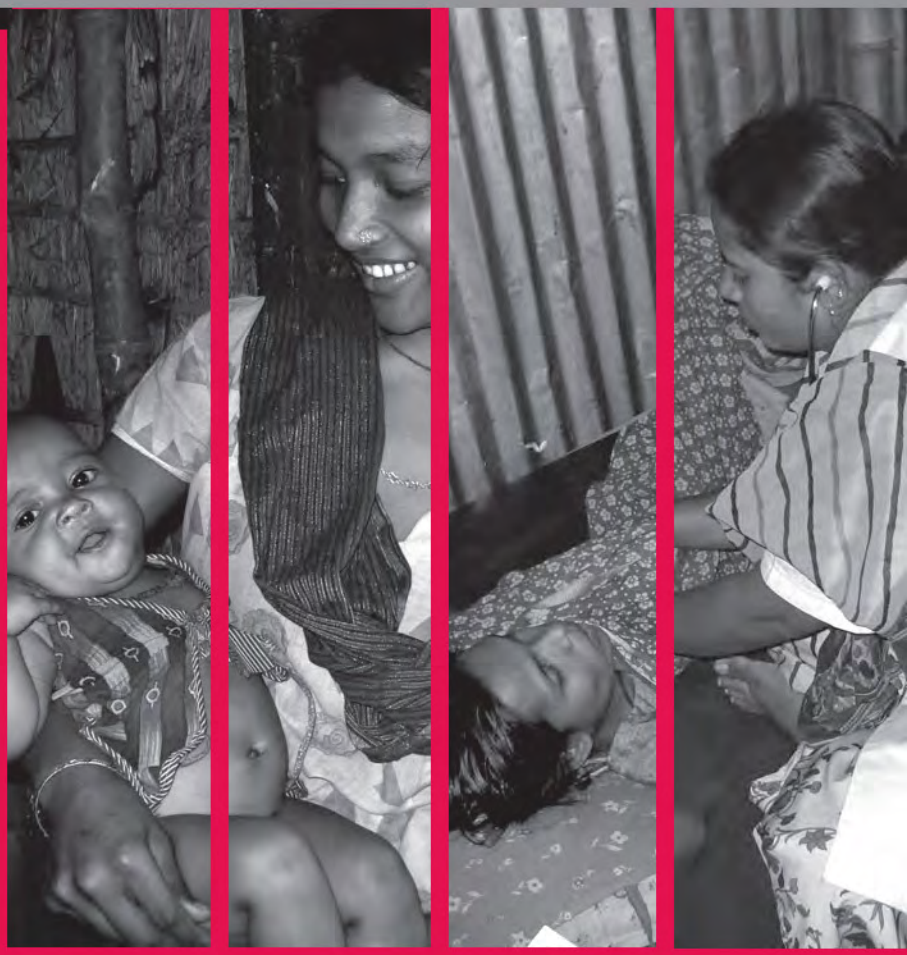
No. 02 June 2009

MANOSHI
working paper

Mapping the Healthcare-Market for MNCH Care

The Case of Providers and Facilities in *Korail* Slum in Dhaka



Mohammad Awlad Hossain
Malay Kanti Mridha
Badrul Alam
Shahinur Nahar
Tasnuva Wahed

BRAC Research & Evaluation Division

icddr,b
KNOWLEDGE FOR GLOBAL LIFESAVING SOLUTIONS

Mapping the Healthcare-Market for MNCH Care

The Case of Providers and Facilities of *Korail* Slum in Dhaka

Mohammad Awlad Hossain
Malay Kanti Mridha
Badrul Alam
Shahinur Nahar
Tasnuva Wahed

June 2009

***MANOSHI* Working Paper Series**

No. 2

Published by

ICDDR,B

68 Shaheed Tajuddin Ahmed Sharani
Mohakhali, Dhaka 212, Bangladesh
Tel: +(880-2) 8860523-32, Fax: +(880-2) 8823116
Email: info@icddrb.org, Website: www.icddrb.org

BRAC

BRAC Centre, 75 Mohakhali
Dhaka 1212, Bangladesh
Tel: +(880-2) 9881256, Fax: +(880-2) 8823542
Email: brac@brac.net, Website: www.brac.net

Cover design by
Md. Abdur Razzaque
BRAC

ACKNOWLEDGEMENT

The Manoshi project is developed by BRAC to establish a community-based health programme targeted at reducing maternal, neonatal, and child, deaths and diseases in urban slums of Bangladesh. It is supported by the Bill and Melinda Gates Foundation's Community Health Solutions (CHS) initiative that aims at strengthening and leveraging community organizations and individuals to be proactive in community based interventions. This five-year project is led and implemented by BRAC. ICDDR,B, in collaboration with the Research and Evaluation Division (RED) of BRAC provide technical assistance to the project through research support. This project is guided by a Technical Advisory Committee and a Technical Management Committee.

BRAC and ICDDR,B would like to acknowledge the Bill and Melinda Gates Foundation for their continued support. We are grateful to all the researchers and programme team members for their unabated diligence and efforts. We want to extend our appreciation to all the respondents from the various communities for their wilful contributions and sincere commitment towards fulfilling this research endeavour.

We would like to acknowledge the contributions of Samira Choudhury and Zeeshan Rahman for helping to finalize the working papers.

Technical Advisory Committee

Dr. Abhay Bang
Director,
SEARCH,
India

Dr. Lynn Freedman
Director, Averting Maternal Death and Disability (AVDD)
Columbia University, USA

Dr. Jon Rohde
South Africa

Ms. Julienne Hayes Smith
Advisor/Trainer
CARITAS CH-NFP, Safe Motherhood Project, Bangladesh

Dr. Abbas Uddin Bhuiya
Senior Social Scientist & Head
Social & Behavioural Sciences Unit
ICDDR,B, Bangladesh

Prof. Sameena Chowdhury
Professor and Head of Department
Obstetrics and Gynecology
Institute of Child and Mother Health, Bangladesh

Prof. Mohammod Shahidullah
Pro-Vice Chancellor (Admin.) and Chairman
Dept. of Neonatology, BSMMU, Bangladesh

Dr. Zafrullah Chowdhury
Trustee Member
Gono Shasthaya Kendra,
Bangladesh

Mr. Faruque Ahmed
Director,
Health Programme, BRAC,
Bangladesh

Dr. Kaosar Afsana
Associate Director,
Health Programme, BRAC, Bangladesh

Technical Management Committee

Dr. Abbas Uddin Bhuiya
Senior Social Scientist & Head,
Social & Behavioural Sciences Unit
ICDDR,B, Bangladesh

Dr. Peter Kim Streatfield
Head,
Health & Demographic Surveillance Unit,
ICDDR,B, Bangladesh

Dr. Shams El Arifeen
Senior Scientist
Child Health Unit, ICDDR,B, Bangladesh

Dr. Mahbub-E-Elahi Khan Chowdhury
Scientist
Reproductive Health Unit, ICDDR,B, Bangladesh

Dr. Hilary Standing
Visiting Professor and Adjunct Scientist,
ICDDR,B and Fellow, IDS, University of Sussex, UK

Mr. Faruque Ahmed
Director,
Health Programme, BRAC,
Bangladesh

Dr. Kaosar Afsana
Associate Director,
Health Programme, BRAC, Bangladesh

Dr. Syed Masud Ahmed
Research Co-ordinator
Research and Evaluation Division
BRAC, Bangladesh

Dr. Hashima-e-Nasreen
Senior Research Fellow
Research and Evaluation Division, BRAC,
Bangladesh

TABLE OF CONTENTS

EXECUTIVE SUMMARY

In Bangladesh, it is seen that both formal and informal health care providers play an important role in managing pregnancy related conditions as well as illnesses of the neonates and children. This study aims to map the existing health care providers and facilities related to maternal, neonatal and child health services available in *Korail* slum of Dhaka city and to understand the practices of providers regarding different aspects of the MNCH care. Both qualitative and quantitative methods were applied to collect data.

Findings reveal that a wide range of health care providers of both formal and informal sectors are the main providers of MNCH-related services in *Korail* slum besides some tertiary facilities in the for-profit and not-for-profit private sectors. The study identified seven categories of providers who are involved in providing MNCH services in the slum areas. These categories include qualified private allopathic doctors (MBBS), paramedics, unqualified allopathic practitioners (*Palli Chikithshak),* homeopaths, community health workers (SS/SK/SP), Traditional birth attendants/*dais* (TBA) and faith healers (e.g. *huzur, bhandari).* Though practices vary from categories these providers play an important role on managing pregnancy related ailments, neonatal and child complications.

Data shows that unqualified and semi-qualified practitioners such as *Palli Chikithshak*, homeopaths, faith healers, CHWs and TBAs are found to be the primary source for managing any complications of mothers, neonates and children. Though *Palli Chikithshak,* homeopaths and faith healers do not conduct delivery directly, in many cases they are called on by TBAs to accelerate the pain during childbirth. It is common practice among *Palli Chikithshaks* to push intra venous (IV) saline and injection to accelerate delivery. Likewise, homeopaths provide homeopathy medicine for prolonged or obstructed labour, while faith healers treat with holy water, holy verses, amulet, and medicinal plants. Data also reveals that some unqualified and semi-qualified providers who deal with complications such as eclampsia, bleeding, retained placenta, prolonged labour, obstructed labour, malpresentation of foetus, are involved in harmful practices. In addition, some neonatal and child complications such as birth

asphyxia, inability to suckle, and low birthweight (LBW) are treated by some unqualified providers. In most cases, they apply harmful practices. Unqualified and semi-qualified providers seem to delay in referring mothers and children with complications, who require immediate referral to qualified doctors or hospitals. On the other hand, the providers who have formal and semi-formal training are found to provide slightly rational management of complications. Moreover, some of these providers influence the utilization of professional care.

