

MATLAB MCH-FP PROJECT

**MATERNITY CARE IN
MATLAB:**

**PRESENT STATUS AND
POSSIBLE INTERVENTIONS**

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CENTRE FOR
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RESEARCH,
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PREFACE

The International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) is an autonomous, international, philanthropic, non-profit centre for research, education, training and clinical service. The Centre is derived from the Cholera Research Laboratory (CRL). Its activities are to undertake and promote study, research and dissemination of knowledge in diarrhoeal diseases and the directly related subjects of nutrition and fertility — with a view to developing improved health care methods and to prevent and control diarrhoeal diseases and improve public health programmes, especially in developing countries. The ICDDR,B issues an annual report, working papers, scientific reports, special publications, monographs, theses, and dissertations, a quarterly journal, annotated bibliographies and a bi-monthly newsletter, which demonstrates the type of research activities currently in progress. The views expressed in these papers are those of the authors, and do not necessarily represent the views of the ICDDR,B. They should not be quoted without the authors' permission.

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FOREWORD

This report was written in February 1987; it contains information available up to the end of 1986 and plans drawn up at that time. At the time of publication in January 1988, the Matlab Maternity Care project described in Section IV "plans for the future" has started and has been running for almost a year. The authors are now evaluating the results of this first year and will present the findings in a subsequent report.

MATLAB MCH-FP PROJECT

MATERNITY CARE IN MATLAB: CURRENT STATUS AND POSSIBLE INTERVENTIONS

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DEFINITIONS

- Women of reproductive age : 15 to 44 years.
- Maternal death : Death of a woman while pregnant or within 90 days of the termination of pregnancy, irrespective of the duration of pregnancy and the method by which it was terminated. (This differs slightly from the WHO recommended definition which excludes "incidental or accidental causes" and only considers deaths within 42 days of the termination of pregnancy (37))
- Maternal mortality ratio : the number of maternal deaths in a given period per one thousand live-births in the same period.
- Maternal mortality rate : the number of maternal deaths in an area in a given period divided by the total number of females of reproductive age at the middle of the given period in the same area. It is expressed per 100,000 women of reproductive age.
- Neonates: newborn aged up to 30 days of life.

INTRODUCTION

In recent years there have been greater commitments and increased efforts to improve maternal and child health in developing countries. However, while considerable progress has been made in formulating and implementing strategies for child survival, the issue of maternal health has remained relatively neglected. Indeed, an estimated half million women die every year of maternity-related complications, while non-fatal complications tend to exceed this by a factor of ten.

"Where is the "M" in MCH?" questioned a recent editorial (31), expressing deep concern about the limited attention being given to mothers in current maternal and child health (MCH) programmes, and the limited impact of those MCH programmes on maternal mortality.

In Bangladesh, the overall maternal mortality rate was estimated at 6 per thousand live-births in 1983. In the Matlab Comparison Area, served only by the national health programme, maternal mortality rate averaged 5.8 per 1000 live-births over the years 1976 to 1985 (21). In the Matlab MCH-FP area, which has been served by a comprehensive MCH-FP programme since 1978, it averaged 5.2 per thousand live-births in the last 10 years, with only a very recent decline to 4 per thousand in 1985. This recent decline has yet to be confirmed by the findings of 1986. In any case, those rates are still more than one hundred times higher than those found in developed countries, and few health programmes so far have included definite plans specifically to address problems relating to maternal mortality in rural Bangladesh.

Existing knowledge of maternal mortality and traditional birth practices in the Matlab area is derived from several studies and surveys conducted during the last 10 years (4,5,8,15,16,17,23). Although the findings consistently showed high mortality rates, and were confirmed by reports from other parts of rural Bangladesh (1,7,18,19,29,30), they did not lead to the implementation of effective interventions directly aimed at improving maternal survival (see Table 1 for leading causes of deaths).

The Contraceptive Distribution Project (CDP,1975-1977), followed by the Matlab Family Planning and Health Services Project (FPHSP,1978-1984)(6) was aimed at reducing the number of

pregnancies and improving maternal health through birth spacing. In fact, they did not achieve consistent results in this respect as the levels and trends of the maternal mortality ratio show (see fig.1, taken from Koenig et al. (21). Another way to look at the impact of the Matlab FPHSP on maternal deaths is to examine maternal mortality rates (see fig 2). Maternal mortality is clearly lower in the MCH-FP area than in the comparison area, and there is an indication of a decline in the last 2 years. But the overall risks associated with pregnancy and child birth have not been significantly reduced, suggesting that an alternative approach has to be explored, implemented and evaluated.

This report provides a contribution to the current knowledge of maternity care and maternal mortality in the Matlab area, based on the findings of three recent surveys conducted in the community:

- a survey on birth and maternity care as perceived by the Community Health Workers of the MCH-FP project, conducted in 1986 (Section I),

- a survey of the Traditional Birth Attendants in the same area, conducted in 1982-1983 (Section II), and

- a study of maternal mortality rates and causes of maternal mortality in the whole Matlab area under demographic surveillance from 1976 to 1985 (Section III).

This report also presents a plan for implementing new interventions in the Matlab MCH-FP area to be started in 1987, with the objectives of

- a. further reducing maternal mortality,
- b. reducing perinatal mortality, and
- c. improving the quality of maternity care.

SECTION I

KNOWLEDGE, ATTITUDE AND PRACTICE (KAP) SURVEY OF BIRTH AND MATERNITY CARE IN MATLAB - 1986

Eighty Community Health Workers (CHWs) visit every household regularly, delivering family planning and maternal and child health services to the community in the Matlab MCH-FP Area. These 80 CHWs are organized in four service blocks, around four MCH clinics or sub-centres. The CHWs were interviewed, individually and collectively, about topics relating to their community's perception of birth and maternal care. The interviews were conducted during sub-centre meetings held in May, June and July 1986 in the four blocks. Although their answers may have been influenced by personal views, the CHWs expressed as much as possible the views of their neighbours and their clients.

An important section of the interview was related to the "Traditional Birth Attendants" or TBAs: non-medically trained women who assist mothers at childbirth, and who initially acquired their skills by delivering babies themselves or by learning from another TBA. The term "Traditional Midwife" would be better since they not only deliver children but also care to a certain extent for ante-natal, post-natal and even sometimes non-maternity-related female disease. In Bangladesh a TBA is called a "dai".

The survey contained several questions, asked to the four groups of 20 CHWs, and discussed among themselves with appropriate guidance from the investigators. The answers were compiled, compared and grouped, and are presented here in 9 questions:

QUESTION 1: "WHO ATTENDS BIRTHS IN YOUR VILLAGE" ?

There was almost always a professional dai, and most of the time another attendant, usually a relative of the parturient such as the mother-in-law or sister-in-law. The dai makes the decisions and does not seek advice from anybody. Very few women deliver their children alone; if they do it is because they are too poor or are destitute.

QUESTION 2: "HAVE YOU ATTENDED BIRTHS YOURSELF (EVEN AS A WATCHER?)" If yes: "HOW MANY BIRTHS HAVE YOU WATCHED IN THE LAST YEAR?"

Half of the CHWs had never seen a birth (except for their own labour experience!). Forty per cent had been present at one to four deliveries in the previous year, and only five of them were regularly called to attend births. Lady Family Planning Visitors (LFPVs) or Family Welfare Visitors (FWVs) were also regularly called -on average 3 times a year. Most of the time, CHWs were informed the following day if a birth had happened the previous night and in case of long standing complications they could only advise the patient to see the doctors at Chandpur, the nearest District Maternity Hospital. There are some basic facilities in Matlab Upazila Health Complex, but they are rarely used and inadequate. They have also an ambulance, but it is also rarely used by patients.

Of 3300 births in the previous year (1985) 89 were attended by CHWs (average: 1.1 per CHW). So it is clear that CHWs are rarely allowed or even asked to attend deliveries. One of the reasons for this is the youth of most CHWs, one of the criteria on which they are selected, while another reason is their lack of training.

QUESTION 3: "OUT OF THE BIRTHS YOU HAVE ATTENDED (OR WATCHED) HOW MANY TURNED OUT WITH COMPLICATIONS AND WHAT WAS THE OUTCOME?"

A total of 53 births took place without major complications, but in 36 (40%) there were severe problems: 9 prolonged labours, 10 abnormal presentations, 2 eclampsias, 8 twin births and 7 severe haemorrhages; 16 of them ended with the death of the newborn and one with death of the mother. (An estimate of the numbers and causes of maternal deaths and early neo-natal deaths is given in Section III of this report.)

QUESTION 4: "HOW MANY TBAs DO YOU KNOW PERSONALLY OR BY NAME IN YOUR VILLAGE?"

On average, each CHW knew 6 TBAs currently operating in her village (range 1 to 12). The total number of identified TBAs is estimated to be about 480 in the MCH-FP Area. This number is close to the total of 500 TBAs identified and interviewed in 1983 (see Section II). But it must be pointed out that hardly a tenth of them are regular, "professional", well-known TBAs (although it was not possible to set up precise criteria for these distinctions).

QUESTION 5: "WHAT ARE THE USUAL BIRTH PRACTICES THAT YOU HAVE OBSERVED?"

When labour lasts too long, TBAs externally massage the womb and also practice an internal massage of the cervix through the vagina. They do not usually wash their hands before doing an internal massage but rub mustard oil on their hands first. CHWs have never observed nor heard of any TBA introducing her heel into the vagina, as reported elsewhere [5]. There is no examination to see if the cervix is fully dilated before asking women to start pushing. (NOTE: these two practices, massaging the cervix and early pushing, have a counter effect on dilatation, by causing cervical oedema. This may contribute to "obstructed labour".)

When there is an abnormal presentation (breech, face), the TBA usually appreciates the bad prognosis, and she tries to push the baby back and to turn it in the womb using external manoeuvres. She rarely succeeds. In the case of a breech baby, she tries to help the delivery by pulling its feet, a practice which may lift the foetus' arms and badly affect the chances of a safe delivery.

The cord is not cut until the placenta is outside the womb. If the baby has not started to cry then the placenta is dipped into a basin of hot then cold water. The cord is cut with a bamboo sliver or a razor blade, at a length of 4 fingers from the umbilicus. The proximal extremity is not always tied but generally dressed with a mixture of either burned ashes and mustard oil or cow dung.

