

**TRAINING MANUAL**  
**For**  
**MANAGEMENT AND PREVENTION**  
**OF OBSTETRIC COMPLICATIONS**  
**At**  
**PRIMARY CARE LEVEL**



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# Contents

<b>Section One</b>	<b>1 - 3</b>
<b>The Manual</b>	
<ul style="list-style-type: none"><li>• Introduction</li><li>• Structure of the Training Module</li></ul>	
<b>Section Two</b>	<b>5 - 8</b>
<b>Guidelines For Trainers On Participatory Learning</b>	<b>5</b>
<ul style="list-style-type: none"><li>• Methodologies<ul style="list-style-type: none"><li>• Brainstorming</li><li>• Case study (small group discussion)</li><li>• Role play</li><li>• Large group presentation and interactive discussion</li><li>• Summarisation</li></ul></li><li>• Learning Materials</li></ul>	
<b>Section Three</b>	<b>9 - 34</b>
<b>Intensive Training Programme</b>	<b>9</b>
<ul style="list-style-type: none"><li>• General Objectives</li><li>• Schedule</li></ul>	
<b>Module 1: Determinants of Maternal Mortality</b>	<b>11</b>
<ul style="list-style-type: none"><li>• Introduction</li><li>• Objectives</li><li>• Schedule of Activities</li><li>• Case Study</li><li>• Guidelines For Facilitator</li></ul>	
<b>Module 2: Haemorrhage during Pregnancy</b>	<b>14</b>
<ul style="list-style-type: none"><li>• Introduction</li><li>• Objectives</li><li>• Schedule of Activities</li><li>• Case Study</li><li>• Guidelines For Facilitator</li></ul>	
<b>Module 3: Postpartum Haemorrhage</b>	<b>19</b>
<ul style="list-style-type: none"><li>• Introduction</li><li>• Objectives</li><li>• Schedule of Activities</li><li>• Case Study</li><li>• Guidelines For Facilitator</li></ul>	
<b>Module 4: Hypertensive Disorders including Eclampsia</b>	<b>23</b>
<ul style="list-style-type: none"><li>• Introduction</li><li>• Objectives</li><li>• Schedule of Activities</li><li>• Case Study</li><li>• Guidelines For Facilitator</li></ul>	

<b>Module 5: Puerperal Sepsis</b>	<b>28</b>
<ul style="list-style-type: none"> <li>• Introduction</li> <li>• Objectives</li> <li>• Schedule of Activities</li> <li>• Case Study</li> <li>• Guidelines For Facilitator</li> </ul>	
<b>Module 6: Prolonged Labour / Obstructed Labour</b>	<b>32</b>
<ul style="list-style-type: none"> <li>• Introduction</li> <li>• Objectives</li> <li>• Schedule of Activities</li> <li>• Case Study</li> <li>• Guidelines For Facilitator</li> </ul>	
<b>Section Four</b>	<b>35 - 69</b>
<b>Subsequent Modules</b>	<b>35</b>
<ul style="list-style-type: none"> <li>• Recap of Intensive Course and Video film</li> <li>• Antenatal Care</li> <li>• Family Planning</li> <li>• Breastfeeding</li> <li>• Care of the Newborn</li> <li>• Counseling of Health Care Providers on Information, Education and Communication (IEC) materials</li> </ul>	
<b>Section Five</b>	<b>71 - 120</b>
<b>Annexures</b>	<b>71</b>
<ul style="list-style-type: none"> <li>• Project Information</li> <li>• Development of Training Programme</li> <li>• Modified Objectives</li> <li>• Profile of Trainees and Trainers</li> <li>• Pre / Post- Test Questionnaire</li> <li>• Illustrations</li> <li>• IEC Materials</li> </ul>	

## INTRODUCTION

This Manual has been developed for training of Health Care Providers (HCPs) in obstetric care at the primary level. Its focus is on the recognition of major obstetric complications and timely referral to an appropriate facility. The Manual also includes Modules on preventive care and other components of Reproductive Health.

The Manual is based on the training programme imparted to different categories of practising HCPs - i.e. doctors, health assistants, midwives, Lady Health Visitors (LHVs) and Traditional Birth Attendants (TBAs) - in the Safe Motherhood Intervention Project implemented in a low middle class locality of Karachi. The goal of the Project was to increase utilisation of medical services by women who develop obstetric complications. (See Annexure).

The objectives and learning activities described in the Manual is for training of the doctors. For the other categories of HCPs, modifications were made in objectives and teaching learning strategies emphasising use of visual materials such as diagrams, illustrations, etc. (See Annexure)

The Manual has been made simple, comprehensive and easy for use by trainers. The Manual also includes Guidelines for participatory methods of teaching/ learning such as Brainstorming, Case Study, Role Play, Questions / Answers Session, which trainers must refer to while facilitating sessions.

The Manual includes: (i) Three-day Intensive Training Course and (ii) Training for Subsequent Modules

(i) **Three-day Intensive Training Course**

This is a 10-hour programme covered in six modules which is spread over three consecutive days. The topics covered are: Determinants of Maternal Mortality, Haemorrhage during Pregnancy, Postpartum Haemorrhage, Hypertensive Disorders including Eclampsia, Sepsis, Prolonged Labour / Obstructed Labour. The modules could be used together or separately depending on the desired objectives.

(ii) **Subsequent Modules**

A total of six Subsequent Modules are included in this Programme. For each course a three hour monthly session has been designed for each category of HCPs. The first hour of each session focuses on queries of trainees on the training already provided as well as any obstetric complications encountered by them including referrals made. The remaining session introduces trainees to a new module. The topics covered in the modules are: Recap of Intensive Training

Course and “*Mamta Ki Hifazat*”<sup>1</sup> (Video film prepared by National Committee on Maternal Health), Antenatal Care, Family Planning, Breastfeeding, Care of Newborn, and Counseling of HCPs on effective use of Information Education and Communication (IEC) materials.

## **STRUCTURE OF THE TRAINING MODULE**

Each module begins with Introduction and a statement of General Objectives. This is followed by Schedule of Activities, Case Study, Facilitator Guidelines for Case Study and Questions / Responses.

### **Introduction:**

A brief description or rationale for selecting each module.

### **Objectives:**

What each trainee is expected to learn on completion of the module.

### **The Facilitators Guidelines:**

Information on the management of the case as presented in the Case Study. This is presented in a 2-column format. The Questions are in the left hand column and the Possible Responses in the right hand column to help trainers in facilitating small group discussions during discussion on the Case Study.

### **Questions / Responses:**

Important questions which should be covered during small group discussions. If not covered, then the trainers should raise these questions and ensure that appropriate responses are provided during discussion. This is also presented in a 2- column format with the Questions in the left hand column and the Possible Responses in the right hand column.

*Note: Facilitators must read the Guidelines before the session to ensure that the desired content is covered adequately.*

### **Video film on “*Selected Essential Obstetric Skills At Primary Level*”<sup>2</sup>**

This Manual should be used with the video film developed by the project team. The video demonstrates some essential skills for prevention and management of obstetrics complications at primary health care level. For each module, the relevant skills should be shown to the trainees. This Video should be included and scheduled appropriately.

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<sup>1</sup> “*Mamta Ki Hifazat*” copies of this video are available at a nominal cost from NCMH - 3 C, Commercial Lane 2, Zamzama, Clifton, Karachi 75600. Pakistan

<sup>2</sup> Video on “*Selected Essential Obstetric Skills At Primary Level*” available at nominal cost at the Department of Community Health Sciences, The Aga Khan University, P.O. 3500, Stadium Road, Karachi 74800. Pakistan



The skills shown in the video include:

1. Clinical estimation of anaemia in a pregnant women
2. Measurement of blood pressure
3. Demonstration of oedema
4. Abdominal examination for foetal lie and presentation
5. Administration of Tetanus Toxoid injection intramuscularly
6. Insertion of cannula for intravenous drip
7. Recognition of postpartum haemorrhage
8. Uterine massage for postpartum haemorrhage
9. Initial management of eclampsia
10. Recognition of puerperal sepsis
11. Recognition of obstructed labour
12. Resuscitation of the newborn
13. Testing of urine for confirmation of pregnancy and for presence of protein and sugar

**IEC Materials :**

Six Posters, an Emergency Booklet and a home-based Antenatal Card are included in the Annexure. These should be used with the Module on Counselling on IEC Materials.

# **GUIDELINES FOR TRAINERS ON PARTICIPATORY LEARNING**

## **Methodologies**

The training is designed on the principles of adult learning using participatory teaching learning methodologies. In all the sessions, trainees are active members of the group and their experiences are a valuable resource. The role of the trainers is to facilitate the sessions by sharing ideas, restating ideas, raising questions, guiding discussion to achieve the desired objectives, and summarising. The trainers should use the teaching learning methodologies recommended for each Module. The trainers should refrain from turning summarisation time to didactic lectures or presentations. The language used should be of the level, which is easily understood by the trainees.

*Note: To ensure that the learning methods are implemented effectively, a one to two day workshop on the principles of experiential learning should be organised for the facilitators. In this workshop, sessions on the various learning methods must be designed so that facilitators are comfortable as well as successful in achieving the objectives of the Module. In addition, the training activities must be reviewed at the end of each day to ensure that the Module objectives are achieved satisfactorily.*

## **Teaching Learning Methodologies**

A combination of the following strategies have been used in this Manual:

- Brainstorming
- Case study (Small group discussion)
- Role play
- Large group presentations and interactive discussions including Question Response session.
- Use of Video
- Summarisation by Facilitators

### **Brainstorming: How to do it?**

- Introduce the case study (see Module 1: Why did Jameela die?)
- Ask participants to give their opinions about the topic.
- Involve everyone / encourage each participant to speak.
- List all ideas on white sheet or board. Before writing on the board ensure that the view / statement is accepted/agreed by all participants.
- Use one third time in generating and collecting views
- Use remaining time to add information which may have been missed in brainstorming.

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This can be done by posing questions such as :

- “ Do you not think .....? ”
- “ What about .....? ”
- Summarise the discussion. This can be done by a brief presentation of the facilitator.

### **Case Study: How to do it ?**

- Distribute the case study.
- If two case studies are used distribute to two groups of participants. For example, if four groups are made, two groups will be doing Case Study One, and the other two groups will be doing Case Study Two.
- Present both case studies separately on OHP or large sheets .
- Seek clarification from participants. Ensure that all participants understand the case study.
- Divide participants in small groups of six to eight members. If the workshop has 24 participants, four groups of six participants or three groups of eight participants could be formed.
- The number of groups depends on the resources available including space and facilitator.
- In every group, members select a group rapporteur or secretary who will take notes and make presentation to the large group.
- A facilitator for every group is recommended. If the facilitators are few, then the facilitators present should go to each group and facilitate.
- In small groups, participants discuss the case study. The facilitator facilitates the discussion according to the guidelines given for each Module.
- In every group, the discussion is concluded with a consensus on the main issues. The group secretary writes the main points of discussion on large sheets or transparencies for large group presentation.
- Presentation by each group secretary is followed by large group discussion

### **LARGE GROUP DISCUSSION:**

#### **Role of the Facilitator:**

- Encourages participants to raise questions on individual groups presentation
- Involves participants in discussion
- Gives examples/or ask questions to clear confusion. Ensures that participants do not have any misconceptions
- Summarises the common points of each presentation and adds information if not present in participants presentations

### **Role Play : What is it ?**

- In a role play, people act or pretend to be some other than themselves. The people in the role play are given their characters, and then act out the situation as they want to
- Role plays can be for two or more people
- It is important to emphasise to the participants that this is acting. People are not being themselves but are acting out a role

### **Why Role Play ?**

- The value of the role play is that by acting in it or watching it one can begin to understand why people behave as they do

### **Role Play : How to do it?**

- Explain to each person individually, in private, the role he or she is to act. Ask the people participating in the role play to go out and think about their roles by themselves, without talking to each other
- While the actors are out of the room preparing, ask the group to pay attention to the content of the story and to non-verbal communications between the actors

### **Discussing a role play :**

- Ask each actor how they felt about their role
- Ask the people watching what they thought about the way the actors related to each other
- Ask the group if they thought what was acted could happen in real life

### **How to Use the Video:**

The following points are essential for effective and efficient use of the videos.

- **Before using the videos** for the session, the trainers must view each of the videos and make notes to cover the essential points
- Ensure in advance that the video equipment is working, the tape is rewound and working well
- Give a brief explanation of what the video is about and some key questions which participants will be expected to respond after watching the video
- **After the film**, participants should be asked if they have any questions or they disagree with what was presented. Discuss the issues raised by participants. Clarify misconceptions, if any, with the help of the group
- Discuss the key questions raised after showing the video
- Summarise in relation to the objectives of the video film

### **Summarisation by facilitators**

The salient features of the Module are summarised briefly by facilitators. The summary should be 10 minutes or less.

## **Learning Materials**

The following training materials are required :

- White board/black board
- Flip charts and flip chart stand
- Markers (white board/transparency)
- Overhead projector (OHP) and transparencies
- Projection Screen ( if available)
- VCR or VCP
- Handouts (Case Studies)
- Writing notebooks and ball points

# INTENSIVE TRAINING PROGRAM

## GENERAL OBJECTIVES

### At the end of the three day initial training, health care providers should

- **Understand** the importance and rationale for promotion of safe motherhood practices in Pakistan.
- **Understand** the role of health care providers in the promotion of safe motherhood practice
- **Identify** common causes of maternal deaths in Pakistan.
- **Differentiate** between medical, socio-economic and cultural causes of maternal deaths in Pakistan.
- **Identify** risk factors of pregnancy.
- **Recognise** the signs and symptoms of the following conditions:
  - Haemorrhage - Antepartum, Intrapartum and Postpartum as well as haemorrhage related to Abortion
  - Hypertensive disorder / Eclampsia
  - Sepsis
  - Prolonged / Obstructed Labour
- **Differentiate** between severe, moderate and mild conditions
- **Manage** mild conditions appropriately
- **Refer** moderately severe and severe conditions to appropriate facility after immediate appropriate action/management

**INTENSIVE TRAINING COURSE  
3-DAYS PROGRAMME**

Day- 1	Duration	Day-2	Duration	* Day-3	Duration
<b>Opening Session</b> Welcome Introduction of Organisers/ Participants/ Facilitator Training Programme: Objective Strategies Schedule	45 Minutes	<b>RECAP</b>  <b>Module 3 POSTPARTUM HAEMORRHAGE</b> - Assessment - Diagnosis - Management - Referral	15 Minutes  60 Minutes	<b>RECAP</b>  <b>Module 5 PUERPERAL SEPSIS</b> - Assessment - Diagnosis - Management - Referral	15 Minutes  60 Minutes
Pre-Test	30 Minutes	<b>Module 4 HYPERTENSIVE DISORDERS ( HDP) Including ECLAMPSIA</b> - Assessment - Types - Diagnosis - Management - Referral	90 Minutes	<b>Module 6 PROLONGED LABOUR / OBSTRUCTED LABOUR -</b> Assessment - Diagnosis - Management - Referral	60 Minutes
<b>TEA BREAK</b>					
<b>Module 1 DETERMINANTS OF MATERNAL MORTALITY</b>	60 Minutes	<b>Module 4 (Continued) HYPERTENSIVE DISORDERS ( HDP) Including ECLAMPSIA</b>		<b>Module 6 (Continued)</b>	
<b>Module 2 HAEMORRHAGE DURING PREGNANCY</b> - Abortion - Assessment - Diagnosis - Management - Referral - Antepartum Haemorrhage - Assessment - Diagnosis - Management - Referral	90 Minutes			<b>Closing Session</b> - Post – Test - Participants feedback - Concluding remarks	30 Minutes 05 Minutes 10 Minutes

**MODULE: 1**  
**TOPIC: DETERMINANTS OF MATERNAL MORTALITY**  
**TOTAL TIME: 60 Minutes**

### 1.1 INTRODUCTION

- The Maternal Mortality Ratio (MMR) in Pakistan is high. Figures range from 2,600 to over 700 per 100,000 live births in government hospitals. In community studies the MMR ranges over from 250 to 650
- WHO / UNICEF estimates an MMR of 340
- An estimated 2500 – 3000 women die each year in Pakistan of pregnancy-related complications, and at least 400,000 are left with morbidities
- Majority of the deaths are preventable
- The determinants of maternal deaths, in addition to medical, are socio-economic and cultural.
- The Health Care Providers (HCP) have an important role in addressing the medical factors.

### 1.2 OBJECTIVE

At the end of the session, participants should be able to :

- **IDENTIFY** common determinants of maternal deaths in Pakistan
- **DIFFERENTIATE** between medical and other causes of maternal deaths

<b>1.3 SCHEDULE OF ACTIVITY</b>			
<b>ACTIVITY</b>	<b>TIME</b>	<b>BY WHOM</b>	<b>RESOURCE</b>
Introduction of :  Module - Objective - Strategies - Schedule  Participants / Facilitators	15 Minutes	Facilitator	White / Black Board Transparency / Large Sheet with Markers / Handouts
Brainstorming - Introducing the Case Study	10 Minutes	Facilitator	
Large group Interactive Discussion - Identifying the causes - Categorising different determinants	30 Minutes	Participants and Facilitator	
Summary	5 Minutes	Facilitator	



## Case Study of Jameela

Jameela was the eldest of seven children. Her father worked in a factory and earned Rs.1,500/- a month. Jameela had never been to school as her father did not believe in educating girls.

Jameela was married at the age of 15 years to her cousin Ghaffar who did odd jobs here and there. Jameela started living in a two room house with her husband, mother-in-law, father-in-law and a young unmarried sister-in-law. By the age of 20 years, Jameela had three girls. Anxious to have a boy, especially to please her husband and in laws, Jameela conceived again four months after her last delivery. She had no antenatal check-ups as she had no time to spare after her household chores.

At term Jameela went into labour at about 11 a.m. Her husband and father-in-law had left for work. Her mother-in-law sent the sister-in-law to fetch Dai Zainab who lived a few yards away and who had delivered Jameela's three previous children. The Dai arrived and Jameela delivered a live baby boy easily at about 3 p.m. The placenta was delivered approximately 10 minutes later and with it about 2 cupful of blood clots were expelled. Jameela was given a cup of milk and asked to rest. Twenty minutes later Jameela complained to the Dai that her bleeding was more than usual. The Dai said this was normal after a fourth delivery, and continued to bathe the baby. Soon after Jameela passed blood clots and complained of feeling weak.

At this point Dai Zainab went to fetch the doctor from his clinic nearby. The doctor came and gave Jameela two injections and went away. Jameela continued to bleed and felt faint. At about 6 p.m. the Dai asked Jameela's mother-in-law to take her to hospital. The mother-in-law hesitated, as the two men of the family were not at home. Nevertheless, seeing Jameela's condition getting worse, she asked her neighbour to fetch a taxi. He came back after half an hour without a taxi as there was a call for a general strike that day and the transporters had joined the strike. Soon after, another neighbour who had a Suzuki van, which was used by him to carry eggs from the poultry farm to the market, came by and volunteered help. He carried Jameela to his van and left for hospital with the mother-in-law and the Dai. Driving cautiously through the streets, avoiding areas where he sensed trouble, he reached the main Casualty Department of JPMC in about half an hour. There he was told that he should go to the Department of Obstetrics and Gynaecology. By that time Jameela had become very quiet. On reaching the casualty Department of Obstetrics and Gynaecology, Jameela was declared dead (7.30 p.m.).