Lack of money, unavailability of transport, distance and misbehaviour of doctors/nurses are reported to be the major barriers for non-referrals. Providers as well as community members are seen to take initiatives to overcome the referral problems by arranging money, transport and accompanying the patients. Lack of training and instruments, superstition, and insufficient support from the support organizations are found to be the main problems of the providers. An integrated initiative should be taken to ensure rationale practices in MNCH by the different types of health care providers in the slum.

INTRODUCTION

Bangladesh has shown impressive improvements in health over the past 30 years; there has been a steady decline in maternal mortality ratio (MMR), infant mortality rate (IMR) and under five child mortality rate (CMR) over the decades, following independence, in 1971 (NIPORT, ORC Macro, JHU and ICDDR,B 2003; NIPORT, Mitra and Associates and Macro International 2009). Currently, the MMR stands at 322 per 100,000 live births (BMMS 2001). Even then, Bangladesh is one of the 13 countries in the world that account for 67% of all maternal deaths, globally.

In Bangladesh, 60% of the pregnant women receive at least one antenatal care visit from a medically trained provider while only 18% of childbirths are attended by skilled providers (NIPORT, Mitra and Associates and Macro International 2009). The rest are tended to by various categories of alternate, non-medically trained providers. The condition in the urban slums is worse than the non-slum areas with respect to ANC visits to medically trained providers (62% vs. 85%), deliveries at a facility (12% vs. 46%), and skilled assistance at deliveries (18% vs. 56%) (NIPORT, MEASURE Evaluation, ICDDR, B and ACPR 2008).

BRAC has recently initiated a community based health intervention called "*Manoshi*" to reduce maternal, neonatal and child mortality and morbidity in the urban slums of Bangladesh (BRAC 2006). Through this initiative, BRAC will provide services to eight million poor people living in urban slums. The intervention includes selection and capacity development of community health workers and alternate health care providers, establishment of birthing huts, provisions for health services, an effective referral system of cases with complications, a sustainable mechanism for health care financing and provisions for safety nets, community empowerment, and inter-sectoral collaborations (BRAC 2006). During the inception phase of the intervention, a number of formative researches were done to understand the context of programme implementation, and develop and fine-tune programme components. This paper reports on the locally available healthcare providers and facilities delivering MNCH-related services to the slum community.

OBJECTIVES

The main aim of this study is to explore the health care market for MNCH care in a selected urban slum of Dhaka City Corporation.

More specifically, the study aims to:

- Identify the health care providers and health care facilities (formal, informal, public, private, NGO) providing maternal, neonatal, and child health (MNCH) services in a selected slum (*Korail*) of Dhaka City Corporation
- Document the availability of MNCH services including staff composition, skill-mix, equipments and other logistics in the identified facilities
- Document MNCH care practices from the providers' perspectives

METHODOLOGY

Study Area

The study was conducted in *Korail* slum of Gulshan Thana under Dhaka City Corporation where BRAC has been operating its Maternal, Neonatal and Child Health (MNCH) programme, *Manoshi*. The study area was conveniently selected given its proximity to the BRAC Centre and opportunity for frequent, intensive data collection rounds at any time of the day as needed.

Study Population

The data was collected from the health care providers working in the slum area. The providers comprised community health workers (CHWs) such *as Shasthya Shebikas* (SSs), *Shasthya Kormis* (SKs), Urban Birth Attendants (UBAs), Traditional Birth Attendants (TBAs), informal health care providers (e.g. *Kabiraz*, *Palli Chikithshaks* or *PCs*) and formal health care providers (e.g. paramedics and MBBS doctors). Data were also collected from health facilities, community people including pregnant or lactating mothers, family members of the mothers, and community leaders.

Methods and Respondents

The study adopted a variety of qualitative and quantitative research techniques including listing, health resource mapping, semi-structured interviews, in-depth interviews, and informal group discussions (see table A below).

Listing

The team conducted a listing exercise to identify all healthcare providers and facilities providing health services for mothers, neonates and children (<5 years) in the slum. A structured questionnaire was used for collecting data. Initially, field researchers identified key informants through informal discussions with community members. Then, a snowball technique was applied to identify more key informants: once a key informant was interviewed, he or she was asked to name new key informants who could provide more information about the health care providers and facilities located in the slum. Field researchers also visited all kinds of healthcare facilities, institutions and providers' cooperative (*somity)* available in and/ outside the slum to list the healthcare providers who were providing healthcare services inside the particular slum.

Table A: Methods and respondents/facilities

Sl No.	***Methods***	***Respondents/Facilities***
1	Listings (N=67)	45 community members (5 pregnant mothers, 16 lactating mothers, 24 family members of pregnant and lactating mothers) 22 healthcare providers (15 *dais*, one homeopath, five *Palli Chikithshak*, and one BRAC *SS*)
2	Health resource mapping (N=1)	9 males and 7 females
3	In-depth interviews (N=17)	4 *Palli chikithshaks (PCs)*, 4 *dais*, 1 *Kabiraj*, 1 *Huzur*, 2 Homeopaths, 2 MBBS doctors, 2 Paramedics, 1 BRAC *SK*
4	FGDs (N=5)	14 *dais*, 13 Trained TBAs, 5 BRAC SSs
5	Inventory (Facility audit)	Key responsible persons (e.g., managers)

People provided information about the providers' name in different ways (e.g. nick name, family name, title). Cross-checking was required to avoid duplication. Hence the field researchers visited all the providers at their places of treatment or

at their homes. Compilation of the listing was done simultaneously using a spreadsheet alongside the inventory of health care providers. The list of HCPs was updated daily and provided to the field researchers for proper identification. Compilation of the inventory data produced a final list of all health care providers working in *Korail* slum. A total of 67 listings were conducted in *Korail* slum, 45 with community members and 22 with different types of healthcare providers.

Health Resource Mapping

One health resource mapping exercise was done using the Participatory Rural Appraisal (PRA) to identify the location of the popular healthcare providers and facilities available in the slum areas (see Annex II). The popular providers were those most commonly mentioned by the key informants during listing. Different groups of people from every corner of the slum were invited on the day before the session to participate in the PRA session. Initially, the mapping was done on a big plain sheet of paper which was then transcribed to a small sheet by the field researchers.

Qualitative Interviews (FGDs and IDIs)

In-depth interviews were carried out with different types of healthcare providers (formal/ informal and public/private) to explore care practices, referral practices and recommendations for improving existing MNCH services. A total of 17 in-depth interviews were conducted. Five focus group discussions (FGDs) were held with the outreach health workers of different facilities and NGOs working in the *Korail* slum to discuss the issues raised in the in-depth interviews. A common checklist was used for both in-depth interviews and FGDs. The FGDs were carried out at suitably scheduled sites in study participants' home or facilities, with 4 to 9 participating in each session. One moderator conducted the session following a checklist and one note taker took note of the discussions. Each session lasted for one to one and a half hours. The note taker transcribed the notes the same day.

Facility Audit

Nineteen referral facilities were identified through the listing exercise, in-depth interviews, and focus group discussions. Facility audits were carried out in 17 of these (two refused any audits) to explore human resources, service provisions, physical environment, equipment, supplies and logistics at the referral facilities,

through a structured questionnaire. The key responsible persons (e.g. director, manager) at the facility provided us with the information.

Data Collection

A multidisciplinary team of field researchers and research assistants from BRAC and ICDDR,B was deployed to collect qualitative and quantitative data. The team comprised of nutritionists, anthropologists, general graduates and medical doctors. The team was trained for three days on data collection techniques, prior to deployment to the field. The research tools were finalized after pre-testing outside *Korail* slum. The data collection took place during February to April 2007. The field work was monitored and supervised by senior researchers from BRAC and ICDDR,B.

Data Processing and Analysis

Under the close supervision of the researchers, facility audit data were manually checked and edited for completeness and consistency, and then coded for computer entry using SPSSWIN version 11.0. The computer outputs were checked for errors, and thus all data sets were cleaned before analysis. The listing data were entered and analyzed by Excel. Qualitative data were transcribed and verified for accuracy and consistency. Data were then thematically coded according to the research objectives. Coded data were compiled and summarized prior to manual analysis using content analysis techniques. In addition, the narratives of the respondents were presented under each theme.

RESULTS

Healthcare Providers and Facilities in *Korail*

The healthcare providers and facilities are shown in Tables B & C respectively. The most common providers were trained and untrained birth attendants (n=56), SSs of BRAC (n=41) and allopathic drug sellers/PCs (n=35). (Table B). On the other hand, trained doctors and midwives were only available in large numbers in public facilities compared to other types of facilities (Table C). The NGOs

included Marie Stopes, Urban Primary Healthcare Project through UTPS, BRAC, Intervida, Sathi Nagorik Kallyan Somity, Gulshan Rotary Welfare Centre, Bangla-German Friendship Organization, Dustho Shasthya Kendra (DSK) and medical teams from medical colleges. Despite the presence of many NGOs, only five had offices or setups inside the slum while the rest were operating from outside the slum. BRAC "Birthing Huts" (birthing centres) were the only facilities dedicated to delivery. The four public sector facilities comprised of an urban development centre of Dhaka City Corporation and three EPI centres. No private clinics were found.

