

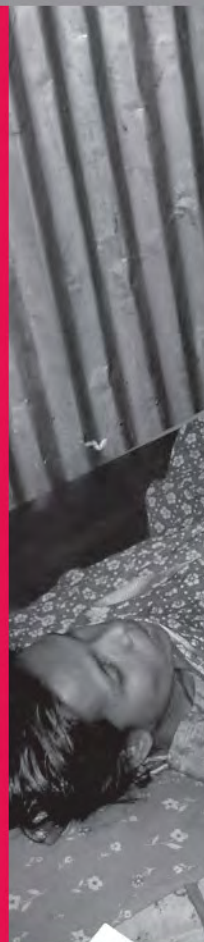
# MANOSHI

working paper

## The Use of Oxytocin during Labour in a Home Setting

Exploring the Demand Side Needs in Urban Slums of Dhaka

Allisyn C. Moran  
Tasnuva Wahed



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## EXECUTIVE SUMMARY

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In Bangladesh, the majority of deliveries take place at home (85%) (Bangladesh Demographic and Health Survey [BDHS], 2007), and there is anecdotal evidence that Oxytocin is often used to speed up or augment labour in both rural and urban settings via intramuscular injection or saline infusions. Preliminary findings from the *MANOSHI* programme, a five year BRAC project designed and implemented to reduce maternal, neonatal, and child mortality in urban slums of Bangladesh, indicate that women received such “injections” to speed up the process of their deliveries. This study attempts to explore the extent to which it is used, and the demand side issues associated with the use of Oxytocin to augment labour in an urban slum in Dhaka.

This cross-sectional descriptive study was implemented from September 2008 to June 2009 in *Kamrangir Char* slum, in Dhaka, Bangladesh using both qualitative and quantitative research methods. 463 quantitative interviews and seven in-depth interviews were conducted with married women aged 15 to 49 years, who delivered at home, or with a trial of labour at home in the six months prior to the survey.

Findings showed that about 28% (131) women in *Kamrangir Char* used Oxytocin to increase labour pains and facilitate delivery of the baby when giving birth at home. Almost all women delivering at home received Oxytocin from unskilled providers, known as ‘*village doctors*’ (*Palli Chikithshaks*, allopathic medicine sellers). Reasons for using Oxytocin were, to increase labour pain (97.7%), to deliver the baby more hurriedly/easily (54.2%), and to increase the woman’s energy (29.8%). About 86% of women received only one dose through saline, but a few women also received intramuscular injections. The majority of the women who received Oxytocin (89.3%) had normal vaginal delivery, eight women (6%) had C-section, and the others underwent normal delivery with episiotomy. The TBAs seemed to be the main decision-makers when convincing the woman’s family to allow the use of Oxytocin. Around 14.5 % of women were referred to other health facilities for complications. Reasons for referral included prolonged or obstructed labour, eclampsia/ convulsions, premature rupture of membranes, and failed induction, among others. Using Oxytocin during delivery can cost up to 1000 Tk (US\$14). The qualitative result corroborates the quantitative findings. Moreover, validation exercises with

‘*village doctors*’ also supports the women’s responses regarding the use of Oxytocin which showed an 88% agreement with the women who received Oxytocin.

Findings reveal that the irrational use of Oxytocin during home delivery is wide spread in urban slum areas. *MANOSHI* and other safe motherhood programmes in urban areas should start and strengthen the anti-Oxytocin campaign, specifically targeting the TBAs, who are the sole decision makers during the birthing process, as well as, *village doctors*, pregnant women’s husbands, senior family members, who also contribute to the decision making process to allow the use of Oxytocin. Efforts should also focus on pregnant mothers to strengthen their knowledge and decision making power regarding the use of Oxytocin to induce labour.

## INTRODUCTION

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Oxytocin is a commonly used obstetric drug to induce and/or augment labour, and to prevent and/or control post-partum haemorrhage. World Health Organization recommendations currently include the use of Oxytocin (or similar drugs) during the third stage of labour to prevent postpartum haemorrhage in the context of a developing country (WHO, 2007). However, during the intrapartum period, Oxytocin should only be administered under conditions where close maternal and foetal monitoring by skilled providers and caesarean sections are available (WHO, 1997; Sharan et al., 2005). Intramuscular injections are not recommended. Serious adverse outcomes have been documented, even in highly monitored facility settings, including hyper-stimulation of the uterus (Bidgood & Steer, 1987) leading to precipitated labour, perineal tears, uterine rupture and foetal distress (Hertog et al., 2001, Dhaifalah et al., 2006). Other conditions like low blood pressure and an imbalance in serum electrolytes (Smith & Merrill, 2006); higher postpartum blood loss unless an oxytocic agent is given after delivery (Phillip et al., 2004); increased operative delivery, Apgar scores less than seven, the need for neonatal intensive care (Oscarsson et al., 2006); impaired foetal oxygenation, foetal distress and asphyxia (Oxytocin for Induction and Augmentation of Labour, Internet; Iyengar et al., 2008). There is some evidence that intrapartum use of Oxytocin can also lead to maternal death due to uterine rupture, soft tissue injury of the birth canal and amniotic fluid embolism (Zheng et al., 1994).