### Why did Jameela die?

## **FACILITATOR GUIDELINES:**

- Introduce the Case Study.
- Ask participants to discuss the causes, and factors leading to Jameela's death.
- Categorize the causes as medical, social, cultural and economic similarly as mentioned in the study below.
- Summarize

### **Reasons for delay in reaching the hospital\* (118 cases in 10 years)**

<b>Reasons for Delay</b>	<b>Number</b>
<b>Economic</b>	
Transport not available	<b>29</b>
Lack of finances	<b>13</b>
<b>Socio cultural factors</b>	
Family hesitant to go to hospital	<b>22</b>
Husband was not at home	<b>17</b>
<b>Inadequate maternal services</b>	
Time lost in transfer from one place to another	<b>37</b>
Delay in referral by maternity homes	<b>17</b>

\* Jafarey, S N and Korejo R. Mothers Brought Dead: An Enquiry into Causes of Delay. Soc. Sci. Med. Vol 36, 3, 371-2, 1993

**MODULE: 2**  
**TOPIC: HAEMORRHAGE DURING PREGNANCY**  
**TOTAL TIME: 90 Minutes**

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**2.1 INTRODUCTION**

- Haemorrhage during pregnancy, labour and following delivery is the major cause of maternal death in developing countries. Of these, postpartum haemorrhage is the most common.
- Haemorrhage accounts for about 20-25% of maternal deaths in Pakistan.
- Prompt diagnosis and speed in management can save many lives.

**2.2 OBJECTIVES**

At the end of the session, participants should be able to :

- Recognise a case of:
  - Abortion
  - Antepartum Haemorrhage (APH)
- Differentiate between severe, moderate and mild conditions
- Manage cases of abortion with spotting
- Refer cases of abortion with frank bleeding, and all cases of APH to hospital.
- Take appropriate measures before transfer

<b>2.3 SCHEDULE OF ACTIVITY</b>			
<b>ACTIVITY</b>	<b>TIME</b>	<b>BY WHOM</b>	<b>RESOURCE</b>
Introduction of : Module - Objectives - Strategies - Schedule Participants / Facilitators	15 Minutes	Facilitator	Transparency / Large Sheet with Markers Handouts (2 case studies)
Introducing 2 Case Studies  - Small Group Discussion - Presentations	10 Minutes  20 minutes 15 minutes	Facilitator and Participants	
Large Group Interactive Discussion (Question Response Session)	20 Minutes	Facilitator and Participants	
Summary	10 Minutes	Facilitator	

## 2.4 ABORTION

### 2.4.1 Case Study of Fazeela:

Fazeela has been married for five years and has two children. She has now missed two periods and develops vaginal spotting. She goes to an Lady Health Visitor (LHV) who gives her some tablets and sends her home to rest. The following day Fazeela starts losing fresh blood and has abdominal pain. She comes to you for advice.

**What will you do ?**

### 2.4.2 Facilitator Guidelines for discussion in small / large groups:

<b>How will you assess?</b>	<ul style="list-style-type: none"><li>• Detailed history</li><li>• Amount of bleeding</li><li>• Passage of tissue</li><li>• General condition especially pallor</li><li>• Vital Signs</li><li>• Temperature</li><li>• Abdominal tenderness</li></ul>
<b>What is the diagnosis?</b>	<ul style="list-style-type: none"><li>• Inevitable abortion</li><li>• Incomplete abortion</li></ul>
<b>How will you manage?</b>	<ul style="list-style-type: none"><li>• Refer to secondary / tertiary hospital</li></ul>
<b>What steps will you take before referral?</b>	<ul style="list-style-type: none"><li>• Set up Dextrose in water / saline drip (whichever is available) with I/V cannula gauge 14</li></ul>

## 2.4.3

## Question / Response Session

Questions	Responses
<b>What is abortion?</b>	Abortion is the termination of pregnancy before 28 weeks of gestation *
<b>What are the different types of abortion?</b>	Abortion may be : <ul style="list-style-type: none"> <li>• Threatened</li> <li>• Inevitable</li> <li>• Incomplete</li> <li>• Missed</li> <li>• Any of the above may be infected (Septic abortion)</li> </ul>
<b>What is the management of threatened abortion?</b>	<b>If there is spotting only:</b> <ul style="list-style-type: none"> <li>• Advise rest</li> <li>• Prescribe Tablet folic acid 5 mg daily</li> <li>• Clean (sterile if possible) pads</li> </ul> <b>If spotting continues or frank bleeding occurs:</b> <ul style="list-style-type: none"> <li>• Refer to hospital</li> </ul>
<b>What is the management of Inevitable and Incomplete abortion?</b>	<ul style="list-style-type: none"> <li>• Give I/V or IM Inj Ergometrine 0.5 mg or Inj Oxytocin** 10 i.u (to control bleeding)</li> <li>• Refer to hospital for evacuation of uterus after setting up drip of 5% Dextrose in water or saline through I/V cannula guage 14</li> </ul>

\* WHO defines abortion as termination of pregnancy before 22 weeks of gestation

\*\* Marketed as Syntocinon

## 2.5 ANTEPARTUM HAEMORRHAGE (APH)

### 2.5.1 Case Study of Fatima

29 year old Fatima comes to you at 32 weeks of pregnancy with fresh vaginal bleeding for two hours. She has soaked her shalwar and one pad and has some discomfort in the abdomen. Fatima had slight bleeding twice before at 24 and 29 weeks of pregnancy which stopped by itself. She had mentioned this to the Lady Health Visitor who asked her to have an ultrasound examination performed. This showed a low lying placenta partially covering the internal os.

**What will you do ?**

### 2.5.2 Facilitator Guidelines for discussion in small / large groups

<b>How will you assess?</b>	<ul style="list-style-type: none"><li>• Vital signs</li><li>• Amount of bleeding</li><li>• Abdominal tenderness</li></ul>
<b>What is the diagnosis?</b>	<ul style="list-style-type: none"><li>• Placenta praevia</li><li>• Abruptio placenta</li></ul>
<b>How will you manage?</b>	<ul style="list-style-type: none"><li>• Refer to secondary /tertiary hospital</li></ul>
<b>What step/s will you take <i>before</i> referral ?</b>	<ul style="list-style-type: none"><li>• I/V fluid* with 14 gauge Cannula</li><li>• Take blood for cross-matching</li><li>• Organise blood donors</li><li>• <b>DO NOT PERFORM VAGINAL EXAMINATION</b></li></ul>
<b>What are the complications?</b>	<ul style="list-style-type: none"><li>• Hypovolemic shock</li><li>• Coagulation Failure</li><li>• Intrauterine death of foetus</li></ul>

\* 5% Dextrose in water; 5% Dextrose in Saline; Ringer's lactate; Haemaccel - whichever is available.

## 2.5.3

## Question / Response Session

Questions	Responses
<b>What is Antepartum Haemorrhage ?</b>	<ul style="list-style-type: none"> <li>• Antepartum haemorrhage is vaginal bleeding after 28 weeks of pregnancy</li> </ul>
<b>What are the common causes of Antepartum Haemorrhage ?</b>	<ul style="list-style-type: none"> <li>• <b>Placenta praevia</b> – Due to low lying placenta. Bleeding is not accompanied by pain</li> <li>• <b>Abruptio placenta</b> - separation of a normally situated placenta . Bleeding is associated with pain</li> <li>• There are other less common causes of APH like a polyp on the cervix</li> </ul>
<b>What is the management of Antepartum Haemorrhage ?</b>	<ul style="list-style-type: none"> <li>• All cases should be referred to secondary / tertiary hospital after initial management which includes : <ul style="list-style-type: none"> <li>• I/V fluid* with 14 gauge Cannula</li> <li>• Take blood for cross matching</li> <li>• Organise blood donors</li> </ul> </li> </ul> <p>Note: <b>DO NOT PERFORM VAGINAL EXAMINATION</b></p>

\* 5% Dextrose in water; 5% Dextrose in Saline; Ringer's lactate; Haemaccel - whichever is available.

**MODULE: 3**  
**TOPIC : POSTPARTUM HAEMORRHAGE (PPH)**  
**TOTAL TIME: 60 Minutes**

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### 3.1 OBJECTIVES:

At the end of the session, participants should be able to

- Recognise a case of PPH
- Provide immediate emergency care
- Transfer all cases to secondary / tertiary hospital
- Take appropriate measures before transfer

<b>3.2 SCHEDULE OF ACTIVITY:</b>			
<b>ACTIVITY</b>	<b>TIME</b>	<b>BY WHOM</b>	<b>RESOURCE</b>
Introduction of Module - Objectives - Strategies - Schedule Participants / Facilitators	10 Minutes	Facilitator	Transparency / Large Sheet with Markers / Handouts
Introducing Case Study	5 Minutes	Facilitator and Participants	
- Small Group Discussion - Presentations	15 minutes 10 minutes		
Large Group Interactive Discussion (Question Response Session)	15 Minutes	Facilitator and Participants	
Summary	5 Minutes	Facilitator	



### 3.3

### CASE STUDY OF HALIMA:

25 year old Halima had her first baby delivered normally at home by a dai two days ago. Today she felt the bleeding was heavier. She soaked two shalwars and felt weak and dizzy. Her relative brings her to your clinic. She looks very pale and when you examine her, the BP is 90/60 mm Hg and the pulse is 120 per minute

**What will you do?**

#### 3.3.1 Facilitator Guidelines for discussion in small /large groups

<b>How will you assess ?</b>	<ul style="list-style-type: none"><li>• General condition, especially pallor</li><li>• Vital signs</li><li>• Amount of bleeding</li><li>• Abdominal palpation for size of uterus and tenderness</li></ul>
<b>What is the diagnosis ?</b>	<ul style="list-style-type: none"><li>• Secondary PPH</li></ul>
<b>How will you manage?</b>	<ul style="list-style-type: none"><li>• Refer to secondary/tertiary hospital Immediately</li></ul>
<b>What steps will you take <i>before</i> referral?</b>	<ul style="list-style-type: none"><li>• I/V Ergometrine 0.5 mg (1 ampoule) Or</li><li>• Syntocinon 10 units. (if I/V not possible give I/M)</li><li>• I/V fluids: through appropriate size of Cannula (14' gauge); preferably use Haemaccel. If not available use 5% dextrose in water or saline</li><li>• Take blood sample for cross-matching</li><li>• Organise blood donors</li></ul>

## 3.3.2

## Question / Response Session

Questions	Responses
<b>How is PPH defined?</b>	<ul style="list-style-type: none"> <li>• Blood loss of 500 ml or more (approximately two cupsful)* after delivery of baby (whether the placenta is delivered or not)</li> </ul>
<p data-bbox="252 453 814 485"><b>What are the different types of PPH ?</b></p> <p data-bbox="442 559 640 591"><b>Primary PPH</b></p> <p data-bbox="426 666 657 697"><b>Secondary PPH</b></p>	<ul style="list-style-type: none"> <li>• Primary and Secondary</li> <li>• Bleeding within 24 hours of delivery</li> <li>• Bleeding between 24 hours of delivery and six weeks postpartum</li> </ul>
<p data-bbox="252 793 698 868"><b>What are the common causes of primary and secondary PPH ?</b></p>	<p data-bbox="847 761 1243 793"><b>Causes of Primary PPH</b></p> <ul style="list-style-type: none"> <li>• <b>Atonic</b> Atony of uterus with or without retained piece of placenta or membranes. The uterus is relaxed</li> <li>• <b>Traumatic</b> Tears in the genital tract. The uterus is well contracted</li> <li>• <b>Coagulation Failure</b> Bleeding due to defects in blood clotting</li> </ul> <p data-bbox="847 1219 1276 1251"><b>Causes of Secondary PPH</b></p> <ul style="list-style-type: none"> <li>• Retained piece of placenta or membranes</li> <li>• Infection</li> </ul>
<p data-bbox="252 1453 781 1485"><b>What are the common complications?</b></p>	<ul style="list-style-type: none"> <li>• Hypovolemic shock</li> <li>• Renal failure</li> </ul>

\* As shown in video film “*Selected essential obstetric skills at primary level*”

## 3.3.2

## Question / Response Session (Cont'd)

Questions	Responses
What is the management of PPH?	<p><b>Atonic</b> I/V Oxytocics (Ergometrine 0.5 mg or Syntocinon 10 i.u.) stat and continue with 40 i.u. Syntocinon in 1 litre of 5% Dextrose in water or saline drip at 40 drops/ ml</p> <ul style="list-style-type: none"> <li>• Empty bladder</li> <li>• Uterine massage</li> <li>• I/V fluids, plasma expanders, blood transfusion (as required)</li> <li>• Exploration of uterus if bleeding NOT controlled</li> </ul> <p><b>Traumatic</b></p> <ul style="list-style-type: none"> <li>• Identify site of tear by examination which may be perineum, vagina, cervix, uterus (may require anaesthesia)</li> <li>• Stitch the tear</li> <li>• Maintain blood volume by I/V fluids, plasma, expanders, blood transfusion</li> </ul> <p><b>Secondary PPH</b></p> <ul style="list-style-type: none"> <li>• Give broad spectrum antibiotics. Amoxycillin + Clavulanate* orally 375 mg three times a day for five to seven days.</li> <li>• If infection severe - I/V Cephalosporin** 500mg / 6 hourly + I/V Metronidazole*** 500 mg / 8 hourly initially followed by oral therapy</li> <li>• Exploration of uterus to remove any retained products of conception (RPCs). Ultrasound examination (if available) will help to detect RPCs</li> </ul>

\* Marketed as capsules "Augmentin" and "Clamentin"

\*\* Marketed as "Velosef" and "Cephadrine" and many others

\*\*\* Marketed as "Flagyl" and "Abazole"

**MODULE: 4**  
**TOPIC: HYPERTENSIVE DISORDERS INCLUDING ECLAMPSIA**  
**TOTAL TIME: 90 Minutes**

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#### 4.1 INTRODUCTION

- Hypertensive disorders of pregnancy are associated with a high maternal and perinatal morbidity and mortality
- Pre-eclampsia and Eclampsia are the second commonest cause of maternal deaths in Pakistan, accounting for about 17% of deaths.
- Severe Pre-eclampsia and Eclampsia are *preventable* if pre- eclampsia is diagnosed in early stages and treated appropriately

#### 4.2 OBJECTIVES

At the end of the session, participants should be able to :

- Recognise hypertension in pregnancy
- Recognise the signs and symptoms of Pre-eclampsia and Eclampsia
- Distinguish between mild, moderate and severe Pre-eclampsia
- Manage mild Pre-eclampsia correctly
- Refer moderate & severe Pre-eclampsia and Eclampsia to nearest secondary / tertiary hospital.
- Take appropriate measures before transfer

4.3 SCHEDULE OF ACTIVITY			
ACTIVITY	TIME	BY WHOM	RESOURCE
Introduction of Module - Objectives - Strategies - Schedule Participants / Facilitators	15 Minutes	Facilitator	Transparency / Large Sheet with Markers / Handouts
Introducing the Case Studies - Small Group Discussion - Presentations	45 Minutes	Facilitator and Participants	
Large Group Interactive Discussion (Question Response Session)	20 Minutes	Facilitator and Participants	
Summary	10 Minutes	Facilitator	

## 4.4

# CASE STUDY OF SAEEDA

### SEVERE PRE ECLAMPSIA

38 year old Saeeda, para 4+0 is 8 months pregnant has not had any antenatal checkup. She is brought to you because of severe headache and epigastric pain. On examination she has a puffy face, pulse is 100 per minute and BP 180/120 mm Hg.

### What will you do?

#### 4.4.1 Facilitator Guidelines for discussion in small /large groups

<b>How will you assess ?</b>	<ul style="list-style-type: none"><li>• Recheck Blood Pressure</li><li>• Test for proteinuria with Dipstick (if available)</li><li>• Check for oedema on feet, hands, face and abdomen</li><li>• Perform abdominal examination for lie, presentation, station of presenting part and foetal heart</li></ul>
<b>What is the diagnosis ?</b>	<ul style="list-style-type: none"><li>• Severe Hypertensive Disorder (Probably Pre-eclampsia)</li></ul>
<b>How will you manage ?</b>	<ul style="list-style-type: none"><li>• Refer to secondary / tertiary hospital</li></ul>
<b>What steps will you take before referral?</b>	<ul style="list-style-type: none"><li>• Give Injection Diazepam 5 mg I/V (slowly) or IM</li><li>• Give sublingual Nifedipine* 2 - 5 drops if diastolic BP above 110 mm Hg</li></ul>

\* Marketed as "Adalat"

4.4.2

Question / Response Session

Questions	Responses
<p>What is the definition of hypertension in pregnancy?</p>	<ul style="list-style-type: none"> <li>• The BP is 140/90 mm Hg or greater OR</li> <li>• There is a rise of 30 mm Hg Systolic or 15 mm Hg diastolic over baseline value (if known) on at least two occasions 6 or more hours apart</li> </ul>
<p>What is pregnancy induced hypertension?</p>	<ul style="list-style-type: none"> <li>• Hypertension may be pre-existing. When it develops during pregnancy it is known as "<b>Pregnancy Induced Hypertension</b>" (PIH)</li> <li>• PIH may be classified as Gestational Hypertension or Pre-eclampsia.</li> </ul>
<p>What is Pre-eclampsia</p>	<ul style="list-style-type: none"> <li>• Pre- eclampsia is the development of Hypertension in pregnancy with significant proteinuria i.e. +</li> </ul>
<p>How do you differentiate between mild, moderate, and severe Pre-eclampsia?</p>	<ul style="list-style-type: none"> <li>• <b>Mild</b> If diastolic BP is between 90- 100 mm Hg without proteinuria</li> <li>• <b>Moderate</b> If diastolic BP is &gt; 100 mm Hg with or without proteinuria</li> <li>• <b>Severe</b> All other cases of hypertension and Proteinuria</li> </ul>
<p>What are the symptoms of :</p> <p style="padding-left: 40px;"><b>Pre-eclampsia</b></p> <p style="padding-left: 40px;"><b>Eclampsia</b></p>	<ul style="list-style-type: none"> <li>• There may be no symptoms in mild Pre-eclampsia. It can be diagnosed by checking the blood pressure</li> <li>• In moderate or severe pre-eclampsia, there maybe generalized oedema, headaches and visual disturbances</li> <li>• In <b>eclampsia</b> there are convulsions in addition to above symptoms</li> </ul> <p>Note: <b>Immediately check BP of women with such symptoms</b></p>

4.4.2

**Question / Response Session (Cont'd)**

Questions	Responses
<p><b>What is the treatment of :</b></p> <p><b>Mild Pre-eclampsia</b></p> <p><b>Moderate and severe Pre-eclampsia</b></p> <p><b>Eclampsia</b></p>	<ul style="list-style-type: none"> <li>• Bed-rest at home</li> <li>• Tablet Phenobarbitone 30-60 mg twice and daily</li> <li>• BP check twice weekly</li> <li>• If BP rises or proteinuria develops or symptoms worsen, refer to hospital</li> </ul> <ul style="list-style-type: none"> <li>• Refer to hospital after initial management i.e. injection Diazepam 5 mg I/V (slowly) or IM and sublingual Nifedipine (Adalat) 2-5 drops if diastolic BP above 110 mm Hg</li> </ul> <ul style="list-style-type: none"> <li>• Refer to hospital after the following initial care :               <ul style="list-style-type: none"> <li>• Turn patient to one side (to prevent aspiration of vomit)</li> <li>• Maintain airway (to help breathing)</li> <li>• Give injection Diazepam 5mg I/V or 10 mg IM</li> </ul> </li> </ul>
<p><b>What are the factors leading to increased risk of developing Pre-eclampsia / eclampsia?</b></p>	<p><b>Risk factors for Pre-eclampsia / eclampsia include :</b></p> <ul style="list-style-type: none"> <li>• First pregnancy, especially in young teenagers or women above 35 years</li> <li>• Multiple pregnancy ( twins etc)</li> <li>• Renal disease</li> <li>• Essential hypertension</li> <li>• Diabetes mellitus</li> <li>• Family history of Pre-eclampsia</li> <li>• History of Pre-eclampsia in previous pregnancy</li> </ul>

## 4.4.2

## Question / Response Session (Cont'd)

Questions	Responses
<p><b>What are the complications of Pre-eclampsia / eclampsia?</b></p>	<p><b>In Mother:</b>            Nearly all body systems are affected including :</p> <ul style="list-style-type: none"> <li>• Respiratory (asphyxia, aspiration of vomit, pulmonary oedema)</li> <li>• Cardiac (heart failure)</li> <li>• Brain (haemorrhage, oedema)</li> <li>• Renal (acute kidney failure),</li> <li>• Liver, and the Coagulation systems (DIC)</li> </ul> <p><b>In Foetus:</b>            Placental insufficiency leading to:</p> <ul style="list-style-type: none"> <li>• Hypoxia</li> <li>• Intrauterine growth retardation (IUGR)</li> <li>• Intrauterine death of the foetus (IUD)</li> </ul>



**MODULE: 5**  
**TOPIC : PUERPERAL SEPSIS**  
**TOTALTIME: 60 Minutes**

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### 5.1 INTRODUCTION

- Puerperal infection is a major cause of maternal deaths and morbidity in the developing world
- Sepsis accounts for about 13 -15 % of maternal deaths in Pakistan
- Puerperal sepsis is preventable.

