		
	NTT (n=186)	TTT (n=170)	Total %	NTT (n=218)	TTT (n=219)	Total %	NTT (n=70)	TTT (n=50)	Total %
250	30.6	18.8	25.0	30.7	19.2	24.9	45.7	12.0	31.7
300	18.8	36.5	27.2	22.5	32.9	27.7	15.7	38.0	25.0
350	33.9	17.1	25.8	29.8	18.3	24.0	21.4	24.0	22.5
400	16.7	27.6	21.9	17.0	29.7	23.3	17.1	26.0	20.8

*PW=Pregnant Women; H=Husband; NPW=Non-Pregnant Women; NW=Newlywed

With regard to reason(s) behind agreeing to pay, the majority of respondents in all three categories stated that complications would cost more money and the amount asked for registration was within their capacity (Table 12).

Table 12: Reasons for agreeing to pay the price asked

Reasons for agreeing the price asked*	PW & H (n=356)		NPW & H (n=437)		NW & H (n=120)	
	NTT (n=186)	TTT (n=170)	NTT (n=218)	TTT (n=219)	NTT (n=70)	TTT (n=50)
Within my capacity	87.8	90.1	91.0	86.4	86.6	88.6
Don't want to suffer from complications	8.0	6.4	8.1	7.7	6.0	2.9
Complications would incur more cost	96.2	97.6	97.2	94.1	100	97.1
Nearest to home	3.7	4.1	6.8	6.8	6.0	5.7
Better treatment	1.6	1.2	1.0	0.5	2.0	1.4

*Multiple responses

Willingness to pay for *Manoshi* delivery centre services was not correlated with respondent's income (Table 13).

Table13: Relationship of income to WTP

WTP	Monthly family income (Tk)			
	<=3000 (n=44)	3001-5000 (n=246)	5001-7000 (n=289)	7001+ (n=334)
Lesser amount (Tk. 100-200)	11.4	4.9	3.8	2.7
Equal amount (Tk. 250-400)	20.4	22.0	20.8	16.8
Higher amount (Tk. 450-750)	68.2	73.0	75.4	80.5

(r = 0.09)

On average, amongst the surveyed the husbands were willing to pay a higher amount than the women. Median WTP among husbands was Tk. 450 while that for women was Tk. 400. Mean WTP was slightly higher among husbands who were given time to think (Table 14).

Table 14: WTP by husbands and wives

WTP in Taka			**Total (Tk)**
Husbands	**NTT**	**TTT**	
Range	200-750	200-500	200-750
Average	468.5	498.8	483.3
Median	450	450	450
Wives			
Range	100-500	100-400	100-500
Average	426.0	429.4	427.6
Median	400	400	400

While more respondents in the poorest wealth quintile agreed to pay lower amounts rather than amounts over Tk. 450, few differences were seen between the other quintiles (Table 15). Over three quarters of the respondents in all four of the higher quintiles reported as "willing to pay" Tk. 450, and four percent or fewer said they would be "willing to pay" between Tk. 100 and 200. Even among the poorest quintile, 70% of the respondents were willing to pay at least Tk. 450.

Table 15: Willingness to pay by household wealth quintile

WTP in Tk.	**Wealth quintile**				
	Lowest n=217	2 n=214	3 n=196	4 n=174	Highest n=112
Lesser amount (Tk. 100-200)	7.4	3.7	2.6	4.0	0.9
Equal amount (Tk. 250-400)	23.5	19.2	16.3	21.8	15.2
Higher amount (Tk. 450-750)	69.1	77.1	81.1	74.1	83.9

A large proportion of respondents in all three categories shared their perceived quality of care, mainly availability of skilled staff, medicine, and round-the-clock services. Minimum cost of care at the delivery centre was also noted by over 60% of respondents in all groups (Table 16). Factors like privacy, waiting

rooms, waiting time and better service were mentioned by less than 20% of the respondents.