In one study in India, there were significant differences in stillbirths (OR 1.74; CI 1.02–2.97) and neonatal deaths (OR 1.52; CI 1.06–2.20) among women who reported use of Oxytocin, versus women who were not given Oxytocin during labour or delivery. Women who reported Oxytocin use also reported that their babies were born very weak (OR 1.96; CI 1.56–2.93) and perceived having had a difficult post-partum period (OR 2.13; CI 1.56–2.46) [13]. Another study, in rural India, also found that Oxytocin use is associated with higher education and socioeconomic status, primigravidity, and delivery by a traditional birth attendant (Sharan et al., 2005). Anecdotal reports from Nepal and Pakistan also indicate that this practice is widespread especially during home deliveries (Jeffery et al., 2007).

In Bangladesh, the majority of deliveries take place at home (85%) (BDHS, 2007), and there is anecdotal evidence that Oxytocin is often used to speed up or augment labour in both rural and urban settings via intramuscular injection or saline infusions. A study on community-based distribution of misoprostol in Abhoynagar, Bangladesh found that 48% of women with home deliveries reported having an injection, although the type of injection was not specified (MA Quaiyum personal communication). In the urban slums of Dhaka, preliminary findings from the *MANOSHI* programme (Wahed, 2009), indicates that ‘*village doctors*’ and ‘traditional birth attendants’ (TBAs) work together to administer “injections” to speed up the process of delivery. If the delivery is not progressing smoothly, the traditional birth attendant will call in a *village doctor* to either administer an injection, give saline, or both (Hossain et al., 2007).

The use of Oxytocin or other “injections” to speed up labour appears to be prevalent in Bangladesh; however, there is no empirical evidence as to its use. Given the adverse maternal and neonatal outcomes of inappropriate use of Oxytocin, there is an urgent need to explore the perceptions and reasoning for its demand for use during home deliveries among slum women. This study tried to addresses this question in one urban slum in Dhaka, Bangladesh, as part of the *MANOSHI* formative research.

## OBJECTIVES

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The overall objective of this activity of *MANOSHI* formative research was to explore the use of Oxytocin during labour at the home setting to understand the women’s point of view in Dhaka’s urban slums, in order to,

- Document the extent of use of Oxytocin to augment labour in the urban slums of Dhaka
- Explore clients’ (women) perceptions regarding the use of Oxytocin (reasoning, decision making process, cost of use, and referral care)

## METHODOLOGY

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### Study Area

The data for the present study is imitative of the study titled, “The use of Oxytocin during labour at home in urban slums in Dhaka”.

This cross-sectional descriptive study was implemented from September 2008 to June 2009 in *Kamrangir Char* slum, in Dhaka, Bangladesh using both qualitative and quantitative research methods. The BRAC *MANOSHI* programme has been working in *Kamrangir Char* since March 2007. We selected seven slum segments of *Kamrangir Char* which were defined by BRAC *MANOSHI*. About 85,000 people were living in the study area (source: *MANOSHI* baseline survey, 2007).

### Study Population

In the quantitative study, married women aged 15 to 49 years with a delivery at home or with a trial of labour at home in the six months prior to the survey were eligible. Women who gave birth in a health facility with no trial of labour at home, who gave birth outside of the study area, or who died during delivery or the immediate postpartum (within 42 days of delivery) were excluded. The same inclusion and exclusion criteria were applied for women during in-depth interviews. Moreover, women in the quantitative survey were excluded from the qualitative interviews. It also included the *village doctors*, traditional birth attendants for qualitative interviews. The *village doctors* were mainly the medicine sellers of the drug shops situated within and nearby slum and often attended house calls.

To validate the women’s responses on the use of Oxytocin during labour, women were asked to provide the name and contact information of providers who administered Oxytocin or other medications during labour. Among women who reported Oxytocin use during labour, we followed up with 10% of the *village doctors* to validate the women’s reports.