### 5.2 OBJECTIVES

At the end of the session, participants should be able to :

- Recognise signs and symptoms of Puerperal sepsis
- Distinguish between mild and severe infections
- Manage mild cases correctly.
- Refer all other cases to hospital
- Take appropriate measures before transfer

### 5.3 SCHEDULE OF ACTIVITIES

ACTIVITY	TIME	BY WHOM	RESOURCE
Objectives/ Strategies of the module Introduction of Participants / Facilitators	10 Minutes	Facilitator	Transparency / Large Sheet with Markers Handouts
- Introducing the Case Study - Small Group Discussion - Large Group Presentation - Interactive discussion	30 Minutes	Facilitator and Participants	
Question Answer Session	10 Minutes	Facilitator and Participants	
Summary	10 Minutes	Facilitator	

## 5.4

### CASE STUDY OF RASHEEDA

Rasheeda is 25 years old. She had her 6<sup>th</sup> delivery conducted by Caesarean Section at a private hospital. She came home after four days as she could not afford the hospital charges.

A day later she developed fever with rigors and complained of lower abdominal pain, foul-smelling excessive lochia (vaginal bleeding).

You are called to see Rasheeda by her mother-in-law. On examination, her temperature was 102<sup>o</sup>F, pulse 110/min. The breasts were slightly engorged and there was lower abdominal tenderness.

#### What will you do?

#### 5.4.1 Facilitator Guidelines for the Case Study

<p><b>How will you assess?</b></p>	<ul style="list-style-type: none"> <li>• Take History :               <ul style="list-style-type: none"> <li>• Is she taking any antibiotics?</li> <li>• Is she breast-feeding her baby?</li> <li>• Does she have any urinary complaints?</li> </ul> </li> <li>• Check :               <ul style="list-style-type: none"> <li>• Fever</li> <li>• Vaginal discharge- is it foul smelling, pus like?</li> <li>• Caesarean Section incision site: – tenderness and discharge</li> <li>• Abdominal tenderness</li> <li>• Involution of uterus (size of uterus)</li> <li>• Breast for redness and tenderness</li> </ul> </li> </ul>
<p><b>What is the diagnosis?</b></p>	<ul style="list-style-type: none"> <li>• Genital tract infection</li> </ul>
<p><b>What is the differential diagnosis?</b></p>	<ul style="list-style-type: none"> <li>• Abdominal wound infection</li> <li>• Breast infection</li> <li>• Other causes of fever e.g. malaria</li> </ul>
<p><b>How will you manage?</b></p>	<ul style="list-style-type: none"> <li>• Refer to secondary / tertiary hospital</li> <li>• If patient refuses to go to hospital: Start Tablet paracetamol 500 mg 1-2 tablets 6 hourly and Capsule Amoxycillin with clauvanate 375 mg 6 hourly</li> </ul>
<p><b>What steps will you take <i>before</i> referral?</b></p>	<ul style="list-style-type: none"> <li>• Give Tablet Paracetamol 500 mg /1-2 stat</li> </ul>

## 5.5

## Question / Response Session

Questions	Responses
<p><b>What is Puerperal Sepsis?</b></p> <p><b>and</b></p> <p><b>What are its symptoms?</b></p>	<p><b>Puerperal Sepsis</b> is infection of the genital tract occurring at any time between the onset of rupture of the membranes or labour and the 42<sup>nd</sup> day postpartum in which fever 100.4°F (38°C) and one or more of the following symptoms are present:</p> <ul style="list-style-type: none"> <li>• Pelvic pain</li> <li>• Abnormal vaginal discharge, e.g. presence of pus</li> <li>• Abnormal smell / foul odour of discharge</li> <li>• Delay in the rate of reduction of size of uterus (&lt;2 cm/day during first 8 days)</li> </ul>
<p><b>What is mild infection?</b></p>	<ul style="list-style-type: none"> <li>• Fever less than 101°F and slight abdominal pain and tenderness/foul smelling discharge.</li> </ul>
<p><b>What is moderate and severe infection?</b></p>	<ul style="list-style-type: none"> <li>• Fever 101° F or more</li> <li>• Severe abdominal pain / tenderness</li> <li>• Foul discharge</li> <li>• Generalised symptoms</li> </ul>
<p><b>What is the management of mild cases?</b></p>	<ul style="list-style-type: none"> <li>• Antibiotic orally Capsule Amoxycillin with clauvanate* 375 mg 1+1+1 for 5 days or</li> <li>• Capsule Cephalosporin** 500mg 6 hourly / 5 – 7 days</li> <li>• Tablet Paracetamol 500 mg 1-2 / three times a day</li> <li>• If no improvement in 48 hours refer to hospital.</li> </ul>
<p><b>What are the causes of fever in the puerperium</b></p>	<ul style="list-style-type: none"> <li>• Genital tract infection</li> <li>• Urinary tract infection</li> <li>• Breast engorgement or infection</li> <li>• Others e.g. malaria, gastro-enteritis respiratory infection etc.</li> </ul>

\* Marketed as “Augmentin” and “Clamentin”

\*\* Marketed as “Velosef”, “Cephadrine” and many others

## 5.5

**Question / Response Session (Cont'd)**

<b>Questions</b>	<b>Responses</b>
<b>What are the factors leading to increased risk of developing infection ?</b>	<ul style="list-style-type: none"> <li>• Failure to observe asepsis during labour and delivery</li> <li>• Repeated vaginal examination</li> <li>• Prolonged rupture of membranes</li> <li>• Prolonged labour</li> <li>• Anaemia</li> </ul>
<b>What are the complications of Puerperal Sepsis?</b>	<ul style="list-style-type: none"> <li>• Pelvic peritonitis</li> <li>• Generalised peritonitis</li> <li>• Septicaemia</li> <li>• Bacteremic shock.</li> </ul>
<b>What are the ways of prevention?</b>	<ul style="list-style-type: none"> <li>• Observation of cleanliness at delivery - clean hand, clean delivery surface, clean cord cutting and cord care</li> <li>• Use of sterile (or clean pad) after rupture of membranes and delivery</li> </ul>

**Module: 6**  
**TOPIC : Prolonged Labour / Obstructed Labour**  
**TOTAL TIME : 90 Minutes**

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### 6.1 INTRODUCTION

- Obstructed and Prolonged Labour are significant causes of maternal and perinatal mortality and morbidity
- Obstructed labour is due to mechanical obstruction and can result in rupture of uterus (with serious consequences) if not recognised
- Prolonged labour is generally due to ineffective uterine contractions, but may be accompanied by mechanical obstruction

### 6.2 OBJECTIVES:

At the end of the session, participants should be able to :

- Understand the duration and course of normal labour
- Understand the causes of delay in labour
- Recognise sign and symptoms of prolonged / obstructed labour
- Refer all cases of prolonged / obstructed labour to hospital
- Take appropriate measures before referral

### 6.3 SCHEDULE OF ACTIVITY

ACTIVITY	TIME	BY WHOM	RESOURCE
Introduction of Module : - Objectives - Strategies - Schedule Participants / Facilitators	15 Minutes	Facilitator	Transparency / Large Sheet with Markers / Handouts
Introducing the Case Study - Small Group Discussion - Presentations	45 minutes	Facilitator and Participants	
Large Group Interactive Discussion (Question Response Session)	20 Minutes	Facilitator and Participants	
Summary	10 Minutes	Facilitator	

Majida has had three live children normally. In her 4<sup>th</sup> pregnancy she is now at term and in labour for 20 hours in a maternity home. The LHV in-charge gave her some injections two hours earlier to hasten delivery but Majida had not yet delivered. You are called.

### What will you do?

#### 6.4.1 Facilitator Guidelines for discussion in small / large groups

<p><b>How will you assess ?</b></p>	<ul style="list-style-type: none"> <li>• Take history :             <ul style="list-style-type: none"> <li>• Strength and frequency of contractions</li> <li>• Nature of injection given by LHV</li> </ul> </li> <li>• Check :             <ul style="list-style-type: none"> <li>• Pulse</li> <li>• Blood Pressure</li> </ul> </li> <li>• <b>Abdominal Examination</b> <ul style="list-style-type: none"> <li>• Lie</li> <li>• Presentation</li> <li>• Engagement of head / presenting part</li> <li>• Foetal heart sounds</li> </ul> </li> <li>• <b>Vaginal Examination</b> <ul style="list-style-type: none"> <li>• Dilatation of cervix</li> <li>• Station of head / presenting part</li> <li>• Presence / absence of “caput” and moulding</li> <li>• Presence / absence of meconium in liquor</li> </ul> </li> </ul>
<p><b>What is the diagnosis ?</b></p>	<ul style="list-style-type: none"> <li>• Prolonged labour</li> <li>• Obstructed labour</li> </ul>
<p><b>How will you manage ?</b></p>	<ul style="list-style-type: none"> <li>• Refer to secondary / tertiary hospital straightaway</li> </ul>
<p><b>What steps will you take before referral?</b></p>	<ul style="list-style-type: none"> <li>• Set-up I/V Dextrose in water drip (NO syntocinon )</li> </ul>

## 6.4.2

## Question / Response Session

Questions	Responses
<p><b>What is Prolonged Labour?</b></p> <p><b>What is Obstructed Labour?</b></p>	<ul style="list-style-type: none"> <li>• Labour in which delivery does not occur despite 12 hours of regular contractions – usually due to ineffective uterine contractions but may be due to obstruction</li> <li>• Progress of labour is arrested due to mechanical factors</li> <li>• In spite of strong uterine contractions the foetus cannot descend</li> <li>• Delivery often requires caesarean section</li> <li>• The labour may not necessarily be prolonged</li> </ul>
<p><b>How is Obstructed labour / Prolonged labour diagnosed?</b></p>	<p>It is important to differentiate between prolonged labour which is obstructed and one which is not. The former is more serious.</p> <p>In Obstructed labour :</p> <ul style="list-style-type: none"> <li>• There is more likelihood of malpresentation</li> <li>• The presenting part remains high</li> <li>• There is excessive moulding of head</li> <li>• Bandl's ring may be present *</li> </ul>
<p><b>What are the complications of :</b></p> <p style="padding-left: 40px;"><b>Obstructed Labour</b></p> <p style="padding-left: 40px;"><b>Prolonged Labour</b></p>	<ul style="list-style-type: none"> <li>• Uterine atony ( in primigravidae)</li> <li>• Foetal distress</li> <li>• Maternal distress</li> <li>• Rupture of uterus (in multigravidae)</li> <li>• Fistulae Formation (vesicovaginal, rectovaginal)</li> <li>• Infection</li> <li>• Foetal distress – maternal distress</li> <li>• Genital tract infection</li> </ul>
<p><b>What are the Risk Factors?</b></p>	<ul style="list-style-type: none"> <li>• Short height (&lt; 5ft)</li> <li>• History of prolonged labour</li> <li>• Previous history of stillbirth</li> <li>• Large baby</li> <li>• Free head</li> <li>• Transverse lie</li> <li>• Malpresentation (breech / face/ brow)</li> </ul>

\* See illustration in Annexure

## VIDEO SESSION

**TOPIC :** RECAP OF INTENSIVE COURSE AND  
SHOWING OF VIDEO FILM “ *MAMTA KI  
HIFAZAT* ” (SAFE MOTHERHOOD)

**TOTAL TIME :** 3 Hours

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### INTRODUCTION

The video film “ *Mamta Ki Hifazat*” is of about 25 minutes duration, developed for the community. It is based on two case studies, one of postpartum haemorrhage and the other of antenatal eclampsia. It illustrates the consequences of delay in seeking care in case of complications. It also gives messages about preventive care.

### OBJECTIVES

At the end of the session, participants should be able to :

- Reiterate the information and message given in the intensive course
- Re-inforce them with the help of video film

### STRATEGY

- Brainstorming
- Showing of Video film “ *Mamta Ki Hifazat* ”

### BRAINSTORMING

- What were the objectives of the intensive course?
- Were the objectives achieved?
- What are the common causes of maternal mortality in Pakistan?
- What were the complications discussed and the main messages given?  
Briefly ask them to identify
- How has the course affected their knowledge and behaviour?



## **CASE STUDY 1**

Kulsum a grand multipara, who has had no antenatal care is delivered at home by a Dai. The Dai mismanages the third stage and there is severe postpartum haemorrhage. The Dai delays in referring Kulsum to hospital with the result that she dies soon after reaching hospital.

## **CASE STUDY 2**

Najma, a primigravida, defaults from attending antenatal clinic in late pregnancy. She develops severe oedema all over body and hypertension, which is discovered late. She is admitted to hospital but develops eclamptic fits soon after. Najma is treated promptly and her life is saved but the baby is stillborn

## **LEARNING STRATEGY**

- Show Case Study 1 (Kulsum's) and stop the video
- Brainstorm the participants regarding the factors leading to Kulsum's death
- Then show the explanation given in the film
- Do the same with Case Study 2 (Najma's)

Ask the participants to write down all the factors responsible for the two complications and then classify them according to whether they are social, economic, cultural or medical.

## Facilitator Guidelines for discussion in small /large groups

What are the Risk Factors?	
<p><b>Case Study One (Kulsum)</b></p>	<p><b>Medical</b></p> <ul style="list-style-type: none"> <li>• Primary PPH</li> <li>• Mismanagement of third stage</li> <li>• Late arrival to hospital</li> <li>• Attending <i>dai</i> was not aware of the consequences of bleeding</li> <li>• Multiparity 9<sup>th</sup> pregnancy during 18 years of marriage</li> <li>• Age 38 years</li> <li>• Anaemia</li> <li>• No antenatal care</li> <li>• No family planning was practised</li> </ul> <p><b>Socio-Economic and Cultural</b></p> <ul style="list-style-type: none"> <li>• Low socio-economic status</li> <li>• Lack of awareness of significance of symptoms</li> <li>• Lack of education</li> <li>• Negligence by family members</li> <li>• <i>Dai's</i> attitude slightly aggressive, negligent, and casual throughout</li> </ul>
<p><b>Case Study 2 (Najma)</b></p>	<p><b>Medical</b></p> <ul style="list-style-type: none"> <li>• Eclampsia</li> <li>• Young</li> <li>• Primigravida</li> <li>• Failure to attend antenatal clinic towards end of pregnancy</li> <li>• Failure to recognize symptoms or Pre-eclampsia like oedema all over the body</li> </ul> <p><b>Socio-Economic, Cultural</b></p> <ul style="list-style-type: none"> <li>• Mother-in- law's attitude</li> <li>• Lack of awareness of severity of problem</li> </ul>

**TOPIC :           ANTENATAL CARE**  
**TOTALTIME:   3 HOURS**

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## **INTRODUCTION**

- Antenatal care is preventive medicine
- All pregnant women should have proper antenatal care
- Lack of antenatal care is a high risk factor for maternal and perinatal mortality and morbidity

## **OBJECTIVES**

At the end of the session, participants should be able to :

- Take proper history
- Perform proper examination
- Request relevant laboratory tests
- Give advise and treatment
- Anticipate and prevent (if possible) complications of pregnancy
- Identify high risk pregnancies
- Refer to hospital all high risk pregnancies and those who develop complications in the current pregnancy

## **CASE STUDY 1**

Your 28 year old friend Najeeb got married 8 months ago, his wife Uzma who is 23 years old has missed three periods and he would like you to look after her during the pregnancy.

**How will you take care of her ?**

## **CASE STUDY 2**

31 year old Saira has three children. Her first two babies were born normally at home. For the third baby she had a Caesarean section for foetal distress at JPMC. She is now 4 months pregnant and comes to you for check-up.

**What will you do ?**

### Facilitator Guidelines for discussion in small / large groups

<p><b>How will you assess?</b></p> <p><b>History</b></p>	<ul style="list-style-type: none"> <li>• History of current pregnancy</li> <li>• Medical and surgical history</li> <li>• Previous obstetric history*             <ul style="list-style-type: none"> <li>• Total number of children born</li> <li>• Number of children alive</li> <li>• Cause of death (those who alive)</li> <li>• Ages of children</li> <li>• No of abortion</li> <li>• Mode of delivery</li> <li>• Any complication during pregnancy</li> <li>• Labour and puerperium</li> <li>• Breastfeeding history</li> </ul> </li> </ul>
<p><b>What examination is required?</b></p>	<ul style="list-style-type: none"> <li>• Height</li> <li>• Weight</li> <li>• BP</li> <li>• Abdominal examination</li> <li>• Heart and lungs</li> <li>• Vaginal examination if necessary</li> </ul>
<p><b>What investigations are required?</b></p>	<ul style="list-style-type: none"> <li>• Hemoglobin</li> <li>• Blood group and RH</li> <li>• Blood sugar</li> <li>• Urine for protein and sugar</li> <li>• Other tests as necessary</li> </ul>
<p><b>What medications will you give?</b></p>	<ul style="list-style-type: none"> <li>• Iron tablets (two tablets containing 60 mg elemental iron daily)** and</li> <li>• Folic acid tablets (5mg 1 tablet daily)</li> </ul>
<p><b>Advice regarding delivery</b></p>	<ul style="list-style-type: none"> <li>• Uzma could be delivered at home if no complication develop during pregnancy</li> <li>• Saira should be referred for booking as well as delivery to a tertiary hospital, as her pregnancy is high risk</li> </ul>

\* Only for Case Study 2

\*\* Marketed as Ferrous Sulphate Tablets and many others

## Facilitator Guidelines for discussion in small / large groups

<p><b>Further visits</b></p>	<ul style="list-style-type: none"> <li>• The number of conventional visits are usually between 10 and 12 throughout pregnancy i.e. :                  Every 4 weeks till 28 weeks of pregnancy then every 2 weeks till 36 weeks of pregnancy &amp; then every week till delivery</li> <li>If that is not possible</li> <li>• Minimum 3-4 visits are necessary                  1<sup>st</sup> in early pregnancy, then between 6<sup>th</sup> and 7<sup>th</sup> month and then twice in 9<sup>th</sup> and 10<sup>th</sup> month</li> </ul>
<p><b>Examination and investigations at later visits</b></p>	<ul style="list-style-type: none"> <li>• Weight</li> <li>• BP</li> <li>• Urine examination for protein and sugar</li> <li>• Checking for oedema especially on hands and face</li> <li>• Abdominal examination for fundal height, lie and presentation of foetus, foetal growth and foetal heart</li> <li>• Any other examination as per patient's complaints</li> <li>• Re-check Hb at 32 – 34 weeks</li> </ul>

## Question / Response Session

Questions	Responses
<b>What are high risk pregnancies?</b>	<p>Every pregnancy faces risks Nonetheless there are pregnancies in which there is a greater chance of a complication occurring in the mother or baby. These include pregnancies in the following :</p> <ul style="list-style-type: none"><li>• A girl less than 18 years of age or a woman more than 35 years</li><li>• Women who are short statured i.e. less than 5 ft. tall</li><li>• Grand multipara i.e. a woman having had five or more deliveries</li><li>• Women delivering at short intervals, i.e. less than 2 years from one pregnancy to the other</li><li>• Women with medical conditions like anaemia, hypertension, heart disease, diabetes, rickets etc</li><li>• Women with history of complications in previous pregnancy, like pre-eclampsia, eclampsia premature labour, difficult deliveries, caesarean section, postpartum haemorrhage, stillbirth neonatal death</li><li>• Women whose pregnancy is proceeding normally but develop complications in current pregnancy like bleeding (antepartum haemorrhage), hypertension, gestational diabetes, etc</li><li>• Women in whom the foetus is presenting/lying as breech, oblique or transverse</li><li>• Women with multiple pregnancies like twins, triplets etc</li></ul>

### Question / Response Session (Cont'd)

Questions	Responses
<p><b>What are the levels for anaemia in pregnancy?</b></p>	<ul style="list-style-type: none"> <li>• WHO defines anaemia as Hb concentration less than 11 g%”  Moderate anaemia 7 - 10.9 g%  Severe 4 - 6.9g%  Very severe &lt; 4 g%</li> </ul> <p>Note : The moderate and severe cases may require parenteral iron*/ blood transfusion.</p>
<p><b>What is the schedule of Tetanus Toxoid immunization of the mother?</b></p>	<ul style="list-style-type: none"> <li>• For life long immunity, 5 doses (1ml each) of Tetanus toxoid as follows : <ol style="list-style-type: none"> <li>1. At the time of contact with a woman of child bearing age</li> <li>2. After one month of first dose</li> <li>3. Six months after 1<sup>st</sup> dose</li> <li>4. After 1 year</li> <li>5. After 1 year</li> </ol> </li> <li>• If the woman is pregnant when first seen, the first 2 doses should be given at 7 and 8 months of pregnancy and the rest of the schedule should be followed thereafter</li> </ul>

\* Marketed as Injection” Jectofer” and Injection “Imferon”



**TOPIC :            FAMILY PLANNING**  
**TOTALTIME:    3 HOURS**

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## **INTRODUCTION**

- Family planning (FP) can reduce maternal morbidity and mortality by reducing the number of pregnancies
- Family planning has an impact on both mother and infant's health
- FP can be used for spacing as well as limitation
- FP should be available to whoever needs and wants it

## **OBJECTIVES**

At the end of the session, participants should be able to :

- Understand the need for contraception
- Know the different methods of contraception
- Understand briefly the indications, contraindications and side effects of each
- Help the client select an appropriate method
- Provide condoms and contraceptive pills
- Refer to appropriate facility for insertion of IUCD and Tubal ligation

## **CASE STUDY 1**

20 years old Rashida delivered her second child six weeks ago at home. She is breast feeding her baby and with two little children to look after, she and her husband wish to avoid another pregnancy for 4 or 5 years. Rashida has come to you for consultation.