Neither the mother nor the TBAs knew of the relationship between the cord and neonatal tetanus. They think neonatal tetanus is due to "alga" or "batash" (evil spirit or "wind") and they attribute any convulsion occurring during the labour, the delivery, or during the neonatal period to evil spirits.

The birth of twins is always seen as a bad sign: one of them has to die, if not both, because it is considered that neither of them has been able to develop fully in the womb.

In case of a retained placenta, the TBA pulls the cord quite heavily. If this fails, some TBAs will try to release it by introducing a hand inside the womb because they think it is stuck. Others will tighten a piece of cloth around the woman's waist to prevent the uterus from moving upwards and choke the patient. Then they will introduce the woman's hair into her own mouth to induce vomiting and bring about the release of placenta. Others will massage the womb externally.

Generally, all the attention is given to the mother and the newborn is left on a piece of cloth until she is settled. The baby is then washed and put to the breast 3 to 4 hours after delivery. This was a unanimous answer in contrast to the practice generally reported that colostrum is not given to the baby. If the mother is not able to breast-feed her baby that early, honey is given instead by offering a honey-dipped finger to suck.

No particular attention is given to the temperature of the baby. This may be quite dangerous in the winter nights or in the case of a premature baby.

QUESTION 6: "WHAT COLLABORATION COULD YOU EXPECT FROM TBAs IF THE PROJECT DECIDED TO INTERVENE IN MATERNITY CARE?"

Most of the CHWs could foresee problems if they had to seek collaboration from TBAs: first a problem of seniority and experience, then a problem of competence and trust. Even if the CHWs knew what to do in case of complications, would the TBA and the patient's family trust them and follow their advice? Finally, a problem of who is in charge in the community: TBAs may feel threatened and react badly to interference by younger women, and thus it may take a lot of time until the TBAs themselves may call the CHW to help in case of complications.

Despite such problems, many CHWs wished to learn more about maternity care and thought they should help their village neighbours in this respect too, provided they had proper training and supervision. Half of them have already started distributing Safe Delivery Kits to pregnant mothers in their own villages.

QUESTION 7: "WHICH SPECIFIC MOTHERS DO YOU THINK MAY FACE PROBLEMS DURING AND AFTER DELIVERY?"

CHWs were unanimous in recognizing that primigravidae and grand multiparas have a greater risk of a complicated delivery. They also thought that women with significant oedema, those with shortness of breath and those with jaundice were at greater risk. But they admitted that they could not predict which ones would have specific complications such as heavy bleeding or a retained placenta.

QUESTION 8: "HOW WOULD YOU SEE YOUR ROLE IF YOU WERE TO BE TRAINED AND ASKED TO ATTEND BIRTHS?"

First, CHWs saw their role as identifying at-risk mothers and motivating them as early as possible to seek medical help during delivery. Secondly, they agreed that they should answer home calls (even at night if accompanied by someone such as their husband) and advise on referrals to more appropriate medical facilities. Modern medical facilities do not exist in Matlab and CHWs knew that the women in the community would not agree to go to Matlab or Chandpur or Comilla (the usual sequence of referrals). They thus felt that the best compromise would be to refer the complicated pregnancies and the mothers at-risk to the sub-Centre Health facility, but only if it was properly equipped and staffed by a senior midwife or a paramedic. They also pointed out that the reputation of such a sub-centre health facility would suffer badly if a referred case was to die there.

QUESTION 9: "WHAT IS 'SHUTIKA'?"

This question seemed to surprise and amuse most of CHWs! There was some disagreement on the answers, but the most coherent was that 'shutika' is a diarrhoeal disease, usually watery diarrhoea but can also turn dysenteric, occurring on days following a delivery. It can be severe and cause death, but most of the time gets better by itself. It is said to be caused by certain foods given to mothers right after delivery: some said fish should not be given, but others feel that a certain kind of small fish are allowed and should be encouraged. Some say 'shutika' is the normal reaction of the maternal intestine which had been disturbed by the pregnancy. Usually women with 'shutika' seek help from traditional practitioners. There are no known cases of fatal 'shutika', but rather the condition is recognized as a frequent and quite normal inconvenience to the mother after delivery.

SECTION II: WHO ARE THE TBAs?

(FINDINGS OF A KAP SURVEY OF TBAs IN MATLAB)

A total of 497 TBAs, identified by CHWs in the Matlab MCH-FP Area (95,000 population), were interviewed individually during the last months of 1982. They were asked about their training, the number and nature of deliveries attended, birth practices for normal and complicated deliveries, other health-related activities, and about their knowledge of contraception. In this report are presented the most important results to emerge from this survey, which involved 56 questions.

CHARACTERISTICS: Typically, a TBA is aged more than 50 years (67%), she is a Moslem (78%), illiterate with no formal schooling (93%), and a widow (56%). She has had more than 5 children herself and her husband was (or is) a farmer with a small amount of land.

TRAINING: Being a TBA was a family job for 32% of the respondents while most of the rest (65%) chose that job. Most TBAs had been working for an average of 16 years and had never received any formal training (99.5%). More than half of them had acquired their skills by practice while the remainder had learnt from another TBA. Since they have had no training they cannot assess the benefits of being trained, nor of being supervised.

ACTIVITY: Most TBAs (two-thirds) only attend births in their own village, although 15% also cover two or three adjacent villages. Seventy-five per cent of them will attend "any" woman, the remainder only attend their relatives. Even if they do not keep records of births attended, 35% of them estimated that they had attended less than 50 deliveries and another 11% estimated that they had attended more than 100. Two-thirds of them usually receive compensation for their services, most often in the form of a piece of cloth or a sari.

BIRTH PRACTICES: Most TBAs (80%) are called by the family at the start of labour. Half of the TBAs ask for a piece of cotton cloth and mustard oil as the only materials needed, and only 10% ask the mother to put on a clean sari and to lie down on a clean mat. Less than one-third of TBAs washed their hands with soap. They cut the cord themselves immediately after delivery of the placenta, but only 42% used a clean razor blade. The others use a bamboo splinter (38%) or an old blade (20%). They do not apply any antiseptic medicine to the cord, except for one per cent of them who use Dettol, but instead use burnt earth (20%) or cow dung (20%). Two-thirds of them never prescribe any drug during delivery and 11% use holy water as a purifying agent ("pani para"). Most mothers deliver in a squatting position with the TBA kneeling behind her.

KNOWLEDGE OF BIRTH PROBLEMS: For a primipara, 38% of TBAs estimated that the normal duration of labour is 10 hours and 31% think that a duration of over 24 hours is abnormal; the remainder did not know. For a multipara, 41% of TBAs estimate that the normal duration of labour is 5 hours. For 75% of TBAs an example of difficult delivery is the breech presentation.

MORTALITY EXPERIENCE: Only 3 TBAs recalled one mother dying during delivery in the previous year. Five per cent of them (25) had lost at least one newborn immediately after delivery while 11% (55) had lost a child within a month of delivery.

OTHER HEALTH-RELATED ACTIVITIES: Most TBAs (96%) care for mothers only at the time of delivery, but 75% also care in the following days by giving hot compresses, hot water to drink and advice on food restrictions; 54% said they care for the newborns by preventing cold (24%), by encouraging early breast-feeding (17%), or by dressing the cord (9%); 82% said that they give equal care to female and male babies, the others tended to favour male new-borns. The first-breast feed is encouraged right after the purifying bath by 78% of the TBAs, but 83% advise mothers to give her newborn some honey and mustard oil if the first breast-feed is delayed; 25% recommend not to give colostrum to the newborn.

ATTITUDES: Ninety-one per cent of TBAs felt that the community attitude was extremely favourable towards their work, therefore, 51% of them saw no need for additional training; 57% of them felt that their work load was decreasing because of the growing number of TBAs.

KNOWLEDGE OF CONTRACEPTION : Only 70% of TBAs said they knew how a woman becomes pregnant (when husband and wife meet!) and they also knew that pregnancy can be prevented by using contraceptives. Only 58% knew about the oral pill, 42% about tubal ligation and 34% about intra-uterine devices (IUD). Two-thirds of them did not advise mothers to use contraceptives; 26% said it was against the religion. Most TBAs (97%) claimed they would not provide any method of induced abortion if asked to by a pregnant mother.

CONCLUSION:

The answers to the questionnaire provided some useful information about knowledge, attitude and practices among TBAs in Matlab, and most of this information has been confirmed by other studies on TBAs in Bangladesh (3,5,6,16). However there are limitations to this survey and also missing questions, among which:

- questions about the TBAs' knowledge of reproductive anatomy and physiology.
- questions about the knowledge of what to do in cases of complicated deliveries (obstruction, abnormal presentations, eclampsia ..) where and how TBAs could get help, if any.
- information about the care of pregnant women
- what would be the reaction of TBAs' to collaboration with the project's CHWs (at the time of this survey, the MCH services in Matlab were still very limited and there were no such plans...).

A few months after this survey was completed a three-day training programme was offered to the TBAs of two service blocks in the project, with a comprehensive curriculum but without practical demonstrations. A total of 270 TBAs appeared for this training programme. Thereafter, in January 1983, the production and distribution of Safe Delivery Kits was begun for all pregnant women of the same two blocks. These Safe Delivery Kits are kept by expectant mothers and opened by the TBAs at the onset of labour. This practice has not yet been properly supervised nor evaluated.

SECTION III: CAUSES OF MATERNAL DEATHS AND NEO-NATAL DEATHS IN MATLAB

(Summary of 2 studies conducted in 1986)

A. CAUSES OF MATERNAL DEATHS IN MATLAB, 1976-1985

During 1986, the deaths of all women of reproductive age which had occurred in the previous 10 years were analysed retrospectively using a multiple step procedure with both passive and active methods for the detection of cause of death. First, all death forms provided by the Demographic Surveillance System (DSS) field-workers were collected and were read. Secondly the CHWs who used to visit those women regularly and knew them well were interviewed. Finally, the home of each deceased woman was visited and the relatives interviewed. After a set of questions on demographic characteristics, an open statement was requested followed by a detailed investigation trying to describe the events and symptoms preceding death and to assess whether the woman was pregnant or not at the time of death. The statement was then reviewed by a trained physician and the most likely cause of death was assigned. A total of 1,037 deaths of reproductive-aged women were investigated.