Table 16: Expected quality of care as reported by respondents

*Expected QoC	PW & H (n=356)		NPW & H (n=437)		NW & H (n=120)	
	NTT	TTT	NTT	TTT	NTT	TTT
Skilled staff	83. 0	84. 2	84. 2	80. 5	81. 4	78. 0
Medicine	76. 6	81. 3	75.1	71. 8	70. 0	78. 0
24 hr. service	72. 3	72. 5	71. 5	72. 7	60. 0	76. 0
Min. cost	68. 1	66. 7	68. 3	60. 5	71. 4	62. 0
Cleanliness	10.6	7.6	16.3	15.9	18.6	20.0
Good behaviour	11.2	15.8	19.5	22.7	18.6	20.0

PW=Pregnant Women; H=Husband; NPW=Non-Pregnant Women; NW=Newlywed
*Multiple responses

Among all three categories of respondents, the majority preferred payment by instalment. However, almost one-third of newlyweds who were given time to think preferred to pay at a time and in fact, newlyweds were more likely to prefer this option compared to the other groups (Table 17).

Table 17: Mode of payment preferred by respondents

Mode of payment	PW & H (n=356)		NPW & H (n=437)		NW & H (n=120)	
	NTT (n=186)	TTT (n=170)	NTT (n=218)	TTT (n=219)	NTT (n=70)	TTT (n=50)
At a time	18.3	15.9	17.9	17.8	27.1	32.0
Instalment	81.7	84.4	82.1	82.2	72.9	68.0

DISCUSSION

Our data on age of the respondents show that most of the MWRAs were fairly young with around one-third of them being teenagers. However, the proportion of teenage husbands was very low (Table 4). This suggests that quite a substantial proportion of females in the study slums got married under age. Desmet et al, in their survey on Dhaka slum residents, found more than half of married females were in the age-group of 13-18 years while most of the married males were in higher age-group. The *Bangladesh Urban Health Survey, 2006*

found that 37.7% of the currently married women in slums belong to the age group of 15-19 years. It is encouraging to see that around three-fourth of the respondents had some level of formal education and the proportion of MWRAs that was literate was higher than their husbands (Table 4). Although the majority of these MWRAs were housewives, more than 14% had been earning money that contributed to their monthly family income (Figure 1). The high proportion of women that were housewives is likely related to the fact that data collection took place during the day when most working women were not at home. This may limit the generalization of these results if households in which the woman is a housewife have incomes that are significantly different than other households.

The mean and median of monthly family income was Tk. 6941 and TK. 6000 respectively. Average monthly income per household at current prices has been estimated at Tk. 7203 at the national level (Household Income Survey 2005, Bangladesh Bureau of Statistics, 2007). Survey information gathered on income (Figure 1) and possession of assets indicates that most of the respondents did not belong to the poorest of the poor; only 5% had a comparatively low income level with <=Tk. 3000 per month. In view of their low income and consequently low WTP (which is lower than the amount asked for; (Table 10) the programme should carefully consider appropriate waivers or safety net measures for the poorest of the poor if any charging system is introduced.

With regard to knowledge of safe motherhood, the results depict that the majority (64%) of respondents had the wrong perception about the minimum required number of ANC visits per pregnancy. However, overall 36% were rightly aware that a minimum of three ANC visits is needed (Table 5). It appears from the results (Table 5) that large proportions of respondents had good understanding about some of the key danger signs of pregnancy (vaginal bleeding, oedema, and vertigo) but they were less aware of other equally important danger signs of pregnancy (convulsion, no or less foetal movement, weight loss). The behaviour change communication component of the programme, training of community health workers and *Manoshi* women's group should address these gaps in information more proactively among the beneficiaries. Even with mixed impressions about safe motherhood; 60% of the respondents have expressed their current preference for *Manoshi* delivery centre for ANC checkups (Table 5). Strengthening of community mobilization activities of the programme may play a critical role in improving the situation further.