Table B: Healthcare providers (HCPs) by type in *Korail* Slum

Type of providers	***Number of HCPs***
MBBS	12
Paramedics	2
Allopathic drug sellers/*Palli Chikithshaks* (PCs)	35
Homeopath	7
TBA/TTBA	56
BRAC UBA	9
Shasthyo Shebika (*SS*) of BRAC	41
Shasthya Kormi (*SK*) of BRAC	4
Faith healers (Huzur/bhandari/Kabiraz)	11
Outreach workers of others NGOs (e.g. field officer)	11
TBA & faith healer (mixed)	1
Palli Chikithshak and homeopaths (mixed)	2
Total	**191**

Table C: Distributions of maternal health care providers by type of facilities

Type of facilities► Human resources ▼	***Public sector (Government) n=2***	***Private (Not-for-profit) sector n=10***	***Private (For-profit) sector n=5***	***Total n=17***
EOC (Doc)[1]	51	69	21	141
Anes (Doc)[2]	13	15	13	41
NEOC (Doc)[3]	25	30	16	70

EOC (Nurse)[4]	4	22	36	62
Other nurses	117	248	41	406
FWV/senior FWV/ Mid wife	31	60	0	91
Medical Assistants /Paramedics	0	8	0	8

1 EOC (Doc): Doctors with degree or training on Gynaecology and Obstetrics; 2 Anes (Doc): Doctors with degree or training on anaesthesiology; 3 NEOC (Doc): Doctors without degree or training on Gynaecology and Obstetrics; 4 EOC (Nurse): Nurses with training on comprehensive EOC

Practices of Health Care Providers (HCPs)

This section presents practices of all kinds of providers in terms of antenatal care, delivery, management of delivery complications, postnatal care, management of post natal complications, and management of neonatal and child complications.

MBBS Doctors

Antenatal Care

MBBS doctors said that pregnant women come to them when they suffer from vomiting, loss of appetite, bleeding/haemorrhage, oedema, high blood pressure, eclampsia, headache and fever. One doctor who specializes in gynaecology said that some pregnant women from slum areas come to her for routine checkups. Other said that women talk to one another about the care they receive, and this leads more women to come for ANC.

MBBS doctors said that they give pregnant women advice on safe delivery; advising they not do heavy work and inform them about membrane ruptures *(pani bhanga).* One MBBS doctor said that he explains to each woman the problems that might take place if the delivery is conducted at home and aSKs them to go to a government hospital (e.g. Dhaka Medical College (DMCH)) or any private clinic for delivery. They felt that women have increasing awareness of safe delivery.

Delivery and Complications

None of the doctors in the slum conduct deliveries; they said that they refer patients to facilities for safe delivery. In addition, they provide treatment to the mothers according to the programme if the conditions are manageable by them.

The male MBBS doctor said that he does not treat if a woman seeks his care when she has prolonged labour. *"In that case, I try to send them to the clinics"*, he said. Another female doctor reported that although she sees few cases of stillbirth, when such cases occur, she immediately refers them to Dhaka Medical College Hospital.

Although none of the doctors reported performing abortions, they said that they have some patients with complications following abortions. Often these complications are the result of abortions carried out by unskilled providers.

> *"I know a paramedic at Mohakhali who frequently conducts abortions. In most cases, she can't stop the bleeding. Then, patients come to me having bleeding problems and I provide them with treatment"*
>
> (Female MBBS doctor)

One male MBBS doctor said that he provides medicine and IV saline to patients who have bleeding after conducting abortions. One female doctor said that she advises women not to have abortions. She said,

> *"If I find any mother of 3-4 months of pregnancy, I forbid her not to conduct abortion. If she has first pregnancy, I make her understand that she should not spoil her first child"*

Postnatal Care

The MBBS doctors said that women do come to them after delivery if they have complications. Most of the mothers who visit after delivery have foul smelling discharge and bleeding. They said that they normally treat patients with foul smelling discharge, but refer women with haemorrhage to a gynaecologist or to DMCH.

Neonatal and Child Care

One female MBBS doctor reported that children having breathing problems come to her. A Male MBBS said that neonates and children are brought to him with common cold, fever, malnutrition, low birthweight and ARI. He provides treatment for all the above-mentioned diseases, but refers children with acute pneumonia. He also said that some children are brought to him if they are unable to suck: "I provide them medicine and they are cured within three days."

Paramedics

Antenatal Care

Paramedics who work in *Korail* as part of NGO programmes do not visit pregnant women, rather the women come to the NGO clinic. Both UPHCP and Marie Stopes have deployed workers who regularly visit mothers at home and ask if they have health problems. If they find a mother suffering from problems, they encourage her to visit the clinic. One paramedic talked about how their field workers conduct ANC at mother's home:

> *"We have three field workers in Korail. They visit 20 pregnant mothers daily. They also distribute registration cards to the mothers. They arrange courtyard meetings with pregnant mothers. In the meeting they encourage mothers to come to the clinic for check-up"*

They mentioned that if they find any women who have not menstruated for two and a half months, they do a urine test to check for pregnancy. *"If we are sure that she is pregnant, we give her iron and vitamin tablets from our clinics"*, said a paramedic.

The paramedics mentioned that in *Korail* slum the main problems women face in pregnancy are anaemia, headache, fever, weakness, high blood pressure, bleeding, vomiting, and loss of appetite. They reported that many pregnant women visit them to know the position of the baby, though women also visit them for regular routine checkups. They reported treating mainly moderate fevers, high pressures, headaches, and referring for serious problems. However, mothers having bleeding during pregnancy are given medicine.

Specific situations that lead to referral, at least for one paramedic, are oedema, high blood pressure and convulsion during pregnancy. Again, such mothers are referred to the nearest clinic operated by their NGO.

Paramedics advise pregnant women. In particular, they ask women to move carefully, to take TT vaccine, not to take uncooked salt *(kacha lobon)*, to keep their legs on a pillow, to consume good foods (milk, egg, fish, meat, vegetables etc.), to rest, not to do heavy work, to drink water and to have an ultra sonogram.

They also suggest the women not take any unrelated medicines during pregnancy as it may harm the foetus,

> *"Pregnant mothers are not allowed to consume all kinds of medicines, because many medicines can impair both mother and child. No medicine can favour mother until she becomes 5-6 months of pregnant"*

(This paramedic said that if she realizes the fever is normal, she does not provide any medicine)

Childbirth

Like the MBBS doctors, the paramedics do not conduct deliveries in *Korail*, because there are no arrangements for deliveries, there. If pregnant women come to them for delivery, they refer them to the closest facility their NGO operates.

The paramedics said that they do not conduct abortions, but some women come to them for that. One paramedic said,

> *"I know how to conduct abortions. But it is not allowed here. We haven't set up for conducting them. So, we don't conduct it"*

However, they also reported that some patients come to them with complications after abortions, particularly abdominal pain and bleeding. The paramedics advise these women to have ultra sonogram to determine whether any fragments remain inside, *"If any fragment is found then I again advise her to visit a clinic to do D&C (dilation and curettage)"*. Another paramedic said, *"I give her antibiotics. Also, vitamin and iron tablets are given as the woman becomes weak after abortion"*. One paramedic of UTPS said although she does not perform abortions, she sends such women to the UTPS clinic at Mohakhali. These paramedics said that they do not refer mothers if they are more than ten weeks pregnant. If a woman is more than ten weeks pregnant, they provide counselling that she should not kill her child.

Post natal care

Paramedics mentioned that haemorrhage and tearing of uterus (*jorau chhire jai)* are the two common problems that many mothers have after delivery. Mothers come to the NGO clinics available in the slum area for treating these problems. Paramedics can treat the problems. They provide the mothers vitamins and iron tablets. They also can perform stitching of birth canal tears.

> *"Many deliveries are conducted here by untrained dais. Mothers and family members don't follow our advice. As a result, these dais harm the uterus. In many cases, the placenta goes down. In this situation some mothers come to us. We deal with the normal cases. In case of severity we refer them to Mohakhali (Marie Stopes clinics)"*
>
> (Paramedic)

Neonates and Children

The paramedics said that the common health problems of neonates are common cold, breathing problem, pneumonia, measles, fever, cough and unable to suckle. Besides these, diarrhoea, low birthweight, malnutrition is common. One paramedic said that they do not visit any neonate at home rather they ask a health promoter (HP) to visit the neonates at home. HPs visit neonates to investigate whether they have any infection in the cord. They give a report to the paramedics mentioning the problems of the neonates. Sometimes paramedics ask the HPs to bring the neonates to the clinics. She also mentioned that usually she provides the first dose of treatment to the neonates for common colds, breathing problems, ARI, fevers, measles, and coughs. In addition to these diseases, they provide treatment for unable to suckle, in that case, they advice the mothers to breastfeed more and more. One of the paramedics reported:

> *"If we find neonates and children suffering from common colds, breathing problems or pneumonia we only give them primary treatment and then we refer them to the Shishu Hospital."*

She said, *"I don't provide any treatment of any disease on which I haven't received any training, or for which a facility is not available. Here in our clinic we don't provide treatment for acute fever, pneumonia, acute* diar*rhoea, low birthweight or malnutrition. In those situations, it is urgent to provide health service and that is why we refer the patients to the hospitals".* She added that she did not find any neonates there having birth asphyxia.

Another paramedic mentioned that she does not provide any treatment to any neonates. To provide treatment to a neonate is a risky job. She does not take the risk. She sends the neonates to a Marie Stopes clinic.

The paramedics were also asked whether they provide treatment for children (1 month to 5 years). They mentioned that fever, cold, cough, worm infection, diarrhoea, pneumonia and jaundice are the common health problems of the children. One paramedic said that she provides primary treatment for the aforementioned diseases. In cases of severity, she refers the children to Shishu Hospital or private clinics. Another paramedic said that she usually does not provide any treatment for children either; rather, she refers them to the clinics.