**What will you do?**

## **CASE STUDY 2**

Hamida is 34 years old, mother of four children. Her first delivery was by Caesarean Section and the following three were normal vaginal deliveries. The youngest son is two months old. She has just had her first period after the delivery. She says she and her husband do not want any more children.

**What advise would you give her?**

### Facilitator Guidelines for discussion in small / large groups

<p><b>How will you assess?</b></p>	<p>Factors to be considered for selection of an appropriate contraceptive</p> <ul style="list-style-type: none"> <li>• Age of the woman</li> <li>• Her parity</li> <li>• Ages and sexes of her children</li> <li>• Previous obstetric history</li> <li>• Whether she is currently breastfeeding</li> <li>• Desire for further children</li> <li>• Duration of birth spacing required</li> <li>• Menstrual history specially regarding menorrhagia</li> <li>• Associated medical conditions like hypertension and diabetes</li> <li>• Compliance potential</li> </ul>
<p><b>What examination and investigations are required?</b></p>	<ul style="list-style-type: none"> <li>• Check BP</li> <li>• Check breasts</li> <li>• Perform abdominal and vaginal examination</li> <li>• Check for diabetes (Blood sugar)</li> </ul>
<p><b>What will be your advice to Rashida and Hamida?</b></p>	<ul style="list-style-type: none"> <li>• Rashida could use any of the temporary measures except the combined contraceptive pill which will reduce the amount of breast milk.</li> <li>• For Hamida the best method would be tubal ligation as she already has four children and does not want any more</li> </ul>

## Question / Response Session

Questions	Responses
<p><b>What are the different methods of family planning ?</b></p>	<p>Methods may be temporary or permanent</p> <ul style="list-style-type: none"> <li>• <b>Temporary Methods</b> <ul style="list-style-type: none"> <li>• <i>Physiological</i> <ul style="list-style-type: none"> <li>• Safe period</li> <li>• Coitus interrupts</li> <li>• Lactation amenorrhoea (LAM)</li> </ul> </li> <li>• <i>Others</i> <ul style="list-style-type: none"> <li>• Barrier methods like the condom</li> <li>• Pills</li> <li>• Injectables</li> <li>• Hormones implants</li> <li>• Intrauterine contraceptive device (IUCD)</li> </ul> </li> </ul> </li> <li>• <b>Permanent Methods</b> <ul style="list-style-type: none"> <li>• Tubal occlusion / Tubal ligation in the female</li> <li>• Vasectomy in the male</li> </ul> </li> </ul>
<p><b>What are the side effects and contraindications of oral contraceptives, injectables and IUCDs ?</b></p> <p style="text-align: center;"><b>Side Effects</b></p>	<p style="text-align: center;"><b>Oral Contraceptives</b></p> <ul style="list-style-type: none"> <li>• Nausea, headaches, depression or water retention</li> <li>• Decreases the amount of milk in lactating mothers</li> <li>• Amenorrhoea</li> <li>• Breakthrough bleeding</li> </ul> <p>Serious side effects are :</p> <ul style="list-style-type: none"> <li>• Deep vein thrombosis</li> <li>• Thromboembolism</li> </ul>

## Question / Response Session (Cont'd)

Questions	Responses
<b>Contraindications</b>	<p style="text-align: center;"><b>Oral Contraceptives</b></p> <ul style="list-style-type: none"> <li>• Pregnancy</li> <li>• Breastfeeding (less than 6 months postpartum)</li> <li>• Age over 35 years</li> <li>• Very high BP</li> <li>• Diabetes with vascular complications</li> <li>• Blood clots in the lung</li> <li>• Stroke</li> <li>• Heavy smoking</li> <li>• Pre –existing conditions like breast cancer, benign liver tumours, active viral hepatitis and liver cancer</li> </ul>
<b>Side Effects</b>	<p style="text-align: center;"><b>Injectable Contraceptives</b></p> <ul style="list-style-type: none"> <li>• Amenorrhoea</li> <li>• Bleeding which may be spotting, heavy, prolonged or irregular</li> <li>• Headache</li> <li>• Possible weight gain</li> </ul>
<b>Contraindication</b>	<ul style="list-style-type: none"> <li>• History of stroke</li> <li>• Diabetes mellitus</li> <li>• Familial Hyperlipidemia</li> <li>• Severe hypertension</li> </ul>
<b>Side Effects</b>	<p style="text-align: center;"><b>Intra-Uterine Contraceptive Device (IUCD)</b></p> <ul style="list-style-type: none"> <li>• Heavier painful periods</li> <li>• Irregular spotting between periods (usually settles within three months)</li> </ul>
<b>Contraindications</b>	<ul style="list-style-type: none"> <li>• Women at risk of developing pelvic infection</li> </ul>

**TOPIC : BREASTFEEDING**  
**TOTAL TIME: 3 HOURS**

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## **INTRODUCTION**

- Breast feeding (BF) is beneficial for both baby and mother
- BF should start as soon as possible after birth
- BF is the only food or drink a baby needs for the first 4 –6 months
- Mother’s milk is the ideal food for the physical and mental development of the newborn
- Contra-indications to BF are very few
- The mothers should be counseled about breastfeed the baby during the antenatal period

## **OBJECTIVES**

At the end of the session, participants should be able to :

- Recognized the benefits of breastfeeding for both mother and baby
- Understand the disadvantages of not breastfeeding
- Recognize the preparation of mother for breastfeeding (in the Antenatal period)
- Recognize problems seen during breastfeeding
- Counsel /advise mothers about breastfeeding including the correct and different positions for BF

## CASE STUDY 1

Twenty one year old Sameera is expecting her first baby in about two months time, and she wishes to breastfeed the baby. Her elder sister has two children, both of whom were given breast milk as well as cow's milk soon after birth.

Sameera is not sure as to what to do. She has come to you for advise, as she has no elders in her home

**What advise will you give, and why?**

## CASE STUDY 2

Bilquis has just had her second baby by Caesarean section (CS) one day earlier. Her first baby was born normally at home and on the advise of her mother-in-law, the baby was given both breastmilk, and buffalo's milk.

Bilquis has heard about the benefits of breast feeding from her neighbour, and wishes to give the baby her own feeds this time. But because she has had an operation and is feeling weak she is not sure whether she should do it or not

**What would be your advise to her ?**

## **GUIDELINES FOR THE FACILITATOR**

### **1. Brainstorming**

- Benefits of Breastfeeding
  - Classify the answers into
    - Benefit to Baby
    - Benefit to Mother
- Disadvantages of not Breastfeeding

### **1. Presentation (Transparencies)**

### **2. Role play on case studies with emphasis on counseling**



## **KEY COUNSELING MESSAGES\***

### **BENEFITS OF BREASTFEEDING**

#### **Benefits To Mother**

- Stimulates expulsion of placenta
- Prevents postpartume haemorrhage
- Promotes uterine involution
- Lactational amenorrhoea
  - reduced iron loss (no menstrual bleeding)
  - Prevents conception for 4 to 6 months
- Describe mother's workload: breastmilk is available anytime, anywhere, clean sterilised and warm.
- Helps mother return to her pre-pregnancy weight and figure.
- Reduces risk of breast cancer
- Promotes attachment between baby and mother
- Gives pride, satisfaction and confidence

#### **Benefits To Babies**

- Meets nutrient needs perfectly
  - Complete food
  - Easily digested
  - Enough water
- Promotes bonding with mother
- Always available, 24 hours a day at right temperature
- Protects against disease
  - hygienic
  - immune factor
- Prevents allergies

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\* National Breastfeeding Steering Committee - Lactation Management Training Curriculum 1993

## KEY COUNSELING MESSAGES (Cont'd)\*

### **DISADVANTAGES OF NOT BREASTFEEDING**

- Increased cost
- Recurrent infections due to contamination and lack of immune factors
- Compositions of other milks not optimum for growth and development
- Swallowing air nipple confusion
- Allergy to cow's milk
- Dilution errors
- Inconvenience
- Bottles need washing and boiling
- Milk needs warming

### **Counseling for Sameera and Bilquis**

- Sameera should be counseled strongly about the benefits of BF for both the baby and herself. Her breast should be examined to determine if there is any problem with the nipple (retraction)
- Bilquis should also be counseled about the benefits of BF and also told that CS is not a contraindication. She should start feeding the baby as soon as she feels comfortable

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\* National Breastfeeding Steering Committee - Lactation Management Training Curriculum 1993

## Question / Response Session

Questions	Responses
<ul style="list-style-type: none"> <li>• <b>Is colostrum harmful for the baby?</b></li> </ul>	<ul style="list-style-type: none"> <li>• Not at all. On the contrary it supplies all nutrients and contains antibodies which help in developing immunity in the baby.</li> <li>• It also acts as a mild laxative and clears meconium</li> </ul>
<ul style="list-style-type: none"> <li>• <b>If there is no milk, should breastfeeding be continued?</b></li> </ul>	<ul style="list-style-type: none"> <li>• Yes. The act of suckling increases the amount of milk. The mother should be told to increase her food intake as well</li> </ul>
<ul style="list-style-type: none"> <li>• <b>What is exclusive breastfeeding?</b></li> </ul>	<ul style="list-style-type: none"> <li>• Exclusive breastfeeding is feeding of breast milk with no other fluid or food</li> </ul>
<ul style="list-style-type: none"> <li>• <b>What is demand breastfeeding?</b></li> </ul>	<ul style="list-style-type: none"> <li>• Demand breastfeeding is feeding the baby whenever it cries</li> </ul>
<ul style="list-style-type: none"> <li>• <b>If the baby is very small and cannot suck what should be done?</b></li> </ul>	<ul style="list-style-type: none"> <li>• The breast milk should be expressed and given to the baby with a spoon</li> </ul>
<ul style="list-style-type: none"> <li>• <b>If a woman has a Caesarian Section can she breast feed the baby?</b></li> </ul>	<ul style="list-style-type: none"> <li>• Yes. As soon as she becomes comfortable</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Honey and Ghutti is given to the baby soon after birth. Is that advisable</b></li> </ul>	<ul style="list-style-type: none"> <li>• Preferably not, but could be given just once (as it is part of our cultural practice)</li> </ul>

**TOPIC: CARE OF THE NEW BORN**

**TOTAL TIME: 3 HOURS**

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**INTRODUCTION:**

- The first 24 hours of the infant's life are extremely important
- Majority of the neonatal deaths occur during the first week of life and reflect the nutrition and healthcare given to the mother during pregnancy and labour
- Prompt and correct action should be taken if the baby is cyanosed, breathes poorly or does not breathe at birth.

**OBJECTIVES:**

At the end of the session, participants should be able to :

- Describe care of the baby at birth
- Counsel mother regarding appropriate cord care
- Demonstrate resuscitation of an asphyxiated baby
- Manage minor problems in the neonatal period
- Describe the immunisation schedule for the child
- Understand the necessity for immunisation

## CASE STUDY 1: NORMAL BABY

You have just delivered a woman at full term at her home. The baby cried normally and the condition is satisfactory.

**How will you care for the baby in the first 4 hours ?**

### IMMEDIATE CARE OF NEW BORN

- Cord care
  - Cut when the cord stops pulsating
  - Cut with sterile blade or knife
  - Tie at least two knots - preferably use plastic cord clamp
  - Keep cord clean - No antiseptic required
- Clean baby's eyes, nose and mouth
- Put baby to mother's breast immediately and every hour thereafter. There is no need to give honey or "Ghutti". However, if you do, give it from a very clean source and only once
- Do not bathe the baby immediately after birth, it may cool the baby and cause harm. Dry the baby thoroughly by pat-drying the baby with a warm towel or cloth. Remove all liquor over the baby's body as this causes rapid fall in body temperature
- Oil massage is acceptable provided the baby does not become cold. There is no reason to rub the vernix off the baby's skin as it protects against infections
- Keep the baby warm - remove wet towels and wrap in dry clothes (in winter pre-warmed clothes). Especially cover the baby's head, hands and feet as the baby loses heat from here. Keep the baby as close to the mother as possible. This is the best way of keeping the baby warm and encouraging breastfeeding
- Examine baby for any congenital abnormality, but do not handle and open the baby's clothes repeatedly and unnecessarily
- Wash hands with soap and water before handling the baby. Newborn infants have very little immunity and can easily catch infections

## ASPHYXIATED BABY

Asphyxia can be anticipated in a large number of cases, but in others may be entirely unexpected. Every obstetric care-giver must be trained to provide basic resuscitation.

Beware of the risk of asphyxia in:

- Premature births
- Maternal illness such as diabetes, hypertension
- Maternal infection with fever
- Plural pregnancies (twins)
- Small-size baby
- Abnormal presentation (breech)
- Prolonged labour
- Instrumental birth (forceps)
- Caesarean section
- Maternal antepartum haemorrhage
- Passage of meconium in the liquor

The vast majority of births do not require resuscitation, and in some only gentle stimulation is required. In others it is entirely possible to resuscitate the baby with a bag and mask (even without oxygen) and stabilise. If the baby is moderately / severely asphyxiated, refer the baby for an evaluation by a paediatrician / health worker, as there may be subsequent problems.

### CASE STUDY 2 : ASPHYXIATED BABY

Your neighbour has just delivered a full term baby at home. You are called by the dai, because the baby is blue and has irregular jerky breathing.

**What will you do ?**

### RESUSCITATION OF ASPHYXIATED BABY

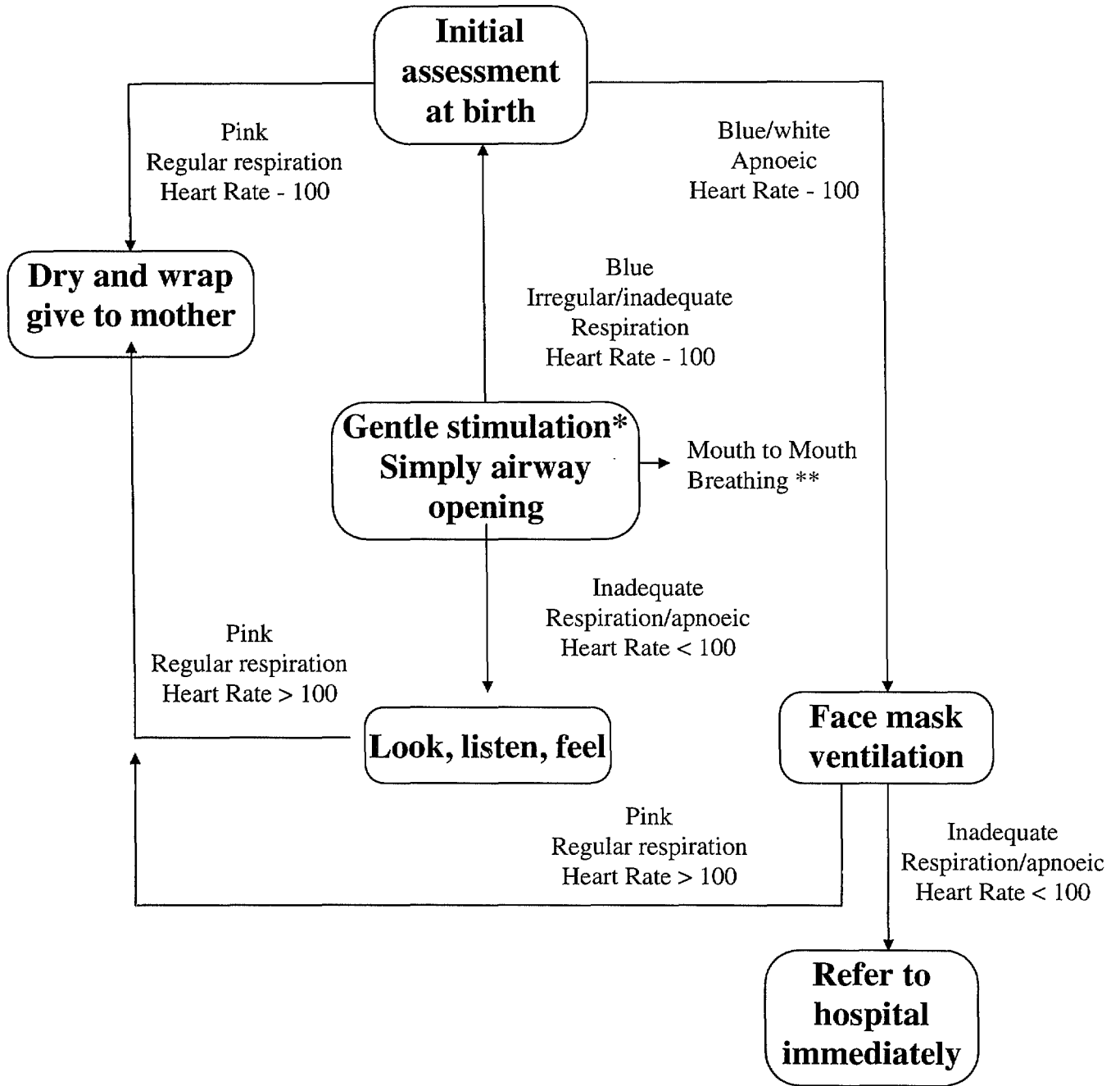
#### Assessment

Airway - Check the Airway. Is there any meconium in the pharynx?