In the MCH-FP area during the last 10 years, 34% of all deaths of reproductive aged women were "maternal deaths", that is they occurred during pregnancy (38%) or within 3 months following pregnancy termination (62%). The proportion of maternal deaths in the comparison area was 40% : 42% during pregnancy and 58% during the post-partum period. A total of 387 maternal deaths, giving a maternal mortality ratio of 5.5 per 1,000 live-births, were studied further.

The main causes of death during pregnancy, labour and post-partum in the two study areas and in the whole DSS area are summarized in Table 2.

The table indicates that 77% of all maternal deaths were related to direct obstetrical complications, while the remainder (23%) could not be attributed directly to complications of child-bearing. However in the latter cases, the death could have been precipitated by the fact that the woman was pregnant or was in the post-partum period; those deaths due to concomitant medical causes or injuries were classified as maternal deaths.

All together, five direct obstetric causes of maternal deaths emerged from the analysis. They are, in order of importance: post-partum haemorrhage, induced abortion, complications of toxæmia, post-partum sepsis and obstructed labour. The distribution of deaths by age and parity shown in Table 3 indicates a higher proportion of abortion and post-partum haemorrhage in older and high parity women. In contrast, a higher rate of complications of toxæmia occurred in younger and low parity women. The other causes of maternal deaths do not seem to differ significantly with age. In the group of indirect obstetric causes, injuries, violence, and suicide are more frequent in the younger women, whereas organic diseases increase in importance with age.

Fig. 3 shows the distribution of maternal deaths over time (abortion excluded), and clearly shows a peak of deaths during labour and during the first two days following delivery: 43% of all maternal deaths occurred in these three days. This is the basis for a focus on systematic attendance by trained midwives at home deliveries, because some of the deaths occurring during this period are preventable (see Section IV: "Plans for the future").

Table 4 shows the distribution of maternal deaths by place of deaths and indicates that a large majority of women (80%) did not use modern medical facilities prior to death.

Finally, Fig. 4 confirms that the seasonal trend of maternal deaths follows the seasonality of births.

B. CAUSES OF NEO-NATAL DEATHS IN MATLAB, 1986

Table 5 shows cause of death of neonates as revealed by a preliminary analysis of events and symptoms leading to the death of neonates in 1986. The figures relate only to the comparison area in which no other health services than the national programme were being provided. A striking feature is the large number of deaths associated with a low-birth weight in the early neonatal period. Even in the absence of a tetanus toxoid immunization programme, neonatal tetanus did not appear to cause more than 25% of neonatal deaths, a finding which is at odds with previous reports on neonatal mortality (9).

The mean perinatal mortality rate in the Matlab comparison area between 1983 and 1985 was 84 per 1,000 live births, with a still birth rate of 37 per 1,000 live births. A more comprehensive study of perinatal mortality including rates, trends and causes is planned.

SECTION IV: PLANS FOR THE FUTURE: WHAT CAN BE DONE TO IMPROVE MATERNITY CARE IN MATLAB?

In addition to the continuation of the family planning programme in the Matlab MCH-FP area, a comprehensive maternity care programme is proposed, built upon a careful analysis of the potential offered by the existing MCH-FP organisation and staff.

The aim is to improve, both in quantity and in quality, the contacts between health workers and pregnant women - during pregnancy, labour, delivery and after delivery. This can be achieved by the following:

- focusing on maternal care issues at all levels of the MCH-FP programme, as well as in the community.
- additional training for existing staff, CHWs and Senior Health Assistants (SHAs and FWVs).
- involving the TBAs, not only by means of Safe Delivery Kits but also by motivating mothers. The involvement of TBAs will strengthen community participation and acceptance of the programme.
- using existing government lines of referral at union, upazila and district levels, as well as existing training facilities; developing lines for easily, quickly and safely transporting complicated cases to a more adequate facility when required.
- posting trained midwives in sub-centre clinics. This is expected to be the backbone of the system. They will be encouraged to attend as many home deliveries as possible, and will be equipped with essential drugs and supplies.

EXISTING MATERNAL HEALTH SERVICES

The already existing maternal health services implemented step by step since 1978 in the Matlab Family Planning and Health Services Project (FPHSP) include:

- family planning, with 45% of eligible couples practicing contraception at present, twice the national figure.

- distributing Safe Delivery Kits to pregnant women in half the MCH-FP area.
- screening pregnant women by female paramedics (FWVs) to identify high risk pregnancies. But no specific intervention except for referral is provided to those identified as high risk.
- training TBAs in 1982-1983 (270 in half the MCH-FP area).
- giving all pregnant and lactating women iron-folic acid tablets (but the dosage was low).
- immunising all married women with two injections of tetanus toxoid.

SCHEDULE OF INTERVENTIONS

When implementing new health interventions in the Matlab MCH-FP Project, the timing of the introduction of the new components must be carefully planned. Sufficient time must be allowed at all steps in order to observe reactions and make adjustments accordingly. The proposed schedule is as follows:

Step 1: Standardising the production and use of Safe Delivery Kits in all the MCH-FP area (only women in half the area have received the SDKs so far)

This involves training sub-centre clinic attendants to manufacture Safe Delivery Kits, procuring necessary supplies and storing devices, reviewing the illustrated instruction leaflet included in the Safe Delivery Kit, adjusting it to a limited set of messages (see sample in annex).

Step 2: Training CHWs

At sub-centre level, CHWs in groups of 20 will receive one day of practical training on the use of Safe Delivery Kits using educational materials such as a model pelvis and a puppet new born. Accessories contained in the Safe Delivery Kits, and a 50-page illustrated training manual in Bangla (produced by the Bangladesh Academy for Rural Development) will be distributed to each CHW.

CHWs already identify pregnancies routinely by assessing menstrual status of each eligible woman during their monthly visits. Whenever amenorrhoea persists after two consecutive visits, the date of last menstrual period is recorded, and an expected date of delivery is calculated.

Step 3: Identifying and training TBAs

Identification is already done and updated every year through the CHW's Service Record Books. CHWs will be requested to organise and conduct, with the help of Senior Health Assistants short training sessions for TBAs in groups of 5 or 6. The main topic of the training is the use of the Safe Delivery Kit and related messages described in the accompanying leaflet. Since there is already an effective programme of tetanus toxoid immunisation for all women, the impact of the use of safe delivery kits on the incidence of neonatal tetanus is not expected to be significant.

The expected benefits of including TBAs in this maternity care programme are:

- an increase in community awareness and community participation,
- better working relations with the TBAs by explaining that we don't wish to exclude them but instead to collaborate and improve their skills,
- an increase in the use of soap, disinfectant, and clean materials during delivery,
- a decline in harmful practices, such as massaging the cervix, letting the new born get cold, pulling a breech presentation, pulling the cord to remove the placenta or delaying the decision to call for assistance in case of complications,
- the early identification of complications during pregnancy or labour,
- an increased attention to postpartum complications and to the newborn by means of a post-delivery visit.

Step 4: Recruitment of professional nurse-midwives, with training in MCH-FP and field experience, to be posted in two of the sub-centres: two midwives in each sub-centre, working in shifts, covering a population of 25,000. They are given the specific tasks of :

- organising and conducting ante-natal care, identifying complicated pregnancies, motivating mothers to receive treatment or be referred whenever necessary. Ante-natal care has to be given in homes in most cases, or at the sub-centre if the pregnant women can reach it easily.
- attending as many home deliveries as possible, together with the village traditional midwife and/or the CHW. It is expected that 750 births a year will take place in each service block, an average of 2 per day, but there are large seasonal variations. The currently posted FWVs may also help in attending deliveries in homes or sub-centre.
- making decisions on when and how to refer patients when complications are identified. The chain of referral involves country boats from home to sub-centre, a speed-boat ambulance from sub-centre to Matlab, and a motor ambulance from Matlab to the district hospital in Chandpur.

Each sub-centre clinic will be equipped with some basic midwifery instruments and supplies such as stitching equipment, a foot-operated suction machine, and an oxygen cylinder.

It is also planned to help to renovate and equip the Matlab Upazilla Health Centre maternity room which is presently staffed by 2 FWVs and one female physician with some training in gynaecology and obstetrics.

The Chandpur district hospital has a maternity ward, an operations theatre for caesarean sections, a blood bank, and an incubator. Chandpur also has a Maternity Centre operated by the Bangladesh Red Cross and a government Maternal and Child Welfare Centre (MCWC).

This plan is to initially provide services for half of the Matlab MCH-FP area (two service blocks) covering a population of 48,000 and an expected 1,500 births in a year.

Step 5: Organizing a two-day training workshop focusing on maternity care issues and involving representatives of all categories of field workers, supervisors, programme heads, and concerned persons from the Government of Bangladesh Ministry of Health, as well as from the National Institute of Preventive and Social Medicine, UNFPA, UNICEF, and other NGOs. Among the topics of discussion will be: causes of maternal mortality; community participation and the role of TBAs; ante-natal care; guidelines for management of obstetric complications at field level; referral system; labour-monitoring card; and recording and evaluation.

Step 6: Evaluation of this maternity care programme. After one year of operation an evaluation will be done, based on indicators of outcome: maternal mortality (levels and causes) and peri-natal mortality. The small numbers involved may not allow a significant comparison to be made with the remaining half of the MCH-FP area which will serve as control. Based on previous years approximately 10 maternal deaths are expected to occur in one year in each of the two service blocks and 20 in the neighbouring two service blocks not yet served by the programme.

Indicators of progress will also be measured such as the number of pregnancies screened, the number of deliveries attended and the number of referrals. The predictive value, sensitivity, and specificity of the ante-natal screening will also be evaluated. An analysis of the birth registration forms collected by the DSS, completed by selected information obtained from the midwives, will allow an evaluation of some morbidity issues such as duration of labour, type of presentation, signs of toxæmia, bleeding patterns, etc. Regarding birth weight, midwives will either carry a light spring scale for taking weight at birth if they can obtain consent from the attendants, or they will measure the newborn's chest circumference as a substitute using the same tape already used for measuring the arm circumference in the nutrition programme.

Step 7: If successful a similar programme will be implemented the following year in the other half of the Matlab MCH-FP area, with appropriate changes in response to the lessons learned during the first phase. The maternity care programme will then cover a population of 100,000 with an expected 3,500 pregnancies per year.