Allopathic Drug Sellers (Palli Chikithshaks (PCs))

Antenatal Care

According to all PCs who were interviewed, some pregnant mothers come to them for health problems during pregnancy. These problems include weakness, vertigo, vomiting, oedema, eclampsia, high blood pressure, scabies in the vagina, fever, and convulsion. Most of the PCs mentioned that they not only provide treatment to the mothers but also they give some suggestions when they visit them during pregnancy. They usually advise the mothers on food and lifestyle. They urge the pregnant women to take plenty of vegetables such as pumpkin, to drink plenty of water, and so that they may prevent jaundice to drink coconut water. Two out of four PCs mentioned that they tell the mothers to take proper rest, to walk slowly, and not to do heavy work. One PC tells mothers to take medicines regularly. He said, *"Taking medicine regularly saves mothers and babies from the diseases"*. All PCs reported that they give treatment for fever, providing "Napa", or "Paracetamol" tablets. One PC mentioned that he never gives medicines until the fever is more than 100^0C. Two PCs disclosed that they give treatments for convulsions. They reported their practices regarding treatment of convulsions saying,

> *"I give a sleeping injection and IV saline for managing of convulsions. If she (pregnant mother) has 3-5 convulsions then I refer her to the hospital"*
>
> *"I give treatment for normal convulsions. I massage hands and legs of pregnant mothers"*

One PC said that he gives treatment for bleeding during pregnancy. *"I give ciprocine and memerzin for the bleeding during pregnancy"*, he said. Three PCs give primary treatment for eclampsia. On the other hand, one PC gives

"Butapen" tablets for stomach pain. Besides these, PCs provide treatment for some common diseases like dysentery.

PCs reported that they also refer the pregnant mothers for excessive bleeding and severe convulsions (eclampsia), excessive fevers and headaches. They believe that these complications are signs of complicated delivery. As a result they refer them to the hospitals. Two *Palli Chikithshaks* reported,

> *"If I observe any severity, I don't provide treatment. I can't give treatment for severe cases"*

> *"If I see pregnant mothers having an oedema or convulsion, I don't provide treatment for them. It is difficult to cure them"*

Childbirth

It is common practice of *Palli Chikithshaks* that they do not conduct delivery but they encourage injections and IV saline to accelerate the pain during childbirth. Usually *dais* call on them to give injection.

> *"I give IV saline if I see the uterus is not opening and water does not break during pain"*

Another PC said that he gives IV saline when a pregnant mother has excessive bleeding during childbirth.

Management of Delivery Complications

PCs reported some complications that are seen during childbirth. These are prolonged labour, mouth of uterus does not open and water does not break. It is common that initially they give IV saline for these complications. One PC said that he tells the mother to drink hot milk to accelerate pain. But they refer the mothers when they see these complications are prevailing for 12 to13 hours. In contrast, PCs refer mothers without any delay for some complications such as cord around the neck and obstructed labour. One PC disclosed that he never does anything if mothers have diabetes, convulsions and excessive bleeding. For these complications, he predominantly refers them to Dhaka Medical College Hospital, Metropolitan Hospital, Marie Stopes clinics, Asian Hospital or private doctors.

Stillbirth is reported to be one of the major complications of childbirth. Three out of four PCs said that they do not conduct stillbirth but in some cases *dai*s call them to use injections for delivery. In contrast, the fourth PC said that he conducts stillbirth by using medicine. All PCs advise mothers to take vitamin, milk, eggs and livers. Two PCs mentioned that they do not encourage injections if the mother is sick. In that case, they refer the mothers to DMCH or Azimpur Maternity Clinic. All PCs reported that they do not conduct MRs. Initially, they try to motivate mothers not to conduct MRs. If mothers cannot be motivated they mainly refer them to the Marie Stopes clinics. In some cases, they provide mothers medicine after conducting MR. *"If mother seems to be weak after conducting MR, I provide them with saline"*, said a *Palli Chikithshak.* According to PCs, some *kabiraz* and *dais* conduct MR using herbal medicine and in many cases the uterus gets infected. Then they do not provide any treatment, and they immediately refer mothers to DMCH or private gynaecologists.

Postnatal Care

It is reported that mothers initially visit *Palli Chikithshaks* for postpartum complications. The common complications the mothers have after delivery are foul smelling discharge, lower abdominal pain and bleeding. PCs tend to provide primary treatment for the aforementioned problems. *"If I find foul smelling discharge with stomach pain of a mother after delivery, I provide her medicine"*, said a *Palli Chikithshak.* They do not provide any treatment for severe cases of these problems, but rather they send them to hospitals or gynaecologists. In addition to these ailments, they refer the mothers for inversion of uterus and infections in the vagina.

Neonatal and Child Care

All the PCs mentioned that fevers, coughs, colds, pneumonia, jaundice, breathing problems (birth asphyxia), rashes, scabies, diarrhoea and measles are the common diseases of neonates and children. Two PCs mentioned that some neonates come to them when they are unable to suckle. *Palli Chikithshaks* are the first contacts for any neonatal and child complications. All PCs give medicines for fevers, coughs and colds, and pneumonia. One PC gives vitamins for the baby with low birthweight. Two PCs disclosed that they give *sinkara*, iron tablets and multi vitamin tablets to the mothers whose babies have low birthweight. All PCs give oral saline for children's diarrhoea. For severe conditions of pneumonia, breathing problems, jaundice, fevers and diarrhoea, PCs refer the neonates

without delays to the Shishu Hospital, Mother and Child Clinic or any other private clinics. *"If pneumonia is severe or continue for fifteen days, I refer the baby to the Shishu Hospital"*. Another PC said, *"I can't give treatment for birth asphyxia. I don't know how to deal with it. Instead, I send them to the hospital"*.

Community Health Workers (Shasthya Shebikas and Shasthya Kormis)

Antenatal care

Shasthya Shebikas (SSs) provide counseling to the pregnant mothers at home. Every day, each SS visits 10 households around her catchment area where she may find pregnant mothers. SSs do not provide any treatment to the mothers, but they offer advice related to safe delivery practices. They tell the mothers to come to the centre (birthing hut) for safe delivery. They also arrange courtyard meetings with the mothers. SKs said that they check up on the pregnant mothers at home. Both SSs and SKs mentioned that oedema, jaundice, anaemia, lower abdominal pain seem to be common health problems of pregnant mothers. But SSs admitted not providing any treatment for these problems.

Childbirth

Both SSs and SKs do not conduct deliveries. But SSs assist the UBAs (e.g. arrange threads and blades) during delivery. SKs mentioned that though they do not conduct deliveries they stay at the delivery centre during childbirth. They also said that they have to stay there as an immediate referral may be needed for any complications. Both SSs and SKs said that they find some complications during delivery which include bleeding, excessive fever and headache, prolonged labour (more than twelve hours), stillbirth, oedema, eaclampsia and retained placenta. In these cases, they do not let the mothers stay at the centre. They immediately refer them to Dhaka Medical College or Ad-din Hospital. One *SS* cited,

> *"If we see that the placenta is not coming out after twelve hours of delivery, we send the mother to the hospital"*

SSs and SKs also disclosed that they don't conduct stillbirth and MR. But some mothers come to them to consult with them regarding stillbirth and MR. *"If we observe that foetus does not move in the abdomen, we ask mothers to do ultra sonogram at clinics"*, said an *SS*. All SSs and SKs seem to provide advice

regarding MR. In most cases, they tell the mothers not to conduct MR. They believe that to conduct MR is a sin.

> *"To conduct a MR (bachcha fela) is a sin. I tell mothers that once you conduct a MR, you may not become pregnant later"*

> *"The baby who is coming is innocent. You should not commit a sin like MR. If you can't provide food for the baby give your baby to another family. Many people want a baby"*

Postnatal Care

SSs and SKs mentioned that they keep contact with mothers after delivery. SSs said that they visit mothers every day after delivery for two weeks. They also observe whether the baby is well. They ask mothers to take vitamin capsules within fourteen days, to drink plenty of water, and to keep the uterus dry and clean to prevent infections. They also advise mothers to adopt family planning methods after forty two days of delivery.

Neonatal Care

It is common that both SSs and SKs provide suggestions to the mothers regarding neonatal care. The common advice they provide for the neonates are *"not to cut the hair imme*diat*ely, feed breast milk for six months, to keep the baby warm, to give vaccination"*. SKs seem to do some examination of neonates such as weighing, examining for jaundice, cord infections, oozing from ears. SSs said that they can provide treatment for birth asphyxia, pneumonia and low birthweight.

> *"We provide treatment for pneumonia. At first we give cotrim tablet and syrup. If the baby is not cured within three days, we send the baby to the hospital"*

> *"Low birthweight babies should be kept in the* diaper*. It is like a warm cloth. Baby should be kept in it until he/she weighs two and a half kilograms"*

Child Care

All the SSs and SKs said that they give advice for the children (>5 years) as well. For the malnourished children they ask the mothers to give plenty of good food (vegetables, fish, meat, milk) to the children. SSs and SKs treat children for

common colds, coughs, fevers, eczemas, headaches, worms and anaemia. They also treat the children who suffer from diarrhoea. For diarrhoea they ask the mothers to give oral saline to the children. In case of severe diarrhoea, they send the baby to the hospital (ICDDR,B, Dhaka Hospital). They also refer if the baby has severe pneumonia, cord infection and weak.