### Methods and Respondents

The background characteristics of the women were compiled through a structured quantitative questionnaire. It included questions about women’s age, education,

husband's education, childbirth parity, antenatal care, and knowledge on saline/injection to augment labour. Women's age was recorded into five categories with a class interval of five.

Information was collected on the use of medicines and treatments including Oxytocin to augment labour at home during last childbirth. Furthermore, information was collected regarding the cost of medicine, as well as, details about the referral care system—reasons behind referrals, who refers the patients, and places to which patients are referred. Women were also asked if they had any type of delivery complications, such as labour pain for more than twelve hours, excessive bleeding, high fever, convulsion, perineal tears, and ruptured uterus.

A guideline was developed to conduct the in-depth interviews according to themes. During the in-depth interview, women's viewpoints were explored regarding the use of Oxytocin, such as, reason behind using it, the actual decision making process, the cost involved, as well as, issues related to referral care.

The subjects were randomly selected from each segment for the quantitative survey. As there was no household listing of women with recent deliveries in *Kamrangir Char*, the centre point of each segment of the study area was identified through informal discussions with *MANOSHI* staff and community leaders. In households where eligible women were available, a structured interview was administered after obtaining written consent to participate.

In each slum segment, a triad of respondents was interviewed for qualitative exploration—a woman who reported using Oxytocin during childbirth, the traditional birth attendant (TBA) who assisted with her delivery, and the *village doctors* (*Palli Chikithshoks*) who administered Oxytocin. A total of 21 in-depth interviews (*village doctors*=7, TBA=7 and women=7) were completed from seven slum segments. We used the results of seven in-depth interviews with women to collect more in depth information on demand viewpoints. Two trained female interviewers conducted the interviews and all these seven interviews were audio recorded.

To validate the women's responses on use of Oxytocin during labour, women were asked to provide the name and contact information of providers who administered Oxytocin or other medications during labour. Among women who

reported Oxytocin use during labour, we followed up with 10% of the *village doctors* to validate the women's reports.

There was no data available on the proportion of women who received Oxytocin during labour at home, an estimate of 50% was used to calculate the sample size ( $n=384$ ). Considering a non-response rate of 20%, a total of 480 women were required. Based on the population of the seven slum segments, 480 women were allocated among segments, according to the proportion of the population. Therefore, 82 women were interviewed in Ashrafabad, 59 in Islam Nagar, 85 in Koyler Ghat, 86 in Mominbagh, 54 in Muslimbagh, 63 in Nabinagar, and 51 in Alinagar. To validate women's responses about Oxytocin use, a total of 27 *village doctors* were interviewed using a structured questionnaire.

## **Data Analysis**

### *Quantitative*

Data were reviewed for accuracy, consistency, and completeness and were entered into Oracle 10g. All descriptive analysis was conducted using SPSS 11.5 (SPSS Inc. Chicago, IL, USA).

### *Qualitative*

Each in-depth interview was transcribed in Bangla. A format containing the theme and the sub-theme based on the in-depth interview's guideline was prepared. A summary of each interview was then developed in English using this format. These sub-themes were compiled under themes. Each step of this data analysis was manually compiled, and no qualitative analysis software was utilized.

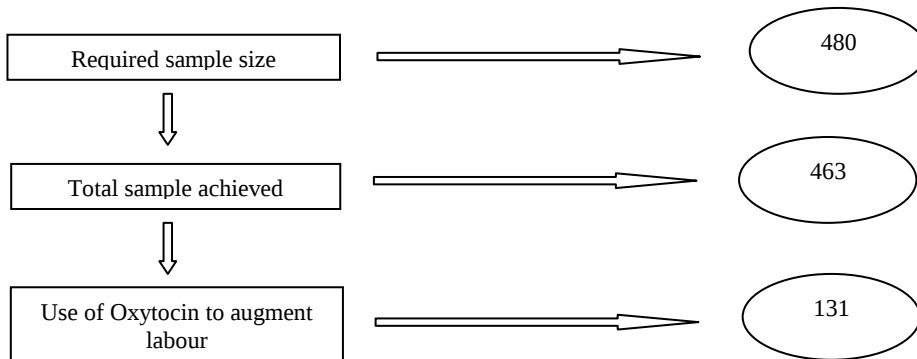
## **RESULTS**

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### **Quantitative Interview Status**

Out of 480 required subjects, 463 (96.5%) were successfully interviewed. We could not achieve the target sample in two segments (91.5% in Ashrafabad and 83% in Islamnagar) for not matching the inclusion criteria of participants. Of the

463 women interviewed, 131 reported using **syntocin** (Bangladeshi brand name for Oxytocin). These women (28.3% of total) were included in the final analysis.



