

FORMATIVE RESEARCH FINDINGS: SHAHJADPUR INTEGRATED MATERNAL & NEONATAL HEALTH PROJECT



**Reproductive Health Unit
Public Health Sciences Division
December 2010**



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FORMATIVE RESEARCH FINDINGS: SHAHJADPUR INTEGRATED MATERNAL & NEONATAL HEALTH PROJECT



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Ward-7, Mulkandi, Jalalpur Union of Shahjadpur sub-district

First page: An NGO Community Skilled Birth Attendant (CSBA) conducting a
courtyard-session at Shahjadpur

ISBN. 978-984-551-315-9
Scientific Report No. 112

December 2010

Publisher
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Printed by: Print Link Printers, Cell: 01711 540518

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Shahjadpur Integrated Maternal & Neonatal Health study field-team, field project office in the background

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ACKNOWLEDGEMENT

This study is funded by Australian Agency for International Development, AusAID, grant number 00597 and the present publication is published with the support of AusAID. ICDDR,B acknowledges with gratitude the commitment of Australian Agency for International Development, AusAID to the Centre's research efforts.

We also like to acknowledge the support of Ministry of Health and Family Welfare, Directorate General of Health Services and its Reproductive Health Programme and Directorate General of Family Planning for the continuous support.

We take the opportunity to facilitate the Civil Surgeon of Sirajganj and Deputy Director - Family Planning of Sirajganj and Upazilla Nirbahi Officer of Shahjadpur for the support in conducting the study.

Special thanks to the UHFPO, UFPO and MO (MCH) and other staffs of the Shahjadpur Upazilla Health and Family Planning Departments.

The list will not be complete by mentioning and thanking all those who participated in the In-depth Interviews (IDIs) and Focus Group Discussions (FGDs) the result of which is this humble endeavor.

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EXECUTIVE SUMMARY

Bangladesh is committed to achieve the Millennium Development Goals (MDGs) 4 and 5 by the year 2015. The health and family planning programme of Bangladesh has made remarkable progress in the last two decades. The reduction in maternal mortality in the past 15 years is 22%, right on target towards MDG. However, the Maternal Mortality Ratio (MMR) is still high (320 per 100,000). The most commendable success was in the area of child mortality as both infant and child mortality rates have dropped. Infant mortality decreased from 87 deaths per 1,000 live births in 1994 to 65 deaths per 1,000 live births in 2004. The neonatal mortality rate is still high as of BDHS 2007 is 37/1000 live birth.

However, the status of maternal health remains an area of significant challenge in Bangladesh. Although the MMR has declined from 554 deaths per 100,000 live births in 1990 to 320-400 in 2001, nevertheless, because of the relatively low status of women in Bangladesh and lack of access to reproductive health and family planning services, maternal mortality remains unacceptably high. It is estimated that, approximately 11,000-12,000 maternal deaths occur each year in Bangladesh.

Low cost evidence based interventions is an effective move to achieve the desired outcome to reach the MDG 4 and 5 by the year 2015. Different low cost interventions are in place in the health system but not in an integrated manner. The project aims to establish the low cost evidence based interventions in one upazila and then to scale up to other upazilas of Sirajganj district if found feasible.

Specific aims of the study are: To test the effectiveness of an integrated evidence-based intervention package in one selected sub-district to

- a) increase utilization of skilled birth care, from 18% to 50%
- b) decrease the rich-poor gap in the use of skilled , from 6:1 to 2:1
- c) increase met need for obstetric care, from 27% to 75%
- d) decrease neonatal mortality, from 37/1000 lb to 20/ 1000 lb
- e) improve the quality of care by December 2011

The integrated package will focus on the following interventions: Birth and newborn care preparedness counseling, Updated safe delivery kit, Management of Postpartum Hemorrhage (PPH) through routine implementation of Active Management of Third Stage of Labor (AMTSL), Prevention and management of eclampsia by introduction of $MgSO_4$ by Community Skilled Birth Attendants (CSBAs), Home-based essential newborn care by CSBAs, upazila coverage by CSBAs and formation of Community Support Groups (CSGs). The health interventions are to be channeled through the existing government, NGO and private health system, with the active support of the community support groups.

Study site: The study is being implemented in Shahzadpur upazila of Sirajganj district under Rajshahi division about 180 km northwest of Dhaka. It consists of nine upazila. The population of Shahzadpur as of 2001 census is ~600,000.

Evaluation methods: This study will be evaluated using a pre- post- design with the use of quantitative research method. Qualitative research methods will be used to inform the development of the intervention package as well as to document the process of implementation. An ongoing monitoring system is in place to observe progress in process indicators.

Formative research: A total of 56 semi-structured in-depth interviews (IDIs) and 6 Focus Groups Discussions (FGDs) were conducted between February and April 2009. IDIs were conducted with women who gave birth within the last six months prior to the baseline survey, their husbands, and female family members for both normal and complicated deliveries. IDIs were also conducted with facility-based skilled providers. FGDs were carried out with CSBAs, traditional birth attendants (TBAs), and village doctors (VDs). Finally, key informant interviews were conducted with community leaders, program managers, and religious leaders. Semi structured guidelines were used for in-depth and key informant interviews. The IDIs and key informant interviews were focused on birth preparedness activities, care seeking during delivery from skilled attendants and care during maternal and neonatal complications. FGDs were to explore the quality of routine maternal and newborn care according to standards and protocols. We also discussed arrangements for referral (transport, funds etc.) and linkages with emergency obstetric care (EmOC) facilities. A matrix of key theme areas to facilitate the analysis and provide information on the intervention package was developed. The individual matrixes were then compiled in one matrix by categories of respondents to analyze the patterns, associations, and their explanations of each theme.

Birth preparedness appears to be an unfamiliar issue, and the only attention the mothers gave on was place of delivery and birth attendants, and in most of the cases it is centered on home and TBA. The perceived advantages of TBA were low cost, efficiency, proximate to their residence and 'delivery by TBA' is a norm. In Hindu rituals, delivery is considered impure, generally occurred in an isolated unventilated room (at times in the kitchen) or in the courtyard. 'Rocto jaba' (a red flower) was soaked in water and that water was prescribed thrice a day to treat retained placenta and bleeding takes place because of too much blood, severe stomach ache may happen following delivery due to empty abdomen were the common beliefs. "Blue color' and 'convulsion' of neonates were titled as 'dosonto', treated by traditional healers but died. Postpartum care was not perceived essential after delivery.

CSBAs were found to follow many of the standard protocol for maternal and neonatal health care at the time of delivery. But TBAs to make the neonate cry, do mouth to mouth breathing, slap the neonate by putting the baby upside down and soak the baby into cold water. TBAs insert their hands into the vagina to bring out the placenta manually. The TBAs who perform the expulsion of placenta successfully are greatly respected in the community, as their ability to remove the placenta avoids a trip to the hospital. There is frequent use of intrapartum injections of Oxytocin

during labour, which has been seen by TBAs and family members as the only effective method of speeding up labour. Due to absence of male guardian the decision for referral is often delayed, sometimes the VD a trusted community member is invited to participate in the decision making for referral. Lack of motorized transport due to poor road condition forced some families to opt for alternative means of transport such as using a “machal’ (a bamboo structure) for reaching the referral facility. Long distance, poor road and vehicle conditions contributed to prolonged traveling time in case of referral.

Birth preparedness initiatives, needs to focus on changing household perceptions of the vulnerability of mothers and newborns during delivery and the postpartum period—thus shortening the ‘first and second delay’. Since mothers and their families preferred TBAs and as TBAs carried out a variety of improper procedures during delivery and for neonatal care, the interventions only targeting the mothers and families are unlikely to be sufficient. The intervention must address community norms and involve the main gatekeepers, particularly TBAs, grandmothers, mother-in-laws and family members who attend and control the happenings at the birth. In addition, interventions should also consider the VDs as they are closely interlinked with TBAs during deliveries.

Delivery observations: With an aim to observe the quality of care offered by the CSBAs during home delivery, total 23 deliveries attended by CSBAs were observed between February and April 2009. The observation was done by two trained female interviewer using a checklist of standard practice.

At the first stage of labor, most of the standard practices were performed by the CSBAs. But there are concerns on infection prevention measures (boiling instruments and hand washing) and performing clinical examinations to assess the condition of the mother and the fetus. At the second and third stage, the level of use of standard practices varied. In the second stage, about 75% % of the CSBAs performed selected important practices though only 21.7% CSBAs cleaned the perineum with antiseptic lotion, 34.8% placed the baby on mothers abdomen, and 56.5% felt for the cord around the babies’ neck. In the third stage, only about half 56.5% of the CSBAs performed all the three stages of AMTSL. Examination of placenta for complete expulsion and inspection of vagina/ perineum for tear was done by 56% and 78% respectively. CSBAs’ performance was poor for their practice related to cord cutting and selected essential newborn care. CSBAs’ practice on cord care was unacceptably low. Surprisingly, despite repeated programmatic intervention only about 40% of the CSBAs breastfed the baby immediately after birth.

CHAPTER ONE

INTRODUCTION

Background

Bangladesh is committed to achieving Millennium Development Goals (MDGs) 4 and 5 to reduce childhood mortality to 50 per 1,000 live births and maternal mortality to 143 per 100,000 live births by 2015. With a current MMR of 320 per 100,000 live births (lbs) [1] and 18% skilled attendance at delivery [2] the country is less likely to attain the MDG 5 targets within the time target. The majority of deliveries take place at home (>90%), majority by TBAs and family members, and the overall met need for obstetric care is only 13% [3]. There is also substantial inequity in the use of skilled attendance at birth among the socioeconomic quintiles; use varies from less than 5% to 30% between the lowest and highest quintiles [4]. Neonatal mortality remains a major barrier in reducing child mortality in this country. Currently, the neonatal mortality rate is unacceptably high (37/1000 lbs) accounting for 40% of childhood mortality [2]. The major causes of maternal mortality (PPH, eclampsia, infection) and neonatal mortality (birth asphyxia, infection) are preventable [5,6], and evidence-based low-cost interventions are available [7,8]. The Government of Bangladesh (GOB) is committed to implementing evidence-based interventions through the health system [9] to improve maternal and neonatal morbidity and mortality status though majority of these interventions have not yet been effectively operationalized in an integrated manner. Therefore ICDDR,B has initiated the present study with the aim to collaborate with the GOB and other stakeholders in the operationalization of the evidence based interventions. This study will strengthen the existing health system through an integrated approach described later on.

With a view to reducing the maternal and child mortality and morbidity, comprehensive programme efforts have been made over the past years with increasing access to health care services especially emphasizing human resource development. Within the continuum of change, TBAs had been trained to provide better services at home compared to relatives and untrained TBAs. But in the last decades such training could not change the maternal health situation much. As a result, the Government of Bangladesh along with its development partners took the decision to introduce Skilled Birth Attendants (SBA) in the community. The SBAs are to provide normal safe delivery at homes and referral to the emergency obstetric care (EOC) sites, if needed [10]. Under this programme, FWAs and FHAs were trained with knowledge of and selected skills of performing antenatal care (ANC), delivery, postnatal care (PNC), neonatal care (NNC) and identifying referring obstetric complications. Almost all CSBAs are neighbors to the clients and domiciliary service is an important part of their service so that clients have easy and time saving facility to access for home based services. They are trained to conduct normal delivery at

home, primary management of maternal complication before referring to the health facility and provide health education. The duration of this training is 6 months and it is expected that this CSBAs would help in reaching the rural mass for maternal and neonatal health care. However the majority of home delivery in Bangladesh is still being conducted by TBAs and studies showed that these TBAs are lagging behind in the correct knowledge and safe practices in conducting delivery. Another type of provider who is largely known as village doctors are closely collaborating with these TBAs.