CONCLUSION

The ultimate goal is to have all pregnancies examined and all births attended by trained personnel, whether at home or in a specialised facility for those at higher risk. It would be unrealistic to expect that all maternal deaths can be prevented, but it is possible to avoid in a significant number of cases the passage from a mild or moderately severe complication, manageable at the primary health care level, to a severe complication which is impossible to treat. An example of this is the passage from pre-eclampsia to eclampsia. A reasonable expectation would be to avert one-quarter to one-third of all maternal deaths (and a similar proportion of perinatal deaths), as the following analysis indicates:

Estimates of Cause-specific reductions in maternal deaths:

1. Training TBAs and using Safe Delivery Kits properly may have:

- an effect on "post-partum sepsis" which could avert 3 to 4% of all maternal deaths.

- an effect on "prolonged and obstructed labour" which could avert 1% of all maternal deaths.

2. Ante-natal care and the proper management or referral of at-risk cases may have:

- an effect on "complications of toxæmia" by bed rest and anti-hypertensives, which could avert 1 to 2% of all maternal deaths.

- an effect on "complications of anaemia and malnutrition" by supplementation which could avert 1% of all maternal deaths.

- an effect on "prolonged and obstructed labour" by detection and referral of malpresentations, primiparas and grand multiparas, and of women with past histories of complicated deliveries. This could avert 1 to 2% of all maternal deaths.

3. Systematic attendance of home deliveries by trained midwives may have:

- an effect on "complications of toxæmia" by early detection of pre-eclampsia and drug administration (sedatives, anti-hypertensives) which could avert 3 to 4% of all maternal deaths.

- an effect on "prolonged and obstructed labour" by proper management of malpresentations, artificial rupture of the membranes, and timely referral, which could avert 2 to 3% of all maternal deaths.

- an effect on "post-partum hæmorrhage" by prevention of cervical and perineal tears, complete delivery of the placenta, vaginal packing, management of cervical and perineal tears, and timely referral. This could avert 5 to 6% of all maternal deaths.

- an effect on "post-partum sepsis" by using safe and clean procedures, and by limiting vaginal examinations to a safe minimum. This could avert 2 to 3% of all maternal deaths.

4. An early post-partum visit performed by midwives on the second or third day may have:

- an effect on "post-partum hæmorrhage" by perineal and cervical checking, management of tears, manual delivery of the placenta, and proper referral for blood transfusion. This could avert 3 to 4% of all maternal deaths.

- an effect on "post-partum sepsis" by early detection and management of infections, which could avert 1 to 2% of all maternal deaths.

Thus, the total expected reduction of maternal deaths due to the proposed project may range from 23 to 33% of all maternal deaths, in addition to the benefits expected to be provided by the other components of the MCH-FP programme.

Limitations:

Some causes of maternal deaths are very difficult to control, such as induced abortion, eclampsia, obstructed labour when transport is impossible, a ruptured uterus and blood coagulation defects among others. This review of cause-specific and intervention-specific expected reductions of maternal mortality would be incomplete if it did not take into account two other important interventions potentially capable of decreasing maternal mortality: family planning and control of complications of induced abortion. The potential of family planning to reduce the total number of pregnancies and therefore to improve maternal health, has been discussed elsewhere (13,34). Preventing deaths due to septic abortion would consist of improving coordination with government health services for safe menstrual regulation, improving early detection and referral of complications, and improving community information on family planning.

Finally, a very important advantage of the programme presented here is its expected concomitant impact on perinatal mortality. A similar analysis of expected cause-specific reductions of perinatal deaths would lead to similar results, the main causes to be affected being complications of low birth weight, prematurity, still births due to maternal eclampsia, neonatal tetanus, neonatal sepsis, hypoxia, hypoglycaemia and hypothermia. Perinatal mortality could be reduced from 84 per 1,000 live births to 50 per 1,000 live-births or less.

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ANNEXES

- A. Tables and figures.
- B. Map of the project area.
- C. Sample of instructions leaflet included in the Safe Delivery Kit (with educational messages in bengali and english).
- D. Recommendations of the Workshop on Maternity Care held in Nayengaon, 9-10 February 1987.

Table 1: Three leading causes of maternal deaths in rural Bangladesh, as identified by several studies

Authors	Chen et al.(8)	Rochat et al.(30)	Lindpainter et al.(23)	Khan et al.(19)	Alauddin (1)	Present study
Dates of study	1967-68	1978-79	1982	1982-83	1982-83	1976-65
Place of study	Matlab	Bangladesh	Matlab	Jamalpur	Tangail	Matlab
Total Maternal deaths reviewed	41	1,933	39	58	48	387
Leading causes						
1	Eclampsia	Eclampsia	Abortion	Eclampsia	Post-partum haemorrhage	Post-partum haemorrhage
2	Post-partum haemorrhage	Induced abortion	Eclampsia	Septic abortion	Septic abortion	Induced abortion
3	Obstetric labour	Post-partum haemorrhage	Post-partum haemorrhage	Post-partum haemorrhage	Eclampsia	Eclampsia

Table 2 - Causes of maternal deaths - Matlab study area, 1976-1985
proportionate mortality rates = percentage distribution

Causes of deaths	MCH-FP area	Comparison area	Total	CSMR*
Direct obstetric	79.8	74.4	76.7	77
Post-partum haemorrhage	20.2	19.2	19.6	20
Abortion	21.4	15.5	18.0	18
Toxaemia/eclampsia	11.9	11.9	11.9	12
Post-partum sepsis	4.8	8.2	6.7	7
Obstructed labour	7.1	5.9	6.5	6
Other obstetric	14.3	13.7	13.9	14
Concomitant	20.2	25.6	23.3	23
Injuries, violence	8.9	9.1	9.0	9
Medical causes	6.5	11.0	9.0	9
Unspecified	4.8	5.5	5.2	5
All causes	100.0	100.0	100.0	101
(N)	(168)	(219)	(387)	**

*CSMR = Cause-specific mortality rate (per 100,000 women of 15 to 44 years of age) rounded figures.

** for 384,400 woman-years exposed to the risk of maternal death.

Table 3 - Causes of maternal deaths by age and parity - Matlab, 1976-1985
 Proportionate mortality rates = Percentage distribution

Causes of deaths	Maternal age			Prior parity		
	15-19 yrs. (n=94)	20-34 yrs. (n=209)	35-44 yrs. (n=84)	0 (n=141)	1-5 (n=167)	6 + (n=79)
Direct obstetric	72.3	79.0	76.1	79.5	72.5	81.1
Post-partum haemorrhage	14.9	20.1	23.8	13.5	20.4	29.1
Abortion	15.9	14.8	28.6	16.3	16.2	25.4
Toxaemia/eclampsia	18.1	13.4	1.2	19.9	10.8	0.0
Post-partum sepsis	5.3	7.7	6.0	8.5	6.0	5.1
Obstructed labour	6.4	6.2	7.1	7.1	5.4	7.6
Other obstetric	11.7	16.8	9.4	14.2	13.7	13.9
Concomitant	27.7	21.0	23.9	20.5	27.5	18.9
Injuries, violence	17.0	7.2	4.8	12.8	8.4	3.8
Medical causes	6.4	7.6	15.5	4.9	12.6	8.8
Others and unspecified	4.3	6.2	3.6	2.8	6.5	6.3

Table 4 - Percentage distribution of 387 maternal deaths by place of death and by selected causes - Matlab, 1976-85

Causes of deaths	Death in the village	Death in hospital or on the way to /from hospital	Uncertain
Post-partum haemorrhage (79 cases)	81.0 (64)	17.0 (13)	2.0 (2)
Induced abortion (56 cases)	87.5 (49)	12.5 (7)	- -
Toxaemia/eclampsia (46 cases)	78.2 (36)	19.6 (9)	2.2 (1)
Post-partum sepsis (27 cases)	66.7 (18)	26.0 (7)	7.3 (2)
Obstructed labour (24 cases)	58.3 (14)	29.2 (7)	12.5 (3)
All causes	80.6 (312)	17.1 (66)	2.3 (9)

[Figures in parenthesis are numbers of cases]

**Table 5: Cause of death among neonates in rural Bangladesh
Matlab Comparison area, 1986 (rates per 1000 live births)**

Cause of death	Male		Female		ALL		
	N	Rate	N	Rate	N	Rate	%
Complic. associated with low-birth weight	36	19	30	16	66	17	33.2
Birth trauma	14	7	11	6	25	7	12.6
Neonatal tetanus	31	16	18	9	49	13	24.6
Acute Respiratory Infection	10	5	9	5	19	5	9.5
Other neonatal infections	10	5	14	7	24	6	12.1
Other neonatal complications (malformations, severe malnutrition, injuries)	5	3	0	0	5	1	2.5
Impossible to specify	4	2	7	4	11	3	5.5
All causes	110	58	89	46	199	52	100.0