Breathing - Assess whether the baby is breathing or not. Is the breathing irregular?

Circulation - Check heart rate. Note colour of baby – blue or pale. If pale and apnoeic, suggests severe asphyxia

**ASSESSMENT AND INITIAL RESUSCITATION OF THE NEWBORN**



\* Flicking or slapping of the sole of foot. DO NOT SLAP THE BABY OR TURN UPSIDE DOWN. See Illustration in Annexure  
 \*\* See Illustration in Annexure

## **OTHER COMMON PROBLEMS ENCOUNTERED IN THE IMMEDIATE NEONATAL PERIOD**

### **Small baby**

Such babies may be either premature or small-for-dates because of intrauterine problems and maternal malnutrition. These babies are at increased risk of problems at birth such as asphyxia or postnatal complications such as hypoglycemia (low blood sugar), hypothermia, breathing problems and infections. These problems can be avoided by :

- Recognising the risk of asphyxia at birth in both premature births and small fetuses and appropriate preventive measures. These should ideally consist of either referral to a facility for birth in more controlled circumstances, or being prepared for resuscitation and other support
- Dry, wrap and warm the baby immediately after birth. Early and exclusive breastfeeding is essential. If baby is too small to suckle, express milk and feed by spoon. These babies should be fed at least hourly or earlier if the baby demands feeds
- Only handle the baby after washing hands with soap and water (these babies are at high risk of contracting infections). Especially take care to clean the cord properly
- See a doctor if baby has breathing difficulty or turns blue

### **Breathing difficulty**

A newborn baby may encounter breathing difficulty if premature because of immaturity of lungs. This is however rare and when suspected in a small premature baby, such newborn infants must be referred to a hospital after stabilisation.

More commonly normal weight mature babies may develop breathing difficulty because of slight problems with adaptation after birth i.e. getting used to breathing and living outside the mother's womb. If so, such mild breathing difficulty subsides itself in a day or so. Some useful ways of helping such babies are :

- Nursing them on their side or prone
- If breathing rate is > 55 per minute and associated with a grunting sound, refer to



hospital. Such babies may need oxygen and intravenous feeding.

- If respiratory rate < 55 per minute, feed the baby small amounts frequently
- Some important points to exclude in such infants with breathing difficulty include the possibility of meconium aspiration (such babies may inhale green meconium at the time of birth, which can be seen in the oro-pharynx or suspected on the basis of skin staining) as well as maternal infection which may contribute to the development of early-onset pneumonia. Such situations require that the baby have a chest X-ray and referral to a better facility

## **Hypothermia**

This is a common but serious problem in newborn infants and a result of the newborn infant's inability to maintain body temperature as well as an older child or individual. This can happen fairly rapidly even in warm, tropical climates and summers, especially where delivery rooms are cold and poor attention is paid to simple issues of drying and keeping warm.

A cold newborn can develop complications such as respiratory distress, poor feeding and metabolic problems. Similarly hypothermia can be a marker of other co-existing problems such as sepsis or birth asphyxia.

## **Poor feeding/vomiting**

Slight difficulty in feeding may be transient in small babies, especially if premature. However, persistent difficulty in feeding or vomiting in larger babies should always be taken seriously as it may be an early indication of serious infection or other problems. Some newborn infants bring up a little milk after each feed. This is entirely normal and if the baby is gaining weight, does not require any special treatment. Extra winding after feeds and keeping the baby prone and head-up after feeds helps.

Important points to look for in a baby with poor feeding and vomiting are

- Is the baby cold or febrile?
- Is the baby jaundiced?
- Is the vomit yellow tinged?
- Is the abdomen distended?

These last two features may also be suggestive of intestinal obstruction or a surgical problem

- Is there stiffness of the jaw/face muscles? (may be suggestive of early neonatal tetanus)
- Is there a problem with the mouth? (check the palate and for the presence of thrush)
- Are there other associated problems eg respiratory difficulty, fits, colour change?
- In an older newborn infant with forceful vomiting after feeds, there may be the possibility of a stomach outlet obstruction (pyloric stenosis)

## **Infections**

Most serious infections in the newborn period may not present with obvious features but can lead to a very rapid deterioration. It is therefore important to suspect, recognise and treat such infections promptly. Such babies should always be referred to a doctor for further management.

Important indicators suggestive of infection in a newborn infant include

- Umbilical discharge
- Skin pustulosis
- Low body temperature or fever
- Respiratory distress
- Abdominal distension and/or vomiting
- Diarrhea (distinguish from normal soft breastfed stools)
- Poor feeding
- Jaundice within the first few days or rapidly increasing jaundice

## **Seizures/Convulsions (Fits)**

Though rare these are important to recognise and treat in a newborn infant. Seizures in the newborn infant may differ from older children and adults in that they may be very subtle to begin with (such as a staring look, repeated lip-smacking, limb cycling movements). However, these can rapidly progress to seizures involving one or all limbs.

Important causes of neonatal seizures include

- Birth asphyxia (check the birth history for this possibility)
- Hypoglycemia (especially in small babies)
- Hypocalcemia (usually seen in larger babies after a few days)

- Infection especially meningitis (check for features of infection and especially the anterior fontanelle for bulging)
- Hypoxia (in severe cases with respiratory disease)

It may be difficult to differentiate seizures from tetanus in the newborn. In such cases with seizures, it is important to stabilise and refer these infants to a facility as soon as possible.

## **Jaundice (Yellow discoloration of the skin)**

### **Physiological jaundice**

- Usually develops on third to fifth day and is entirely normal
- Refer to doctor if there is no improvement in jaundice by 10 days of age or appears to be getting worse
- Jaundice associated with other problems such as feeding difficulty, fever etc may not be normal

### **Pathological jaundice**

- If jaundice is noticed within the first two days or appears to be increasing rapidly, advise of a specialist doctor may be required promptly.
- If there is history of jaundice in a previous newborn infant, be aware of the possibility of problems

## **Diaper/ Nappy Rash**

- Teach the mother to keep the baby clean
- Wash every time urine or stool is passed
- Keep the baby's bottom open to the air for a few hours, making sure that the baby does not become cold
- Apply a barrier cream twice or thrice a day (not an antibiotic or antifungal routinely)
- If the rash persists, check with a doctor

## **Diarrhoea**

- The colour of normal stool is brown / yellow (after initial meconium)
- Breastfed baby may pass ten to twelve formed stools per day which is normal
- In infection, the stools are green
- It is not the number but the type of stools that matter. If the stools are loose a baby has diarrhoea
- Give Oral Rehydration Salt (ORS) to the baby
- Do not stop breastfeeding

## **Fever**

- Overwrapping of babies can cause rise in temperature
- Unwrap the baby and take temperature after three to four hours
- If temperature still high, give paracetamol drops.
- If fever does not settle refer to hospital

### Question / Response Session

Questions	Responses
<b>What are the causes of excessive crying ?</b>	<ul style="list-style-type: none"><li>• A baby cries when it is wet, hungry or has colic</li></ul>
<b>What are the causes of baby not taking feed?</b>	<ul style="list-style-type: none"><li>• There maybe fungal infection of the mouth i.e. thrush</li><li>• If the baby has been bottle fed it will refuse breast feed</li></ul>
<b>What should be done for boils on the baby skin?</b>	<ul style="list-style-type: none"><li>• Small pustules are common following normal delivery</li><li>• These pustules disappear after cleaning the baby.</li></ul>
<b>Is it necessary to give a bath after delivery?</b>	<ul style="list-style-type: none"><li>• Bathing immediately is not essential. The baby can be cleaned with oil and dressed.</li></ul>

## IMMUNISATION SCHEDULE FOR THE CHILD

Birth	:	BCG 0.05 ml Intra dermal OPV 2 drops
6 Weeks 1 <sup>st</sup> Dose	:	OPV 2 drops DPT 0.5 ml IM
10 Weeks 2 <sup>nd</sup> Dose	:	OPV 2 drops DPT 0.5 ml IM
14 Weeks 3 <sup>rd</sup> Dose	:	OPV 2 drops DPT 0.5 ml IM
9 months Measles		<u>22 - 23 Months Booster DPT OPV</u>

### Optional

- 1) Hepatitis B Vaccine 0.5 ml IM  
At birth, one and six months and then at five years (booster)

**TOPIC :            INFORMATION, EDUCATION AND  
COMMUNICATION (IEC) MATERIALS**  
**TOTALTIME:    3 HOURS**

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## **INTRODUCTION**

- IEC is a very important aspect of training
- IEC material provides important messages to recognise complications and prevent delay in reaching appropriate facility
- The messages are visually presented so that individuals and communities can recognise complications early and reach the appropriate facility in time

## **OBJECTIVES**

At the end of the session, participants should be able to :

- Become familiar with technical and social dimensions of IEC materials
- Understand the advantages of preventive and complications poster.
- Understand the advantages of the Emergency booklet and the Antenatal card
- Counsel / advise mothers and then husband using the IEC materials

## **GUIDELINES FOR THE FACILITATOR**

### **Brainstorming**

- 1        Discuss each poster (6 in all), emergency booklet, and Antenatal card.  
          **(see annexure)**
  - Do they understand the stories
  - Do they understand the messages
  - What are they?
  - Will they be easily understood by the community?
- 2        Discuss utilization of the IEC materials :
  - Are they prepared to use them?
  - Will they be able to use them?
  - Are there any barriers /constraints to their use? If so, what are they?
3.        What is the Role of HCP in utilizing IEC Materials effectively?

## **Brief Description of the IEC printed materials**

### **Antenatal Card**

On the front page of the card there are some important messages regarding the preventive measures to be taken by a woman during her pregnancy which include :

- Antenatal check-ups, at least three times during pregnancy, which should be carried out at 3-4 months, 6-7 months and 8-9 months.
- Taking Iron and Folic acid tablets routinely.
- Proper nutrition.
- Tetanus toxoid vaccination.

On the back of the card there is a printed form to be filled by the Health Care Provider when the pregnant woman visits him / her for antenatal check-ups. It includes:

- High risk conditions
- Blood pressure check-ups.
- Blood and urine tests at least once.
- Position of the baby in the later months.
- Tetanus toxoid immunization
- Iron and folic acid tablets

This card it to be kept with the pregnant woman and whenever she goes for antenatal check-ups to a health care provider or JPMC she should take this card with her.

### **Emergency Booklet**

It consists of discussion about the plans to be made in advance for any emergency during pregnancy or delivery, and also some preventive messages. The booklet depicts a story of Shaista who had vaginal spotting during the 7<sup>th</sup> month of her pregnancy which later became heavy. There was a delay in taking her to hospital where she had an operation and the baby was delivered dead. The causes of the delay and how these could have been avoided are discussed.

### **Posters**

There are six posters which include one prevention poster in which four important preventive messages are illustrated for pregnant women. The other five posters are based on obstetric complications. There are important messages at the end of each poster.

- **Postpartum Hemorrhage [PPH]:**

This poster is based on a common and lethal obstetric complication. It is the story of Samina who delivered her fifth baby at her home with a “dai’s” assistance. The “dai” removed the placenta forcibly after the delivery instead of waiting for some time and a piece of placenta was left in the uterus. There was heavy bleeding for three hours. The “dai” was called back and she called for a doctor, who, upon examination,



advised her husband to take her to JPMC since she was in a state of shock. In the hospital she was given three bottles of blood and doctors explored and evacuated her uterus and thus her life was saved.

At the end of the poster there is an important message that if a woman bleeds heavily during childbirth or soon afterwards, she should immediately be taken to JPMC.

- **Antepartum Hemorrhage [APH]**

This poster is based on a serious complication arising during pregnancy. It is the story of Shamim who was pregnant for the first time. One day she experienced some spotting vaginally which turned into frank bleeding by the next day. She was seen first by a “dai” and then by a doctor who referred her to JPMC. By the time she was shifted to JPMC she had bled a lot. She was admitted there and operated upon and her life was saved but her baby was delivered dead. The life of the baby could have been saved if Shaista had been shifted to JPMC earlier.

In the end there is the message that if a pregnant woman has vaginal spotting for more than one day or frank bleeding, she should immediately be taken to JPMC.

- **Eclampsia**

This poster is based on an important obstetric complication - eclampsia. It is the story of Ameena who was pregnant for the first time. She had the signs and symptoms of pre-eclampsia during her pregnancy but she never had any antenatal check-ups or any treatment for her high blood pressure. One night during the 9<sup>th</sup> month of her pregnancy she experienced fits. Her husband thought that it is due to some evil spirits so he called an “Amil Baba” to dispel the evil spirits but Ameena’s condition did not improve. Then a doctor was called who advised them to take her to JPMC. They reached the Obs/Gyn Emergency very late. Ameena was admitted there and given treatment for eclampsia. She delivered a baby who died soon after being born. The doctors told the family that Ameena should have had antenatal check-ups during her pregnancy specially the measurement of blood pressure to avoid this condition, and also that the baby could have been saved as well if the family had shifted Ameena to JPMC earlier.

At the end of the poster the message is that if a pregnant woman has fits, she should immediately be shifted to JPMC.

- **Prolonged / Obstructed labor**

This poster is based on a fairly common and dangerous complication. It is the story of Salma who experienced labor pains for one whole day without progress in labor. She was seen by “dais” who gave her injections to hasten the delivery but her condition became worse. She could not go to JPMC because her husband was not at home. At midnight when her brother arrived he took her to JPMC where she was operated upon

immediately as her uterus had ruptured, probably due to wrong position of the baby. In the hospital the family was told by the doctors that the life of the baby could have been saved if they had shifted her to JPMC earlier.

The message in this poster is that if a woman has labor pains for more than 18 hours in her first delivery, and for more than 12 hours in her subsequent deliveries, she should immediately be taken to JPMC.

- **Puerperal sepsis**

Puerperal sepsis is an important cause not only of mortality but also of long-term morbidity such as infertility and chronic pelvic pain. It is the story of Shahida who delivered her baby in a small clinic near her house. She was not feeling well but left the hospital after two days. The day after Shahida came home, she felt feverish and had pain in the abdomen. The doctor was called who, after seeing her, said that she had severe infection and advised to take her to JPMC. Her husband shifted her immediately to hospital for treatment. The doctors appreciated the timely decision of her husband as otherwise she could have died of complications.

The message in this poster is that if a woman has severe abdominal pain or high fever after delivery, she should immediately be taken to JPMC.

- **Preventive Poster**

This poster stresses the need for check-ups during the antenatal period for maintaining the health of a pregnant woman and her baby. The minimum number of check-ups have been described. It also gives information regarding the diet of a pregnant woman as well as her needs to take iron and folic acid tablets and tetanus toxoid immunizations.

# Project Information

## PROJECT INFORMATION

The Safe Motherhood Intervention Project was a USAID/World Bank funded effort aimed at reducing the high levels of maternal morbidity and mortality by addressing the problem both at the level of health care providers, as well as the women and men, in Korangi, a lower middle class locality in Karachi. It is the largest catchment area for Jinnah Postgraduate Medical Centre (JPMC), a tertiary care government hospital. The design and site of the Safe Motherhood Intervention Project took into consideration the findings of a hospital-based study as well as a community-based maternal and infant mortality survey (MIMS) conducted in Karachi. The hospital-based survey conducted at the JPMC revealed that socio-cultural factors and inadequate maternal services contributed significantly to the causes of delay for the 150 pregnant or recently delivered women who were brought dead to JPMC over a twelve year period (1981-1992). Similarly, results from the MIMS indicated that appropriate and timely triage is inadequate at the community level, largely due to the delay in referral and inappropriate local maternal health care. Hence any strategy to safeguard the maternal health of women residing in the urban areas of Karachi must address both the social and medical factors that contribute to the largely preventable morbidity and mortality.

A summary of the main goal and objectives of the intervention, in which the emphasis was on the process of referral in an obstetric emergency, is as follows:

**Goal:** The project goal was to increase the number of women with obstetric complications who utilise appropriate medical services.

**Objective:** The primary objective of this project was to assess the effect of training of health care providers and community-based IEC (Information, Education, and Communication) strategies on access to and use of essential obstetric services for women with maternal complications.

This objective was expected to be met by the following interventions:

1. Training of health care providers at primary and secondary healthcare facilities in antenatal, natal and postnatal care focusing on recognition of and management of pregnancy complications
2. Development of a community-based IEC programme for women, men, and family/community decision-makers, aimed at improving utilisation of maternal services, through participatory meetings of various groups in the community and person-to-person contact
3. Establishment of a referral system from the community to hospitals for immediate transfer of women with complications, including haemorrhage, eclampsia, puerperal sepsis and prolonged/obstructed labour

Our intervention inputs emphasised both the role of the health care providers as well as the community members for prompt decision-making that is required for the diagnosis and efficient management of obstetric complications. Furthermore, an underlying aim of our intervention was to strengthen the relationships between the health care facilities, health care providers and community members in order to improve the utilisation of the health system in place.

### **Health Care Facilities in Project Area**

Safe Motherhood Project intervention site was Korangi 8, comprising of two adjoining KMC wards (app. 50-60,000 population). Prior to starting the Project, little information was available regarding number and type of health care facilities and providers in the area. SMP surveyed the area and found that there are 28 private clinics, 5 private maternity homes and one government dispensary. The clinics are open in the morning and evening, while the maternity homes offer 24 hour service. Twelve of the clinics are run by qualified MBBS doctors whilst 16 are manned by Health Assistants. Maternity homes are being run by LHVs/Midwives. JPMC and Korangi Landhi Medical Centre in Korangi # 5 (a private secondary care level hospital) are the main referral hospitals.

## **DEVELOPMENT OF TRAINING PROGRAMME**

The primary **objective** of training programme was to train all health care providers (HCPs) in the intervention area, in order to improve care of women with obstetric complications. It focused on strengthening referrals by HCPs for emergency obstetric care (EOC) after initial immediate management.

The training programme was developed at the beginning of the Project but was modified slightly after the needs assessment survey of HCPs. This was done by means of in-depth interviews, and Knowledge, Attitude and Practice (KAP) survey.

In-depth interviews of 15 HCPs, five each belonging to the three categories of i) Doctors ii) Lady Health Visitors (LHVs), midwives and iii) Traditional Birth Attendants (TBAs) revealed the following:

1. A fourth category was identified that did not fall into the three initially planned categories. These were dispensers, medical technicians, dressers, etc who were providing medical services to the community and were very popular. Hence they were included in the training programme as a fourth category and were termed "Health Assistants"
2. Referrals were made by doctors and LHVs/midwives for bleeding during pregnancy and labour
3. TBAs (Dais) considered bleeding not to be a serious problem and generally referred for abnormal presentations and delayed labour
4. There was lack of knowledge and confidence among all HCPs to manage the complications

In the training programme of each category therefore more emphasis was laid on deficiencies identified in that particular category.

The baseline KAP survey preliminary results were incorporated in the subsequent training sessions.

## The Training Programme

Time Frame : July 1997 – February 1998

The training programme was conducted as:

1. Initial three day “Intensive” training for each of the four categories of HCP
2. Six on-going session for the rest of the training period

### 1) Initial three days Intensive training programme :

The training was on three consecutive days of the week for 4 hours on 1<sup>st</sup> day and 3 hours each of the subsequent days\*. The first week was for training of doctors the second week for health assistance, the third week for the LHVs, Midwives and the 4<sup>th</sup> week for the Dais. The topics to be covered in this course were Haemorrhage, Sepsis, Hypertensive Disorders including Eclampsia and Prolonged / Obstructed labour.

### 2) Six Subsequent Sessions :

A weekly session for each category of HCP was conducted subsequently. One day in a week, a session of three hours was held for the 4 categories of providers. Last day of each month a combined meeting of the four categories of health providers was held. This was in order to develop interaction and rapport among HCPs for facilitating referrals. The session has been designed in the following manner:

- **First part of the session** was focused on the queries regarding the training already provided including a feedback (from providers) on the session conducted, the complications encountered and the referrals\* made by them were also discussed.
- **During the remaining time of the session** (about two hours), new topics related to Safe Motherhood as well as those of Reproductive Health were introduced:

The **first** subsequent session was on “Recap. of intensive course + Video film of two obstetric complications – “*Mamta Ki Hifazat*” (Safe Motherhood)

Other topics included:

- Antenatal Care
- Family Planning
- Care of the Newborn
- Breastfeeding
- Counseling on IEC materials.