There are several factors both at the level of the health system and at the level of the individual, family and community which are the significant contributor to the poor maternal and neonatal health related scenario in many developing countries. Lack of access to the health facilities is a key obstacle for maternal health care; this lack might be caused by factors at all the levels. In many developing countries, health facilities are located at a distance, and absence of proper road and transport facilities are the main causes for the difficult connection between health facilities and community. Further, the health facilities in many developing countries are often under-staffed, have inadequate medical supply, are not properly equipped and have no blood bank. Where services are available, they are provided at a cost that may not be affordable to the poor. Moreover, the provider's attitudes towards the poor and unsatisfactory quality of care at facilities also act as deterrents to the poor accessing health services [11].

Several factors at the level of the individual woman also adversely influence their maternal health outcomes. In addition to women's poor nutritional status [12] and the practice of early marriage and childbearing [13], their poor awareness regarding maternal and neonatal health care and limited autonomy in the family decision making process indeed contribute to the adverse maternal and neonatal health outcome. In Bangladesh, women have limited access to health care and education, which is a significant barrier to positive pregnancy-related outcomes.

The family level factors include awareness among family members of pregnancy-related care, the extent of husbands' or other family members' involvement in pregnancy-related care and their willingness to invest in the standardized health care for the mother and newborn [13]. In many countries where patriarchal norms are dominant, pregnancy and maternal care are considered to be exclusively a woman's domain. This attitude often excludes husbands from participating in routine maternal and pregnancy care however they remain as the key decision-makers for the pregnancy-related care and expenditure without being properly informed about the issue. Attitudes of the family virtually are a reflection of the community norms. Pregnancy and childbirth continue to be perceived as issues in the private domain, essentially a woman's concern, which do not require community initiatives. However, studies showed that the community can act as an effective linkage with the health providers and also with the mothers by extending support to them [14].

Therefore before implementing the integrated evidence based maternal and neonatal health intervention in a selected sub district of Bangladesh there is a necessity to understand the broad gap between the need of the mother, community and health system. To implement the intervention in a more appropriate and feasible process it was recognized to assess knowledge and skills of skilled and traditional, facility and community based providers in delivering the maternal and neonatal services. This formative research in Shahjadpur includes the following basic questions,

- What kind of practices in community are existence for maternal and neonatal health care and the attitudes and beliefs behind these practices?
- What is the range of health care services in this sub district and how services are providing quality of care?
- To what extent the traditional providers are providing quality services?
- What are the major physical obstacles for accessing the health facility?

The following evidence-based interventions have been proposed for the successful implementations of the project:

Community skilled birth attendants (CSBAs)

Nowadays, we know how to manage and prevent pregnancy-related complications and there is evidence that pregnant women should be assisted by a professional health provider with the essential skills, drugs, supplies, equipment and back-up, at least during and immediately after childbirth. Skilled attendants—people with midwifery skills, such as midwives and doctors and nurses who have been trained to proficiency in the skills to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and identify, manage or refer complications in the woman and newborn—are best placed to ensure the survival and safety of pregnant women and their infants [15,16]. Their professional title may vary, but health professionals functioning as skilled attendants should be able to identify early signs of complications, and offer first line emergency obstetric care (including emergency newborn care) when needed. Furthermore it is clear that such reductions in maternal and neonatal mortalities are possible, even when resources are limited. The common feature in different countries is that they all focus on ensuring that a skilled attendant attends the majority of births. The presence of a SBA at delivery is recognized as essential to preventing maternal mortality [17,18]. The study will see the changes in maternal and neonatal health care service delivery status with the outcome by providing the required number (62) of CSBAs for the upazila.

Birth preparedness

The birth preparedness program (BPP) is a demand-creation intervention that promotes key messages and behaviour change via inter-personal communication through community health workers and volunteers. Birth-preparedness programmes generally address ‘three delays’ to care-seeking for obstetric emergencies that often result in preventable maternal deaths [19-22].

While there is no universal definition of birth-preparedness, many packages that address birth-preparedness promote the following: (a) attending four antenatal visits during pregnancy; (b) preparation for normal birth by selecting a SBA and place of delivery; (c) preparation of essential items for delivery, such as a clean delivery-kit; (d) knowledge of danger signs for mother and newborn and when to seek help; (e) knowledge of where and to whom to go for help; (f) arranging access to funds and means for emergency transportation and medical care; and, (g) prior identification of blood donors [22]. A birth-preparedness intervention in Dinajpur, Bangladesh, substantially increased the use-rate of emergency obstetric services; 45% of families in the project area reported that they had access to community-support systems[23,24]. Similar studies in Nepal and African countries, birth preparedness was found effective in increasing obstetric knowledge and practices [25].

Introduce updated safe delivery-kit at the community

Safe delivery-kits are used in many countries to provide the essential supplies needed for clean deliveries which occur at home [26]. The kit has been effective in preventing maternal and neonatal infections in several countries. These kits, which were designed more than 30 years ago, include soap for hand washing, a plastic sheet to provide a small clean environment, a clean blade for cutting the umbilical cord, a clean string for tying the cord, a piece of gauze for cord care and a small container of disinfectant (savlon). The kits are inexpensive and can be prepared by community based organizations. Unfortunately, the kits have not kept pace with new findings which suggest that additional supplies and training materials could greatly improve their effectiveness. Some additional supplies that has been included, include a delivery pad so that excessive hemorrhage can be readily identified, an educational card to help families recognize danger signs of delivery complications, as well as a check list for preparation for the delivery. The revised safe delivery kit will complement and standardize the ongoing programs which are known to reduce maternal and neonatal mortality. It will also provide the supplies needed by midwives who assist these mothers.

Management of postpartum hemorrhage (PPH)

The single most common cause of maternal mortality is obstetric hemorrhage, generally occurring postpartum and accounting for 25%-33% [27-29] of all maternal deaths. The rate of death due to PPH varies widely in the developing world. PPH-related mortality rates based on hospital studies are estimated to be 25%-30% in India, 43% in Indonesia, and as high as 59% in Burkina Faso [27-29] and 25% in Bangladesh. The following low cost interventions are recommended for preventing and managing PPH in low resource countries:

1. Active management of the third stage of labor: Active management of the third stage of labor (AMTSL) can make a significant contribution to the reduction of maternal mortality. The components of AMTSL, as outlined are: administration of an uterotonic agent (Oxytocin is the drug of choice); controlled cord traction; and

uterine massage - after delivery of the placenta. Two randomized controlled trials provided conclusive evidence that AMTSL significantly reduces PPH, decreases blood loss, and decreases the need for blood transfusions [30,31].

As AMTSL may prevent up to 60% of PPH [30], the annual number of averted deaths is approximately as many as 90,000 globally, as well as a significant number of neonates and infants who are also likely to die in the first year of their lives without mothers, if health providers practiced AMTSL routinely.

2. Oral Misoprostol as uterotonics: The main cause of PPH is uterine atony which, in the western literature, is estimated to account for 80% to 90% of PPH [32,33]. A study in rural India analyzing maternal records over a period of 20 years found that uterine atony accounted for only 54% of all PPH related deaths [34].

Oral misoprostol has the potential to act as an effective uterotonic agent. It is relatively inexpensive, easy to administer, and has a long shelf life not requiring refrigeration [35-37]. The in hospital safety and efficacy of oral misoprostol have been established for prevention of PPH with relatively few side effects [38,39]. Recent results from a community-based randomized control trial (RCT) in Gambia showed no difference in PPH rates or mean blood loss between the oral misoprostol and the oral ergotrate groups [40]. A community-based RCT (sample size of 1600 women) in rural India has just been completed comparing 600 mgs of oral misoprostol to placebo, and similar RCTs in Pakistan and Tibet have been initiated [36].

Misoprostol has already been registered by the Drug Administration Authority (DAA) of Government of Bangladesh for use. Subsequently the DAA has given permission to local manufacturers to market it for prevention and treatment of PPH.

MgSO₄ for management of eclampsia and sever pre-eclampsia

Eclampsia and pre-eclampsia are among the major causes of maternal and perinatal deaths in Bangladesh. Use of MgSO₄ in parental route is now established as gold standard treatment for eclampsia and severe pre-eclampsia worldwide. As more than 90% of deliveries in this country are planned and conducted at home and attended by unskilled providers, prompt referral to nearest hospital is not always feasible. Although MgSO₄ is preferred to be used in intravenous route, an alternative intramuscular regimen has been shown equally effective. This regimen advocates a loading dose of combined intravenous and intramuscular administration followed by four hourly intramuscular maintenance therapies. A study in Bangladesh has shown that administration of a loading does of MgSO₄ at the community level before referral to hospital improved the maternal and perinatal outcomes of patients with eclampsia and pre-eclampsia at the hospital [41]. Therefore, the intervention will introduce routine use of loading dose of MgSO₄ for eclampsia and pre-eclampsia patients at the community by community level skilled birth service providers before referral to the nearest hospital.

Home-based newborn care

Despite significant reduction in overall infant and child mortality in many developing countries during the last decades, neonatal mortality has remained constant, with an estimated 4 million deaths per year worldwide [42,43]. One of the reasons is a lack of access to health care. The neonatal period is inadequately addressed by national and international health programs in developing countries which is equally true for corresponding post-partum period in maternal health-care programs. Referral of sick neonates is recommended in most guidelines for field workers [44,45] but usually not practiced due to lack of accessible facilities and unwillingness of families to take neonates out of the home [46]. Most neonatal deaths in developing countries therefore occur at home [47].

Now we know that community based and home based newborn care can reduce neonatal mortality and morbidity from a body of research findings in many resource poor settings [48-50]. The recent study conducted in Bangladesh [51] showed that a home-care strategy reduced neonatal mortality by 34 percent. The Government of Bangladesh is committed to implementing these evidence-based interventions through the health system [9] to improve maternal and neonatal morbidity and mortality but the majority of these interventions have not yet been effectively operationalized in an integrated manner.

Community support groups (CSGs)

Community Support Groups system are being formed to disseminate the important messages on maternal and neonatal health, specially birth preparedness and home-based newborn care to all sections of the rural population and specially aiming the mothers and more precisely the pregnant mothers and their families. The community support groups will be formed around the new wards of the unions catering to the need of three to three thousand five hundred populations. Areas where Community Health Clinics (CHC) are functioning no new CSG will be formed but the existing support groups of the CHCs will be strengthened. The social responsibility of the CSGs includes:

- Identifying the pregnant mother from the respective community
- Assisting pregnant for seeking ANC, delivery care & PNC
- Creating awareness on the complication of maternal and neonatal health,
- Established linkage between providers (Government, NGO, Private sector)
- Establishing friendly and enabling environment within the community with regard to maternal and neonatal health care
- Arranging transportation during the complication to attend facility
- Creating awareness on danger sign during the pregnancy and availability of services provided by facility to way forward and so.

CSG is composed of three committees, like Advisory committee, Executive committee and Volunteer committee. They are the front bearers of the intervention of the project in the dissemination of important messages of maternal and neonatal health, arranging for referral etc. Through the development of community support groups, UNICEF programmes address the first delay (seeking care) and second delay (getting to the health facility) experienced by pregnant women [52]. CSGs and participatory approaches through group sessions and family involvement in care, were especially effective in reducing perinatal deaths [53].

Specific objectives of the study are-

To test the effectiveness of an integrated evidence-based intervention package in one selected sub-district to

- a) Increase utilization of skilled birth care from 13% to 50%
- b) Decrease the rich-poor gap in the use of skilled care, from 6:1 to 2:1
- c) Increase met need for obstetric care, from 13% to 75%
- d) Decrease neonatal mortality, from the present 37 to 21 per 1000 live births and
- e) Improve the quality of care by December 2011

The study is being implemented in close collaboration with GOB and other stakeholder at national and local levels to strengthen the existing health system to improve maternal and neonatal health. In the first phase the interventions will be implemented in one sub-district. Subsequently policy recommendations will be formulated for district and national scale-up at the end of the project.