Traditional Birth Attendants (Dais)

Antenatal care

Data revealed that in most cases family members or neighbours of the pregnant mothers usually come to *dais* and ask them to visit the would-be mothers. Some *dais* said that they usually visit the mothers on their own. Some pregnant mothers visit the *dai* to discuss pregnancy related problems. Others only give advice when called. The advice provided usually focuses on food, immunization, checkups, hygiene and relaxation. *Dais* ask the mothers to take plenty of good food (milk, eggs, vegetables, meats). They advise mothers on the importance of maintaining cleanliness, and *"not to do heavy work, doing routine checkups, and visiting doctors when needed"*. Most of the *dais* advise pregnant mothers not to have sex during pregnancy. Various *dais* reported,

> *"If I see mothers suffering from general weakness, I ask them to take iron tablets"*
>
> *"I ask mothers to maintain cleanliness. I also advise them to preserve clean cloths for the baby"*
>
> *"It is prohibited to have sex when a mother is seven months pregnant"*

When mothers come to them with health problems/complications such as oedema (*pani nama),*

> *"For oedema (pani nama) and vomiting, I tell mothers to eat muri (cereal of rice parched on hot sand), and to drink less water. When she is cured I ask her to drink lots of water so that she stays strong"*
>
> (A BRAC trained *dai*)

> *"If I find pregnant mothers have oedema (pani nama), I advise them to take fried salt and to keep legs on the pillow"*
>
> (A BRAC trained *dai*)

It is interesting to note that most of the untrained *dais* conduct some informal checkup during pregnancy. They mainly examine the position of the foetus and for this they apply some techniques.

> *"I rub water and oil on the abdomen of pregnant mothers to examine the position of the foetus. Sometimes foetus does not move. In that case, I place hands on the abdomen and can understand whether the foetus is positioned right way. If the abdomen enlarges day by day, then I can understand the foetus is all right. But if the abdomen is not enlarging I can understand the foetus has problems"*

An untrained *dai* said that she feeds mothers sour food such as lemon, tamarind etc. for high blood pressure. Another untrained *dai* disclosed that she asks mothers to buy medicine from the pharmacy for fever and headache. She also said that she advises mothers to use balm, to use water, and to take rest for headache and fever during pregnancy. Informal group discussions revealed that few *dais also* provide herbal medicines for headaches and fevers.

Referral for Antenatal Care

In-depth interviews and informal group discussions with the *dais* revealed that most of the trained *dais* and some untrained *dais* do not provide any treatment for any health problems during pregnancy. Rather, they tend to send pregnant mothers to *Palli Chikithshaks*, MBBS doctors, or to the nearest clinics and hospitals. *"We cannot provide treatment for bleeding and convulsion. Doctors can treat these complications. So, we refer mothers to the doctors"*, said a trained *dai*. Another untrained *dai* said that if she finds mothers having abdominal pain, loss of appetite, vomiting, she sends them to the clinics for check up.

Childbirth

Almost all *dais* (other than BRAC's) disclosed that relatives and family members of pregnant mothers come to them when labour pain begins. It is observed that the main responsibility of *dais* is to conduct normal delivery. Almost all trained *dais* including the recently trained BRAC's *dais* mentioned that they boiled the

blade and thread before conducting delivery but most of the untrained *dais* did not mention this practice. *Dais* were also asked about how they conduct normal delivery. Different processes have come out from the different groups of *dais.* In normal delivery, most of the untrained *dais* are seen to rub mustard oil on the abdomen. They believe that rubbing mustard oil in the abdomen would accelerate labour pain and would result in quick delivery. At first they try to understand the position of foetus, and if they find it in right position, then they attempt to conduct delivery. One of the trained *dais* expressed,

> *"I rub mustard oil when pain arises. In case of excessive pain, I place hands on the abdomen to understand whether the foetus is in the right position. In the normal position, first the head comes out. Then I hold the ears of the baby when it comes out of the uterus"*

In an informal group discussion, we find different practices for conducting normal delivery. One *dai* cited,

> *"At first I confirm the pain and the appropriate position of foetus. I also observe whether both mother and baby are giving pressure. Sometimes I ask mother to puff heavily in to a blank bottle so that pressure is produced. If I observe all the requirements are fulfilled then I hold the head by one hand and the chin by another hand and thus the baby comes out of the uterus"*

Another *dai* talked about her practice,

> *"I put cloths in front of uterus then give pressure by legs so that uterus is not torn"*

But a trained *dai* who worked at a medical college hospital for a long time and now retired disagreed with these practices. She said,

> *"It is not right to hold the head and the chin of a baby during delivery. Baby's brain can be hurt this way. As a result baby can be sick... We should hold the baby's ears softly. Mothers should be asked to give pressure"*

One *dai* said,

> *"Some dais asked mothers to puff in an empty bottle. For this reason mothers may become weak. Sometimes mothers' mouths are kept closed so that she can't shout. Many dais tie mothers' waist tightly. All these things are bad practices"*

One of the untrained *dais* mentioned:

> *"I cut my nails, wash my hands with soap and ask mothers to urinate before delivery. I also observe if water breaks. If I observe uterus is open three inches then I understand delivery would be in normal way. Otherwise it would be complicated"*

One *dai* who is also a *kabiraz* talked about her practice in this way:

> *"During labour pains, I give holy water, rub mustard oil on the abdomen and wait for increased pains. When pain rises, the mother gives pressure and the baby's head appears. I bring baby out from the uterus holding head with hands. Then I slowly bring out the cord making two and a half circles"*

Management of Complications during Childbirth

Almost all *dais* disclosed that they face some complications during pregnancy. Among them retained placenta *(gorvo phul ber na hoya)* is very common. Both trained and untrained *dais* apply some common techniques if the placenta delivery is delayed. They put hair in the mouth to make the mother vomit, shake mothers, feed water in which a Mariom flower brought from the holy city of Makkah is soaked, feed eggs, placing *jhalkanda* (an earthen stuff) on the head of mother and sometimes introduce fire in a spade (*kodal)* under placenta. One of the untrained *dais* said,

> *"If placenta takes time to come out, I put hand into uterus and bring out placenta gently with fingers. After a while, cord comes out and I bring it out holding it by two fingers"*

Some of BRAC's *dais* also advise breastfeeding the newborn for immediate discharge of the placenta. In an informal group discussion, one of the BRAC's *dais* said,

> *"Before attending training we used to give pressure and shake the abdomen for bringing out the placenta. But now we don't do that and have realized that those practices are harmful for the mothers"*

Most of the untrained *dais* mentioned that they not only manage the placenta related complications, but also managed prolonged, and obstructed labour at home. It is common that untrained *dais* call on *Palli Chikithshaks* to use injections or saline for the mothers in prolonged or obstructed labour. As one *dai* said,

> *"If the mouth of uterus is not open then we understand that the position of the baby is not right. In that case we call on Palli Chikithshaks to use injections to open the mouth of uterus"*

A few untrained *dais* call on *Palli Chikithshaks* to use injection on mothers and conduct delivery even though mothers have convulsions. Most of the untrained *dais* also deal with malpresentation *(bachcha ulta)* of the foetus such as breached presentation and hand prolapse. In these cases, *dais* apply oil to the hands and put hands into uterus to correct malposition of the foetus.

> *"If I observe the malpresentation of baby then I massage oil on the abdomen. When the pain accelerates I examine whether the position of the baby is correct with my fingers. If the position is wrong, then I use my fingers to correct the position"*

A few *dais* bring holy water and amulets from faith healers (*huzur).* They believe that prolonged, or obstructed labour occurs from *alga batash* and only faith healers can treat these problems. In an informal group discussion, BRAC's trained *dais* revealed that they also conduct delivery during obstructed or prolonged labour, but they conduct delivery when mothers have pain and the mouth of uterus is open. They said that they wait six and twelve hours for the new and old mothers respectively.

Most of the *dais* said that if they can recognize intra-uterine death and the mother has pain they try to deliver the baby. Few *dais* said that they try to increase labour pain for normal delivery by calling a *Palli Chikithshak* to use injection. Otherwise, they refer her to the hospital. Most of the *dais* including BRAC trained *dais* advise pregnant mothers not to abort the baby. *"It is the gift of God.*

Don't abort it", cited an untrained *dai*. If it is an emergency, they refer them to doctors. Marie Stopes is reported to be a popular referral facility for conducting abortions.

Referral for Complications

Both trained and untrained *dais* refer mothers for complications related to placenta delivery. Other complications for which the *Dais* refer the mothers include foetus seems to be hard in the abdomen, uterus does not open, baby has big head, water does not break, hand prolapsed, breech presentation, excessive bleeding, oedema, eclampsia, and convulsions. For these complications, they usually refer the mothers to Uttara Medical, Dhaka Medical College, Ad-din hospital and some private clinics near the slums.

Postnatal Care

It is common that *dais* spend some time with mothers and babies after delivery. When the baby is given to the mother after delivery, *dais* give some advice focusing on food and lifestyle. Almost all *dais* ask mothers to eat more food, take tea and fried rice (*muri*), drink hot milk, and eat regularly after delivery. One *dai* said, *"I ask mothers to get green banana (kacha kola). I also tell mothers to eat fried rice (muri) and to drink tea".*

Dais also talked about the health problems the mothers have in the postpartum period. These are excessive bleeding, convulsions, weakness, foul smelling discharge, menstrual pain, *batash laga* etc. Both trained and untrained *dais* tell mothers to apply heat over uterus and cord after delivery.

> *"Puerperal discharge (moyla pani) comes out from the uterus for forty days from the delivery day. It spreads a bad smell. I ask mothers to apply heat on the uterus so that dirty water can't come out"*
>
> (An untrained *dai* in an informal group discussion)

Most of the trained *dais* and some untrained *dais* advise mothers to take iron tablets, to use family planning methods after delivery.