### Background Characteristics ( $n=131$ )

Background characteristics are presented in Table 1. The majority of women (65.7%) were in their twenties and about 18.3% women were in 15-19 age group. Two-thirds of the women and 60% of their husbands had some education. Women having ‘one childbirth’ in their lifetime (primiparity, 43.5%) were more likely to use Oxytocin compared to 2-3 childbirth (37.4%) and others (4 or 4+ parity group, 19.1%). Most (95%) of the women reported knowledge that saline and injections could increase labour pains. Eighty-eight percent of women had at least one antenatal care visit (ANC).

### Oxytocin use to Augment Labour: *Exploring the Demand Side* ( $n=131$ )

#### ***The Oxytocin Provider***

Among women who reported using Oxytocin to speed up their delivery, all but one received Oxytocin from a *village doctor*. One woman could not identify the type of the provider. Out of seven in-depth interviews with women, six women reported that they received Oxytocin (“*bethar shui, saline*”) from *village doctors*. The rest of the women were given Oxytocin by a medicine seller who did not have any type of training (data not shown).

### ***Reasons for Using Oxytocin***

Reasons for using Oxytocin were to increase labour pain (97.7%), to deliver the baby more easily (54.2%), and to increase the woman's energy (29.8%) (Table 2). The qualitative interviews revealed the same findings, but a few women added that saline/injection was given if there was obstructed labour, if the *village doctor* measured low blood pressure from the birthing mother. Only one woman perceived that saline or injection was also given in hospitals. So, if it is given at home, it may prevent hospital delivery.

*“I had low labour pain. I was given saline to speed up the pain. I suppose, it is given to speed up labour in the hospital also. We also think that pain will be increased if it is given at home.”* (ID-432, Age-35, Education-0, Occupation- housewife, Husband's occupation- businessman, monthly family income-11000 taka)

Women further mentioned that saline is given for weakness and “*bethar shui*” (Oxytocin) is given to increase labour pain so that the baby can be delivered faster.

### ***Doses and Modes of Using Oxytocin***

Eighty-six percent of women reported receiving Oxytocin through saline infusions, while 20.6% reported receiving an intramuscular injection. Almost all women received either one (84.0%) or two (13.7%) doses of Oxytocin, with only 3 women reporting receiving 3 doses. The first dose of Oxytocin was given within 24 hours of labour pain for three-quarters of the women, with 45.8% reporting receiving a second dose less than one hour after the first dose. Among women who received the first dose, about 24% did not know how many ampoules were given. The rest perceived that the *village doctor* mixed up to five ampoules of the medicine. For 50% of the women, the baby was born within 30 minutes of the last dose of Oxytocin (Table 2).

Among the seven women who participated in in-depth interviews, most of them received only one dose of the medicine (Oxytocin) through saline. The remaining two women, who received two doses, mentioned that they got one dose through saline and another one by direct intramuscular injection. Most of the women noticed that the *village doctor* set the slow saline drip though they could not mention how many drops per minute were set. One woman perceived that the

saline was passing speedily. Another woman disclosed that her TBA set the saline drip faster after consultation with the *village doctor*.

*“The saline drop was passing slowly, but the dai said it would take too much time to deliver if saline drops pass too slowly. Then he (village doctor) said, make the drops a little faster if there is low labour pain.”* (ID-131, Age-23, Education-4, Occupation- housewife, Husband’s occupation- Rickshaw puller)

In the in-depth interviews, women could not mention the number of ampoules that were mixed in each dose. Women often mentioned that the saline line became displaced, and the *village doctor* had to return to reinsert the saline line. During these follow up visits, the *village doctor* did not monitor the woman or the baby.

### ***‘Who’ makes the Decisions for Oxytocin use?***

Findings on decision making related to the person (s) family, and the health providers’ side revealed, for the family, the husband (45.8%) and woman’s mother/father (16.8%) were the most commonly cited decision-makers, while TBAs and *village doctors* were the commonly cited decision makers when it came to the health provider side (91.6% and 44.3% respectively) (Table 2).

The qualitative findings reveal that in most cases, TBAs influenced the women’s family members to bring doctors. Though in some cases, husbands brought the *village doctor*, but they were influenced by TBAs, women’s family members, and neighbours. The family members specially included the women’s mother who came from the village for this delivery purpose.