CHAPTER TWO

METHODOLOGY

Study design

This operations research study will use both quantitative and qualitative methods to evaluate the effectiveness of the intervention at all levels - facility, community, and family/ individual. The intervention package is being operationalized in one sub-district Shahjadpur of Sirajganj district in Bangladesh covering about 600,000 people between January 2009 and December 2011. The full intervention package will be implemented for 2 years, 2010 and 2011. This is a pre- & post- designed study with the use of quantitative research method. The idea that pre-post design will be the best option for the study design, because finding an ideal control area for this kind of study is very difficult as many sub districts are having one or the other interventions proposed in this study. It would be very difficult to isolate effect of any single intervention in this situation. Qualitative research methods are being used to inform the development of the intervention package as well as to document the process of implementation.

Study site

This study is being implemented in Shahzadpur subdistrict of Shirajganj district under Rajshahi division. Shirajganj district is on the west of Jamuna river and about 180 km northwest of Dhaka. It consists of nine sub districts. The population size of the district as of 2001 census is 26, 93,814. The study will first be implemented in Shahzadpur subdistrict with a population around 600,000. The subdistrict is comprised of thirteen unions and a Pourashava (Municipality). The internal communication of the subdistrict is poor and in a few unions the communication is only riverine. The mighty Jamuna River passes through the subdistrict. During most of the rainy season the communication of the subdistrict depends on country made boat. Few credible national and international NGOs serve the subdistrict. It has the benefit of the universal maternal health voucher scheme (MHVS) of the Demand Side Financings (DSF) which is a cash incentive provided by the government to pregnant mothers for improving the maternal and neonatal health. The subdistrict also benefits from the comprehensive emergency obstetric care (CEmOC) service and the facility is located at the UHC.

Formative research

A total of 56 semi-structured IDIs and 6 FGDs were conducted between February to April 2009. Semi structured interviews were conducted with women who gave birth within the last six months prior to the baseline survey, their husbands, and female family members for both normal and complicated deliveries. IDIs were also conducted with facility-based skilled providers. FGDs were carried out with CSBAs,

TBAs, and VDs. Finally, key informant interviews were conducted with community leaders, program managers, and religious leaders. Semi structured guidelines were used for in-depth and key informant interviews. Separate guidelines were developed for each FGD. Written consent was obtained after explaining the purpose of the study, types of information to be collected from the respondent and the risk and benefits of this study. All the interviews were tape recorded.

Semi-structured in-depth interviews

a) Women, husbands, and female family member

The objective of the IDI was to understand perceptions of complications, care seeking patterns for maternal and newborn complications, barriers to seeking skilled care, and expectations from providers in terms of quality of care. Women, husbands, and one other female family member present during the delivery were asked, to separately provide a detailed, step-by step narration of the type of events that occurred during pregnancy, labor, delivery, and the immediate postpartum periods.



FRO conducting an in-depth session with husband of the pregnant mother at Shahjadpur

If a complication occurred, they were asked to describe the decision making process for seeking care. A total of 27 IDIs were conducted. Women with normal deliveries

(n=5), a live birth and complicated deliveries (n=5) and mother with newborn complications (n=5) who gave birth within the 6 months prior to the interview were selected. Complicated deliveries included reported maternal problems during labor, delivery and the immediate postpartum (48 hours) or reported complications of the newborn within the first seven days of life. All these women were identified from a list generated from the baseline survey. Respondents were purposively selected to ensure representation of primiparous and multiparous women within unions in the study area. Some mothers were selected from the unions which were nearby to the Upazilla health complex and some mothers were selected from unions which were far away from the health complex to understand the variation in the health care seeking practice. The husband and one other female family member present at birth (mother, mother-in-law, sister, sister-in-law, etc.) were also interviewed for two of the women selected within each category (n=2 husbands for normal delivery, 2 husbands for complicated deliveries, and 2 husbands for newborn complications; n=2 female family member for normal delivery, 2 female family members for complicated deliveries, and 2 family members for newborn complications).

b) Facility-based skilled providers

The main objective of these interviews was to explore the quality of routine maternal and newborn care according to standards and protocols, how providers work with community-based skilled and traditional providers. The barriers to quality care and attitude towards supporting communities to develop solutions to identified barriers. Arrangements for referral (transport, funds etc.) and linkages with EmOC facilities were also explored.

A total of 17 interviews were conducted with facility-based providers including MBBS (n=8) and nurse/FWV/paramedic (n=9). Providers from Government, NGO and private sector were included (3 MBBS from Govt., 4 from private, 1 from NGO clinic, and 4 nurses/FWV/ from Govt., 2 from private and 3 from NGO). These providers were purposively selected from Government, NGO and private sector lists to ensure representation in the study area. One doctor of the govt. facility refused to provide an interview.

c) Key informant interviews

The objective of the key informant interviews (KIIs) was to determine whether there are existing community resources to support families during normal births and immediate postpartum care as well as for maternal and newborn emergencies. Respondents also provided perspectives on community preferences for birth attendants and place of delivery, reasons for these preferences (barriers, motivators, willingness to change), and delays at different levels in reaching skilled care. The study also explored referral linkages between families and facilities, and perceptions on quality of care.

A total of 13 KIIs were conducted with community leaders (n=5), program managers (n=3), and religious leaders (n=5). A list of program managers working in maternal and newborn health was obtained from the local government authority. Two program managers' interviews could not be completed due to vacant post of the Program Manager of one maternal and neonatal health-related NGOs and unavailability of the Subdistrict Nirbahi Officer (Administrative Head of the upazila) to provide time for the interview. Community leaders and religious leaders were identified based on discussions with program staff and community representatives. The community leaders included teachers, business man and others. These respondents were purposively selected to ensure representation of the unions which were situated close and far from the central point of the Upazilla and length of time working in this area.

Focus group discussions (FGDs)

Two FGDs were conducted with each of the following groups of community-based providers: 1) CSBAs, 2) TBAs, and 3) VDs. Two FGDs were conducted in each group with 6-9 participants per group (total 6 FGDs). The participants for the FGDs were purposively selected to ensure diversification of information from different unions in the study area. The FGDs were continued until saturation was reached.

a) Community Skilled Birth Attendants (CSBAs)

The objectives of these FGDs were to explore the quality of routine maternal and newborn care according to standards and protocols and how providers work with facility-based skilled providers and community-based traditional providers. The barriers to quality of care and attitudes toward supporting community to develop solutions were also explored. We also discussed arrangements for referral (transport, funds etc.) and linkages with EmOC facilities.

Community skilled birth attendants who attended the FGDs include the government trained FWAs and FHAs of the government health and family planning setup. CSBAs were identified via discussions with program managers of the govt.

b) Traditional birth attendants (TBAs)

The objective of these FGDs was to investigate the current practices of TBAs in managing or referring women and/or newborns when complications occurred and immediate newborn care practices. We also asked about the TBA's viewpoint on their social networks and how their networks might be best used to rapidly spread information about improved maternal and newborn care. Interaction with other providers like village doctors was also assessed. TBAs were identified via discussions with program managers, CSBAs, and community and religious leaders. The two FGDs were divided into two groups- trained and untrained TBAs.

c) Village doctors (VDs)

The objective of these FGDs was to investigate current practices of VDs around labor and delivery. We also explored linkages with TBAs and how they work to provide care during labor, delivery, and the immediate postpartum. VDs were identified via discussions with program managers, CSBAs, TBAs, and community and religious leaders. The two FGDs, divided into two groups based on their duration of working as village doctors.

Home-delivery observations

Home deliveries attended by CSBAs (23 in total with purposive selection) was observed to assess the quality of home-based basic obstetric and essential newborn care including the skills demonstrated and availability of equipment and supplies for home delivery between February to April-2009. Women were identified via the CSBAs. A careful selection was done so that women from different socio-economic groups were included. It was also ensured that women from different unions of the selected sub-district were represented. Tools were adapted from standard WHO site-assessment tools as well as Bangladesh standards for basic obstetric and newborn care services. The delivery observations were slow as some existing CSBAs did not conduct delivery, especially from the family planning side, most of the deliveries occurred at late night, the area of delivery very distant from the project office and having poor communication and at times delivery occurred before the team could reach the delivery site.



Data collection team with the supervisor at Shahjadpur sub-district

Quality assurance

Investigators listened to some of the transcribed tapes and did spot-checking to ensure quality control of the data collection and transcripts. Debriefing sessions were also held to understand the type of information collected and provide suggestion to improve data quality. Each FRO coded all the transcripts within the same category. Inter coder reliability were obtained by having multiple coders' code on the same

text at the same time, independently at the beginning. Then the coders discussed findings with the investigators to compare codes. To maintain consistency among different coders a consensus was developed through discussion and the coding was finalized following the discussion.

Data Analysis

In-depth interviews (IDIs and KIIs): Investigators developed a matrix of key theme areas to facilitate the analysis and provide information on the intervention package. The FROs listened to the tape recorded in-depth interviews and filled in the matrix in English. The matrix documented some text (e.g. key words) under each theme and the important quotations were included in the remark column. In the next step the individual matrix were compiled in one matrix by different categories of respondents. The patterns, associations, and explanations of a theme were accomplished through this process.

Focus Group Discussions (FGDs): The FGDs were first transcribed into Bangla verbatim. After familiarisation with the transcripts, they were coded following the identified themes and subthemes of the study. After carefully reading the transcribed data, line by line, the data was divided into meaningful analytical units and the meaningful segments were coded. Whenever a meaningful segment of text in a transcript was identified, a code was added to it to signify that particular segment. This process continued until all segments had been coded and saturation had been reached. After then a code list was developed. The FGDs were analyzed using a qualitative data analysis programs ATLAS.ti. In this program the data were stored and organized by codes which created a classification system through attaching memos. Several codes were applied based on the importance of various topics under one subtheme and finally the emergent codes were aggregated under the relevant subthemes.

After finishing the organization of the collected FGDs' and in-depth interviews' data, step was taken to summarize the results. The summarization steps include a process of counting the code/subtheme. Addition to the thematic analysis as the data were also organized according to different categories of respondent in both the ATLAS.ti and matrices, this produces a relationship interpretation between themes and different categories of respondents. During data analysis some common themes were aggregated from more than one source to gain a full perspective on the key research questions.

CHAPTER THREE

QUALITATIVE RESEARCH FINDINGS

Antenatal care (ANC)

Most of the women receive ANC from the Upazilla Health Complex (UHC) or Family Welfare Center (FWC) only once. However the iron distribution and Tetanus Toxoid (TT) vaccine was given during home visit of BRAC and GOB health providers. In addition mothers also received iron tablet from the facility and some of them couldn't recognize whether the tablet given is an iron tablet or multivitamin. Few women rely on village doctors and we found among these women, preferences for the first ANC check up from this type of provider followed by ANC from the nearby health worker/facility,

"He (VD) is very close to our family and for any health problem the people of our area go to him" -mother.

In some instances mothers mentioned the name, from whom they receive some kind of care during their pregnancy, but even after repeated probing they couldn't specify the type of the providers. They could not say whether the provider is an MBBS doctor, FWV or other health worker and therefore it remained unknown whether the care is actually for ANC or not. Another issue relating to TT immunization emerged; few women reported about three doses of TT injection during pregnancy. We tried to find out what was the third injection for, was it a TT vaccine or any other injection, but the women who received three injections repeatedly stressed that it was a TT vaccine. We found that these three consecutive TT was given at a home where usually immunization service takes place and one was given earlier during her first visit to the village doctor for pregnancy care. Some women totally have no intention to use ANC. The reasons they stated were they didn't face any problems during pregnancy, unaware about ANC and cost incurred.

"We are poor people; we need money if we want to go anywhere. Poor people avoid going anywhere. Another problem is it is an area (residence) surrounded by water, there was no boat at that time" -mother.

One woman found the nearby nutrition centre at the fifth month of her pregnancy, but as she was not in their catchment area, she was therefore excluded from the ANC. Another woman found iron as a worthless medicine, due to the fact that her first child is retarded. During her first pregnancy she followed the standard ANC rules – taking iron and TT. Despite this care a retarded child was born and this changed her trust on ANC. During her last pregnancy she went to the UHC just once and this belief prohibited her for going for further ANCs.