Fig.1: Maternal mortality ratios in Matlab, 1976-85

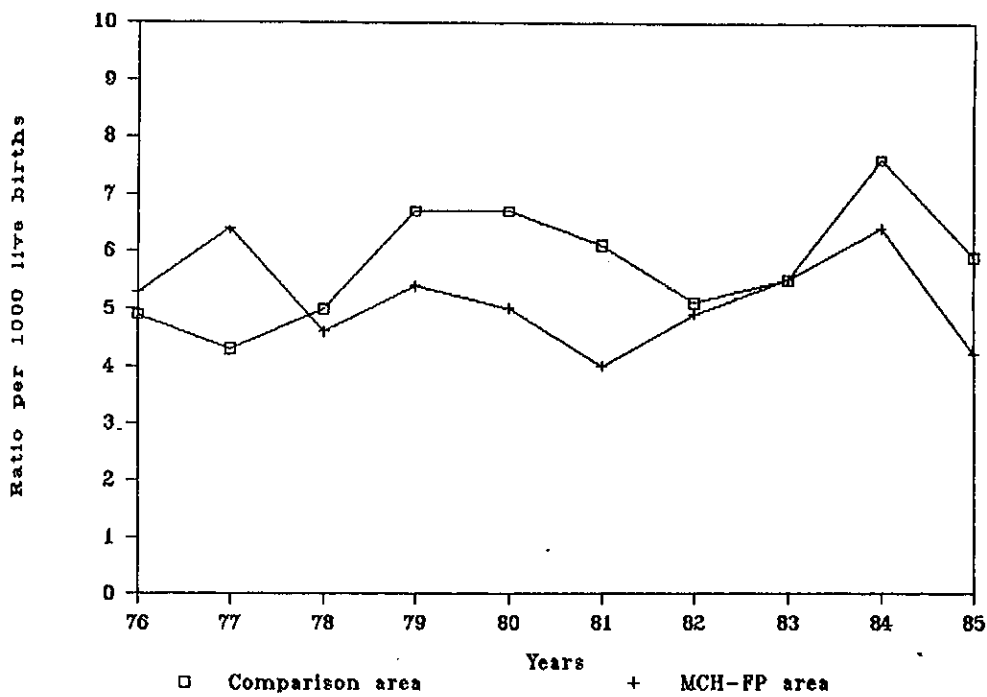


Fig.2: Maternal mortality rates in Matlab,1976-85

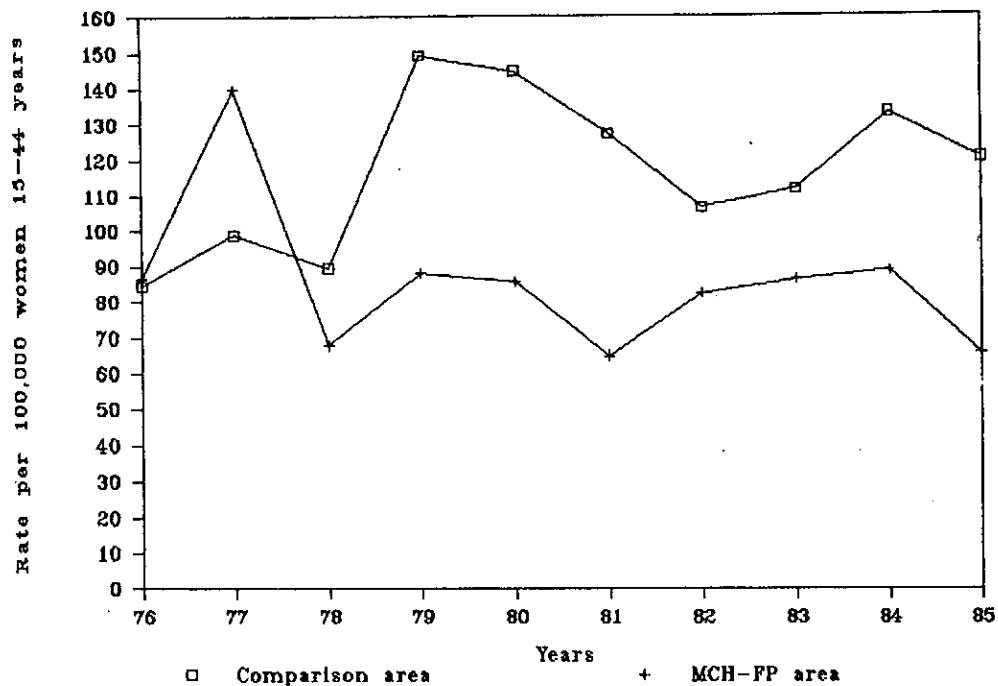
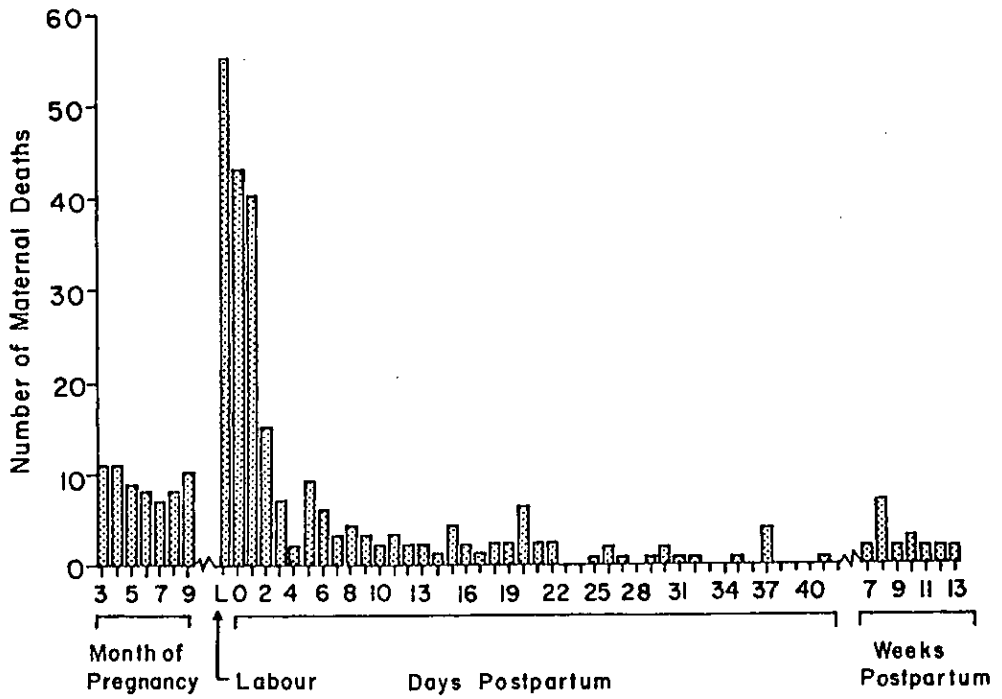
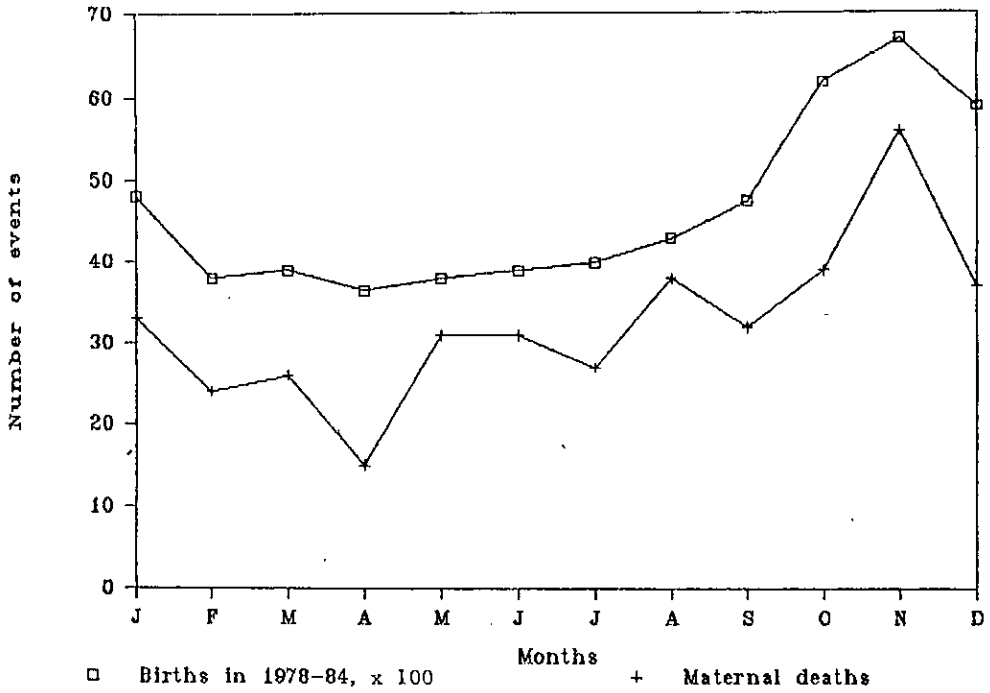


FIG.3: TIMING OF MATERNAL DEATHS, MATLAB 1976-1985



Note: Abortion-related deaths have been excluded for this analysis.

Fig. 4: Seasonality of births and maternal deaths in Matlab, 1976-85



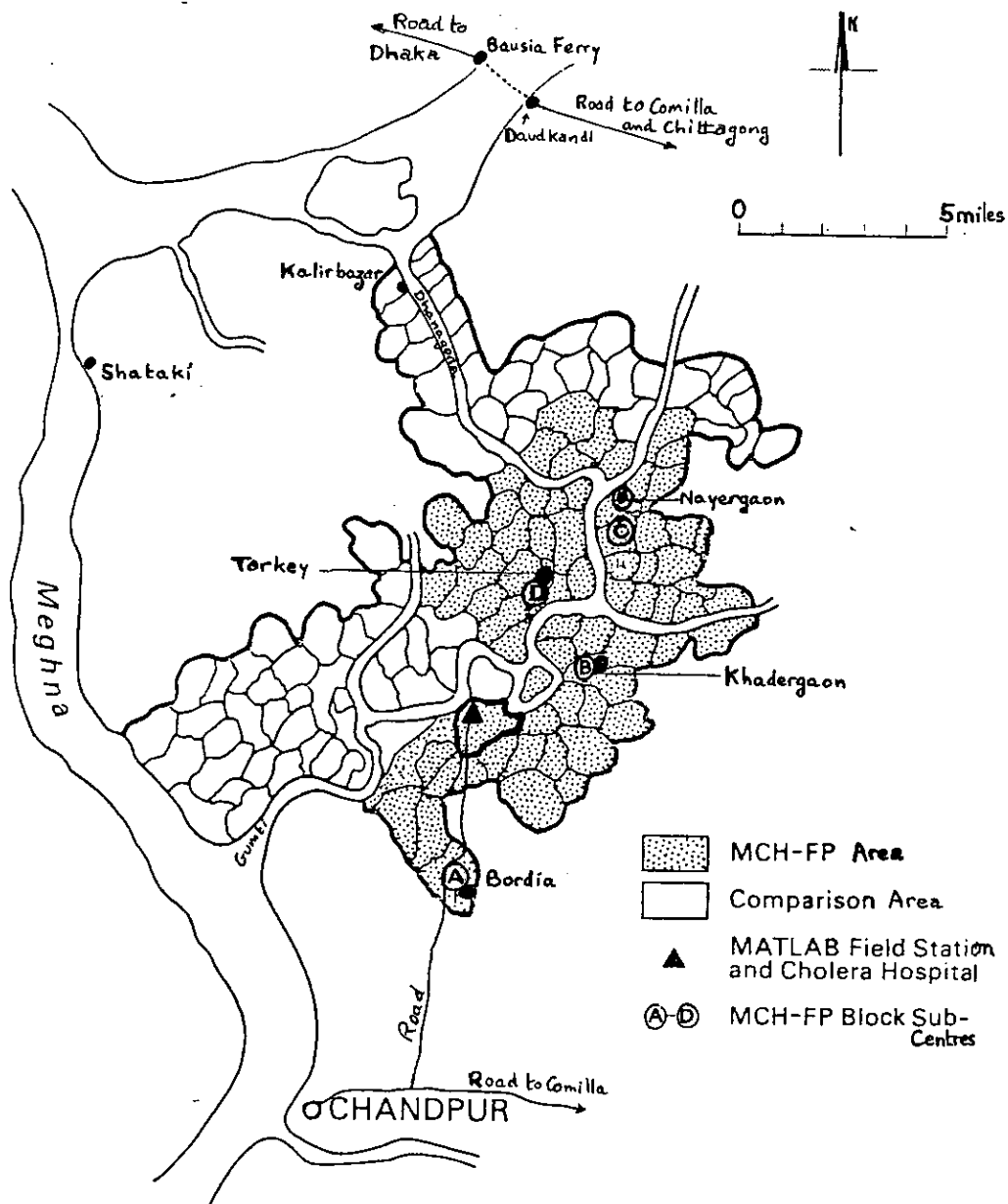


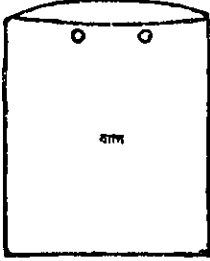
Figure 1. The Matlab study area sketch map