Residents of the study slums, both women and their husbands, are willing to pay for safe delivery services. The majority of slum residents report that they would pay over Tk. 400 for such services. This finding reflects high levels of private demand for *Manoshi* services. Ninety six percent of the respondents were found willing to pay for the delivery centre – either exactly the same amount (Tk. 250-400, 19.6%) that was asked for, or a bit more than that (Tk. 450-750, 76.3%). Only 4% of them wanted to pay less than the pre-assigned price. The overall proportion of respondents willing to pay higher amounts was lower in the TTT group than in the NTT group (Table 10).

Overall, willingness to pay did not show any significant correlation (r =0.09) with the respondent's current income level indicating that hypothetical WTP is not necessarily dependant on current income status. However, our data suggest a trend in increasing WTP with increasing income (Table 13). The association between WTP and income might appear when an actual payment system would be introduced. Therefore, it is suggested to pilot the survey findings applying 'simulated market experiment' (Bhatia & Fox-Rushby, 2003) in the same population surveyed to validate the data collected.

Although the difference was not substantial, the average and median WTP of husband was slightly higher than their wife's (Table 14). As in many other countries, social dynamics in Bangladesh are largely influenced by the patriarchal system. As such, household heads, the overwhelming majority of whom are male in Bangladesh, govern the decision making process at the family level. The main goal of the *Manoshi* programme is to reduce maternal and child mortality and morbidity among slum residents. In this social context, male involvement and support, particularly the husband's, is critical to fulfilling this goal and the positive intention of the male respondents with regard to WTP suggests that they are motivated to meet these goals for their wives.

It is evident that prior to *Manoshi* programme, the majority (86%) of births in the study slums took place at home attended by untrained or trained TBAs, neighbours or relatives. Only 12.3% were institutional deliveries; of which 11% took place in government hospitals and 1.3% in private clinics (Table 7). This finding is similar to national data *(Bangladesh Urban Health Survey 2006)* on place of delivery. Currently around 56% of respondents report that they would prefer *Manoshi* delivery centres as a safe place for delivery, which is likely attributable to their familiarity and experience with the *Manoshi* programme for

more than a year. However; half of our respondents (50.2%) still prefer home delivery (Table 5). Therefore, along with conducting a motivational campaign for facility-based delivery, the programme also needs to extend necessary assistance to the domiciliary level for safe delivery.

A study in Dhaka slums by Desmet et al., has shown that at the time of normal delivery attended by a *dai* (traditional birth attendant) two types of expenses were met: 1) a gift (normally a saree), and/or food and transport costs for the *dai* that ranged from Tk. 50 to 500, and in exceptional cases to more than Tk. 1000, and 2) a set of accessories to conduct the delivery such as a razor blade, soap, antiseptic, thread, and a pain killer that ranged from taka 50 to 100. Average medical expenditures per patient at the national level (Household Income Survey 2005, Bangladesh Bureau of Statistics, 2007) have been estimated at Tk. 431 with an average of Tk. 383 in rural areas and Tk. 597 in urban areas In light of these findings, it is anticipated that slum people were spending money for safe delivery and child health care prior to *Manoshi* programme.

The respondents documented that their spending during delivery (among those that occurred in the one year prior to *Manoshi*) involved both cash and kind. Although the amount spent by the respondents during their last delivery (prior to *Manoshi*) varied (Table 7), their current willingness to pay for *Manoshi* delivery centre services is pretty close to that amount (Table 14). This indicates these respondents are willing to pay an amount equal to what they would expect to pay on average for similar care from alternate sources and the programme can at least tap that money. Furthermore, a majority of the respondents in all three categories reported that it was within their ability and they wanted to avoid complications related to pregnancy (Table 12). The prices we asked for *Manoshi* delivery centre services were derived beforehand from a carefully conducted pre-test in non-survey slums that also showed that people were already spending a similar amount of money for safe delivery and child health care. The fact that the pre-assigned prices were within a reasonable range for these slum populations further reinforces their appropriateness for this population.