Some mothers prefer going to the GOB facility only due to the advantages of deriving monetary benefit from the demand side financing (DSF).

“Antenatal visit at the 3rd month is necessary to be covered by the DSF and possession of that card (DSF) is important for access to facility delivery care which will provide us 2000 taka”-mother.

Some couldn't receive the DSF as they were too late (8th month of their pregnancy period) or denial from the provider's side without any reason. Some women said that they needed to hide their number of children as DSF is allowed for women with only one or no children. One woman, who was refused DSF decided not to go there anymore and her husband also prohibited her from going there,

“The health facility is surrounded by male doctors and my husband doesn't like this” - mother.

Birth preparedness

When asked whether they took any preparation for child birth, most of them laughed at the question. The women do not “take birth seriously” and while interviewing it seems that they are hearing this kind of question for the first time. This is a normal event of life and her childbirth will follow the usual system existing in their community.

“Preparation? A new person is coming so our family will be organized in a new way” - mother.

Only attention they gave on was place of delivery and birth attendants and in most of the cases it is centered around home and TBA. Virtually, these are pre decided issues and these decisions are influenced by the community's usual practice. Overwhelmingly money was stated to be the most important element of these decisions. Almost all categories of respondents mentioned that as they are poor they will not be able to receive facility care. Only one woman mentioned that she herself decided to have her delivery at the UHC for the sake of her life as well as for the other children and reported of saving 50-60 taka for the transportation and talked with the rickshaw puller in advance for transportation during emergency.

Questions were also asked about the preparation for addressing maternal complication if any. Putting birth outcome “in the hands of God” and hospital is nearby for managing delivery complication were the common expression by almost all women,

“Allah will make it happen normally”, “whatever is written in my fate will happen”, “If complication arise we can then go the hospital”, “Hospital is not a pleasant place to go, it is only for the complication” said a mother.

However they didn't give thinking on how they could reach this facility at the emergence of maternal complication. After repeated probing on taking preparation on transport beforehand they invariably mentioned about the availability of van/ rickshaw. Some of them are owners of rickshaw, van and in one case it was found that

the husband arranged a 'nasiman' (local term of a mechanized vehicle) beforehand. Even the idea of arranging a wooden stretcher (machal) for transferring the mother at times of emergency to the nearest facility is not given a thought in these remote areas. Accessibility to health facility in this area is however easier in the rainy season when country boat are available.

There is a widespread lack of awareness regarding arranging blood donors before delivery. Most of them even couldn't cite any reason for not arranging blood donors beforehand. Some of them were observed to be hesitant to prepare themselves for a danger sign which has not occurred or has been experienced:

"I gave birth to 3 daughters and blood was never ever required, so why should I be prepared for this?" - mother.

Delivery place

Among all respondents, there was a strong preference for home delivery assisted by traditional birth attendants.

"Since the days of our grandfather, I have observed that delivery is occurring at home. I was born, as well as my father was born at home and there were no problems. Why should they now be taken to hospital" -community leader (teacher).

"I think everything is done by Allah. Hospital tries to maintain the 'pardah' (privacy) even then it is open. So I wish that delivery should take place at home" -religious leader.

Among women and their family members, the perceived advantages of TBA were many. The low cost of TBAs and TBA's flexibility toward payment were appreciated. There is a widespread perception that TBA are efficient in handling delivery (didn't mention about their ability for complication management), residing close to their residence, and that almost all other deliveries in their community are assisted by a TBA.

"The TBA resides in our neighborhood and we can call her even at the peak of our labor pain", "TBA is my relative", "She is well known here and she conducted all the deliveries in my area", "She will be upset if I don't call her as she is my relative". "The TBA usually takes money according to our wish and ability" -(Mother, family members).

For many women, skilled care is only sought when complications could not be handled by TBA.

"When the placenta was not coming out my husband called the FWV and she expelled the placenta. The FWV scolded us for not calling her before" - mother.

Many barriers, to the use skilled attendants as well as facility care were expressed by mothers and their husbands. All respondents emphatically agreed that cost is a major barrier to the use of skilled attendance and health facility. Distance to facility

and transport were also considered major constraints, especially in the dry season. One of the program managers explained:

“Some unions are remote; the roads are so bad that van/rickshaw can’t run. If a pregnant woman needs to go to the UHC it will take 5/8 hrs, by’ machal’ (a bamboo frame) up to the main road, from where she can avail a van or rickshaw”.

One woman stated: At night there were no boatmen, I decided to have the delivery at hospital but due to this problem it happened at home. My baby died. Baby could survive if my delivery could be conducted at the facility”. In such a situation they also didn’t feel the necessity to arrange a boatman before the delivery.

Some rituals also play an important role for home delivery. One Hindu family member recognized and appreciated the role of facility for the care during childbirth, but she has to comply with the Hindu ritual and said:

“In home there is less care. In the Hindu community there are rituals that delivery couldn’t be conducted in the regular rooms, it is untouchable and impure activity, and so do it on the floor. As hospital doesn’t abide by the rule of impurity, don’t maintain the rule of the caste but do it in a hygienic way, so family says no to it”.

Like mothers’ interview the Hindu religious leaders also mentioned about temporarily built hut in the yard (might be surrounded by cloths) and kitchen as the delivery place. The Hindu leader perceived that pregnancy issue is impure as he narrated:

“The women are kept in a separate room for a month. After a month she became pure and is allowed to stay inside the main living room. It is in our Hindu religion. You can say it as a taboo but it is an impure issue”.

In general practice women give birth in an isolated unventilated room (sometimes in the kitchen) or in the courtyard, as delivery are believed to be an impure state of condition and it should be hidden from the male and with the belief that

“The earnings will be lessen if ‘ashud’ (impure materials) is in the ‘lakshmis ghar’ (a good place)” -a family member.

It is evident from the CSBAs (FP) and TBAs (untrained) FGDs that there is variation for mother care according to their religious group. In some instances after the baby is born, it is left unattended until the mother has taken a bath:

“A barber came and quickly shaved the hair of the baby and for a moment gave the baby to the mother, no other people touched the baby. The mother took the baby when she entered the hut until then nobody touched the baby, the baby was till then with me. The things used during delivery by me – tool to sit and a tool to keep my bag were thrown out after the delivery” -CSBA.

The CSBA was laughing while describing this and the other CSBAs also did not support this ritual. This information also came out in the discussions with the TBAs and they added by saying that food is also served to the nursing mother in an untouched manner for one month and mother's used utensil is usually not used further.

In addition factors like fear of caesarean section, lack of female doctors, being "teased" at the facility, poor quality of care, and concern for care of other existing children during facility stay were mentioned as reasons for not going to a facility for delivery. Key informants also mentioned the complex hospital system as a deterrent to facility delivery, as well as the influence of TBAs for undertaking home delivery.

Place of Delivery: Ritual

- **Rituals are also playing an important role for home delivery**

"In home there is less care. In the Hindu community there are rituals that delivery couldn't be conducted in the room, it is untouchable, and so do it on the floor. As hospital doesn't abide by the rule of impurity, don't maintain the rule of the caste but do it in a hygienic way, so family says no to it".

- **Commonly, women give birth in an isolated unventilated room (mostly the kitchen) or in the courtyard**

"The earning will be lessen if 'ashud' (impure materials) is in the 'lakshmis ghar' (a good place),"

- **After the baby is born, it is left unattended until the mother has taken a bath,**

"A barber came and quickly cut the hair of the baby and for a moment gave the baby to the mother, no other people touched the baby. The mother took the baby when she entered the hut until then nobody touched the baby, the baby was till then with me. The things used during delivery by me – tool to sit and a tool to keep my bag . They threw these out after the delivery",

- **Food is also served to the nursing mother in an untouched manner for one month and mother's used utensil is usually not used further**

"People will say bad about me, she (mother) went to the hospital and cut her belly", "I have other children, who are going to take care of them when I am in the hospital" -mother.

Regarding the decision making for birth attendants and delivery place, it is usually the women herself or the woman and her husband together make the decision. In a few cases other family members, such as mother-in-law, also took decision in these matters. In one case it was found that the husband's preference was facility delivery but the wife was in favor of TBA and home delivery. In another case the woman had to abide by mother-in-law's decree -

"It should be at home. You have to tolerate the labor pain"

Care of newborn and mothers during delivery

In general the CSBAs were found to do the mouth to mouth breathing in case of birth asphyxia with a clean thin cloth. Variation in this practice was found among the trained and untrained TBAs. Trained TBAs in addition to the mouth to mouth breathing, slap the neonate by holding the baby upside down. Among the untrained TBAs, one described her practice to soak the baby in cold water to make the neonate to cry. VDs also report that if the baby has trouble in breathing at birth, TBAs often submerge the baby in water and/or slap the baby's back until the baby starts crying. Few of this group give mouth to mouth breathing in birth asphyxia which they recognized by baby's appearance and baby's inability to breastfeed. All the untrained TBAs said that placenta is not expelled before the neonate cry. They popularly believe that the baby's heart is in the placenta and if it is expelled the baby will die.

Almost all trained TBAs wrap the baby immediately. They are aware of the need to keep the baby warm, although some mentioned the need is more in winter than summer. Similar to the CSBAs the trained TBAs wipe the baby and do not attempt for a bath. Most respondents indicated that they did not apply anything to the cord stump after cutting the cord with the razor blade. In case of cord infection, many respondents mentioned about using nothing or simply an antibiotic powder and usually refer a case of cord infection.

Management of home deliveries by skilled and traditional providers

Home deliveries are attended by CSBAs, TBAs and VDs.

CSBAs

According to the in depth interviews with mothers, their family members and key informants it is obvious that CSBAs are not the birth attendant of choice at home deliveries in the study area. These CSBAs learned about clean delivery kits in their training, however, they do not use them anymore due to lack of supply. Their old kits that they received during the training are no longer usable. They do not routinely use the partograph, due to lack of supply. While discussing about AMTSL CSBAs were found to describe the last stage of delivery. They mentioned about using of sanitary pad to guard the vagina, some said about using clean cloth. They also mentioned that they routinely push oxytocin after completion of delivery to prevent PPH, only one said that she pushed in case of assuming PPH after delivery. Before pushing the injection they checked for a twin child. After delivery of the baby, some CSBAs reported supporting the abdomen and given uterine massage. In case of vaginal tears one CSBA mentioned about episiotomy while others opposed her and said that they are not supposed to do episiotomy as it was not a topic in their training. The CSBA of health however expressed their need to learn about episiotomy. This lack in episiotomy application by the CSBAs is widely perceived as disrespectful from the community side:

“We are less valued and respected if we refer for such a simple matter as episiotomy” –CSBA.

For management of eclampsia, CSBAs who work for family planning do not use magnesium sulphate despite their training; however, one mentioned using diazepam. However, CSBAs who work for health mentioned five ampoules of magnesium sulfate for 20 minutes and then refer the woman to the sub district hospital. All CSBAs reported acting quickly for obstructed or prolonged labor, and referring the woman immediately. They often communicate with health providers in the facilities for advice. Many of the CSBAs use hot saline for PPH and then refer. None of them mentioned using Misoprostol.

Many of the CSBAs found difficulties in using the cord clamp. They stated that families are often not allowing them to use the clamp, as they have not seen one before and think it will harm the newborn. After the placenta has been delivered, the cord is cut and the baby is wiped with a cloth instead of bathing the baby.

TBAs and VDs

VDs and CSBAs all noted that TBAs do not wear gloves during delivery and do not wash their hands.

“Why we need washing? Do we insert our hands?”, “We don’t have bad feelings while using our hands in delivery” – were the opinion of the TBAs.

TBAs in general could describe the signs and symptoms of eclampsia and usually referred the woman in these cases.

“We can understand. When the girl has blurred vision, lay down and then say I can’t do anymore”.

“Yes we also understand in this way. When convulsion is coming then the mother whistle, after 20 minutes the mother recovers and again become unconscious”.