প্রসবকার্যে প্রয়োজনীয়

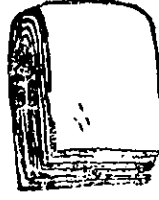
সরঞ্জামাদি

নিম্নলিখিত প্রসব করাছাঁকির জন্য প্রসব সরঞ্জামাদি যোগ্য।

এই যোগ্য প্রসবের জন্য প্রয়োজনীয় ডেউল, সূতা, ট্রাস্টিকলীট, সাবান, হেড, গজ ও তুলা থাকবে।



ডেউল



ট্রাস্টিকলীট



সূতা



গজ



সাবান



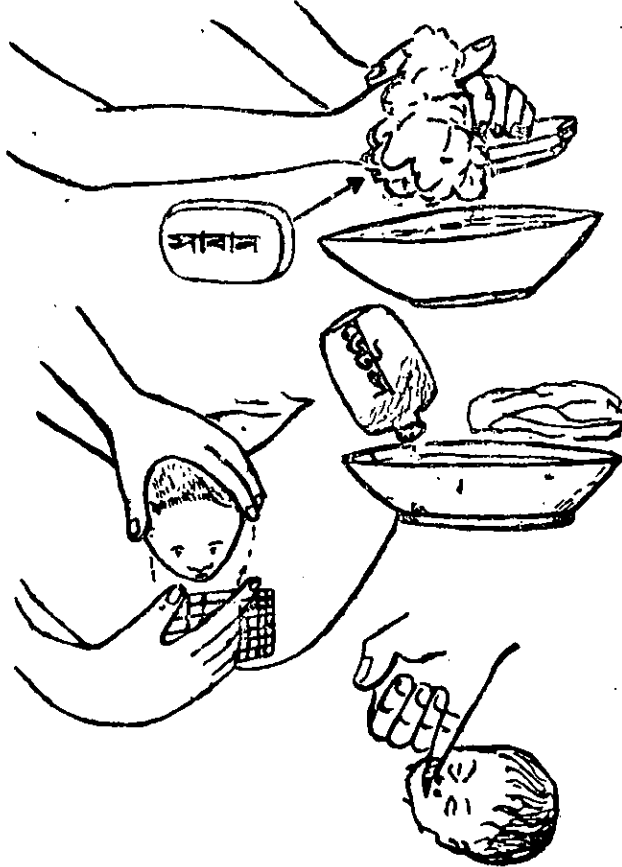
হেড



গজ

ক) প্রসব করাছাঁকির পূর্বে

- সমস্ত হাত অনুই পর্যন্ত সাবান ও গরম পানি দ্বারা ধোঁয়া করিবেন।
- প্রসবের রাখার যন্ত্রের পিক গরম পানি ও ডেউল মিশ্রিত পানি দ্বারা পরিষ্কার করিয়া নিবেন।



খ) প্রসবের সময় আস্তে আস্তে প্রসব করাছাঁকিবেন।

কখনও কখনও মনোভাঙকতে ট্রাস্টিকলীট বাহির করিবেন না বিশেষ করে যখন সন্তান ওঠা থাকিবে।

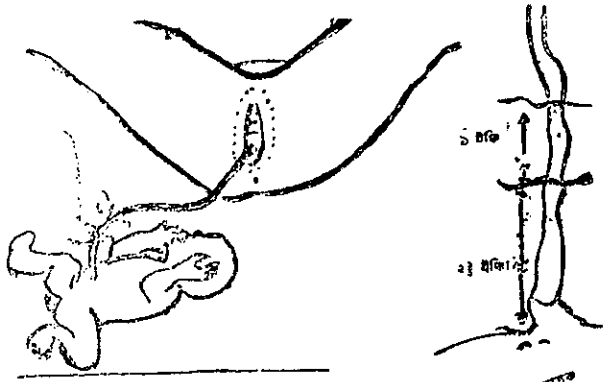
- একটি লজ্জা সলবার আঁতড় করিয়া রাখিবেন। ইহা আসবার ছাড়া পিওকে সন্তানের গাত হইতে রক্ষা করিবে।
- মলতরঙ্গের গাছের টুকরাটি এমনভাবে ধরে রাখা পিও রাখতে হবে যে সন্তান প্রসবের সময় সন্তানের প্রসব সাঁহাতে সন্তান প্রসবের রাখার (বোনি পথের) চ্যামড়া হিঁড়ে না যাত।

- সন্তান প্রসব কোন ভীতিলতা হইলে বা অতিরিক্ত শব্দ হইলে বা কোন কারণে সন্তান প্রসবে কোন প্রতিবন্ধকতা হইলে কাল বিলম্ব না করিয়া ক্রমবিক্রমিক নিষ্কটস্থ মাত্র মননে পরাট্রিতে হইবে।

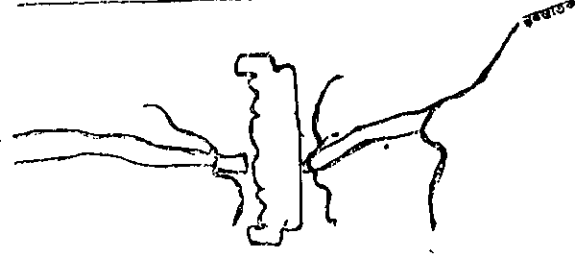
- মনোভাঙকের মাঝা বাহির হইয়া আসিবার সময়ে সন্তান এক টুকরা পরিষ্কার কাপড় বা গজ দ্বারা তাগার মাল, হুঁ ও সূত্বের ভিত্তমদেশ পরিষ্কার করিয়া নিবেন।

প্রসারিত পদ

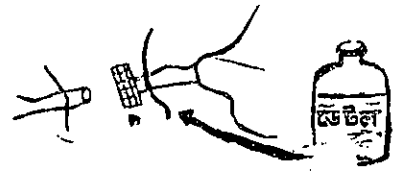
— দুইটা পাদ্য বিস্তারিত ভাবে মাড়ানো হওয়া সহজে অস্বাভাবিক হিষ্টি পুরে তোল ও পড়া করিয়া পরিষ্করন এবং ইহার এক হিষ্টি পুরে তার একটা ধাঁচন দিবেন।



— দুই বাঁগনের মাঝখানে হুড়ু পাতা কাটবেন

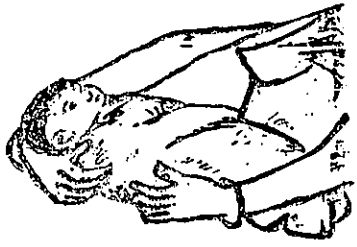


— সমানতা তেমন পকে নামাইয়া সেই গরু পাতা পিকুর নিকরে কাটা মাড়ীর জগতান ধাঁচিয়া দিবেন। কুন জাড়াতাড়ি বাধির কাঠিখান পেরে কখনও মাড়ী ধাঁচিয়া রোগে টানাটানি কহিবেন না।

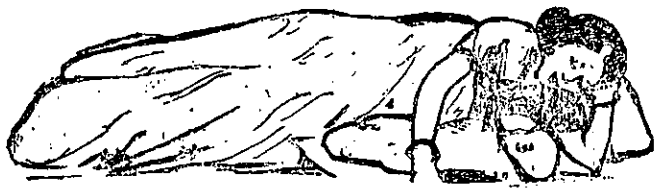


মবজাত শিশুর যত্ন

— মবজাত শিশু বাধিরের ঠাণ্ডা পড়া করিলে পায়ের না তাই তাহারকে এক টুকরা পথিফর অলপত্ব ফারা মোড়াইয়া দিতে সহিবে তাকা রাখিতে সহিবে সেই মোড়ানো বেন মাথায়ও থাকে।



— যদি পিত্তকে পোনন করানোর প্রয়োজন হয় তবে দুধ জাড়াতাড়ি মাড়িয়া দিবেন।



— মাচের কুন পড়িয়া গেলে বা না পড়িলেও পিত্তকে মাচের কুনকত দুধ জাওচরনের তেপ্টী করিবেন। ইহাতে অদিক তার বকু হইবে ও জাড়াতাড়ি কুন পড়িয়া সহিতে সাহেল্য করিলে। এবং ইহাতে মাচের কুনকত জাড়াতাড়ি দুধ জাণিবে।