*“The dai decided that first I needed saline. She massaged oil and found that I did not have pain. However, if the pain increased, I would not have energy because I do not have a proper diet. We lack food and vitamins. The baby was in the right position to come out, but it was not delivered because I was weak. The dai waited up to 4 p.m. and then my condition became serious. Serious means that the baby reached the place (cervix) but it was stuck and could not be delivered. Then she took the decision to bring the doctor; “if the doctor is brought, the pain is forced and vitamin saline is given for energy, then the baby will be*

*delivered.” she said to the baby’s father. He (the father), then, brought the doctor.” (ID-233, Age-25, Education-5, Occupation- Garment’s worker, Husband’s occupation- private service, monthly family income-11000 taka)*

### ***‘How’ are the Decisions made for Oxytocin use?***

All women reported that the TBA did an examination before Oxytocin was administered. This check up included checking cervical dilation (94.7%) and the baby’s distance from the cervix (65.6%) through internal vaginal examination. The position of the baby (65.6%) and foetal movement (41.2%) were also verified (Table 2).

In general, *village doctors* relied on information from the TBAs examination prior to giving Oxytocin (88.5%). They also checked the woman’s blood pressure (98.1%). Only one woman reported that the *village doctor* checked the foetal heart beat (1.9%).

*“After arriving, the doctor asked the senior persons (“murubbi”) who were there (attendants), ‘When had the pain started? What is her condition, should she be given injection or does she need to be taken to a hospital?’ If I have energy, and am able to deliver at home, then he will give me saline. He also talked with the dai, asking similar questions, ‘should I give injection, is the cervix open?’ The dai replied, ‘the cervix opened a long time ago, you can give injection’. He then asked whether there was any foetal movement or not. I said, ‘it moved a while ago, now there is no movement’. He measured my blood pressure and then gave me an injection.” (ID-636, Age-20, Education-4, Occupation- Housewife but part time work, Husband’s occupation- Business, monthly family income-8000 taka)*

### ***The Outcome and Complications of Oxytocin use***

Among women who reported using Oxytocin during labour, 89.3% of women had normal vaginal delivery, 6% had C-section (8 women), and the others underwent normal delivery with episiotomy. There was one stillbirth and in six cases the baby had trouble with breathing at birth.

Out of 131 women reported using Oxytocin, most (63, 48.1%) perceived having a long labour (more than 12 hours). Very few reported some other intrapartum complications, such as excessive bleeding (3), high fever (3), convulsion (4), perineal tear (6), and ruptured uterus (1). (Data not shown)

In the in-depth interviews, there was one woman with a C-section delivery, one with a ruptured uterus, two with perineal tears, and at least one case where the woman identified that the baby had trouble with breathing after birth.

*“I was very weak after the delivery. There were perineal tears during delivery and it had to be repaired with three stitches... It was not identified at the time of childbirth. It was night and the electricity went away, so she (dai) could not understand. The next day, I was telling her (dai), ‘Khala (aunt) I feel uncomfortable, check me, I think something happened.’ She refused, ‘Don’t talk like this, you have everything in good order, I checked.’ I said, ‘No, you did not notice then. Now you can see what’s happened.’ She did not believe me. One day later, I told my mother that whether she (dai) believed me or not that I was feeling uncomfortable. It means I could not sit during urination and I felt everything would come out if I gave pressure at the lower side. I brought her (dai) to check and say, whether you believe it or not, but you should still check. Then she checked and shouted putting her hand on her head, ‘What has happened?’ I told her, ‘You did not believe me. Can’t I understand what I feel good or bad? She said, ‘I did not believe you because I found everything to be good at that time (delivery time). She found the tears and said it could not be cured without stitching.’ (ID-131, Age-23, Education-4, Occupation-housewife, Husband’s occupation- Rickshaw puller)*

### **Exploring the “Referral System” of cases for Additional Care**

A total of 19 women who used Oxytocin were referred to a facility (14.5%). The reasons for referral included prolonged and/or obstructed labour (11), eclampsia/convulsions (3), premature rupture of the membrane (2), failed

induction (1) and others (2). Out of seven in-depth interviews, one woman was found who said she was referred for excessive bleeding and a ruptured uterus.