CSBAs, TBAs and VDs mentioned a variety of practices to expel the placenta. If the placenta is retained, the family members often throw a bamboo or tin pot from inside of the house to the outside. They also force the woman to drink kerosene, and that makes the woman to vomit. The stomach contractions are perceived to facilitate the delivery of the placenta.

“Because of delayed placenta expulsion the relatives become frightened. In many events they give kerosene to the mother. In a delivery event three days ago, placenta was not being expelled, they came to me. I suggested them to give few more time for expulsion but found they already gave her kerosene” –VD.

TBAs also perform harmful practices to expel the placenta. TBAs use their hands for placenta expulsion by putting pressure on the vaginal opening with their feet; they also use abdominal massage to expel the placenta. If the placenta remains

retained, in most cases TBAs practiced inserting their hands into the vagina to bring out the placenta manually. The umbilical cord is not tied or cut until the placenta is delivered, as they believe that the baby will die if this happens, as the baby's heart lies in the placenta. TBAs strongly hold the umbilical cord with a cloth until the placenta comes out and sometimes place a tie on the woman's chest to prevent the placenta from moving to the woman's heart.

The TBAs who perform these practices to expel the placenta are greatly respected in the community, as their ability to remove the placenta avoids a trip to the hospital. In one case where the delivery was conducted jointly by a TBA and a CSBA, the CSBA told the TBA not to use these practices to remove the placenta. The TBA scolded the CSBA. In other case with a joint delivery, the CSBA could not expel the placenta and the family then called a TBA.

"I tried a lot to expel the placenta, I pushed oxytocin but the placenta didn't come out. Then I advised to arrange a van quickly and take the mother to the 'Potazia' (sub district level) hospital, otherwise the placenta will not come out. But I found the behavior of the family to be mysterious. At last they called a TBA. The TBA by her hands pulled the placenta out" -CSBA.

"I kept my finger into the baby's mouth and pressurized with one of my foot and then pulled the baby, then it came out. There was no other way. Placenta came out spontaneously and mother became sick but recovered" – TBA.

Most of the VDs indicated that the TBAs, especially the untrained, don't use delivery kit, one VD mentioned that most of families do not have the ability to buy the kit for the TBAs. One VD mentioned that the TBAs are not aware about hand washing and also are not supplied soap by the family. Also, they found that if the TBAs are engaged in some unclean work, for example handling cow dung and at that moment a call came, she instantly left without washing her hands to conduct the delivery.

Practice during delivery care

	Placenta expulsion	Episiotomy	Oxytocin
VD	Kerosene for expulsion		Rely on TBAs about cervical dilation and position of the baby.
TBA	For retained placenta , uses hands, applies pressure on the vaginal opening with their feet, strongly hold umbilical cord with a cloth until the placenta comes out, at times place a tie on the woman's chest.	TBAs practicing this to enlarge the vaginal opening.	TBAs and family members often see oxytocin as effective for speeding up labour

VD "Because of delayed placenta expulsion the relatives become frightened. In many events they give kerosene to the mother. 3 days before a delivery happened, placenta is not expelling, they came to me. I suggested them to give few more time for expulsion but found they already gave her kerosene

"I [CSBA] tried a lot to expel the placenta, I pushed oxytocin but it didn't come out. Then I advised, please arrange a van quickly and take the patient to the 'potazia'(sub district level) hospital, otherwise it will not come out. But I found the behavior of the family to be mysterious . At last they called a TBA. That TBA by her hands brought the placenta out."

Some of the VDs expressed that TBAs are doing harm to the mother by following the improper way of episiotomy. One mentioned that the TBAs have heard about episiotomy and they are practicing this to enlarge the vaginal opening. However they are not properly aware how to do it, as a result sometimes a cut at the anus was also found. Another said that the TBA cannot handle the spontaneous tear of the vagina during delivery, even such a case they don't feel the need to refer and consequently vaginal tear becomes bigger and serious day by day. They also blamed the TBAs for delay in referring for maternal complication. They (TBAs) only refer at the last minute, but sometimes the patient ends up dying. They don't know how long they will wait for the baby to come out.

"So I continue to think what to do, I shake the waist of the mother and insert my two fingers and found two legs and pulled them out. Then again found another obstacle, and then I thought it is not a normal delivery and then I referred" –TBA.

There is frequent use of intrapartum injections of Oxytocin to speed up labor. If the TBA perceives that the labor is not progressing, she will call in a VD to the home. The TBAs and family members often see intrapartum oxytocin injections as the only effective method of speeding up labour.

More on oxytocin practice

- Some of the VDs reported having several injections within the space of a few hours
- Cases of injection pushing,
 - mother survived but baby died
 - pushed injection in the convulsive state of the mother, at last the baby delivered and mother recovered with transient loss of memory
- A woman gave birth 20 days after receiving half a dose of oxytocin.

“Families often pressure CSBAs to give injections to speed labor. One CSBA narrated that if they do not push injection the family members refer to another VD who without hesitation gives the injection” said a CSBA.

As the VDs are male, they do not do internal examinations of women; rather, they rely on reports from TBAs about cervical dilation and position of the baby.

“In reality how the intrapartum situation can be assessed by us? Because we are male doctors. We cannot examine or observe the secret part of the female. That is why the TBA is a female, isn't it?” – lamented a VD.

Even some of the VDs reported instances when several injections were pushed within the space of a few hours. They said that in such a case the TBA just mention about less labour pain and that means the TBA did not monitor the frequency or strength of contractions or routinely assess cervical dilatation before summoning the male practitioners.

Despite having limited training and relying on TBAs descriptions, some VDs had some knowledge of how to administer oxytocin during labor. They mentioned that the progress of uterine contraction should be monitored carefully, for example they knew when there is no pain but there is four fingers opening of the cervix, injection could be pushed. They also mentioned of asking the TBAs about the maternal and fetal status repeatedly before pushing injection. One said that several adverse maternal and fetal outcomes of intrapartum period could occur if repeated dosages are administered.

“We observe for 20-30 minutes. When we find that pain is not coming then we ask how far is the head from the cervix? Is the opening small or what is the position? At that time they become annoyed and say, why you are asking so many questions? We (TBA) told you and you will push injection. But how many I will push – 4, 5 10. If the head is bigger or the opening is small or upside down position it will never ever happen. Then both the baby and the mother will be at risk and die” -VDs.

One VD described a case where he gave an injection, and the mother survived and the baby died. One case was described by a TBA where a delivery was conducted smoothly by pushing injection despite the convulsive state of the mother at the time of the delivery. The TBA was constantly relaying the VD about the cervix opening and pushed the injection when there is a fair opening of the cervix. The convulsion of the mother started early at the onset of the labour pain but at last the baby was delivered and mother-recovered with transient loss of memory.

Most of the CSBAs indicated that the VDs are earning a large amount of money by pushing injection to increase the pain at the time of delivery. The CSBAs considered this practice of VDs as harmful as because it might cause ruptured uterus and make the mother infertile. In one occasion a CSBA narrated a case in which she interfered. A woman gave birth 20 days after receiving half a dose of oxytocin. That woman was suffering from diarrhea and had abdominal cramp so the TBA called a VD to administer oxytocin. When the saline was half way completed without any labor pain, the family / TBA called the CSBA who suggested removing the saline infusion after examining the patient.

Families often pressure CSBAs to give injections to speed labor. One CSBA narrated that if they do not push injection the family members refer to another VD who without hesitation gives the injection said a CSBA.

Referral: Decision to refer to a health facility

There are varied reasons for delay in decision to refer, if a complication arises, including absence of the main decision maker at the moment of referral, resistance from the family members and TBAs' disapproval. Once an obstetric complication is recognized, severe enough and VD suggested for referral, a complex pattern of decision making begins. Some said that the husband or male guardian is the key decision maker regarding the use of emergency obstetric care at facility level and due to absence of such male person the decision is often delayed. Sometimes the VD invited a trusted community member to participate in the decision making for referral:

“When I go to a particular community, I try first to know about the head of that community. By any cost I try to manage that head” -VD.

The VDs listed convulsion, bleeding and prolonged labour as reasons for their decision to refer. For neonatal complication “we didn’t find any specific complication” as mentioned by the VD except breathing difficulties. The referral centers commonly mentioned are “sub district hospital” “specialized maternal and child health private clinic” and “private medical college hospital”. In extreme severe case they refer to the district hospital.

Most of the VDs stated that, the family decision making process is often time consuming because permission is required prior to taking concrete action. One said about an intermediary attempt, before initiating decision making for moving to the referral center, one or even several other VDs are consulted who are thought to be

more knowledgeable to the family in comparison to the present VD, as because he suggested for referral. Another barrier identified in the discourse was from provider's side who said that they would not give up the case until it becomes unmanageable by them or at least by the TBAs. The major reason for this might be to show their competence, a VD said

"It will carry on my reputation if I can do the delivery", "I want to let normal delivery happen in this village".

When the question was asked about the process of convincing the family in case of referral most of CSBAs as well as the TBAs irrespective of their categories mentioned that the family easily approve the referral. They with pride explained that the families always abide by their advice. However the probing process of the question explored an event from one of the CSBAs. Due to excessive bleeding the CSBA motivated the male family members to transfer the mother to the hospital at midnight but they took her in the morning. Some of the CSBAs accused the mother-in-laws for delay in transferring the mothers even after their advice of referral.

Referral: Barriers to seeking care

About half of the key informants stated that distance and poor transport systems, lack of availability of ambulances, financial costs, lack of awareness of referral center were reasons for delayed care seeking for maternal and newborn complications. CSBAs, VDs, and TBAs mentioned that the principal delay to seeking care for complications is the cost of transportation. Depending on the types of the transportation the range of cost is 150-2000 taka. People usually borrow money from their relatives or NGO (BRAC).

Lack of motorized transport due to poor road condition forced some families to opt for alternative means of transport such as using a "machal" (a bamboo frame). Long distance, poor road and vehicle conditions contributed to prolonged traveling time. The extreme instances for this area is that they need 2-3 hours to reach the van or rickshaw stand and again another hour to the health facility. In such a remote area one VD found a severe case of neonatal diarrhea and he explained the referral situation as follows:

"The mother was telling that can we manage tonight with ORS? Can we take the baby tomorrow morning? Because she is living in "pathar"- an area surrounded on all sides by water".

The key informants reported poor linkages between communities and the referral facilities, mainly due to the distance. They repeated:

"Van and rickshaw are only available at the market place. People of remote villages first have to walk to the market for van/rickshaw and then they can reach the UHC, overall it take 3-4 hrs to reach the UHC. In village ambulance doesn't serve. It can be availed from the central level to go to district hospital".

Lack of transport, especially in the dry season, is a major barrier to using the referral facilities in some of the areas. Rainy season is comfortable season for the people of those areas as boat is available and it takes less time to reach the UHC.

In addition, lack of awareness about CSBAs and the TBA's influence too, are contributing factors that influence management of complications. One program manager mentioned about TBA's rigidity about health facility care and one religious leader narrates:

"TBAs don't give up easily and sometimes their treatment is responsible for the deterioration of the state of complication. In one event the 'dai'(untrained TBA) tried for 14 hours (the whole night) to conduct the delivery. In the next morning the condition deteriorated and then they admitted her to the hospital. Patient survived finally after the cesarean section but her urinary tract is damaged", "The village dai never let the patient to go from her even in a serious case", "The dais don't want to refer, they want to try till death of the patient".

Another important barrier for availing care from the referral centre is village doctors and the family, who simply doesn't want to refer. Some key informants blamed these providers for contributing to life threatening delays, saying

"There are some quack doctors who provide care in serious cases and consequently patients are badly affected. Village doctor wants to show their control and that's why they don't want to let the patient go".

Care-seeking for reported maternal complications

Among the five women with maternal complications interviewed, three suffered from retained placenta, one from severe stomach ache just after delivery and one from prolonged labour.