মাতৃমংগল ও পরিবার পরিকল্পনা কার্যক্রম, মতলব
গ্রামা ধাইদের প্রতিকরণ কর্মসূচী

নিরাপদ গর্ভখালাস কিট্ ব্যবহার সম্পর্কিত প্রধান দিক গুলি

১। হাত ধোয়া	সাবান
২। প্রসব রাসুর বাহির দিখ পরিশ্কার করা ।	ডেটল
৩। প্রসব হওয়ার স্থান	প্রাশ্টিক সিট
৪। প্রসবের সময় প্রসবের রাস্তার বাহির দিখ সম্ভব সতর্কতা ।	গজ / ১২০৭
৫। বাচ্চার নাক, মুখ পরিশ্কার করা শ্বাস-প্রশ্বাস সহজ হওয়ার জন্য ।	গজ / ১২০৭
৬। নাতী ঝাধা	সুতা
৭। নাতী কাটা	ব্রেড
৮। নাতী বেগেছ করা	গজ,
৯। বাচ্চার পরীর গরম রাখা	কাপড় জড়ানো
১০। জনোর পর যত তাড়াতাড়ি সম্ভব বাচ্চাকে মায়ের দুধ দেওয়া ।	-
১১। জোরাজোরি করে প্রসব না স্থানো ।	-
১২। অসুবিধার জন্য যত তাড়াতাড়ি সম্ভব বাচ্চাকে ঝিনিকে প্রেরণ করা	-
১৩। সকল মাকে টিটোনাস প্রতিষেধক ইনজেকশন দেওয়া	-
১৪। প্রতি বাচ্চার মধ্যে বয়সের যবেশট ব্যবধান থাকা ।	-

MATLAB MCH-FP PROJECT
 TRAINING OF TRADITIONAL MIDWIVES
 MESSAGES FOR USE OF SAFE DELIVERY KIT

No.	MESSAGE	PICTURE	MATERIAL
1.	WASH HANDS		SOAP
2.	WASH PERINEUM		DETTOL, PLASTIC SHEET
3.	GUARD PERINEUM		GAUZE
4.	CLEAN AIRWAY		GAUZE
5.	TIGHT CORD		THREAD
6.	CUT CORD		BLADE
7.	DRESS CORD		GAUZE, DETTOL
8.	KEEP BABY WARM		CLOTH
9.	BREAST FEED AS SOON AS POSSIBLE AFTER BIRTH		
10.	DO NOT INTERFERE FORCIBLY		
11.	DO NOT DELAY REFERRAL		
12.	IMMUNIZE ALL WOMEN		
13.	SPACE BIRTHS		

INTERNATIONAL CENTRE FOR DIARRHOEAL DISEASE RESEARCH, BANGLADESH

MATLAB MCH-FP PROJECT

WORKSHOP ON MATERNITY CARE IN MATLAB, NAYERGAON, FEBRUARY 1987

- RECOMMENDATIONS -

1. The group realized the urgent need to strengthen the existing health structure and to innovate at all levels in order to improve the quantity and quality of maternity care in rural areas, and reduce maternal and perinatal mortality.
2. With regard to Matlab, not only does the ICDDR,B's MCH-FP team need to be involved and trained further at all levels, but collaboration needs to be sought with other institutions: NGOs to provide midwives and to share experiences, the Government of Bangladesh to provide facilities for referral at upazilla and district levels, academic institutions to provide advice and evaluation, and international institutions to support the commitment and to study replicability.
3. With regard to maternal mortality rates, standardized WHO ICD definitions should be used to ensure that useful comparisons can be made.
4. With regard to relations with Matlab upazila; the ICDDR,B and the Ministry of Health and Family Planning should work together at improving the operational capacity of Upazila Health Complex, including equipment, staff, ambulance operating room and maternity ward. It is suggested that the ICDDR,B staff should accompany patients referred to Matlab or Chandpur in order to facilitate their admission and provide useful information.
5. Antenatal visits must be performed and recorded by CHWs and midwives. Identifying mothers with a high risk of complications is useless if not accompanied by positive care and strengthening the relationship between patients and the health team.

6. Because many complications of child birth cannot be predicted, midwives should attend as many home deliveries as possible, monitor labour, and react to complications or refer if necessary, according to the guidelines provided here.
7. Because one fifth of all maternal deaths take place in the two days following pregnancy termination, midwives were advised to perform systematic post-partum visits and react to complications or refer if necessary, according to the guidelines.
8. Lists have been proposed of basic drugs and equipment for use by midwives when visiting homes or at their sub-centres. These will be subject to approval by official professional institutions.
9. The maternity care programme cannot work without community involvement, therefore emphasis should be placed on establishing and maintaining a good relationship with key people in the community, particularly the traditional midwives and the village doctors. Particular care should be given to avoid interfering with their professional activities and to avoid giving them occasions to spread negative judgements. The question of the difference in age should be also given attention. Finally efforts should be made to improve their technical knowledge and to limit their use of potentially dangerous drugs such as pitocin.
10. A good relationship with community leaders should also be stressed, for example in the field of material assistance to the poorest in order to cover the costs of transport and hospitalisation in case of referral. Similarly, preliminary talks should be held in villages or unions with elderly eminent women who might be of help for supporting midwives in case of threats to her safety or security.

MATERNITY CARE IN MATLAB

MANAGEMENT OF OBSTETRIC COMPLICATIONS IN THE VILLAGE

A. ANTE-NATAL PERIOD

TOXAEMIA:

Presentation: Primigravida or primipara with complaints of frequent headache, dizziness, excess weight gain, swelling of feet, usually during 3rd trimester.

Examination: Check vital signs (particularly blood pressure), and urine test, fundal height, fetal heart.

Management: If BP >90-140 and proteinuria +, advise bed rest, left side position, restrict activity, no salt nor water restriction (drinking water is advised), phenobarbitone (or diazepam) 1 tab. BID. Motivate mother to deliver in sub-centre or to go to Matlab for artificial induction if symptoms are aggravating and term approaches (see preeclampsia).

SEPTIC ABORTION:

Presentation: Fever, chills, vaginal bleeding, foul smelling discharge, pelvic tenderness.

Examination: Check vital signs, particularly temperature. Try to find out about amenorrhoea in the 2 or 3 past months), and about history of induced abortion. Examine lower abdomen and check for vaginal discharge including bleeding or pus.

Management: Refer to Matlab for intra-venous(i.v.), antibiotics, and dilation and curettage. Prepare potential blood donors. Ensure confidentiality.

THIRD TRIMESTER BLEEDING:

Presentation: Vaginal bleeding, either abundant or not, pallor, anxiety, rapid pulse.

Examination: Check vital signs (particularly for shock), fundal height. NO MANUAL VAGINAL EXAMINATION. Assess duration of pregnancy.

Management: Either placenta praevia or abruptio placenta, start i.v. infusion and refer to Matlab (or Chandpur). Prepare potential blood donors and accompany patient with spare i.v. infusion in hand.

FOETAL DEATH:

Presentation: 3rd trimester, foetus has stopped moving.

Examination: Check vital signs (infection may be present), foetal heart, presentation, size, position.

Management: If suspected, refer to Matlab for induction of delivery (Pitocin IV)

B. DURING LABOUR

PREECLAMPSIA:

Presentation: Primigravida or primipara, in labour. Either known as toxæmic during ante-natal screening or not. Complaints of headache, dizziness, blurred vision, epigastric or right upper abdominal pains.

Examination: Check vital signs (BP >90-140), albuminuria, oedemas, fundal height, contractions, foetal heart, position, presentation. VE: dilatation, membranes. "Roll over" test.

Management: Keep patient quiet, lying left side, reassured. Give diazepam 2 tabs, and furosemide IM, monitor BP and prepare airway, i.v. infusion, chlorpromazine. If time is too short (full dilatation) deliver as soon as possible : rupture membranes, episiotomy. If time allows, put i.v. infusion and refer to sub-centre or Matlab for better conditions of delivery.

ECLAMPSIA:

Presentation: Same as above, 8 to 9 months pregnant or at term, labour has started. Headache, blurred vision, epigastric pain, suddenly patient does not answer questions, eyeballs get fixed or revulsed, and generalized tonic contraction appears, tongue may be bitten, urine passed, duration 2-3 minutes, followed by chronic phase (fits, shakes) and then coma.

Examination: Very brief (see above), immediate action requested, no time for referral.

Management: Secure patient, left side lying, guard tongue and airway, if i.v. has been installed previously: inject lasix and chlorpromazine or diazepam (very slowly) (or magnesium sulfate if available). Otherwise place i.v. infusion, deliver as soon as possible, rupture membranes, episiotomy: if delivery is impossible, refer to Matlab, with i.v. infusion and good escort, for forceps delivery.

PREMATURE LABOUR:

Presentation: 7-8 months pregnancy, irregular contractions, bloodstained mucus (cervical plug) has been passed.

Examination: Check vital signs, assess duration of pregnancy, observe contractions, check foetal position, size, presentation, heart sound. VE: dilatation and membranes.

Management: Complete bed rest. If delivery process advanced: complete and prepare for small baby. If vital signs indicate shock, suspect abruptio placenta or placenta proevia, place i.v. infusion and refer to Matlab as soon as possible. If membranes ruptured (fluid passed) start ampicillin and refer to Matlab.

PROLONGED LABOUR:

Presentation: At term, contractions have started more than 24 hours ago (primigravida) or more than 12 hours ago (multigravida) - no progress.

Examination: Check vital signs, assess duration of pregnancy, observe contractions, check foetal position, size, presentation, heart sound. VE: dilatation and membranes. Check pelvic dimensions, assess previous problems.

Management:

- If membranes are bulging and full dilatation, and cephalic presentation: rupture during contraction, and check for cord prolapse and foetal heart.

- If membranes already ruptured; and normal presentation, try stimulation, change position, monitor pushing, episiotomy if narrow lower outlet but no pitocin in field.

- If malpresentation (it should have been identified), try to turn it right between contractions or refer to Matlab (Chandpur) for C section.

- If signs of shock appear, place i.v. infusion and refer urgently.

- If none of the above, and no dilation, refer to Matlab for assessment and pitocin drip.

PROLAPSED CORD:

Presentation: Either cord is visible or palpable in vagina, or foetal heart gets slow during and between contractions.

Management: Monitor foetal heart, try to push back presentation between contractions, elevate hips, hasten delivery and prepare for resuscitation. If not successful, refer to Matlab but foetal prognosis not good.

BREECH:

Presentation: Identified prior to labour or at onset of labour by TBA or midwife.

Examination: Check vital signs, check foetal size and position, heart sound, dilatation and membranes.

Management: DO NOT INTERFERE. Slow progress is the rule, let body be delivered, DO NOT PULL. For delivering head, apply cautious fundal pressure, episiotomy, introduce finger in baby's mouth to help progress, help flexion, hook arms after rotation if they are lifted.