Neonatal Care

It is common that both trained and untrained *dais* advise mothers to feed colostrum to the neonates, to keep the baby warm, not to work with cold water, to feed low birthweight neonates well and to how to breastfeed. One *dai* said,

> *"I ask mothers to feed colostrum (shal dud) to the baby. Because colostrum is helpful for the babies. It contains nutrition and cures the baby"*

But an untrained *dai* said,

> *" I tell mothers to throw away the first batch of colostrum (shal dud) then I ask them to feed baby the following batches. If mothers don't have enough milk I tell them to feed baby sugar-candy (misree)"*

Sometimes mothers do not have enough breast milk. In that case, *dais* ask mothers to press breast with hands to lactate. They also tell mothers to eat cat-fish (*shing and magur*) and to feed goat milk to the babies.

Cord Cutting and Caring

Regarding cord cutting, different groups of *dai* have different practices. One of the untrained *dais* said*, "At first threads are boiled in hot water. Then water is poured on the cord and cut".* Another untrained *dai* said that she does not cut the umbilical cord until the placenta comes out. Few *dais* wait from 10 to12 minutes from delivery and then cut the cord. They also said that if the baby seems to be sick, they do not cut the umbilical cord, but rather they wait until the baby is cured. On the other hand, trained *dais* said that if the baby is well they cut the umbilical cord half an hour after delivery. If the baby seems to be sick they wait for one to one and a half hour to cut the cord.

> "*I don't cut the cord until it is free of blood. In the winter season, I wipe the baby with rags (nakra). But in the summer, I arrange imme*dia*te bathing of the baby."*
>
> (A Trained *dai*)

Dais also provide cord care when they encounter complications. *"I massage oil on the cord and foment it when it seems to be wet"*, said an untrained *dai*. Boric

powder, penicillin with coconut oil and powder of goat dung (*chagoler bori*) are sprinkled on the cord. They believe that these substances make the cord dry.

Neonatal Complications

Both trained and untrained *dais* described some health problems of neonates as neonatal complications, which include birth asphyxia, unable to cry, low birthweight, pneumonia and excessive fever. Both the untrained and trained *dais* gives treatment for these problems. Here are two citations on what they are doing for birth asphyxia:

> *"If I find the baby can't breathe just after delivery, I move the baby and the placenta. I pour hot water in the placenta to return the breathing. Many times breathing goes into placenta. We don't have arrangements for oxygen. Sometimes I keep the baby on my feet. If the baby is cold, the blood may become frozen. I exercise the baby, shake it holding the legs and softly slap the baby"*
>
> (An untrained *dai* who is a *kabiraz* as well)

> *"If the baby does not cry, I slap the baby holding the legs. I keep a slight cloth on the mouth of the baby and puff air. Then the baby starts breathing again"*
>
> (A trained *dai*).

Apart from these complications, the untrained *dais* are also giving treatment for fever, cold, *alga batash*, diarrhoea, *pet fula* of the neonates. They use herbal medicine, holy water and oil, and chanting for treating such problems.

Referral for Neonatal Complications

It is common that trained *dais* including BRAC's trained *dais* don't provide any treatment for neonatal health problems or complications such as birth asphyxia, low birthweight, diarrhoea, excessive fever, inability to cry, pneumonia, cough, unable to suckle, weakness and jaundice. It is interesting to note that some untrained *dais* use to send the baby to the *village doctors* in their locality first, before sending them to any qualified doctors or health facilities. Sometimes, they directly refer the baby to private MBBS doctors, Dhaka Medical College

Hospital, Shishu Hospital, Ad-din Hospital, Marie Stopes clinics and Cholera Hospital (ICDDR,B)[1].

Childcare

It is a common practice that all *dais* advise mothers to feed oral saline to the babies when they have diarrhoea. Another *dai* who is also a *kabiraz* expressed, *"I provide herbal medicine to the children for diarrhoea, alga batash and excessive crying".* On the other hand, most of the *dais* said that they do not provide any treatment for the health problems of the children. If they find any child suffering from any illnesses such as asthma, pneumonia, cold, fever, low birthweight, inability to suckle, malnutrition etc. they advise them to visit MBBS doctors or go to hospitals.

Homeopaths

Antenatal Care

According to homeopaths, many pregnant women come to them with health complications such as vomiting, fever, lower abdominal pain, oedema, high blood pressure, headache, anaemia, bleeding and burning sensation. One untrained homeopath practitioner said that he provides treatment to the pregnant mothers with homeopathy drugs for all types of complications.

> *"When mothers are 8-9 months pregnant, I give them homeopathy medicine. This medicine helps the foetus to grow fully and helps the placenta to mature. As a result, mothers have normal delivery. No caesarean section is needed if mothers take this medicine"*

On the other hand, trained homeopathy practitioners provide treatment for fever, oedema and high blood pressure. The untrained homeopathy practitioner usually tries to provide treatment until the situation gets severe. However, trained homeopathy practitioner refers pregnant mothers to the hospitals, directly, for excessive bleeding and convulsion. DMCH, Azimpur Maternity Clinic and MCWCs are reported to be the common referral facilities where homeopaths refer the mothers for severe cases.

[1] Cholera Hospital is the common unofficial name for the ICDDR,B Dhaka Hospital. People refer to it as the cholera hospital because during the 1970s ICDDR,B was the only institution known to provide cholera treatment. The name has remained as a nickname since.

In-depth interviews with the homeopathy practitioners revealed that they also provide suggestions to the pregnant mothers when they visit them. These suggestions are focused on food and lifestyle. Practitioners advise mothers 5 to 6 months pregnant to eat more food especially to eat more vegetables, to move slowly, not to walk on slippery roads, to take proper rest, to sleep at a fixed time, not to sleep for a long time, not to carry heavy things and not to sit in the kitchen for a long time. It is noted that they ask mothers who are doing wage labour e.g., Garments industries to be on leave after eight months of pregnancy.

Childbirth and Complications

Similar to *Palli Chikithshaks,* homeopaths are called on by *dais* to speed up pain during childbirth. They provide homeopathy drugs.

> *"Sometimes mothers have irregular labour pain. I provide puria (homeopathy drug) for this. Labour pain rises within half an hour and then the delivery is conducted"*
>
> (An untrained homeopath)

He also said that in a few cases, the foetus is found to be malpositioned in the abdomen. He gives medicine and after eight to ten days the position of the foetus becomes normal. If not, he refers the mothers to the private doctors. But a trained homeopathy provider does not provide treatment for malposition of the baby, instead he sends mothers to the private MBBS doctors.

Another homeopath said that he does not give medicine for MR. But some women come to him after conducting MR from *kabiraz* and have some complications such as bleeding. In that case, he refers them to DMCH. It is also found that initially they motivate mothers not to conduct MR.

Postnatal Care and Complications

According to homeopaths, foul smelling discharge and bleeding are very common among mothers after delivery. Only untrained homeopath provides primary treatment with homeopathy medicine for these problems but trained homeopaths do not deal with these problems, but sends mothers to the hospital as soon as possible.

Neonatal and Childcare

According to homeopaths, neonates mostly suffer from measles, diarrhoea, vomiting, fever, birth asphyxia, cord infections, unable to suckle and inability to urinate. Data revealed that they provide treatment for all the aforementioned complications and they never refer the neonates for any complications. Homeopaths also mentioned that they provide treatment to the children for asthma, malnutrition, jaundice, pneumonia, unable to suck and diarrhoea. "I ask mothers to give oral saline for the children who have diarrhoea. Also, I give homeopathy medicine", said a homeopath. Similar to neonates, children are rarely referred to hospitals or private MBBS doctors by the homeopaths.

Faith Healers (Bhandari/Huzur)

Antenatal Care

Two in-depth interviews with the faith healers popularly known as a *bhandari* and a *huzur*, revealed that pregnant women come to them for *batash laga*, high-up foetus (*bachcha peter upore uthe jay)*, white discharge *(shada srab)*, waist pain, lower abdominal pain, oedema, high pressure, convulsion, headache and fever. The *Huzur* said that ninety per cent of his patients among pregnant mothers have white discharge. They believe that these ailments are caused by evil spirits. A *Bhandari* explained how *batash laga* occurs and its consequences,

> *"There are some special places in the slum such as temple. If pregnant mothers visit there they may have batash laga. Batash may appear in the guise of a dog or horse. As a result, they may have oedema (pani joma), breast engorgement (doodh ber hoy), burning sensation, bleeding,* diarrhoea, *headache and agitation"*

The qualitative data shows that faith healers tend to provide treatment such as holy water, *taga pora* and amulet for all health problems of pregnant women. *Huzurs* advise mothers not to eat hot and sour food, and to eat curry made of green banana (*kancha kola)*. He explains that *green banana* contains lots of vitamins and it cures deficiency of iron.