All three women with retained placenta gave birth at home and initial management was attempted by the TBA or a traditional healer 'kabiraj'. 'Rocto jaba' (a red flower) was soaked in water and that water was prescribed thrice a day and when bleeding didn't stop for the 2nd time the same flower were prescribed by the 'kabiraj'. In another case the mother was transferred first to the UHC but as the bleeding did not stop, they sought care from other providers and ultimately they believed on versed (holy) water, which finally taken and cured the bleeding was their belief. Some views by family members:

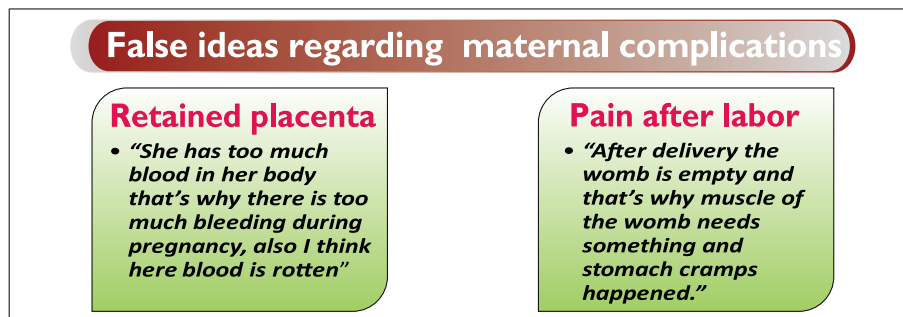
"In pregnancy if women go outside to toilet then 'alga' (evil spirit) will catch her and she will have complication".

"She has too much blood in her body that's why there is so much bleeding during pregnancy; also I think here blood is rotten".

One woman immediately after delivery was in severe pain which was compared as strong as labour pain. In such a situation she had to rely on homeopath treatment which was sought for by her husband. The following belief again act as a deterrent to use of skilled care:

“After delivery the womb is empty and that’s why muscle of the womb needs something and stomach cramps happened”.

The TBAs themselves are also barriers to using skilled care when complications arise. In the case where the woman experienced prolonged labor, the TBA tried to pull out the baby by inserting her hands into the vagina.



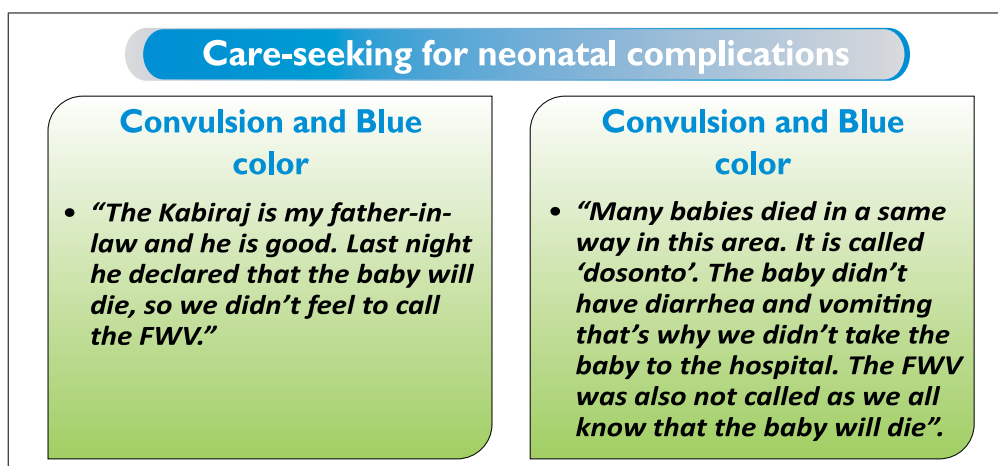
The “Kabiraj’ was called and ultimately the delivery occurred normally but later on the mother always feels something coming out while pressuring during defecation.

Care-seeking for reported newborn complications

Of the 5 newborn complications, 2 had difficulty breathing after birth, 1 had difficulty with defecation, and 2 suffered from “blue color” and convulsions. The 2 babies with blue color and convulsions died. Of the babies who died, one family sought care from the traditional healer ‘kabiraj’ who did the ‘ jhar-fuk’ and in the other case, the family did not seek any care. In the latter case, on the 5th day after delivery, the baby had convulsions and became blue and ‘kabiraj’ checked the baby the day before the baby’s death. According to the mother and husband the baby was active and suckling adequately.

“The Kabiraj is my father-in-law and he is good. Last night he declared that the baby will die,” “Many babies died in a same way in this area. It is called ‘dosonto’. The baby didn’t have diarrhea and vomiting that’s why we didn’t take the baby to the hospital. The FWV was also not called as we all know that the baby will die” – family member.

Among the two cases where the baby had trouble breathing, one was referred to the NGO clinic and then to a private clinic by the TBA. The mother-in-law made the final decision in terms of care seeking in this case. For the other baby, the TBA managed the baby at home by not cutting the cord for a few moments, twisting the cord, covering the placenta with a cloth and sucking the baby’s head. The last baby suffered from difficulty in defecation for 15 days after delivery.



This family sought a variety of treatments including betel stick, suppository from homeopathic doctors and village doctors. Finally, they went to an NGO clinic.

Management of deliveries by skilled birth attendants at facilities

All the facility based skilled birth attendants described delivery management almost in a similar manner. Preparation for birth usually includes several routine procedures such as measuring temperature, pulse and blood pressure, sterilizing instruments and conducting vaginal examinations. Only one mentioned using the partograph. The one FWV who uses the partograph described it as a method of alerting the provider about the progress of normal labour. It helps to assess the high risk delivery and thereby a decision could be taken about the appropriate management. Two nurses of the NGO and private facilities mentioned about their use of Oxytocin to accelerate the labour pain. One nurse said when there is less contraction she usually uses it and other said that while the cervix is opened fully to facilitate a quick delivery she pushes Oxytocin.

The providers gave the description of the third stage of labour in which baby’s delivery, placental separation and expulsion take place. Only the doctors and one NGO nurse mentioned about the risks during this stage - hemorrhage during or after separation of the placenta and retention of the placenta. The management of the third stage as they mentioned are cord traction, fundal massage and oxytocin injection. One nurse of the private facility described that she usually dragged the placenta with hands if it is not expelled within 15 minutes of birth and another NGO nurse said that as she is practicing in a sub district level and therefore she has to manage the third stage labour according to her own method but didn’t describe the method.

In case of PPH management all the providers including the doctors first administered oxytocin and refer the mother to a higher level facility for blood transfusion. Referral of such a case from the UHC to the district hospital is common due to the absence of blood bank at the UHC. If a blood donor is available from the family’s side the PPH management is employed at the UHC level. The FWV and the nurses observed the mother carefully during the first hour of the postpartum period. The

most important observations include the amount of blood lost, convulsion, blood pressure and temperature. In case of convulsion the FWV and nurses either refer or call a gynecologist. Most of the doctors manage the eclamptic cases by injection magnesium sulfate and one said that she refers such a case. The similar pattern of management has been observed for prolonged labour. The FWV, nurses and doctors of the NGO clinic usually refer the complicated maternal cases to the sub district health complex. One of the FWVs prefers the health facilities that is nearby to the mother's residence. Next to the UHC is the district hospital for referral especially for the PPH cases as mentioned due to lack of blood transfusion system. At the UHC the management of PPH is infusion of intravenous fluid, oxytocin/ergometrin injection, blood grouping, antibiotic etc.

Management of neonatal complications by skilled birth attendants at facilities

Immediate care of the newborn involves ensuring that the airway is clear, taking measures to maintain body temperature, clamping and cutting the cord and putting the baby to the breast as early as possible. Each of these elements has been considered by all types of providers. In details they described that immediately after the birth the baby has to be dried with warm towels or cloths. The baby's condition is assessed and the existence of a clear airway is ensured simultaneously by wiping all the mucus. In case of birth asphyxia mouth to mouth breathing along with suction and oxygen inhalation is needed. Essential nutritious food is advised for the low birth weight babies, cutting the cord is maintained with sterile instruments, either disposable, for instance from the clean delivery kit, or thoroughly decontaminated by sterilization. This is considered as the utmost importance for the prevention of infections. The FWV mentioned that for severe neonatal complication they referred to the UHC and even the doctor of UHC referred the severe case to the district hospital.

Postnatal care

Most of the women and family members did not perceive the need to seek postpartum care from health providers. They mentioned lack of money and lack of sickness as reasons for not seeking care. Some women reported seeking care from village doctors and that mainly was for weakness after delivery. Overall, women were more concerned about the health of their baby after delivery. Some observations:

"Mother's care is secondary issue, do mothers need any care"?

"We can't seek treatment for our children, so there is no question for my PNC".

Perceived quality of care at the referral facilities

According to the key informants, referral facilities in the study area include: the UHC, NGO clinic and private clinic. One key informant (program manager of UHC) perceived the UHC to be a low cost facility with knowledgeable skilled providers with good behavior and adequate equipment. However, the other key informants as

well as the VDs, TBAs, and CSBAs mentioned a variety of issues with the quality of care at the UHC including:

- shortages of basic or appropriate equipment and adequate medicine supplies, lack of blood
- providers without adequate skills
- poor provider-client interaction, especially with poor patients
- delay in providing care
- absence of supervision and monitoring

“They do not behave cordially and pleasingly. Because of the inadequate number of service providers at the facilities he/she always feel overworked and overburdened individually. A common complain “Why I alone have to do everything and all the time. So if a lady shouts, they slap them and say, “Stop shouting”. But the lady says again, “Apa (Sister), I am feeling bad.” But they pass by the lady and visit the next patient” –VD.

The greed and ignorance of facility based skilled providers also could create a devastating condition. One VD described that a death of a mother resulted from the denial by a nurse to serve the mother without money (at home). The nurses after a while dragged the placenta but it bleed severely (at home) and when the mother was transferred to the facility the doctor declared that he had nothing to do.

Some of the CSBAs stated that at night no cesarean section was conducted in sub district hospital and there is lack of management of PPH cases because of the absence of the blood bank. These resulted in the referral of the complicated cases to the district hospital. This added again in the delays to access to appropriate care,

“I referred the patient to Shahzadpur maternal health care center. One person told me not to go there, just go to Rajshahi directly. But on the way to Rajshahi, the uterus burst in the ambulance and there was excessive bleeding. Then the patient died” –VD.

The CSBAs and TBAs also described mistreatment that women often face when they go to the government health facilities. They expressed dissatisfaction with the attitudes of skilled providers. Many respondents reported verbal abuse. In addition to verbal abuse, physical abuse occurs at facilities which were described by two untrained TBAs. The complaints are mostly against the nurses. They feel that patients who are influential and rich received preferential treatment. However the trained TBAs felt the opposite and said:

“They treat equally the poor and rich. It is not true that the providers are not caring the poor. They are visiting the patient very frequently”.

The CSBA of health however did not mention about such mistreatment except the delay in reaching the appropriate referral center. One said that in night if a complicated case is taken to the UHC, she will be referred to the district level hospital.

Suggestions to improve use of skilled providers at delivery:

- The key informants had many suggestions on how to improve skilled providers at delivery, including:
- increase the number of referral facilities
- focus on training providers (especially female doctors)
- increase the number of CSBAs and other health workers at the household level (especially females)
- awareness raising of maternal and newborn danger signs for women and family members
- improve communication and transportation
- promote the DSF programme

Linkages between community-and facility-based providers

Some VDs think that they are already playing a useful role in linking women to skilled care. Some has personal linkage with the doctors, especially with providers of the private clinics. They narrated how this personal relationship helps:

“If they have any personal relationship he (VD) may write a letter or make a call to the person who is in duty on that particular time. Then they will provide better service”.

VDs’ relationship with CSBAs was almost absent and most of them were not enthusiastic about their linkage with the doctors:

“They never (doctor) give us any value. They do not give us the permission to enter in their office. One day I wanted to get inside, he said, will you do any operation there? Will you give any treatment? I replied no, sir. I just want to see. But they told me not to get in” –CSBA.