*“My condition was very serious after giving saline. I had no pain. It takes half an hour to finish the full bag of saline. Bleeding started when the whole saline had gone in my body. After giving saline, my body temperature became cold, there was no pain, there was only bleeding. It may have been eleven at night, when the bleeding started... The dai did not do anything for this bleeding. She was afraid about it and did not know why I had excessive bleeding. Later on, there was no pain. What could the dai do with this? The dai can do something if there is pain. I suppose, I was in no position to deliver. There was only bleeding. The health condition became bad because of the whole night’s bleeding, rupture of membrane... I was kept in the seat after admission. The doctor checked me and said that there would not be normal delivery. The position became bad due to meconium strain, and rupture of uterus.”* (ID-432, Age-35, Education-0, Occupation- Housewife, Husband’s occupation-Business, monthly family income-11000 taka)

Out of 19 women, few were referred from home by TBA (7) and *village doctors* (6). Mostly family members and other relatives made the decision to take them to the hospital as the baby was not being delivered even after giving saline. In the in-depth interview, the woman who was referred had a diverse experience. She did not get further services from the *village doctor* who provided her with saline at night. She was referred by another *village doctor* who was brought in the morning, *“He referred me at once saying my condition was very bad.”*

Most women in the quantitative survey were referred to the Government referral facility (10), or to a private hospital (11). Only three women were referred to BRAC delivery centres. Among the women who participated in in-depth interviews, only one woman was referred and she was taken to a government hospital (Table 3).

## Cost/ Expenditure for Using Oxytocin

About half of the respondents reported that they paid Taka 401 to 800 for using this medicine. The median cost of Oxytocin was Taka 500 (Table 2). Most women in in-depth interviews also mentioned that they paid Taka 500. Few women who suffered perineal tears disclosed that they had a high expenditure with a range of Taka 3000-5000 for cost of treatment.

*“I needed four stitches. I went to the doctor’s chamber (village doctor’s pharmacy). He (the same village doctor who gave shui/saline) stitched me free of cost. I have known him for a long time. So he took only medicine cost on request in total Taka 3000-4000. I had to spend Taka 400-500 per week; per capsule costs about Taka 70 to 80. I bought medicine every week and continued that for three months.”* (ID-334, Age-21, Education-07 Occupation- Small business, Husband’s occupation- Driver, monthly family income-15000 taka)

## Validation Exercise

In the validation survey, among the 27 *village doctors* interviewed, 25 of them reported that they remembered the woman. Out of these 25 interviews, there was agreement regarding the administering of Oxytocin in 22 cases (88%). In two of the cases where disagreement occurred, the woman reported receiving Oxytocin from the *village doctor* while the *village doctor* reported refusing to give Oxytocin and referred the woman to the hospital. In the third case, the woman reported receiving Oxytocin, while the *village doctor* reported giving only a saline infusion.

## DISCUSSION

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WHO strongly recommended not using Oxytocin before the delivery of the baby, considering it as unsafe because skilled monitoring is required. Things that need to be monitored are foetal heart beat, uterine activity, the consideration that there may be a possibility of C-section delivery and acting appropriately knowing that

fact, as well as, neonatal resuscitation facilities (WHO, 1997). In this regard, use of Oxytocin in the second stage of labour during home deliveries should be completely banned. This study investigates the prevalence of Oxytocin use among poor slum communities in the case of home deliveries. Almost one third of women (28%) in *Kamrangir Char* slum who had a trial of labour at home used Oxytocin to increase labour pains and facilitate the birth of their child. These findings are similar to other studies in India, where use of Oxytocin at home births varies from 15% to 69% (BDHS, 2007; Sharan et al., 2005; Matthews et al., 2005; Iyengar et al., 2009; Jeffery et al., 2005; Das et al., 2005; Caleb, 1995; Rahman et al., 1999). This study further explores the demand side issues leading to the use of Oxytocin through quantitative, as well as, in-depth interviews with women who have been given Oxytocin.

It is alarming where WHO recommends, only skilled provider could administer Oxytocin, almost all women received Oxytocin at home from unskilled providers, medicine sellers also known as *village doctors*. This finding is very common in literature about South Asia, and it is widely used to augment labour during home deliveries by unregistered local allopathic practitioners and auxiliary nurse-midwives via intramuscular injections or saline infusions (BDHS, 2007; van Hollen, 2003; Jeffery et al., 1989). It should be noted that the *village doctors* had received short training in biomedicine on various topics of health care like diarrhoea, malaria, Acute Respiratory Infection, Integrated Management of Childhood Illnesses, AIDS, Tuberculosis, and safe motherhood practices. These *village doctors* almost always own a shop where they sell allopathic medicine. They also perform home visits to the community and advise on medicines available for purchase in their shops, although they have limited training, and have usually learned their skill from relatives, friends, and sometimes from skilled doctors (Parkhurst et al., 2007; Bhuiya et al., 2009; Kermode, 2004; NIPORT: Slums of Urban Bangladesh Mapping and Census, 2005).