These findings clearly suggest that the community is willing and able to pay the amount asked (and even a bit more) for it is reportedly within their capacity and very close to their spending practices in the recent past for similar purposes. Moreover, their motivation to use the services is quite high. Therefore, the programme can successfully introduce a fee for services. For maintaining

targeted coverage and better acceptance of the charging system, the programme should consider the mode of payment by instalment as preferred by the respondents (Table 17) and the need for a safety net or waivers for the poorest of the poor as well.

In reality hypothetical WTP may or may not differ from actual WTP, and this issue can be best resolved by conducting a pilot of the survey in the same settings applying 'simulated market experiment'. Such an experiment would confirm the validity and reliability of the above-mentioned data and the difference between hypothetical and actual WTP, if any.

CONCLUSION & RECOMMENDATIONS

The majority of slum residents are willing to pay a registration fee, indicating a high level of private demand for *Manoshi* delivery centres in selected slums of Dhaka city area. Overall 96% of the respondents voluntarily agreed to pay the fee asked with 20% of respondents willing to pay exactly the amount that was asked (Tk. 250-400) and 76% willing to pay a bit more (Tk. 450-750) than the amount asked. Only 4% of the respondents were willing to pay an amount (Tk. 100-200) that was less than the given price.

The large majority of respondents in all three categories reported that the amount they were willing to pay was within their capacity and that they wanted to avoid pregnancy related complications that might incur more costs. Furthermore, the amount that the respondents were willing to pay was close to their spending practice in the recent past for similar services from alternate sources (prior to the *Manoshi* programme). Respondents were willing to pay the pre-assigned price(s) that was determined through careful pre-testing to ascertain a reasonable range of fees. This suggests that the included range was reasonable, perhaps a bit low.

Overall, the proportion of the respondents willing to pay higher amounts (Tk. 450-750) was lower in the TTT group (73.6%) than in the NTT group (79%). This suggests that our results may be a bit high, but given that the difference between groups was only 5%, the reported WTP is likely not a significant overestimate.

Payment by instalment was preferred by the large majority of the respondents. However, to ensure adequate coverage and better acceptance of the charging system, the programme should consider the preferred mode of payment along with a safety net or waiver arrangement for the poorest of the poor. Respondents shared their expectations of quality of care, which focused on availability of skilled staff, sufficient medicine and round the clock services.

Recommendations

Given the findings of this survey, it is recommended to introduce a registration fee of Tk. 400 per couple, payable in instalments, with provision of waivers or a safety net for those who would not be able to pay that amount. Keeping provision for partial or full waiver of the fee could allow the programme to maintain its coverage among the relatively poorer section of the slum population while maximizing payments from those who can pay. This will provide maximum cost recovery and support the sustainability of the programme. Given that the range of prices asked was based on careful pre-testing which resulted in amounts that appear to be reasonable and perhaps a bit low for the majority of the respondents, major differences between hypothetical WTP and actual WTP are unlikely. However, to check the validity of the survey data, a quick piloting of the above-mentioned registration fee among the same population surveyed may be undertaken to detect any differences between hypothetical and actual WTP before implementing fees on a large scale.

REFERENCES

National Institute of Population Research and Training (NIPORT), Mitra and Associates, and ORC Macro. 2005. *Bangladesh Demographic and Health Survey 2004.* Dhaka, Bangladesh and Calverton, Maryland [USA]: National Institute of Population Research and Training, Mitra and Associates, and ORC Macro.

Islam, N., Huda, N., Francis B., Narayan, B., and Pradumna B., Addressing the Urban Poverty Agenda in Bangladesh: Critical Issues and the 1995 Survey findings. 1997. UCL: Dhaka.

Bangladesh Economic Review 2005, Finance Division, Ministry of Finance.