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\* It is recommended that, if possible, the intensive training programme should be of four hours each day

## **MODIFIED OBJECTIVES**

### **Haemorrhage**

#### **Objectives :**

At the end of the session, participants should be able to :

#### **Abortion**

- Recognise the sign and symptoms of abortion
- Refer al cases with slight bleeding to doctor / maternity home
- Refer all cases of moderate / severe bleeding to JPMC

#### **APH**

- Recognise the sign and symptoms of APH
- Recognise the Do's and Don't's of management
- Refer all cases to JPMC

#### **PPH**

- Understand the major contribution of PPH towards maternal mortality
- Recognise PPH
- Refer all cases to JPMC
- Take initial steps to control PPH (uterine massage, Inj.Ergometrine)

### **Hypertensive Disorders/Eclampsia**

#### **Objectives :**

At the end of the session, participants should be able to :

- Recognise the sign and symptoms of hypertension in pregnancy including Pre-eclampsia
- Recognise the sign and symptoms of eclampsia
- Refer all cases with signs / symptoms of hypertension to doctors / Maternity homes.
- Refer all cases with fits to JPMC



## **Prolonged / Obstructed Labour**

### **Objectives :**

At the end of the session, participants should be able to :

- Understand the average duration of labour in primigravidae and multigravidae
- Identify women at risk of Obstructed Labour
- Understand the cause of Prolonged / Obstructed Labour
- Recognise signs and symptoms of Prolonged / Obstructed Labour
- Understand the risk of giving “Oxytocin” injection during delayed labour
- Refer all cases of Prolonged / Obstructed labour and all at-risk of obstructed labour to JPMC

## **Puerperal Sepsis**

### **Objectives:**

At the end of the session, participants should be able to :

- Understand the requirements for clean and safe delivery
- Understand the factors leading to Puerperal Sepsis
- Recognise early signs and symptoms of Puerperal Sepsis
- Identify mild from moderate and severe cases
- Refer mild cases to doctor / maternity home
- Refer moderate and severe cases to JPMC

## **Subsequent Courses**

### **Recap of Intensive Course**

#### **Video Film “*Mamta Ki Hifazat*”**

### **Objectives:**

At the end of the session, participants should be able to :

- To reiterate and reinforce information given in Intensive Training Course
- To emphasise early recognition of complication and timely referral to hospital

## **Antenatal Care**

### **Objectives :**

At the end of the session, participants should be able to :

- Take proper history
  - Medical
  - Obstetrical
- Perform examination
  - Clinical signs of anaemia
  - Per abdomen
- Refer to doctor / laboratory for
  - Checking of blood pressure
  - Hb% and blood group
  - Urine for sugar and protein
- Give iron supplement and folic acid
- Identify high risk pregnancy
- Identify complications of pregnancy at an early stage
- Refer all such cases to JPMC

## **Family Planning**

### **Objectives :**

At the end of the session, participants should be able to :

- Understand the need for family planning
- Motivate the patient for contraception
- Provide condoms
- Refer to family planning clinics/ hospital for other methods of contraception

## **Breastfeeding**

### **Objectives :**

At the end of the session, participants should be able to :

- Recognise the benefits of breast feeding for both mother and baby
- Recognise disadvantages of not breastfeeding
- Encourage and motivate mothers to breastfeed

## **Care of New Born**

### **Objectives :**

At the end of the session, participants should be able to :

- Understand the importance of clean and safe delivery for the baby
- Understand and counsel mother regarding cord care
- Recognise an asphyxiated baby and the need for resuscitation
- Manage minor problems in the neonatal period
- Understand the immunisation schedule for the child and where to refer for immunisation

## **IEC Materials**

### **Objectives:**

At the end of the session, participants should be able to :

- Become familiar with the technical and social dimensions of IEC materials
- Understand the advantages of the posters.
- Understand the advantages of the booklet and Antenatal Card.
- Counsel / Advise mothers about complications.

<p><b>Note : For other categories of Health Care Providers the Objectives as well as the training could be modified between that of the Doctors and of the TBAs</b></p>
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## PROFILE OF TRAINEES AND TRAINERS

### Trainees Profile

A total of 90 health care providers, belonging to four categories, had been identified till January 1998. Of these 62 (69%) attended the training program. The categories, numbers and percentages of health care providers who attended the programme are as follows:

Category of HCP	No.	% of total identified
◆ Doctors	15	60
◆ Health Assistants	9	56
◆ LHVs/Midwives	6	43
◆ Traditional Birth Attendants	32	91

All the doctors attending the training programme were males and had had no training in obstetrics and gynaecology. None of them conduct deliveries nor do they provide routine antenatal care. The health assistants were also males who neither conducted deliveries nor provided routine antenatal care. Of the 6 LHVs, only 2 conducted deliveries. Many TBAs were relatives or older female members of the households who received training by apprenticeship (mother, mother-in-law) and/or Dais Training program.

Besides the above, there were two batches of LHWs providing primary health care and family planning services.

### Trainers Profile

There were six main trainers and several others facilitating group activities. All the six trainers were senior obstetricians with interest in public health. Two of the six belonged to the tertiary hospital (JPMC) to which referral was recommended. Most of the major trainers had experience of conducting safe motherhood training programmes previously. They however underwent a two day training programme to comprehend and practice the use of participatory education method as well as to discuss the training programme.

The main trainers were:

Dr. Sadiqua N Jafarey	FCPS, FRCOG	Professor of Obstetrics and Gynaecology, Ziauddin Medical University, Karachi
Dr. Shahida Zaidi	FCPS	Sonologist and Honorary Associate Professor, Obstetrics and Gynaecology, Ziauddin Medical University, Karachi
Dr. Shireen Bhutta	FCPS, MRCOG	Associate Professor, Obstetrics and Gynaecology, Jinnah Postgraduate Medical Centre, Karachi
Dr. Razia Korejo	MCPS	Senior Registrar, Obstetrics and Gynaecology, Jinnah Postgraduate Medical Centre, Karachi
Dr. Azra Ahsan	MRCOG	Senior Consultant, Obstetrics and Gynaecology, Liaquat National Hospital, Karachi
Dr. Sadia Pal	MRCOG	Consultant, Obstetrics and Gynaecology, Liaquat National Hospital, Karachi

In addition the following also helped in facilitation

Dr Hasan Fatima	FCPS	Professor, Obstetrics and Gynaecology, Jinnah Postgraduate Medical Centre, Karachi
Dr. Jamal Raza	MRCP	Assistant Professor, National Institute of Child Health Karachi
Dr. Sipar Zia Zaidi	MBBS, DRH	Training Co-ordinator, Safe Motherhood Project, Department of Community Health Sciences, Aga Khan University, Karachi

Dr. Nuzhat Mirza	MBBS	Research Officer, Safe Motherhood Project, Department of Community Health Sciences, Aga Khan University, Karachi
Dr. Shehla Nasim	MBBS, MCPS	IEC Supervisor, Safe Motherhood Project, Department of Community Health Sciences, Aga Khan University, Karachi
Dr. Azra Mubarak	MBBS	TBA Training In-charge, Family Health Project, Department of Community Health Sciences, Aga Khan University, Karachi

# Pre / Post Questionnaire





# Pre / Post Questionnaire

## INSTRUCTIONS

You have THIRTY MINUTES to complete

- Four case studies are given to you.
- Read each case study carefully.
- Each case study has three / four sections OR questions which is followed by a list of responses.
- Select the required NUMBER of responses from the list and place a tick mark (✓) in the box against each.

**PLEASE COMPLETE ALL SECTIONS OF EACH CASE STUDY.**

THANK YOU.

I.D. Code -----

Name -----

## CASE STUDY ONE

Hamida, 30 years old and eight months pregnant, is brought to your clinic. This is Hamida's fifth pregnancy. Hamida's neighbour informs you that whilst cooking, Hamida started vaginal bleeding and soaked her shalwar. She has no pain (contraction).

**Q 1. What is the most likely cause of this condition? Select one from the following list:**

1. Threatened Abortion
2. Inevitable Abortion
3. Ante Partum Hemorrhage due to placenta previa
4. Ante Partum Hemorrhage due to abruptio placenta
5. Heavy "show"
6. Bleeding due to cervical polyp
7. Premature Labour

**Q 2. What immediate actions would you take for Hamida?**

- i) NO Action required.
- ii) **If you consider that Hamida's condition requires actions, from the following, select upto six you consider the most appropriate.**

1. Advise patient of risk
2. Check Vital signs
3. Check foetal heart sounds
4. Conduct abdominal examination
5. Perform Vaginal examination
6. Check for amount of Vaginal bleeding on Pads / Shalwar
7. Put up an IV drip
8. Order urine examination
9. Check Hemoglobin
10. Get blood cross matched
11. Give blood transfusion
12. Order Ultrasound
13. Give Tablet "Ponstan"
14. Give injection "Syntocinon"
15. Give injection "vitamin K"
16. Give injection "valium"

**Q 3. After immediate management of Hamida, what further steps will you take?  
Select one from the following list**

1. Send her home after immediate selected action
2. Send her home and advise to see her doctor the following day
3. Admit her to your own clinic
4. Transfer her to a nearby clinic
5. Refer her to JPMC

## CASE STUDY TWO

Nasima is expecting her first child. She is full-term pregnant. She started labour pains 20 hours earlier which were very strong for about 4 hours, but now have become weaker. Nasima has still not delivered and has been brought to your clinic.

**Q 1. Which is the most likely diagnosis? Select one from the following list:**

1. False Labour
2. Prolonged Labour
3. Obstructed Labour
4. Normal Labour

**Q 2. What could be the causes of this condition? Select two you think most appropriate?**

1. No cause - this is normal in a primigravida
2. Breech Presentation
3. Occipito posterior position
4. Face presentation
5. Cord presentation
6. Cephalo pelvic disproportion
7. In co-ordinate uterine action
8. Small baby

**Q 3. What IMMEDIATE actions would you take for Nasima? Select up to six which you consider most appropriate.**

1. Check Vital signs
2. Check for signs of dehydration
3. Check presentation of foetus by abdominal examination
4. Check station of head by abdominal examination
5. Perform vaginal examination
6. Give antibiotics
7. Set up an IV drip line
8. Give oxygen
9. Give injection Syntocinon
10. Give I.M. Ergometrine
11. Any other action, Please specify

Q 4. After immediate management of Nasima, what further steps will you take?  
Select one from the following list

- 1. Monitor and wait further
- 2. Refer Nasima to a nearby Maternity Home
- 3. Refer Nasima to JPMC

### CASE STUDY THREE

You have just delivered 17 years Ulfat of a live baby boy. She had come to you two hours earlier with labour pains and oedema all over the body. On checking her BP on admission, it was found to be 170/110 mm Hg. Soon after delivery she has a seizure/fit.

**Q 1. Which is the most likely diagnosis? Select one from the following list:**

1. Epilepsy
2. Eclampsia
3. Cereberal Malaria
4. Cereberal Haemorrhage
5. Tetanus
6. Hysteria

**Q 2. What IMMEDIATE actions would you take for Ulfat? Select up to six which you consider most appropriate.**

1. Take history from attendant about similar fits in this pregnancy
2. Take history from attendant of fits even when NOT pregnant
3. Perform abdominal examination
4. Perform vaginal examination
5. Maintain airway
6. Turn her on her side
7. Check BP
8. Catheterize
9. Give injection Diazepam (valium)
10. Give injection Ergometrine
11. Give oxygen
12. Any other Specify : \_\_\_\_\_

**Q 3. After immediate management of Ulfat, what further steps will you take ? Select one from the following list**

1. Continue to keep her with you and treat her
2. Refer her to JPMC straightway
3. Refer her to JPMC if she has further fits

## CASE STUDY FOUR

Kulsum delivered a baby girl at home four days earlier and is breast feeding her baby. She has come to your clinic with high fever, headache, shivering and lower abdominal pain for two days. She has vomited twice and the lochia has been foul smelling.

**Q 1. Which is the most likely cause of this condition? Select one from the following list:**

1. Appendicitis
2. Urinary tract infection
3. Malaria
4. Mastitis
5. Genital tract Infection
6. Gastritis

**Q 2. What IMMEDIATE actions would you take for Kulsum? Select up to six which you consider most appropriate.**

1. Check Temperature
2. Check BP
3. Perform breast exam
4. Perform abdominal exam
5. Perform vaginal examination.
6. Give Paracetamol/ Aspirin tablet.
7. Give antimalarial tablets.
8. Do cold sponging if temperature is high.
9. Give antibiotic by injection
10. Give oral antibiotic.
11. Start I.V Infusion
12. Give Injection Diazepam.

**Q 3. After immediate management of Kulsum, what further steps will you take? Select one from the following list**

1. Send her home with treatment
2. Admit her to your clinic for monitoring and treatment
3. Send her to JPMC

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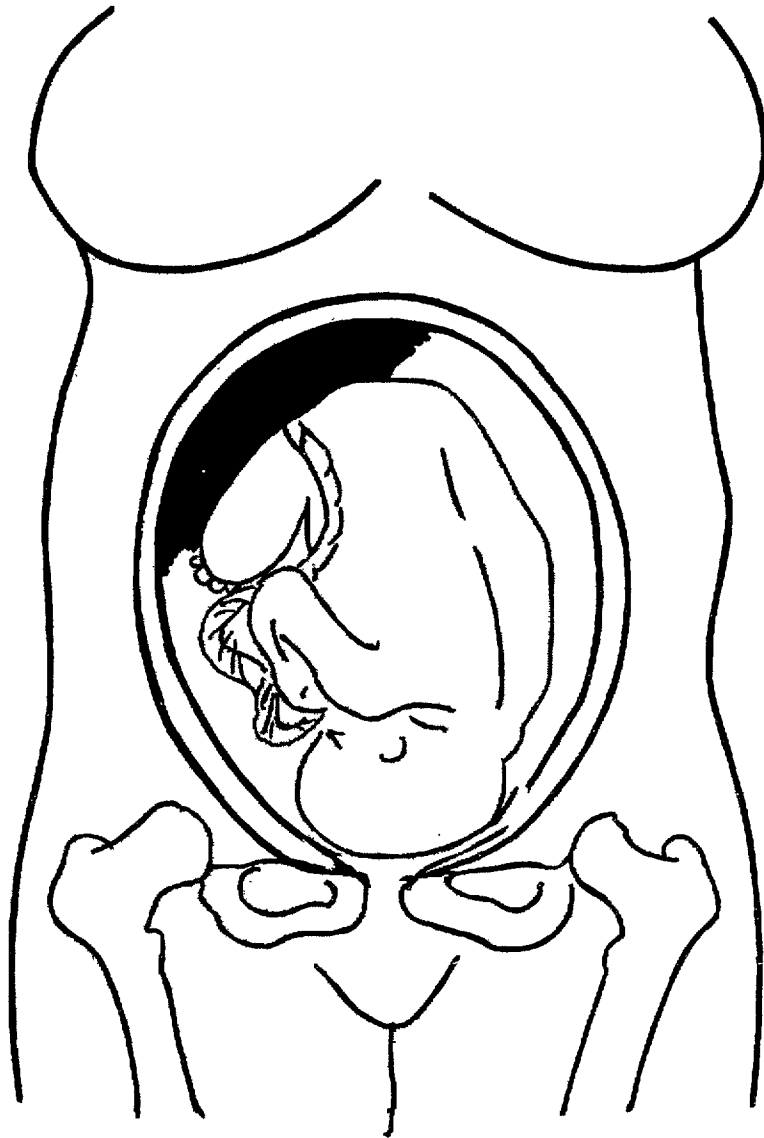


# **Illustrations**

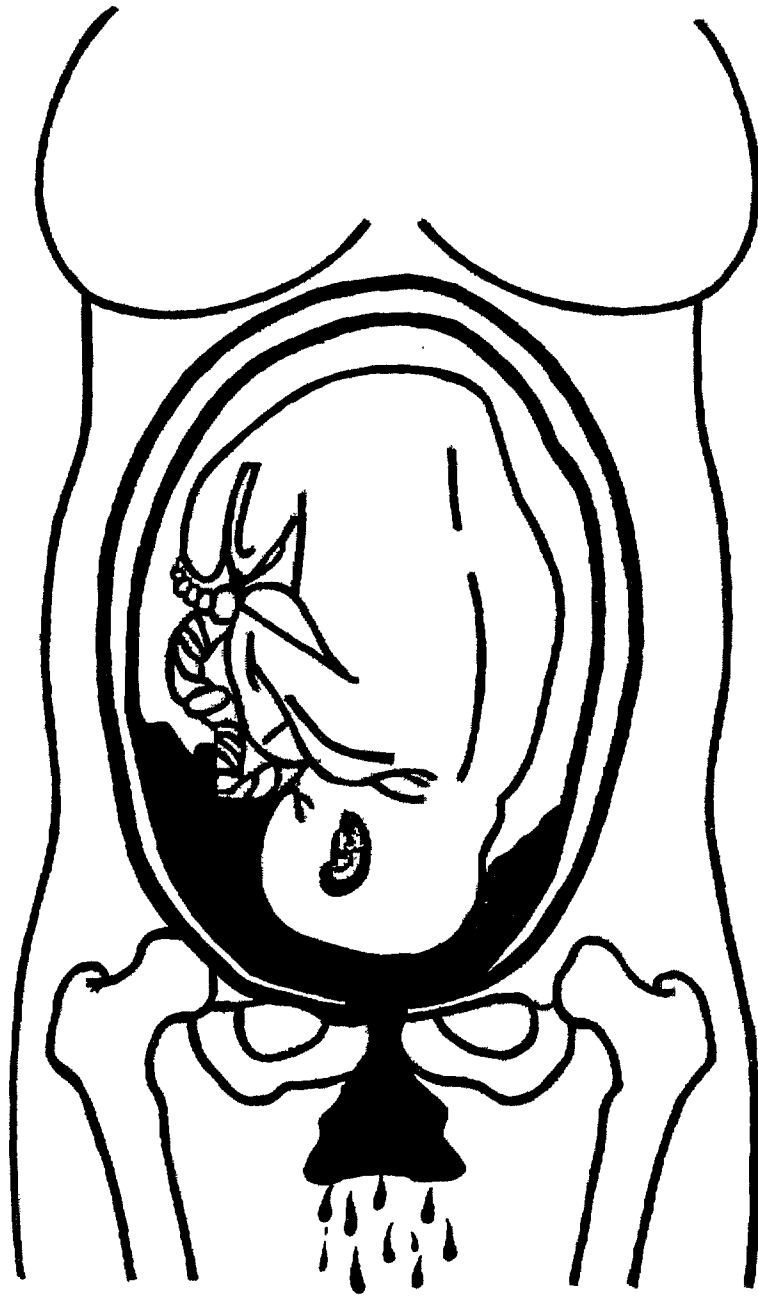
**The illustrations appear in the sequence  
as used in the training programme**