The findings disclose a widespread belief among women that babies cannot be born without pain and/or if there is lack of energy to give pressure (bear down) to push out the baby. Therefore, if the pain is not strong enough or a woman feels weak, there is a need to bring the *village doctor* to give medicine to increase the intensity of pain and to facilitate the childbirth. It is recommended that each dosage of Oxytocin should be given while intensely monitoring the uterine

activity in the health facilities (WHO, 1997). Though the majority of women received only one dose through saline, a few women received intramuscular injections without such monitoring. Women noticed that the *village doctor* mixed three or more ampoules of medicine in the saline which they cannot verify. There are also many interesting thoughts disclosed in the study around the use of saline drops, such as making the saline drops enter the body faster for quicker delivery. Further qualitative studies should be conducted with *village doctors* and TBAs to ascertain more details about this trend.

The study showed that the social norm around the use of Oxytocin is mainly driven by the TBAs and they seem to be the main decision-maker in terms of convincing woman's family. From the detailed descriptions in the in-depth interviews as well as quantitative data, TBAs and *village doctors* have some physiological understanding of when to give Oxytocin to augment labour. They look for cervical dilation, position of the baby, and distance from the cervix.

The quantitative result indicated that around 14.5 % women were referred to some health facility for complications that supports the national data, which is about 15% women developed complications during childbirth (BDHS, 2007). A qualitative study conducted in the rural areas of Bangladesh described that *village doctors* contributed greatly to refer women to health centres (Parkhurst & Rahman, 2007), which contradicts this study result, which showed that they have very limited involvement in referring the women, although TBAs and *village doctors* are the key actors during home deliveries.

The social norm around the necessity of a painful delivery and the use of Oxytocin or other inducing medicines to speed labour to facilitate delivery is strong; even poor women feel the necessity to pay for Oxytocin. Use of these medicines during labour often results in a myriad of medical complications whose interventions require additional expenses (e.g. perineal tears that require stitches and antibiotics). Most families in the slums in Dhaka city live on less than US\$ 2.5 per day (NIPOORT: Slums of Urban Bangladesh Mapping and Census, 2005), and using Oxytocin during delivery can cost up to Taka 1000 (US\$14). This is a significant cost for the poor.

There were some limitations to this study. There may be issues of recollection bias in terms of women being able to recall the type of medicine they received.

We tried to minimize this bias through the validation exercise with *village doctors*, which showed an 88% agreement with the women who received Oxytocin. Though findings demonstrated some adverse outcomes and the sample size is too small from which to draw a conclusion that this outcome is the consequence, or that this is more hazardous. Further quantitative study should be conducted calculating the sample size considering each maternal and newborn outcome, such as stillbirth rate, ruptured uterus rate, birth asphyxia rate. Moreover, as women were experiencing childbirth, there is possibility to be unconscious of any other important issues that would need to be observed. Further qualitative studies with the key actors (e.g. TBAs, *village doctors*, husbands, senior relatives/neighbours) during home deliveries may help to find concrete information around the norms of using Oxytocin to augment labour.

## RECOMMENDATIONS

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The study findings have the following programme implications:

- The use of Oxytocin in the second stage of labour is widespread in urban slum in Dhaka to augment labour.
- Health education messages for TBAs, *village doctors* and women/family around the harmful effects of Oxytocin are needed, especially in relation to harmful effects on the baby.
- *MANOSHI* programme should also encourage *village doctors* and TBAs to refer women to health facilities for childbirth, especially if labour is perceived to be too long.
- BRAC *MANOSHI* should strengthen their anti Oxytocin campaign and especially target the TBAs since they are usually the decision makers.
- BRAC should also conduct a formal evaluation of this campaign to see if it is effective. Additional research to understand the basis of this norm is needed.

## CONCLUSION

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Oxytocin is an invaluable obstetric medicine when used appropriately. However, its misuse has serious consequences, as is demonstrated through this study. Any programme or intervention regarding maternal neonatal and child health program should incorporate the education of the target population (service providers, pregnant mothers, pregnant mothers' husbands, and family members who weigh in during the decision making process during the birthing process) about the negative effects of such misuse of drugs, and the severe impacts it can have on the baby and mother. Such issues need to be further explored in Bangladesh, both in rural and urban areas of Bangladesh.