During discussing the linkage with the MBBS Drs and Nurses with the different categories of providers, the CSBAs of both the sectors mentioned about their linkage with the MBBS Drs. However the interaction of the nurses was almost nil with the CSBAs of the FP but most of CSBAs of health have good relationship with the nurses. The CSBAs’ of FP preferred their linkage with the FWV instead of nurses and the CSBAs of the health also has working relationship with the FWVs. The reason as stated was that the nurses belong to the health sector and the FWV to the family planning. Almost all TBAs did not have any linkage with either the Drs or nurses.

A fairly good relationship between TBAs and CSBAs of both the health and family planning were found. The discussion of the CSBAs showed that in many deliveries TBAs and the CSBAs jointly performed the deliveries. In this context the CSBAs described the TBAs eagerness to learn the skills from the CSBAs and to follow all the suggested procedure by the CSBAs. Even a few days back this relationship was almost absent, negative behaviors were observed toward the CSBAs, because in past

TBAs were the only potential provider in the community and at the initial stage they used to treat the CSBAs as competitors. The friendly and collaborative attitude of the CSBAs has been reported to bring a change in this relationship. Interestingly, in both sectors, an extreme rivalry relationship was observed between the VDs and CSBAs. A possible determinant was the comprehensive training of CSBAs which are not allowing the VD for providing injection support to laboring women. Once a CSBA is notified either at family or TBA level there is no need for any other community based provider's support. However the discussion from the untrained TBAs showed their high preference for VD. The traditional providers, for example spiritual, kabiraj have no preference toward any of the CSBAs.

The doctors of the government health facility agree that CSBAs have experience and capacity to diagnose obstetric complications. One female doctor was involved in the training of CSBAs and although she doesn't have any direct communication with the CSBAs but she knows that CSBAs refer early and thereby more likely to prevent the maternal complication sequel. According to the FWVs, CSBAs is a relief to their workload. They feel that if the CSBAs attend the delivery, they can diagnose and refer early so that appropriate action can be taken as earliest possible. They are usually called by CSBAs to perform episiotomy, on which the CSBAs didn't receive any training. The providers both the Drs. and nurses of NGO and private sector are not fully aware about the CSBAs. They have heard about the CSBAs and stated that virtually they are government employee and government providers are more knowledgeable about the CSBAs.

Among the facility based providers, the Drs. practically have no relationship either with the TBAs or VDs. Some of the FWV and private and NGO nurses have communication with the TBAs and VDs. The FWVs have the relationship because for complication both the TBAs and VDs need her assistance. The nurses know them as they accompany the referred mother during their visit to the hospital.

Community support groups (CSGs)

In Shahzadpur subdistrict, there are virtually no community support groups according to the key informants with very rare exceptions. In the interviews, all key informants perceived that forming community support groups is a key component for improving maternal and neonatal health. They suggested participation from community leaders of all sectors- political, educational, and religious leaders, and others, who uphold or modify social norms and practices. Some of them also suggested for inclusion of farmers, rickshaw puller and youths. Suggestion also emerged that CSGs should be headed by Union Parishad chairman. Social mobilization would take place through these CSGs by increasing awareness on the causes of newborn and maternal morbidity and mortality, and to encourage advocacy actions that will improve health outcomes for both the mother and newborn.

“Local civil society can contribute by forming a committee by UP chairman leadership to increase awareness on MNH. We actually didn’t put our head in this”.

“Increase awareness on MNH by arranging village meeting under UP chairman leadership. People will receive information on MNH and also facilities, then general people will be encouraged for going to facilities for seeking maternal health”.

Key informants were asked specifically about community savings schemes. There was only one saving scheme mentioned in the local cooperative. In addition, NGOs such as BRAC and ASHA offer programs that provide loans. One community leader described the system that the people usually follow for repaying the loan.

“For 5000 taka loan from the village committee he has to give them around 10,000 taka. For emergency they take the loan from the local cooperative and repay it from the micro credit scheme of BRAC, ASA and then they slowly repay the NGO loan”.

“Money can be received but it is difficult to repay”- religious leader.

CHAPTER FOUR

HOME-DELIVERY OBSERVATION

Delivery observation was undertaken by two female field staffs after being properly trained by a female physician. Observation was made on the existing government CSBAs to see the quality of service delivery as well as their skills. Twenty three deliveries were observed.

Greetings exchange, interaction and information gathering of the pregnant mothers by the CSBAs were satisfactory in the first stage of delivery. CSBAs brought necessary instruments with them to conduct the delivery in 95.0% of the deliveries and only 8.7% of the CSBAs asked about the ANC card and nearly 61.0% of the mothers were covered with clothing's during examination, whereas the privacy maintained was 91.0%. Nearly 75.0% of the CSBAs felt the pulse and measured the blood pressure. The fundal height, fetal presentation and fetal movement were observed by nearly 80.0% of the CSBAs. But the CSBAs were weak regarding assessment of fetal heart sound, use of antibiotic to rub and wash hand thoroughly (**Figure 1**).

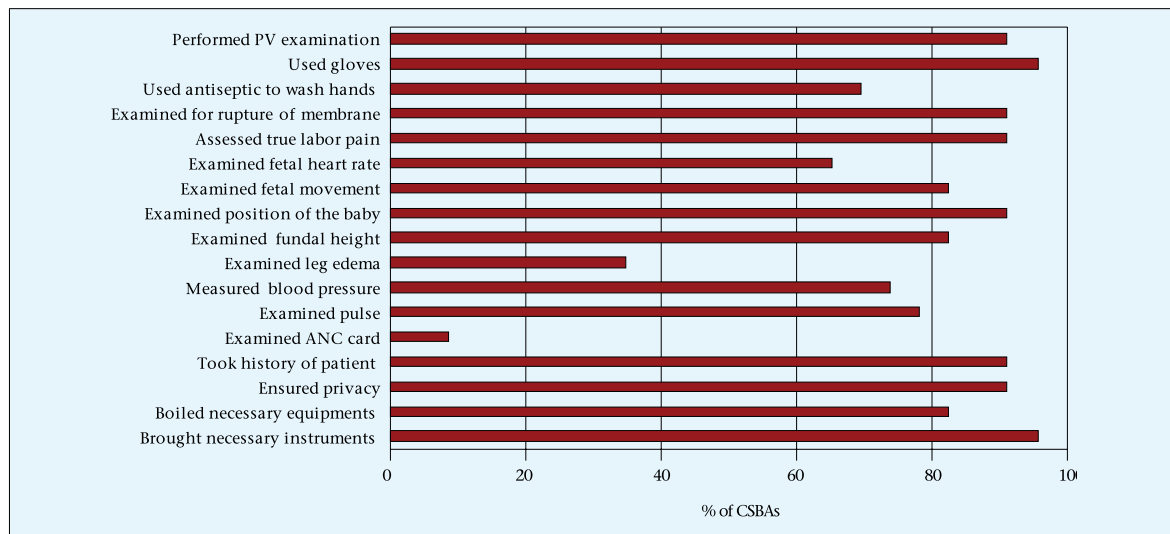


Figure 1: CSBAs' practice of standard norms at first stage of labor during home delivery

Only 21.7% of the CSBAs cleaned the perineum and the adjoining areas before the onset of the delivery process with antiseptic lotion and 56.5% of the CSBAs felt for the cord around the neck and took necessary action as and when required. Only 34.8% of the babies were placed on the lap/abdomen of the mother. The percentage of CSBAs allowing restitution and external rotation of the head, delivering rest of the body after the head is delivered; drying of the baby is 69.0% to 73.0%. Clamping and there after cutting of the cord is 73.9% (**Figure 2**).

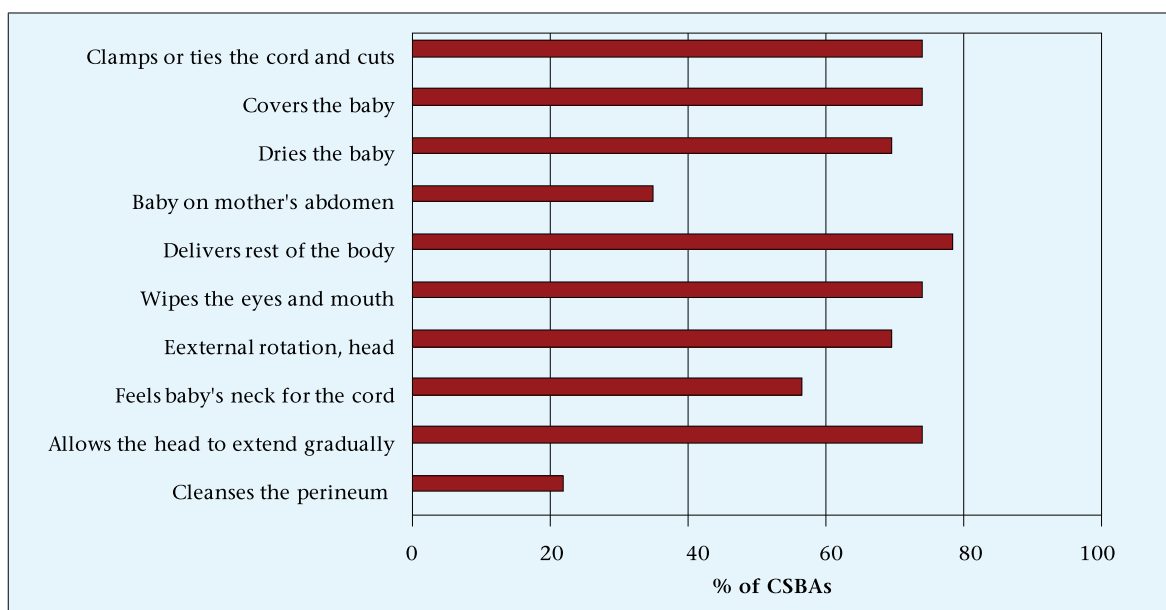


Figure 2: CSBAs' practice of standard norms at second stage of labor at home delivery

Components of the AMTSL were practiced differently by the CSBAs, 60.9% injected 10 units of oxytocin, 56.5% practiced uterine massage and 74.0% provided control cord traction (**Figure 3**). 65.2% of the CSBAs gave reasonable time for the spontaneous delivery of the placenta and half of them examined the placenta after expulsion. Only a mere 4.3% cleaned the perineum and the surrounding area with water and soap which was an important step in the prevention of infection after delivery of the child and expulsion of the placenta. 39.1% examined the baby for any abnormalities and only 52.1% assisted the mother for breastfeeding. Three-fourths of the CSBAs performed the infection prevention aspects.

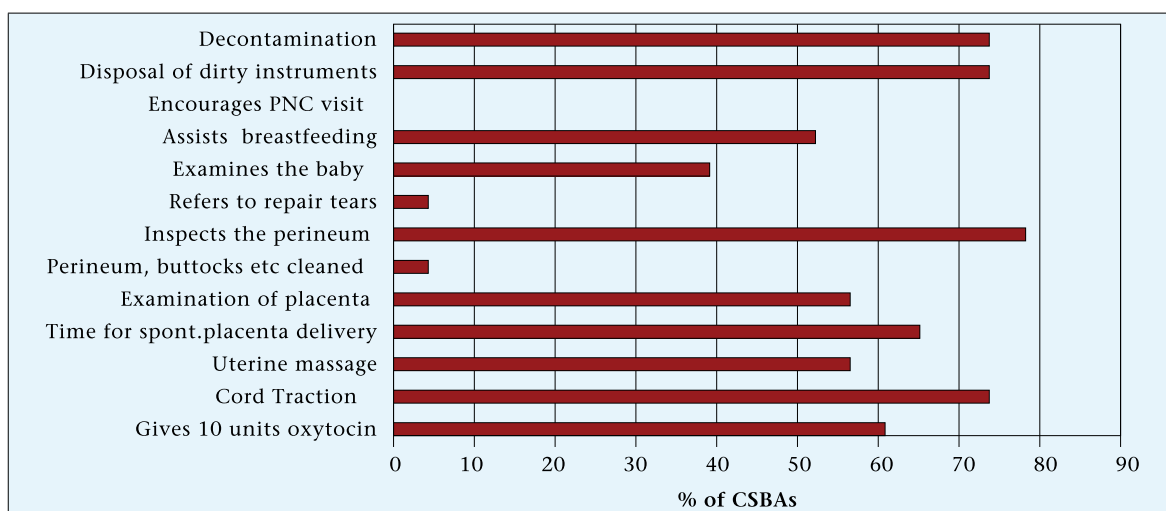


Figure 3: CSBAs' practice of standard norms at third stage of labor at home delivery

In 43.5% of the mothers, the CSBAs gave the knots in the umbilical cord according to the set guidelines and 30.4% of the CSBAs put the baby by the side of the mother after cleaning (**Figure 4**). Only 43.5% helped with breastfeeding the baby before cutting the cord. In nearly 70.0% of the cases the umbilical cord was cut by a new boiled blade from kit/packet or any other sterile source. The newborn baby was covered by a clean dry piece of cloth in 69.6% of cases.