Childbirth

The faith healers said that they do not conduct deliveries but relatives and family members of pregnant mothers come to them when mothers have problems such as prolonged labour, decreased pain and bleeding during childbirth. The *huzurs*

provide amulets and the *bhandaris* provide *taga* and holy water for the above mentioned problems. The *bhandari* said,

> *"Some pregnant mothers come to me with prolonged labour. I give them holy water and ask them to spray it on the umbilicus and face. After a while delivery is conducted. If mothers are weak and have excessive bleeding, I provide them with a taga"*

Postnatal Care

Faith healers cited that mothers come to them with foul smelling discharge, weakness, anaemia, abdominal pain and bleeding after delivery. The *Bhandari* and *Huzur* provide treatment in their own ways,

> *"If mothers have abdominal pain after delivery, I ask them to fasten monamoni fruit wrapping with the rag of lungi. For white discharge after deliveries, I give them taga"* (Bhandari)

> *"Some mothers have bleeding after delivery. I give them holy water, holy oil and amulet and they are cured"* (Huzur)

Neonatal Care

Faith healers reported that they give treatment for some neonatal health problems such as jaundice, inability to suckle, fever, cough, low birthweight, excessive crying and *Jine dhora* (evil spirit). For fever and inability to suckle the *Bhandari* exorcises by chanting, and using the leaves of *idealali* tree. He gives juice of *tulshi* (basil) leaf for cough. On the other hand, the *huzur* said that he does provide treatment for excessive crying of neonates, he said,

> *"Babies cry excessively when they are affected by evil spirits (jine dora). I provide treatment for this. A rag is burned and is hung before the babies. After a while baby is cured.*

Child Care

Faith healers also provide treatment for children (>5 years). The common ailments they treat are diarrhoea, fever, pneumonia, convulsion, breathing problem, oral rash, loss of appetite, unable to suckle, excessive crying and abdominal distension. Most of the ailments are treated by holy water and amulet. But some ailments are managed by some specific methods.

> *"I give treatment for excessive crying. I write the names of Feraun, Namrud, Hamad, Abu Jahel, Iblish (These men are believed to be enemies of Islam) on a sheet of paper and I burn it. Then the baby is cured"* (Huzur)

> *"Sometimes baby can't suck breast milk. In that case, I collect two drops of breast milk from him/her mother. I keep the milk on a black stone or a sheet of paper. Then I examine if the milk has foul smell. If foul smell is found, I provide amulet to the mothers and babies start to suck"* (Bhandari)

Referral of Children with Complications

The Bhandari does not refer children with complications, but rather seeks to provide treatment by himself.

> *"Sometimes doctors can't cure the children, but I can cure them for any complications"*

Contrarily, the *huzur* refers the children in cases of severity. He commonly refers them to Shishu Hospital or any other private clinics close to the slums.

Problems Faced by Providers during Service Delivery

The problems varied according to type of provider. Most of the *dais* and *Palli Chikithshaks* mentioned a lack of training as the main obstacle to service delivery. For example, one *PC* said,

> *"We don't know how to deal with gynaecological complications"*

Similarly, a *dai* said,

> *"As I don't know many treatments for mothers and neonates, I can't provide them with the appropriate service"*

In contrast, MBBS doctors and paramedics did not think they needed further training. It is interesting to note that faith healers also believed that they did not seek further training. One of the faith healers said,

> *"Is there anything that I can't treat? I can provide treatment for every ailment. My process of treatment is different from others. I have nothing to learn"*

Equipment was another problem noted, particularly by *dais* and TBAs. Most of the untrained *dais* said that forceps, thread, blade, soap, injection, oil, antiseptic and rags are essential stuffs for conducting delivery but that in many cases family members cannot provide these instruments when needed. As a result, *dais* have to buy some instruments themselves. BRAC's trained *dais* said that they lack a box in which to keep their instruments and aprons.

Some SSs, trained and untrained *dais*, and BRAC's trained *dais* mentioned that sometimes their families object to their work. One *dai* said,

> *"My sons and daughters don't want to eat food made by me after conducting delivery. They abhor eating food I make"*

Superstition and lack of awareness of safe delivery among community people were also reported to be problems faced during service delivery.

Providers' Recommendations

Regarding improving maternal, neonatal and child health services in slum areas all types of providers had some suggestions.

- Most of the *dais*, SSs, SKs and *PCs* mentioned that they are lacking the appropriate knowledge on maternal and child health and as such, they can't give primary treatment for common complications. They suggested that BRAC should offer training to improve their capacities. They also recommended that regular refresher training should be conducted for providers. A few *dais* specified that the delivery process should be demonstrated in training so that they can have a real idea about safe delivery.

- In an informal discussion, BRAC SSs said that a full time MBBS doctor should be deployed at the BRAC delivery centre (birthing hut). They also recommended that immunization and family planning methods should be

offered from BRAC birthing huts so that mothers need not visit other facilities.

- Almost all the providers recommended that BRAC establish a modern hospital in *Korail* for mothers and children where fulltime doctors, nurses, and paramedics will be available. They expect that there should be all necessary logistics and supplies such as oxygen, medicines, a generator and ambulances.

- Regarding BRAC's current services, some *dais* said that BRAC should provide essential delivery related instruments such as forceps, hand gloves, blades, thread, soap, and antiseptic to all *dais* working in the slum.

- Some *Palli Chikithshaks* said that awareness on safe deliveries should be increased among the community people. According to them, home visits and dissemination of IEC materials could be used to increase awareness among community members. BRAC trained *dais* mentioned that family members should be given motivation to conduct deliveries at BRAC birthing huts.

- The need for financial support, particularly at referral facilities, was mentioned In addition, they suggested developing appropriate referral networks between local providers and these facilities.

- *Palli Chikithshaks* and *dais* said that the present number of field workers is insufficient to cover the entire slum area and recommended that agencies working to improve maternal and child health should deploy more field workers in slum areas. They also recommended that more female workers should be deployed to motivate women.

Higher Level Facilities where Patients are referred for Tertiary Care

We found 19 referral facilities cited by local health care providers in *Korail*. Of these 19 facilities, we were able to interview staff at 17 facilities which we explored to know about the human resources, service provision, and supplies and

logistics. Fifteen of the facilities contacted are private sector (ten not-for-profit and five for-profit) and two are public sector facilities.

Distribution of Maternal Healthcare Providers

Table B shows the number of health service providers offering maternal health care; doctors having at least 1 year of training on emergency obstetrics care (EOC) are available in Public (51), Private not-for-profit (69), and Private for-profit (21) health facilities. In addition, 41 doctors with at least one year of training on anaesthesia worked at these facilities. Nurses trained in EOC were available in all facilities, but the average number per facility was highest (7.2) in the private for-profit facilities. An average of 5.3 FWV/ Midwives are supposed to be available in each referral facility.

Availability of Maternal Health Services

Annex Table D lists the maternal health care services available in the referral facilities contacted. Excluding not-for-profit facilities, almost all facilities provide antenatal care, routine iron and folic acid supplementation advice, Tetanus toxoid immunization for mother, and advice on birth preparedness. Services that are not commonly provided include management of abortion related complications, and use of partograph. Active Management of Third Stage of Labour (AMTSL), manual removal of placenta, and blood transfusions are satisfactory except in not-for-profit private facilities. A majority of the not-for-profit facilities do not use Magnesium Sulphate in Eclampsia and do not offer deliveries (either vaginal or caesarean), or management of postnatal complications. Overall, 35.3 percent of the facilities are able to refer to higher level facilities for delivery care.

Availability of Neonatal Health Services

Although neonatal services were widely available at the public and for-profit facilities contacted, the majority of private non-profit facilities did not offer these services (Annex Table E).

Availability of Child Health Services

Annex Table F shows that the two government facilities offered all key services identified, except for MMR immunization. Private facilities were more variable. For-profit facilities were less likely to offer most immunizations but most of them offered treatment for severely malnourished children. On the other hand,

while most non-profits offered the recommended vaccinations, only 5 of 10 offered treatment of severely malnourished children.

Status of Infection Prevention
Although only 35% of all facilities interviewed had a standard IP protocol available, most infection prevention practices were reported by the public and private for-profit facilities. Not-for-profit private clinics underperformed in terms of waste disposal and half of them did not have a hand washing basin with an elbow tap (Annex Table G).

Availability of Equipment and Supplies
It is found that supplies and logistics needed for the maternal and neonatal health care services were available except fetoscope which is a very basic instrument for monitoring foetal condition at government facilities (Annex Table H). Private for -profit facilities had most of the equipments and supplies except fetoscope, magnesium sulphate and ambulance while most of the not-for-profit private facilities didn't have.

Barriers to Service Utilization at Facilities

Almost all the health care providers mentioned that they find some problems when they refer patients. Lack of money and transport, distance, and behaviour of doctors and nurses were commonly reported problems. Providers mentioned that although they have to refer the patients to the hospitals or clinics for complicated cases such as prolonged labour, eclampsia, and birth asphyxia, most of the slum dwellers cannot afford the cost of the facilities and/or of medicine prescribed. One of the *Palli Chikitsaks* said,

> *"There are many referral problems here. The main problem is money. Most of the people are poor here. They are unable to bear the cost of the treatment"*

Lack of transport in cases of emergency was another problem mentioned. Providers said that in many cases they cannot manage transport from the slum areas; they have to go to distant places to manage transport. Distance to good referral facilities was also noted as a hindrance.

> *"Many good facilities are situated far away. So, it takes a long time to bring patients to the hospitals"*

Lower level providers (those other than MBBS doctors and paramedics) mentioned that doctors, nurses and other staff at referral facilities behave badly towards poor people. They said that in some cases patients have to pay a bribe to the nurses or staff to get medicine, or even to take a serial number for consultation. One of the *Palli Chikitsaks* said,

> *"In many hospitals, aya and receptionist takes bribe from the patients to change the serial of the patients. Doctors at hospitals seem to act like butchers (koshai)"*

Some of the providers said that they try to help their patients to overcome referral problems. Many reported collecting money from the community and arranging transport. One A *dai* said,

> *"Many people can't go to hospital (referral centres) due to financial problems. In that situation, we collect money from the community people for them. Some days ago, we collected ten thousand taka for a poor woman"*

Some *dais* and a few *Palli Chikitsaks* mentioned that they not only arrange money for the poor, they also accompany them to the referral facilities, especially pregnant women. In some cases, this is done at the request of family members. In addition, some *Palli Chikitsaks* and paramedics and all MBBS doctors mentioned that they refer patients to nearby clinics or hospitals, and they suggest facilities where charges are low.