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## TABLES

**Table 1: Percentage distribution of background characteristic by use of Oxytocin at home to increase labour, Kamrangir Char slum, Dhaka, 2008**

| Characteristics                                          | Use of Oxytocin to speed up labour/delivery (%) (n=131) |
|----------------------------------------------------------|---------------------------------------------------------|
| <b>Demographic</b>                                       |                                                         |
| <b>Age</b>                                               |                                                         |
| 15-19                                                    | 18.3                                                    |
| 20-24                                                    | 42.0                                                    |
| 25-29                                                    | 23.7                                                    |
| 30-34                                                    | 9.9                                                     |
| 35+                                                      | 6.1                                                     |
| <b>Women education</b>                                   |                                                         |
| None                                                     | 23.7                                                    |
| Any education                                            | 76.3                                                    |
| <b>Husband education</b>                                 |                                                         |
| None                                                     | 39.7                                                    |
| Any education                                            | 60.3                                                    |
| <b>Parity</b>                                            |                                                         |
| 1                                                        | 43.5                                                    |
| 2-3                                                      | 37.4                                                    |
| 4+                                                       | 19.1                                                    |
| <b>Antenatal care (any provider)</b>                     |                                                         |
| Yes                                                      | 88.5                                                    |
| No                                                       | 11.5                                                    |
| <b>Knowledge on saline/ injection to increase labour</b> |                                                         |
| Yes                                                      | 94.7                                                    |
| No                                                       | 5.3                                                     |

**Table 2: Characteristics of the use of Oxytocin at home, Kamrangir Char slum, Dhaka, 2008**

| Characteristic                                                                                      | Percent (%)<br>(n=131) |
|-----------------------------------------------------------------------------------------------------|------------------------|
| <b>Reason for Oxytocin</b>                                                                          |                        |
| To increase labour pain                                                                             | 97.7                   |
| To increase energy of mother                                                                        | 29.8                   |
| Easier to give medicine at home                                                                     | 0.8                    |
| To deliver the baby hurriedly/easily                                                                | 54.2                   |
| To prevent hospital delivery/ hospital fair/ fair for C/S                                           | 3.8                    |
| To reduce maternal suffering                                                                        | 3.8                    |
| <b>No. of doses given</b>                                                                           |                        |
| 1                                                                                                   | 84.0                   |
| 2                                                                                                   | 13.7                   |
| 3                                                                                                   | 2.3                    |
| <b>Type of TBA check up before giving Oxytocin</b>                                                  |                        |
| How much the cervix was dilated                                                                     | 94.7                   |
| How far the baby from cervix                                                                        | 65.6                   |
| The position of the baby (chaphalic/ mal position)                                                  | 65.6                   |
| Foetal movement                                                                                     | 41.2                   |
| To check any intrapartum complications (fever, bleeding etc)                                        | 13.0                   |
| <b>Type of village doctor check up before giving Oxytocin (n=105)</b>                               |                        |
| Measurement of blood pressure                                                                       | 98.1                   |
| Measurement of temperature                                                                          | 4.8                    |
| The position of the baby (chaphalic/ mal position)                                                  | 3.8                    |
| Foetal heart beat                                                                                   | 1.9                    |
| <b>How many hours taken to give first dose of saline/ injection after labour pain start (hours)</b> |                        |
| <=12                                                                                                | 56.5                   |
| 12.1-24                                                                                             | 23.7                   |
| 24.1-36                                                                                             | 8.4                    |
| 36+                                                                                                 | 9.2                    |
| Don't know                                                                                          | 2.3                    |
| <b>How many hours taken to deliver after last dose (hours)</b>                                      |                        |
| <=1                                                                                                 | 68.7                   |
| 1.01-2                                                                                              | 14.5                   |
| 2+                                                                                                  | 16.8                   |
| <b>Cost of Oxytocin (taka)</b>                                                                      |                        |
| <=400                                                                                               | 30.5                   |
| 401- 800                                                                                            | 52.7                   |
| 801-1200                                                                                            | 13.0                   |
| 1200+                                                                                               | 3.8                    |
| Mean                                                                                                | 595                    |
| Median                                                                                              | 500                    |
| Mode                                                                                                | 500                    |
| Minimum                                                                                             | 100                    |
| Maximum                                                                                             | 1600                   |

**Table 3: Type and Name of referral centres for Kamrangir Char slum women, Dhaka, 2008, (n=19)**

| Type                   | Name of Referral Centres                              | Total* |
|------------------------|-------------------------------------------------------|--------|
| Government             | Dhaka Medical College Hospital (6)                    | 10     |
|                        | Midfort Hospital (2)                                  |        |
|                        | Azimpur Maternity (2)                                 |        |
| For profit Private     | Riverside Hospital, Dhaka Hospital & other clinic (6) | 6      |
| Not For profit Private | BRAC Delivery Centre (3)                              | 5      |
|                        | Nagar Matri sadan (2)                                 |        |

\* Multiple responses