Only 26.1% of the CSBAs were offered remuneration by the families after newborn birth and 17.4% child's mothers were happy with the CSBAs conduction of delivery and requested her to come during delivery in other future pregnancy cases. Food or any other form of gift was offered in 43.5% of the CSBAs. Nearly 80.0% of the cases the CSBAs had good relation with the family members of the pregnant mother, the family bade goodbye to the CSBAs and there was good comment for the CSBAs on the family behalf.

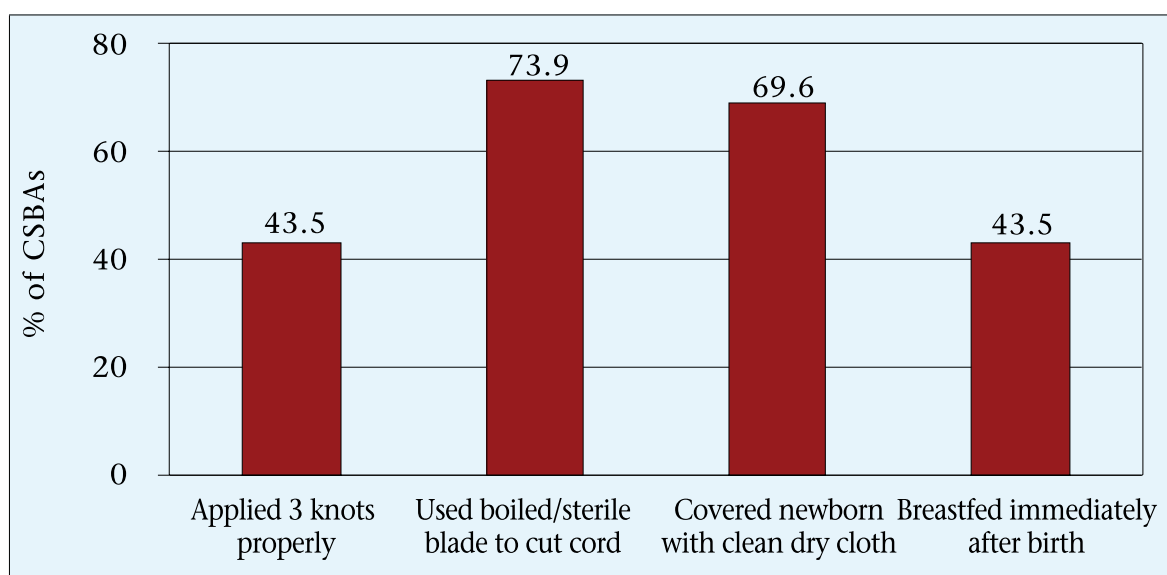


Figure 4: CSBAs' practice related to cord cutting and selected essential newborn care

CHAPTER FIVE

RECOMMENDATIONS

Concept of birth preparedness

The concept of birth preparedness was found to be absent among the mothers in Shahjadpur. Home deliveries conducted by TBAs were common due to household's lack of knowledge, such as delivery is a natural event and would be at home and these lack of knowledge might prevent the households to save money or arrange transport before delivery. Economic constraints and low physical access to health facilities lead to the views that facility care and CSBAs is used only if an emergency develops. Additionally, care-seeking decisions also take place within a family complex decision making process.

Birth preparedness initiatives should first empower the household members through community-based programme. The programme must go beyond merely increasing household members' knowledge of danger signs. Programmes also need to focus on changing household perceptions of the susceptibility of mothers and newborns during delivery and the postpartum period—thus shortening the 'second delay'.

Preference for TBAs

Since mothers and their families preferred mostly TBAs for delivery care, TBAs are holding a special position in the communities. The preference is due to less cost, close location, traditional norms and good relationship. Despite the current promotional activities of the government of Bangladesh towards community based skilled birth attendants, few trained health practitioners are available in the community, which forced families to turn to traditional practitioners. Moreover, the competitive relationship between TBAs and CSBAs often obstacles the use of CSBAs in the conduction of delivery.

The TBAs should be included in the community education and mobilization efforts so that they would be able to convey vital information to families and communities in a culturally appropriate way. Additionally, a strong and positive working relationship is necessary between the TBAs and CSBAs for the smooth delivery of Maternal and Child Health Services.

TBAs' harmful practices

The study findings showed that TBAs lacked the capacity to recognize danger signs during pregnancy. The TBAs carried out a variety of improper procedures during delivery, for example, manual abdominal compression or pushing was common. Moreover local solutions contrary to the good practices exist for the resuscitation of newborns, such as immersion in cold water and slapping the back of the baby putting it upside down etc.

The TBAs should be included in the community education and mobilization efforts so that they can be equipped with proper knowledge to reduce their harmful practices. In such a situation the interventions only targeting the mothers and families are unlikely to be sufficient. The intervention must address community norms and involve the main gatekeepers, particularly TBAs, grandmothers, mother-in-laws and family members who attend and control the happenings at the birth. In addition, interventions should also consider the VDs as they are also closely interlinked with TBAs during deliveries.

Use of oxytocin during labour

The study findings showed that women and their families took intrapartum oxytocin injections as one of the major effective methods of speeding up labour. The VDs are using this injection frequently in home deliveries, this is alarming and inconsistent with the national and international recommendations. Moreover, this practice remained unmonitored and unassessed regarding its contribution to the continuing high levels of maternal and neonatal morbidity and mortality in Bangladesh.

Integration of VDs and TBAs into the maternal and neonatal health intervention with messages about oxytocin misuse would be a short term effect. Policy initiatives should also take into account to improve the overall country regulation of rural medical practice to meet the standards of services.

Postnatal care

Early postpartum care is virtually non-existent in Shahzadpur. The importance to observe women and newborns to detect complications during the first weeks after birth is found to be unknown to the women and their household.

The community level intervention should include efforts to work with the women and their families to increase awareness of the need for PNC and develop realistic mechanisms for providing early postpartum care. Early postnatal home visit should be mandatory to improve newborn survival by the CSBAs in this effort.

Quality of care

There is one government hospital in Shahzadpur that offers the CEmOC but the study findings suggest that the time of emergency care seeking largely affect the services. The complication narratives also documented other contributing factors to long delays in receipt of emergency obstetric care. Even if women do manage to reach the appropriate care service facility timely, there are other factors for life threatening delays. Women who require a caesarean section at night or management of PPH are referred to the district level hospital due to absence of providers and blood bank. Respondents expressed several other factors that demotivated the use of the referral center. The 'non-caring' care provided by the referral center was mentioned by almost all types of respondents.

This result suggests a programme that merely encourages pregnant women to use the referral center will not achieve the outcome in this context. Further innovative programming such as strengthening health facilities is likely to have a major impact on maternal and neonatal care-seeking behaviors. Simple changes that are realistic within the current infrastructural constraints could make the facilities comfortable and this might also promote the service improvement. To improve the performance of the health system various assessments over time will be necessary and based on the assessment results, a feedback mechanism is needed for service improvement. The assessment method should document issues to respond to clients' need, strengthen supervision, and improve client counseling.

Existence of CSGs and arrangement for maternal complication

Many women in Shahjadpur have to travel 2-3 hours by a bamboo structure and rickshaw or van to access the secondary level of health facility for maternal and neonatal complication management. This is an added burden over the facility cost for the household. Moreover, the existence CSGs found to be very limited in the study area, therefore encouragement initiatives is absent and this is affecting the non availing issue of CSBAs services during delivery and management of maternal and neonatal complications is also not accelerated.

To fill up the gap between knowledge and action, the initiative should also focus on arrangement of transport and blood, this might help in limiting the second delay. An extended number of CSGs would encourage pregnant women to use CSBAs, innovative demand side approach can also be accomplished by these CSGs, for example, organizing saving schemes, emergency transport mechanism, blood donor arrangement and intervening the household decision making process.

Other areas of strengthening

Certain actions can make the intrapartum period safer for both the mother and neonate. Since there is no supply of CDKs in the health system, making CDK readily available will be the key to infection prevention. In addition, use of partograph during the labour period would bring a change, particularly in timely recognition of complication and thereby, delay to refer. Ensuring universal access to skilled care depend on the attention to the supply side along with the CSGs activities. Therefore, to increase the coverage of skilled birth attendant it is essential to increase the number of CSBAs. While required skilled attendants have been trained and deployed in Shahjadpur, health systems will be strengthened and demand for appropriate care will be increased. Above all there is no alternative to provide refresher training on safe motherhood to the skilled birth attendants.

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ACRONYMS

AMTSL	Active Management of Third Stage of Labor
ANC	Antenatal Care
AusAID	Australian Agency for International Development
BIRPERT	Bangladesh Institute of Research for Promotion of Essential and Reproductive Health and Technologies
BNC	Bangladesh Nursing Council
BPP	Birth Preparedness Program
CEmOC	Comprehensive Emergency Obstetric Care
CI	Confidence Interval
CSBA	Community Skilled Birth Attendant
CSG	Community Support Group
DAA	Drug Administration Authority
DFID	Department for International Development, Bangladesh
DGHS	Directorate General of Health Services
DSF	Demand Side Financing
EPI	Expanded Program on Immunization
FGD	Focus Groups Discussion
FIGO	International Federation of Gyneacology and Obstetrics
FP	Family Planning
FPI	Family Planning Inspector
FRM	Field Research Manager
FRO	Field Research Officer
FRS	Field Research Supervisor
FWA	Family Welfare Assistant
FWC	Family Welfare Center
FWV	Family Welfare Visitor
FWVTI	Family Welfare Visitor Training Institute
GOB	Government of Bangladesh
H&FWC	Health and Family Welfare Center
HA	Health Assistant
HI	Health Inspector
ICDDR,B	International Centre for Diarrheal Diseases Research, Bangladesh
ICM	International Confederation of Midwives

IDI	In-depth interview
IFA	Iron Folic Acid
IPS	Interrupted Power Supply
KII	Key Informant Interviews
MA	Medical Assistant
MDG	Millennium Development Goal
MgSO ₄	Magnesium Sulphate
MMR	Maternal Mortality Ratio
MNH	Maternal and Neonatal Health
MO	Medical Officer
MOHFW	Ministry of Health and Family Welfare
NGO	Non-Government Organization
OGSB	Obstetric and Gynecological Society of Bangladesh
PNC	Postnatal Care
POPPHI	Prevention of Postpartum Hemorrhage Initiative
PPH	Postpartum Hemorrhage
PSF	Palli Shisu Foundation
RD	Rural Dispensaries
RHU	Reproductive Health Unit
RPC	Research Project Consortium
SACMO	Sub-Assistant Community Medical Officer
SAE	Severe Adverse Effect
SBA	Skilled Birth Attendant
SFRO	Senior Field Research Officer
SRS	Simple Random Sampling
TBA	Traditional Birth Attendants
TT	Tetanus Toxoid
TTBA	Trained Traditional Birth Attendant
UFPO	Upazila Family Planning Officer
UHC	Upazila Health Complex
UHFPO	Upazila Health & Family Planning Officer
UHFWC	Union Health and Family Welfare Center
UNDP	United Nations Development Fund
VD	Village Doctors
WHO	World Health Organization



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