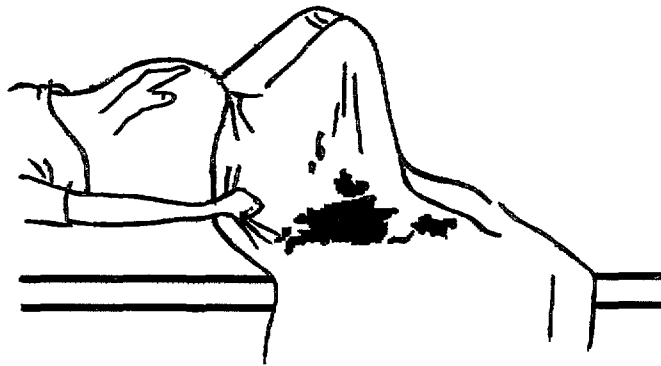
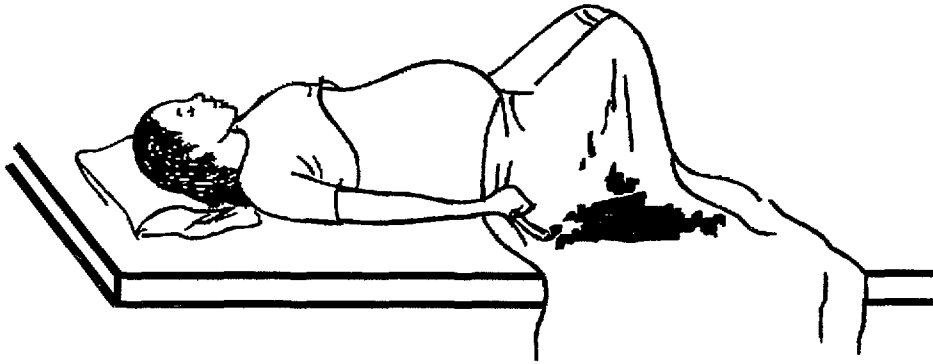
## Normally Situated Placenta: Head Presentation



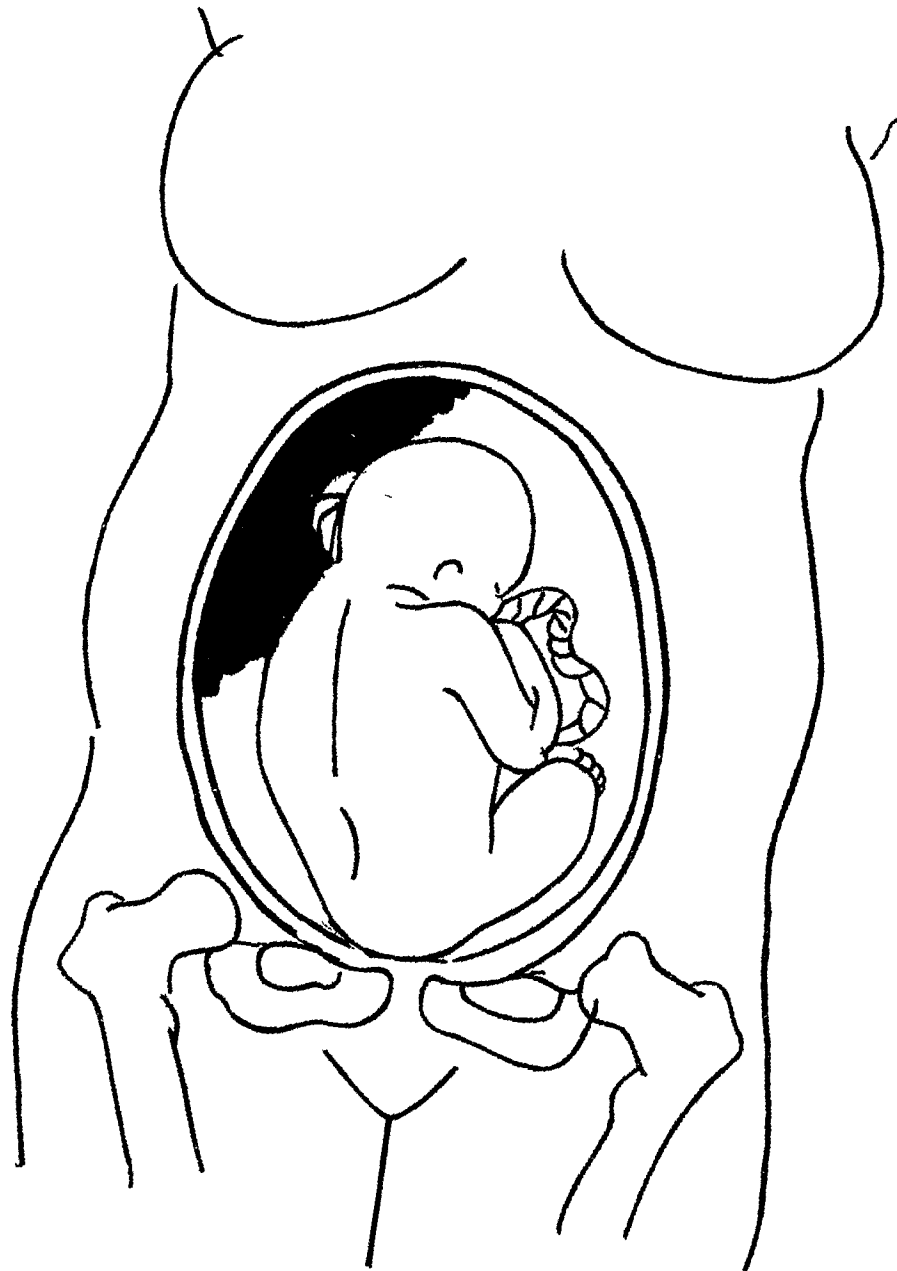
## Placenta Praevia: Head Presentation



## Uterine Massage For PPH Due To Atony Of Uterus



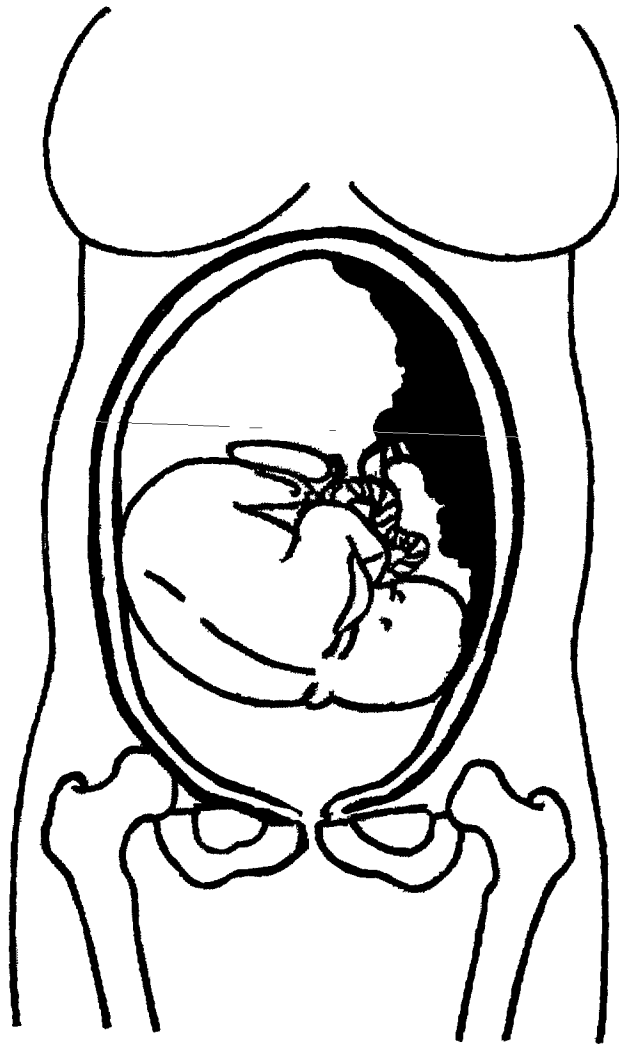
**Breech Presentation**



## Breech Presentation With Prolapsed Leg

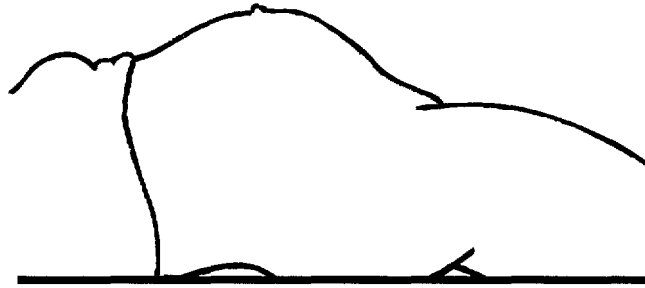


## Transverse Lie

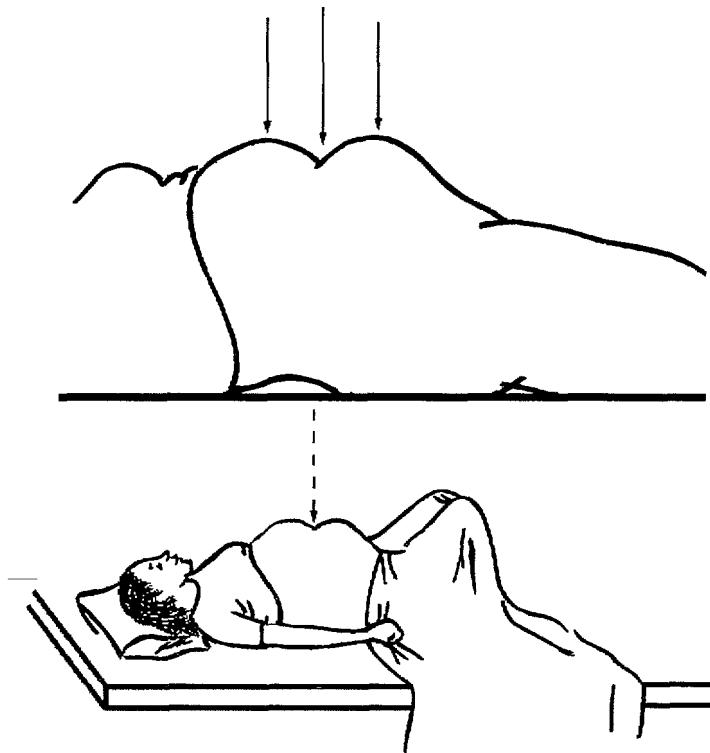




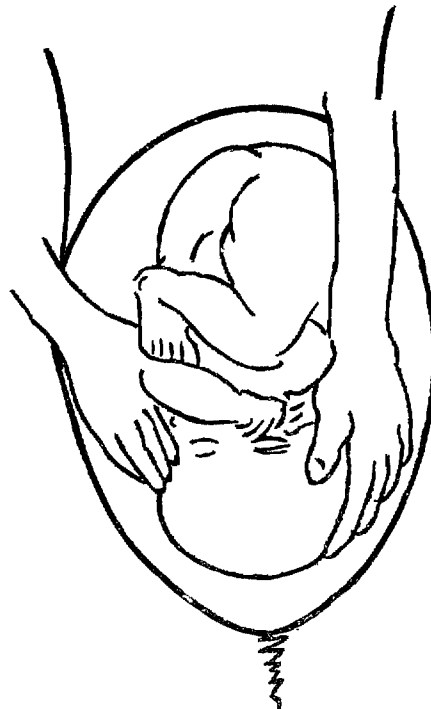
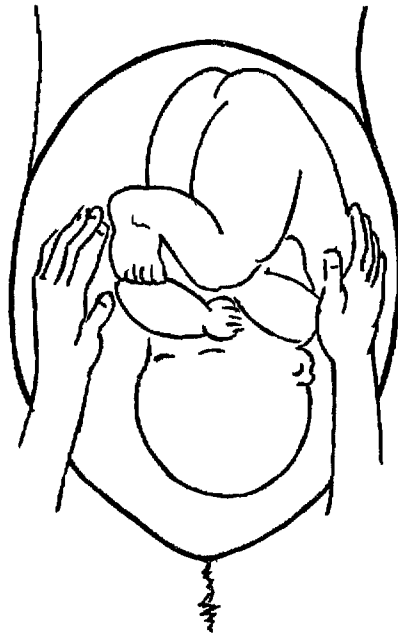
## Normal Shape Of Abdomen in Labour



## Shape of abdomen in obstructed labour showing Bandl's ring



## Steps Of Abdominal Palpation For Determining Foetal Lie And Presentation

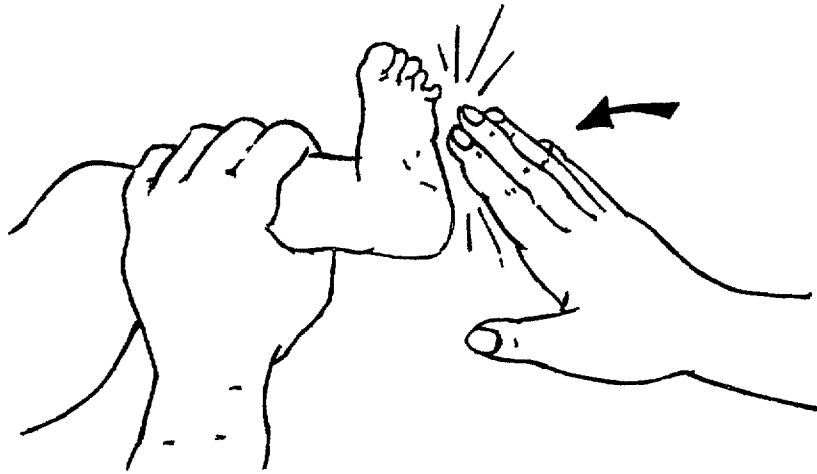


**Asphyxiated Baby: Clearing Of The Mouth  
Note Position Of The Baby**

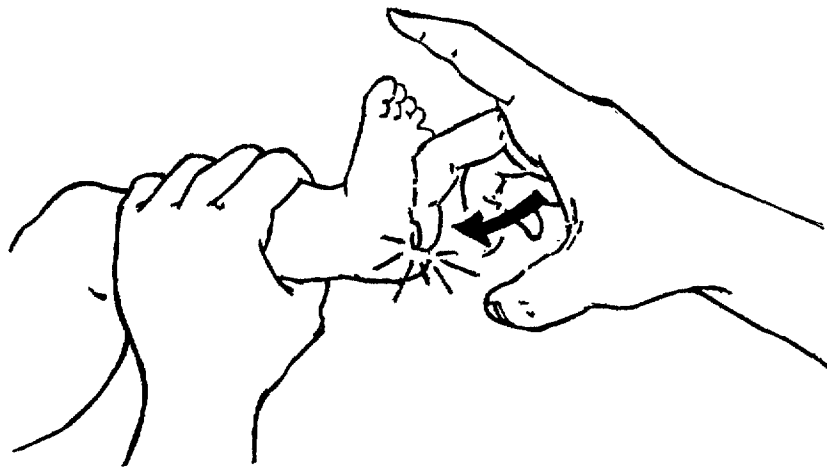


## Tactile Stimulation

### Slapping the sole of the foot



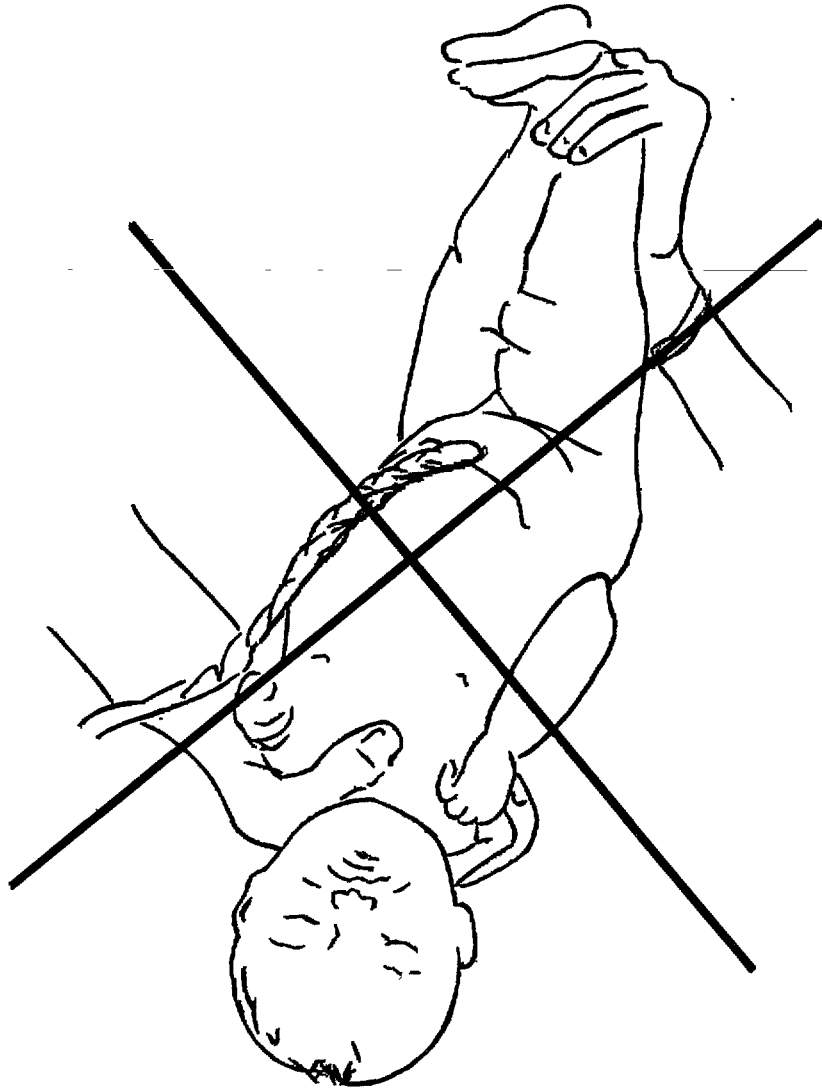
### Flicking the heel



## Mouth To Mouth Breathing



## Incorrect Position Of Baby For Resuscitation



# IEC Materials

# Antenatal Card

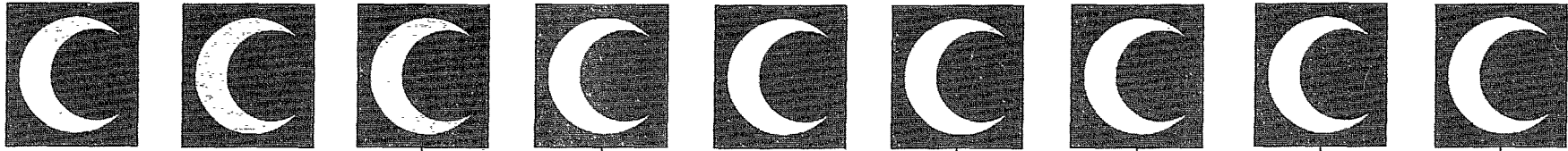
102B.



Name: Age: Parity: Husband's name: Address:	Present pregnancy history:	History of any disease: Hypertension Diabetes Heart disease Tuberculosis Others	Major complications in previous pregnancies/deliveries: PPH Pre-eclampsia/ Eclampsia Abortion/ stillbirth C-section Others	Medication history: Corticosteroids Thyroxine Hypoglycaemics Others
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Ante-natal Checkups	First visit	Second visit	Third visit	Subsequent Visits			
General examination Pulse: B.P: Edema: hands feet face Pallor:							
Abdominal examination Height of fundus: Lie/presentation: Foetal heart sounds:							
Present medication Iron: Folic acid: Other:							

T.T. Vaccination 1st dose Date: 2nd dose Date:	Investigations Hb:                                  Date: Blood group:                      Date: Blood sugar:                      Date: Urine D/R:                         Date: Any other:	Remarks
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During pregnancy, check-ups are essential for maintaining the health of a pregnant woman and her baby. These check-ups should be done by a doctor at least three times, during 3-4 months, 6-7 months, and 8-9 months of pregnancy. Check-ups will ensure normal progression of pregnancy and will reveal any complications in a timely manner.



Pregnant women sometimes cannot eat a full meal. In such instances, she should try to eat less but more frequently. A pregnant woman needs more food than normal to ensure proper development of the baby. If possible, lentils, vegetables, eggs, meat, and fruit should be included in a pregnant woman's diet.



Every pregnant woman should take iron and folic acid tablets. These tablets will make her healthier and reduce tiredness. These tablets are not expensive and can be obtained from a chemist.



During pregnancy, tetanus toxoid vaccination is important for the protection of the mother and her baby against tetanus. These injections should be given during the 6th and 7th months of pregnancy.