DISCUSSION

The Lancet Maternal Survival series identified three barriers related to scaling up of professional skilled care: lack of availability of services, poor quality of care and reluctance of accessing services by mothers (Koblinsky et al. 2006). The situation becomes worse when it is compounded by the dismal condition of the slum people in countries like Bangladesh (NIPORT, MEASURE Evaluation,

ICDDR,B, and ACPR 2008). However, the basic premise remains the same, without the ability to treat women with maternal complications, maternal mortality cannot be substantially reduced (Rosenfield et al. 2006). This study was carried out to address the first concern: to map the existing health care providers and facilities related to maternal, neonatal and child health services available in one of Dhaka's largest slum- *Korail* and practice of providers regarding different aspects of the MNCH care. The study also explored availability and quality of MNCH services at higher level (referral) facilities. Findings reveal that a wide range of health care providers from both formal and informal sectors are the main providers of MNCH-related services in *Korail* besides some tertiary facilities in the for-profit and not-for-profit private sectors.

The study identified seven categories of providers who are involved in providing MNCH services in the slum areas. These categories include unqualified allopathic practitioners (*Palli Chikitsaks)*, homeopaths, community health workers (SS/SK/SP), Traditional birth attendants/*dais* (TBA) and faith healers (e.g. *huzur, bhandari)*, besides qualified private allopathic doctors (MBBS) and paramedics. Though practices varied among the categories, these providers play an important role in managing pregnancy related ailments including neonatal and child complications. A similar experience is also reported by Justin *et al.* (2006)

While *Palli Chikitsaks*, homeopaths and faith healers were not found to conduct delivery directly, in many cases they are called on by TBAs to accelerate the pain during childbirth. It is common practice for *Palli Chikitsaks* to utilize IV saline and injection to induce delivery. Likewise, homeopaths provide homeopathy medicine for prolonged or obstructed labour, while faith healers treat whatever complications by sanctified water, chanting holy verses or giving amulets, and medicinal plants.

Similarly, some unqualified and semi-qualified providers are engaged in harmful practices and there are delayed referrals when immediate referral to qualified doctors or hospitals is required. On the other hand, the providers who have formal and semi-formal training are found to provide relatively rational management of complications. Some of these providers also influence the the type and level of utilization of professional care.

Lack of money, transport, distance and behaviour of doctors/nurses are reported to be major barriers for referral. Providers as well as community members are seen to take initiatives to overcome the referral problems by arranging money, transport and accompanying the patients. Lack of training and instruments, superstition, insufficient support and incentives from the organizations are found to be the main problems hindering delivery of services by the providers.

MANOSHI IMPLICATIONS

- There exists a variety of health care providers in *Korail* slum who provide MNCH-related services; the programme personnel need to take an inclusive approach to educate them about *Manoshi*
- Frequent interaction with the formal and informal providers and facilities/agencies is required to foster a concerted effort for MNCH care
- Knowledge gaps of the different providers should be assessed for informed designing of training packages.
- All types of traditional providers (e.g. *kabiraz, bhandari, dai)* should be trained on safe motherhood, risk assessment and early referral.
- Initiatives should be taken to reduce harmful practices by the informal providers (e.g. IV saline, injection by *PC*).
- Local health care providers as well as community people need sufficient information about referral places (location, services, hours, cost etc).
- Develop appropriate referral linkage between local health care providers and referral facilities for reducing 2nd and 3rd Ds

REFERENCES

BRAC. (2006). *Manoshi:* Community Health Solutions in Bangladesh. Proposal prepared for Bill and Melinda Gates Foundation. Unpublished document.

Konlinsky M, Matthews Z, Hussein J, Mavalankar D, Mridha MK, Anwar I, Achadi E, Adjel S, Padmanabhan P, van Lerberghe W. (2006). Going to scale with professional skilled care. *Lancet* Maternal Survival series: 41-50. DOI: 10.1016/S0140-6736(06)69382-3.

NIPORT ((National Institute of Population Research and Training), MEASURE Evaluation, ICDDR,B, ACPR (Associates for Community and Population Research). (2008). *2006 Bangladesh Urban Health Survey* . Dhaka, Bangladesh and Chapel Hill, NC, USA: NIPORT, MEASURE Evaluation, ICDDR,B and ACPR.

NIPORT (National Institute of Population Research and Training), Mitra and Associates, Macro International. (2009). *Bangladesh Demographic and Health Survey 2007*. Dhaka, Bangladesh and Calveron, Maryland, USA: NIPORT, Mitra and Associates and Macro International.

NIPORT (National Institute of Population Research and Training), ORC Macro, Johns Hopkins University, and ICDDR,B. (2003). *Bangladesh Maternal Health Services and Maternal Mortality Survey 2001*. Dhaka, Bangladesh and Calverton/Maryland USA: NIPORT, ORC Macro, JHU and ICDDR,B.

Rosenfield A, Maine D, Freedman L. (2006). Meeting MDG-5: an impossible dream? [comment]. *Lancet* Maternal Survival series: 5-6. DOI:10.1016/S0140-6736(06)69386-0.

ANNEX I

Table D. Availability of maternal health services by type of facilities (%)

Types of Services	*Public(Government) n=2*	*Private (Not-for-profit) n=10*	*Private (For- profit) n=5*	*Total n=17*
Antenatal care	2	9	5	16
Routine iron and folic acid supplementation advised	2	9	5	16
Routine calcium supplementation advised during antenatal/ postnatal period	2	8	5	15
Tetanus toxoid immunization for mother	2	7	5	14
Advice on birth preparedness	2	9	5	16
Management of abortion related cases	2	3	5	10
Management of other antenatal complication excluding abortion care	2	3	4	9
Use of Magnesium Sulphate in Eclampsia	2	3	4	9
Referral for other antenatal complication	1	9	5	15
Delivery care vaginal	2	5	5	12
Use of partograph	1	3	3	7
Active Management of Third Stage of Labour(AMTSL)	2	3	5	10
Manual removal of placenta	2	3	5	10
Blood transfusion	2	3	5	10
Delivery care C/S	2	3	5	10
Referral for delivery care	0	3	3	6
Postnatal care	2	9	5	16
Management of postnatal complications	2	5	5	12
Referral of postnatal complications	0	8	3	11

Table E: Availability of neonate services by type of facilities (%)

Neonatal health services ▼	***Public(Government) n=2***	***Private (Not-for-profit)n=10***	***Private (For-profit)n=5***	***Total***
Use of APGAR score at birth	2	4	5	11
Use of APGAR score 5 minutes after birth	2	3	5	10
Drying and wrapping immediately after birth	2	6	5	13
Initiation of breastfeeding within 1 hour after delivery	2	6	4	12
Neonatal resuscitation for birth asphyxia	2	4	5	11
Use of sucker for neonatal resuscitation	2	4	5	11
Use of bag and mask/tube and mask for neonatal resuscitation	2	4	5	11
Use of parenteral antibiotic for neonatal resuscitation	2	4	5	11
Practice of Kangaroo Mother Care	2	3	2	7
Use of Phenoberbital for convulsion	2	4	4	10
Use of Phototherapy for severe jaundice	2	3	5	10
Use of ORS for Diarrhoea	2	5	5	12
Use of incubator	2	2	2	6
Use of blood transfusion	2	3	5	10
Management of Pneumonia	2	6	5	13
Management of Diarrhoea	2	6	5	13
Referral for neonatal care	2	9	5	16

Table F: Availability of child health services by type of facilities (%)

Child health services ▼	*Public(Government) n=2*	*Private (Not-for-profit) n=10*	*Private (For-profit) n=5*	*Total n=17*
BCG immunization	2	8	3	13
DPT immunization	2	8	2	12
OPV/IPV immunization	2	8	2	12
Hepatitis B immunization	2	7	5	14
MMR immunization	0	6	2	8
Measles immunization	2	8	3	13
Treatment of severely malnourished children	2	5	4	11
Vitamin A supplementation	2	10	3	15
Referral for child care	2	10	5	17

Table G: Availability of infection prevention equipments and practices by type of facilities (%)

Infection prevention practices	*Public (Government) n=2*	*Private (not-for-profit) n=10*	*Private (for- profit) n=5*	*Total n=17*
Standard protocol available for infection prevention	1	4	1	6
Hand washing basin available with elbow tap	2	5	4	11
Running water available 24 hours	1	9	5	15
Decontamination practiced by use of bleaching powder	2	10	5	17
Sterilization / Autoclaving facilities available	2	8	5	15
Sharp instrument disposal container available	2	6	5	13
Solid waste disposal container available	2	7	5	14
Appropriate disposal of sharp instruments	2	6	5	13
Appropriate disposal of solid waste	2	5	5	12
Functional incinerator available	2	4	4	10

Table H: Availability of selected equipments, supplies, arrangements, by types of referral facilities (%)

Supplies and logistics	***Public (Government) n=2***	***Private (Not-for-profit) n=10***	***Private (For-profit) n=5***	***Total n=17***
Trolley stretcher	2	4	5	11
Arrangement for privacy during examination	2	10	5	17
Labour/ delivery table	2	6	5	13
Fetoscope	1	2	2	5
Delivery forceps	1	2	5	8
Functioning sucker machine with suction tube	2	4	5	11
Baby weighting scale	2	7	5	14
Filled oxygen cylinder	2	4	5	11
Magnesium Sulphate (MgSO4)	2	4	4	10
Separate delivery register	2	6	5	13
Ambulance (own)	2	4	3	9
Generator	2	4	5	11

ANNEX II

Health Resource Mapping of *Korail* slum