C. POST-PARTUM PERIOD

PERINEAL TEAR:

Presentation: Either seen during expulsion or discovered during systematic check up, or suspected when prolonged bleeding.

Examination: Good light is essential, assessment of degree necessary, keep clean procedures.

Management: 1st degree: minor tear, edge of vulva, not muscular. NO SUTURE, compression is enough. 2nd degree: larger tear, muscles involved, rectum untouched. Try to identify large vein and put clamps. Can be stitched at home, 2 layers (see equipment) provided good light is available and check for infection: antibiotic. 3rd degree: large tear involving rectum: apply pressure and sterile dressing, refer to Matlab for stitching and antibiotic.

SEVERE HAEMORRHAGE:

Presentation: Either identified soon after delivery, or identified during post-partum visit.

Examination: FIRST CHECK VITAL SIGNS (rapid and weak pulse, low blood pressure, polypnea, pallor, anxiety) and start an i.v. infusion (and prepare another one). Then check fundus and uterine status, then perineum, and VE: examine also placenta, if out.

Management:

- If uterus is empty and not contracted (atony), try massaging it and methergin IM.

- If retained placenta (to be suspected if incomplete or if not expelled 1 hour after baby) try manual evacuation (sterile gloves) and then methergin IM only when uterus is empty. If not possible, refer to Matlab for manual evacuation and antibiotic.

- If placenta completely expelled, uterus contracted and no perineal tear, suspect cervical tear and try high vaginal packing and refer to Matlab.

- If large bleeding mass is found in vagina: suspect inverted uterus and try to push it back manually and then methergin IM.

- If pelvic examination is normal and patient is shocked, suspect ruptured uterus and transfer to Matlab (Chandpur) with plasma expanders or i.v. infusion, and family members for blood transfusion (prognosis not good).

POSTPARTUM SEPSIS:

Presentation: Identified at post-partum visit, within 1-2 weeks of pregnancy termination, fever, chills.

Examination: Check vital signs, abdominal or pelvic tenderness, discharge. VE: with speculum for assessing origin of discharge.

Management: Motivate for referral to Matlab for laboratory investigation and i.v. antibiotics. Start with ampicillin + paracetamol if referral is not likely to be accepted, and follow closely.

POST-PARTUM SWELLING OF ONE LEG:

Presentation: Within one to three weeks after delivery; unilateral swelling + inflammatory signs (redness, warmth, tenderness).

Examination: Check vital signs, try to assess level of lesion (calf or thigh or pelvis), check for enlarged inguinal lymph node.

Management: Motivate for referral at Matlab for better care and antibiotic + anticoagulant therapy. If not possible advise strict bedrest, local compresses, surelevation of leg, start coumarin and/or ampicillin or cloxacillin.

D. IMMEDIATE CARE OF COMPLICATIONS OF NEW BORN

HYPOXIA - ASPHYXIA - BIRTH TRAUMA:

Presentation: After prolonged labour, particularly second stage, or prolapsed cord, or eclampsia, or breech. New born is cyanotic, or pale, or motionless.

Examination: Quick APGAR score, also assess temperature (see next page).

Management: In all cases, ensure clear airway, use suction device to clean mouth, nose and throat. Keep baby warm and dry, wrap in clothes including head. Stimulate gently. If unsuccessful, practise gentle mouth-to-mouth nose technique (avoid blowing stomach) and refer to sub-centre for oxygenotherapy.

SMALL BABY (PREMATURE - SMALL FOR GESTATIONAL AGE):

Presentation: Small baby, try to assess length of gestation either premature <9 months or intra-uterine growth retardation, or both (twins are most likely to be both).

Examination: Birth weight (neither urgent nor essential) APGAR score, temperature, chest circumference.

Management: As above in all cases. Priority to warming (cover head also). If baby can suck, drip glucose water in mouth frequently. Oxygen is advised if referral to sub-centre possible. (Try to refer to sub-centre for oxygen). Prematurity carries worst prognosis.

IN ALL CASES: Insist on feeding baby with colostrum as soon as possible, as much and as frequently as possible.

MATERNITY CARE IN MATLAB
MANAGEMENT OF NEONATAL COMPLICATIONS IN THE VILLAGE

APGAR SCORE	2	1	0
Heart beat	fast	slow or irregular	not perceived
Respiration	normal	slow or irregular	absent
Colour	all normal	extremities and lips cyanosed	all cyanosed
Tonus	normal, all tonic	hypotonic	all flaccid
Reflexes	grimace + general reaction	only local reaction	no reaction

- ALSO CHECK
- TEMPERATURE (whole body and extremities)
 - Cord (haemorrhage)
 - Skull (haematomas)
 - Malformations

WORKSHOP ON MATERNITY CARE IN MATLAB (FEBRUARY 1987)

BASIC EQUIPMENT AND SUPPLIES FOR MIDWIVES

<u>ITEMS</u>	<u>QUANTITY PER SET</u>
Blood pressure instrument	1
Stethoscope	1
Foetoscope	1
Regular examination gloves (sterile)	2
Safe delivery kit	1
Lubricating jelly	1
Thermometer (in celsius)	1
Plastic sheet	1
Scissors blunt end	1
Bowl	1
Kidney shape basin	1
Curved haemostats (Kelly)	2
1 infant rubber suction device	1
Box of paper strips for detection of glucose and protein in urine	1
Syringes 5cc (disposable)	2
Syringes 1cc (disposable)	2
Needles 25 G	2
Needles 22 G	4
Stitching needle (large)	2
Chromic sutures (ready to use)	2
Enema (can + tube + nozzle)	1
Sterile compresses	20
American dressing (vaginal packs)	5
Hygenic pads	5
Torch + batteries	1
Nail brush	1
Urinary catheter (rubber)	2
Sponge holding forceps	1
Thumb forceps	1
Towel	1
Case or basket	1
Arm circumference tape	1
Baby weighing scale	1
Razor + blade	1
Paper pad + pencil	1

(Mothers in their homes are expected to provide clean clothes, boiled water, and oil.)

WORKSHOP ON MATERNITY CARE IN MATLAB (FEBRUARY 1987)

BASIC DRUGS AND SUPPLIES FOR MIDWIVES

<u>ITEM</u>	<u>QUANTITY PER SET</u>
Soap (bar)	1
Savlon Liquid (to be diluted)	1
Ampicillin capsules, 250 mg.	10
Lignocaine (xylocaine) 1% vial, 50 ml	1
Ergometrine maleate (methergin) tablet 0.125 mg	10
Ergometrine maleate (methergin) injectable 0.2 mg/1 ml amp.	3
Diazepam tablets, 5 mg.	10
Diazepam injectable 10 mg/2 ml amp.	2
Chlorpromazine inj. 25 mg/ 2 ml amp.	1
Phenobarbitone tablet 30 mg	10
Infusion + set (Dacca solution or plasma expander or saline + glucose 5%)	2
Furosemide inj. 20 mg/2 ml amp.	2
Paracetamol tablets, 500 mg	10
Gentian violet 1% (vial)	1
Tetracycline eye ointment 1%	1

A. IDENTIFICATION:		SLW:	CID:	RID:	NAME:	BARI:
B. BASELINE INFORMATION ON PAST HISTORY:				C. ANTENATAL CARE DATE:		
REL	AGE	TPG	CEB	FP. HISTORY:	PREGNANCY MONTH:	
TETANUS TOXOID DT.	LCH	LSN	LPDPT	PAST HISTORY OF:	(1) WEIGHT (Kg):	
1. / /			STAT	PREMATURE DELIVERY:	(2) ANEMIA:	
2. / /			LLB DT / /	TWINS:	(3) JAUNDICE:	
3. / /			LMP DT / /	SP. ABORTION:	(4) TIBIAL OEDEMA	
4. / /			EDD DT / /	STILL BIRTH:	(5) FEVER	
5. / /				ECLAMPSIA:	(6) B.P. :	
HEIGHT (cm)				MALPRESENTATION:	(7) GLUCOSE:	
PHYSICAL DIFFORMITY				C. SECTION:	(8) PROTEIN:	
DUAC (mm):				LBW	(9) FUNDAL HEIGHT (cm)	
				INDUCED ABORT.	(10) FETAL HEART (mm):	
				MR	(11) FETAL MOVEMENTS:	
				MALFORMATION	(12) PRESENTATION:	
					(13) TWIN:	
					BLEEDING	
					OTHER PROBLEMS:	
					+MANAGEMENT (MGT)	
					IRON FOLIC	
					OTHER DRUGS RECEIVED	
D. LABOUR AND DELIVERY: DATE OF VISIT: HOUR PLACE: CALLED BY:				E. POSTNATAL CARE		
ONSET OF LABOUR, DATE: / / TIME: QUALITY OF LABOUR: CONTRACTIONS				DATE OF 1ST VISIT: / / 2ND VISIT: / /		
SIGNS OF PRE-ECLAMPSIA: MGT: WEAK STRONG				HOURS AFTER DELIVERY		
ECLAMPSIA: MGT:				MOTHER:		
RUPTURE OF MEMBRANES: TIME: METHOD: CORD PROLAPSE:				GL. CONDITION:		
PRESENTATION: METHOD OF DELIVERY:				FEVER:		
BLEEDING: MGT: OBSTRUCTED LABOUR MGT:				B.P. :		
TWIN				LACTATION: (NIPPLES)		
OUTCOME: DATE / / TIME: STATUS: SEX:				UTERUS:		
APGAR AT 1mm: /10; AT 5mm: /10; BIRTH WEIGHT: COLOSTRUM FEED:				PERINEUM:		
CORD CARE: CHEST CIRCUMFERENCE (mm):				BLEEDING:		
PLACENTA OUTCOME: TIME: MGT:				OTHERS: (URINE....)		
CERVICAL / PERINEAL TEAR: (Degree) MGT:				REFERRAL:		
PROFUSE BLEEDING: MGT:				NEW BORN:		
REFERRAL: TRANSPORT: END POINT:				GL. CONDITION:		
REMARKS: Write outcome of referral if any, date of death if any, cause of death, summary of drugs used etc.,				TONUS / CRY:		
				MECONIUM/URINE		
				SUCKING:		
				COLOSTRUM:		
				FEEDING:		
				TRAUMA:		
				MALFORMATIONS:		
				JAUNDICE:		
				OTHERS: (CORD, EYES)		
				REFERRAL:		

Sample of midwife's record