Progotir Pathey, 2003, Bangladesh Bureau of Statistics, Dhaka: Government of the People's Republic of Bangladesh

National Institute of Population Research and Training, MEASURE Evaluation, USA, ICDDR,B and ACPR; Bangladesh Urban Health Survey-2006, December 2008, p-33, 373

BRAC, Manoshi: Community Health Solutions in Bangladesh, Project proposal, July, 2006

Chowdhury, A., Mustaque R., and Cash, R. A., A simple solution: Teaching millions to treat diarrhoea at home. University Press Limited, Dhaka, 1996.

Darmstadt, G.L., Bhutta, Z.A., and Cousens, S., Lancet Neonatal Survival Steering Team. Neonatal survival 2: Evidence-based, cost-effective interventions: how many newborn babies can we save? High-tech care is not necessary to save most newborn lives. The Lancet, 2005. Vol. 365 No. 9463 pp 977-988.

Campbell, O. M., and Graham, W. J., Strategies for reducing maternal mortality: getting on with what works: Giving birth in a health facility is the best strategy for reducing maternal mortality. The Lancet, 2006. Volume 368, Issue 9543, Pages 1284 – 1299.

Bang, A., Bang, R., and Reddy, H., Home-Based Neonatal Care: Summary and Applications of the Field Trial in Rural Gadchiroli, India (1993 to 2003). J*ournal of Perinatology* (2005) 25, S108–S122.

Costello, A., Osrin, D., Manandhar, D., Reducing maternal and neonatal mortality in the poorest communities. BMJ 2004;329:1166-1168 (13 November).

Foreit, K. G., Foreit, J. R., Willingness to Pay Surveys: A User's Manual, Frontiers, The Population Council, the Futures Group Int. and Policy project: September 2001.

Whittington, D., Improving Performance of Contingent Valuation Studies in Developing Countries, Environmental and Resource Economics Vol. 22: 323-367, 2002.

Whittington D., Administering Contingent Valuation Surveys in Developing Countries, World Development, Vol. 26, No. 1. pp 21-30, 1998

Foreit K. G., and Fleischman, F., Using Simple Survey Techniques to Set Prices for Social Products and Services, Social Marketing Quarterly, Vol. vii, No. 3, fall 2001

Onwujekwe. O., Chima, R., Shu, E. et al., Hypothetical and Actual Willingness to Pay for Insecticide-treated nets in Five Nigerian Communities, Tropical Medicine and International Health Vol.6, No.7, pp 545-553, July, 2001

Davis, J., 'Assessing Community Preferences for Development Projects: Are Willingness-to-Pay Studies Robust to Mode Effects?' World Development 32(4): 655-72, 2004.

Islam, Z., Maskery, B., Whittington, D., 'Private demand for cholera vaccine in Matlab, Bangladesh' doi: 10. 1016 / j.healthpol. 2007.07.009, Health Policy, 2007

Raymond, Y. T., and Smith, R. D., 'Can we use contingent valuation to assess the demand for childhood immunization in developing countries?' Applied Health Econ Health Policy, 4(3), 166-173, 2006

Bhatia, M. R., and Fox-Rushby, A., 'Validity of willingness to pay: Hypothetical versus actual payment'. Applied Economics Letters, Vol. 10, 737-740, 2003

Unpublished data, 'Demand-based Reproductive Health Commodity Project', HSID, ICDDR, B 2007

Desmet, M., Bashir, I., et al., Demographic, sociocultural and economic profile of slum residents in Dhaka city, Bangladesh, ICDDR,B working paper #110, May 1998, p-6.

Bangladesh Bureau of Statistics, Ministry of Planning; Government of Bangladesh, Household income expenditure survey-2005;.May 2007

Desmet, M., Bashir, I., et al., Health care seeking of slum residents in Dhaka city, Bangladesh: Chronic illnesses, delivery cases, hospitalization and surgical cases, ICDDR,B working paper # 121, December 1998, p-28.

Klose, T., The Contingent Valuation method in Health Care, Health Policy, Vol.47, pp 97-123, 1999