### EMERGENCY MESSAGES

If a pregnant woman has any of these problems, she should immediately go to JPMC (WARDS 8 & 9)

#### During Pregnancy

1. Spotting that continues for more than one day
2. Spotting that increases to frank bleeding, with or without pain
3. Fits

#### During Childbirth

1. A woman with a first baby having labor pains for more than 18 hours in childbirth
2. Any pregnant woman having labor pains for more than 12 hours in subsequent childbirths
3. Heavy bleeding

#### After Childbirth

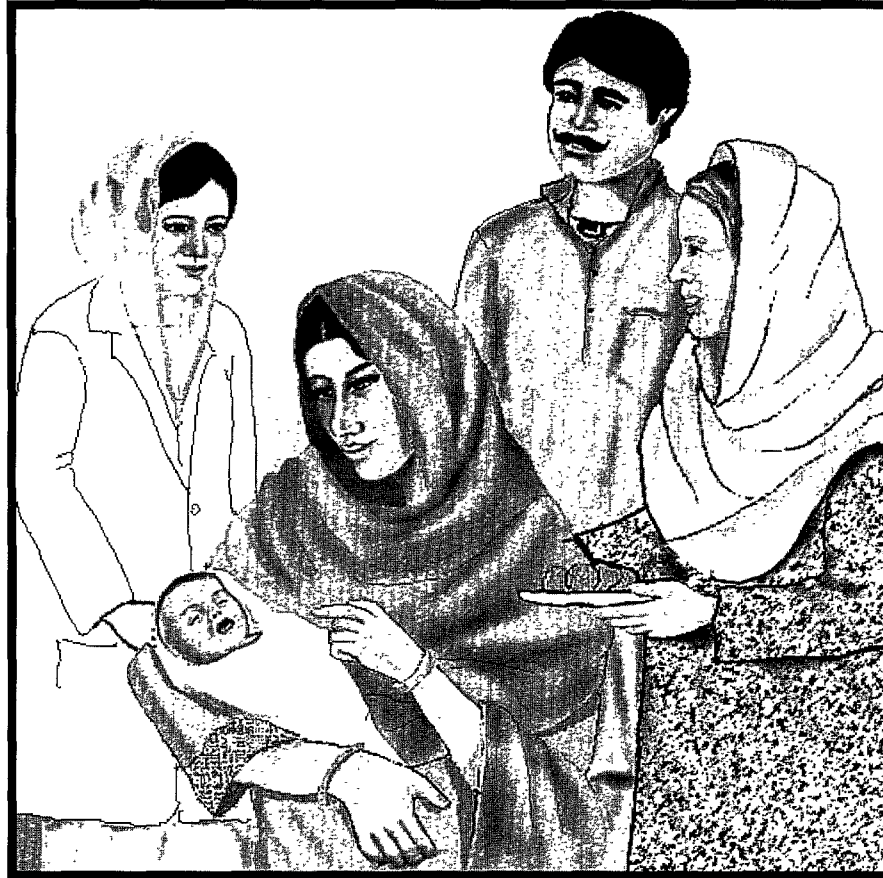
1. Pain in the abdomen with high fever and vomiting
2. Heavy bleeding with weakness or fainting

—

# Emergency Booklet



# SAFE MOTHERHOOD



## SOME IMPORTANT MESSAGES



Sponsored by USAID

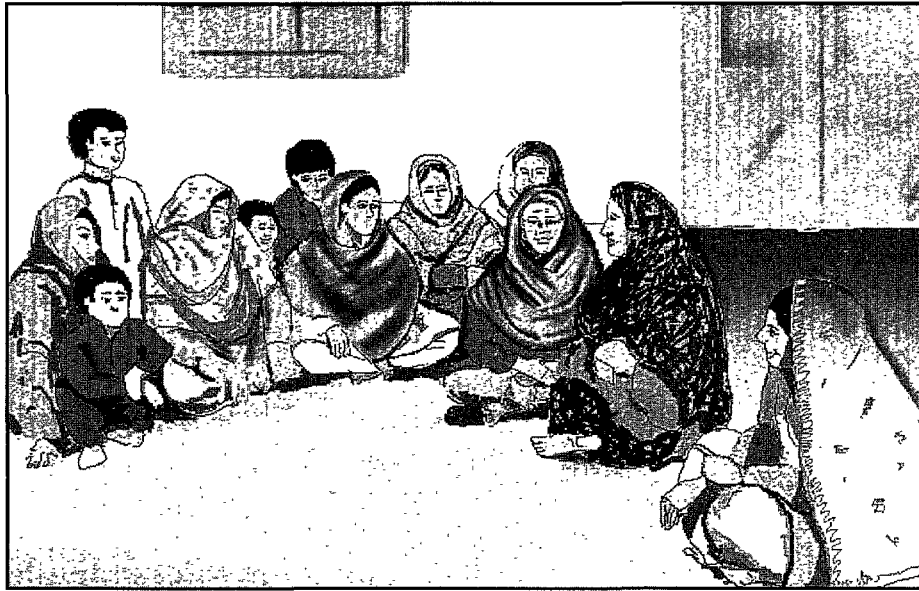
## **Acknowledgment**

We would like to thank all the individuals who provided assistance in conceptualizing and producing this booklet and the other IEC materials (antenatal card and posters) as well as the agencies involved in providing administrative (The Department of Community Health Sciences, The Aga Khan University) and financial support (MotherCare/USAID and The World Bank) for the IEC component of the Safe Motherhood Intervention in Korangi 8, Karachi. In particular, we are indebted to the leadership provided by Mr. Richard Pollard, for technical input, and Dr. Shehla Naseem, Mr. Aslam Bashir, and the field team members, for development of the IEC materials.

We also wish to thank the women of Korangi 8, who participated in the process of sharing their painful experiences in order to provide sound material necessary to create appropriate IEC materials and to meet the objectives of the Safe Motherhood Intervention.

Dr. Fariyal Fikree Dr. Sadiqua Jafarey Nazo Kureshy

This booklet was made possible through support provided by John Snow, Inc./MotherCare Project and The Office of Health and Nutrition, Bureau for Global Field Programs, Field Support and Research, U.S. Agency for International Development, under the terms of Contract Number HRN-5966-C-00-3038-00. The opinions expressed herein are those of the author(s) and do not necessarily reflect the views of the U.S. Agency for International Development or MotherCare.



The doctors and staff of The Department of Community Health Sciences at The Aga Khan University are holding community meetings in our area to help our pregnant women in prevention, early diagnosis and treatment of obstetric emergencies. Simultaneously, they are implementing a training program for all the health care providers in our area in order to improve their ability to manage life threatening obstetric complications. This training will assist them in providing better care/services to our pregnant women who may experience complications during pregnancy, delivery, and postpartum periods.



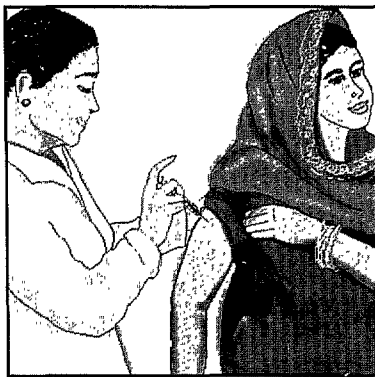
During pregnancy, check-ups are essential for maintaining the health of a pregnant woman and her baby. These check-ups should be done by a doctor at least three times, i.e during 3-4 months, 6-7 months, and 8-9 months of pregnancy. Check-ups will ensure normal progression of pregnancy and will reveal any complications in a timely manner.



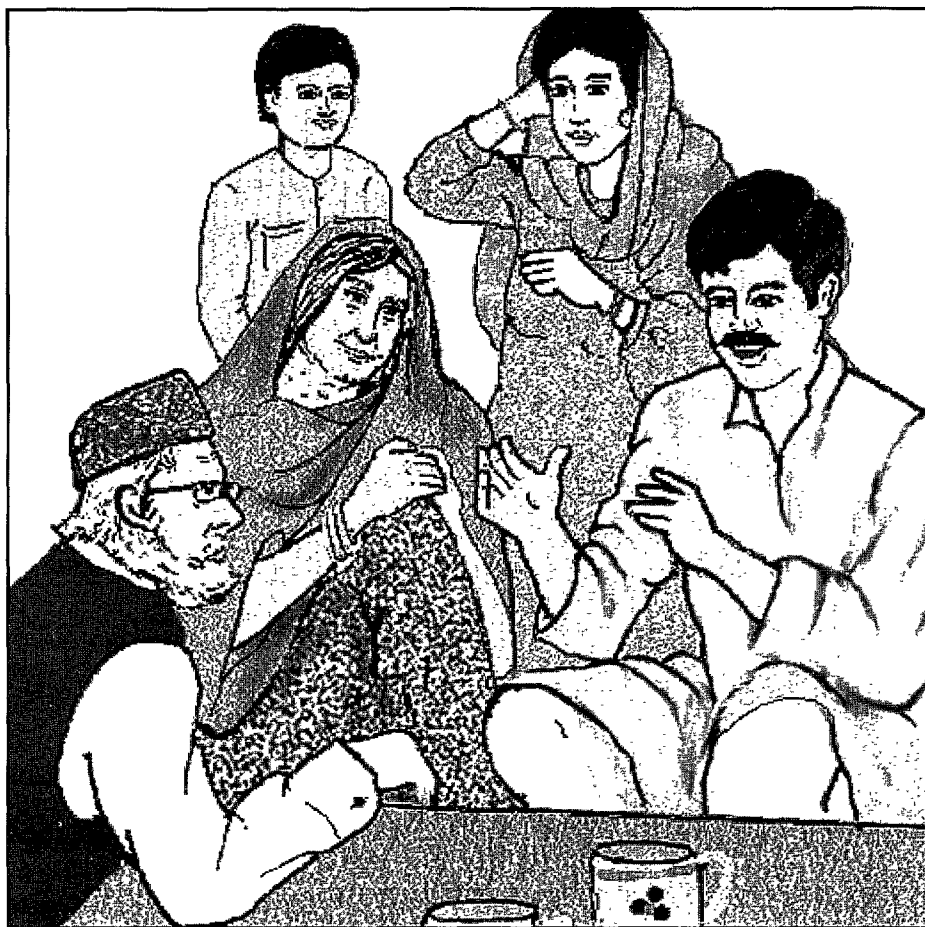
Every pregnant woman should take iron and folic acid tablets. These tablets will make her healthier and reduce tiredness. These tablets are not expensive and can be obtained from a chemist.



A pregnant woman sometimes cannot eat a full meal. In such instances, she should try to eat less but more frequently. A pregnant woman needs more food than normal to ensure proper development of the baby. If possible, lentils, vegetables, eggs, meat, and fruit should be included in a pregnant woman's diet.



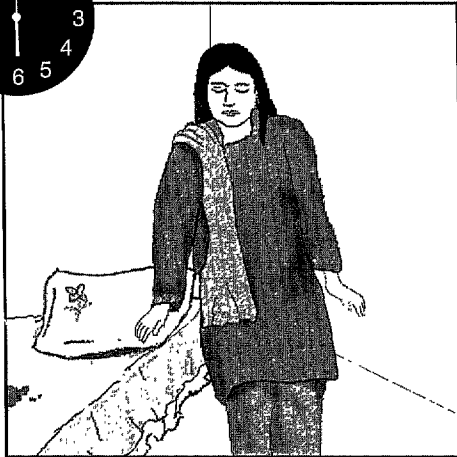
During pregnancy, tetanus toxoid vaccination is important for the protection of the mother and her baby against tetanus. These injections should be given during the 6th and 7th months of pregnancy.



Even if a pregnant woman has regular checkups, takes iron and folic acid tablets every day, eats well, and has tetanus toxoid injections, emergency situations can arise either during her pregnancy, at the time of delivery, or after delivery. A wise family understands this and makes a plan for actions they would take if an emergency arises.



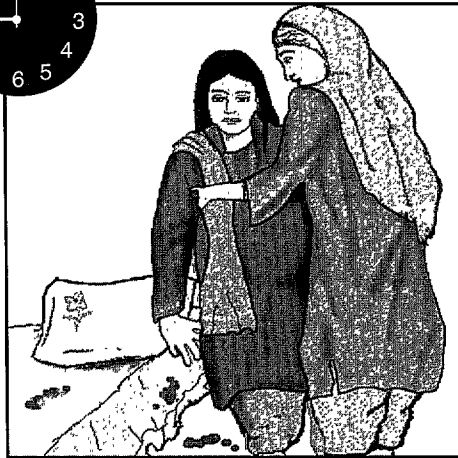
In order to understand what can happen in an obstetric emergency, we would like you to listen to a story about a pregnant woman who experienced a complication.



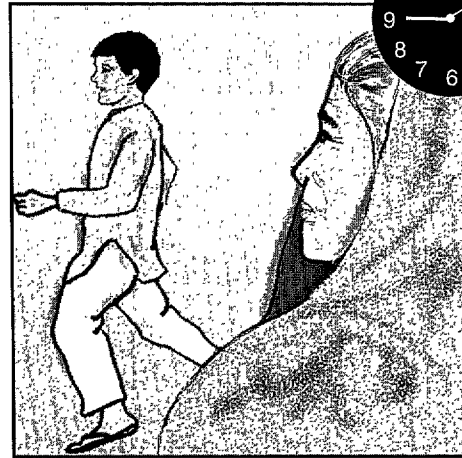
Shaista was pregnant for the first time. During the 7th month of her pregnancy, she woke up and found some blood on the bedsheet.



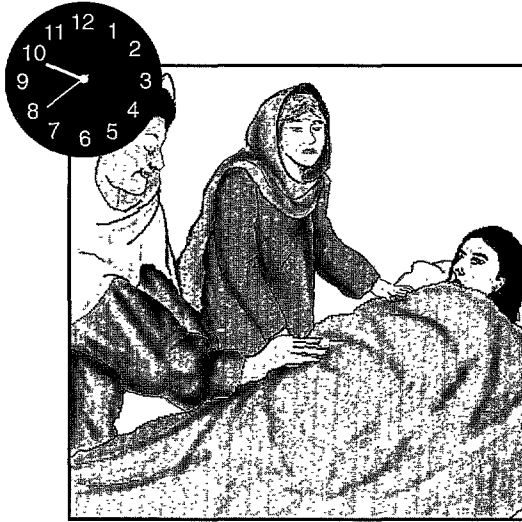
Shaista's husband had to go to work, so Shaista's mother-in-law prepared a tiffin (lunch box) for him to take to work.



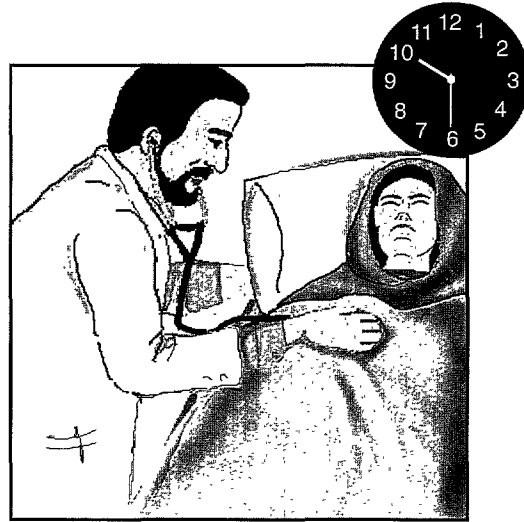
Two hours after Shaista's husband's departure, her bleeding and weakness increased so her mother-in-law assisted her to get into bed.



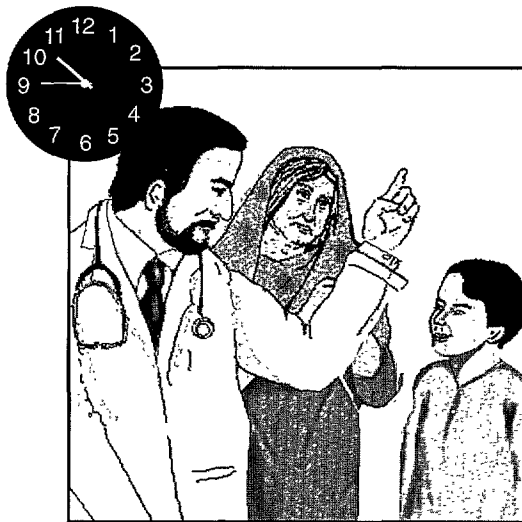
Shaista's mother-in-law then sent her younger son, Arif, to ask the dai to come to their home.



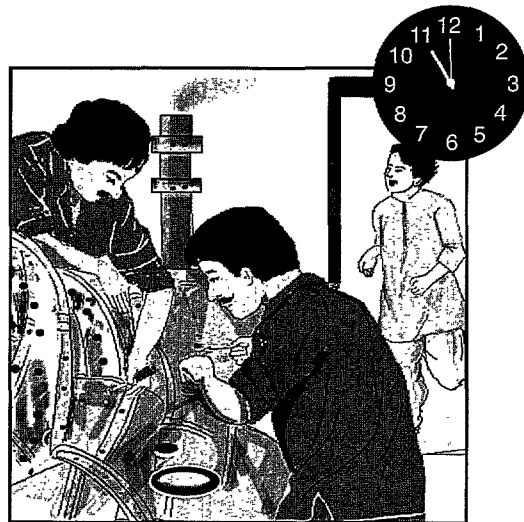
Seeing Shaista's condition, the dai sent for the nearest local doctor.



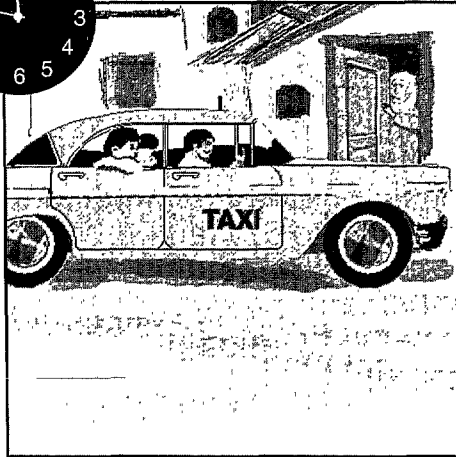
After examining Shaista, the doctor advised the family that she needed to be taken to a nearby maternity home/clinic.



Since Shaista's husband, Jamal, was not home, Arif, his younger brother, was sent to his work-place to bring him home.



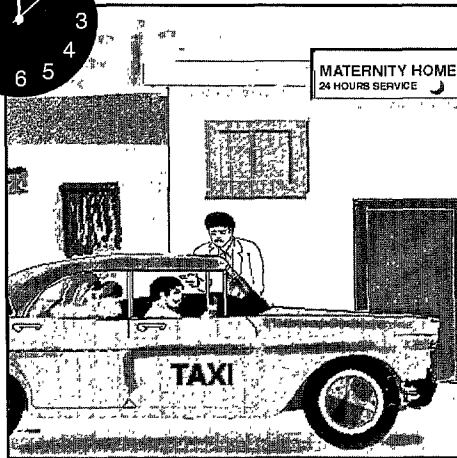
Arif found Jamal busy at work in the factory.



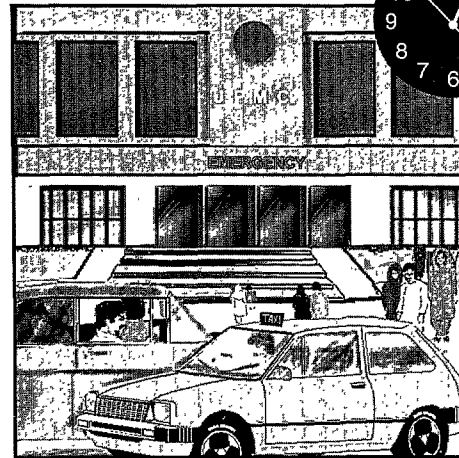
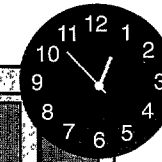
Both brothers took a taxi home.



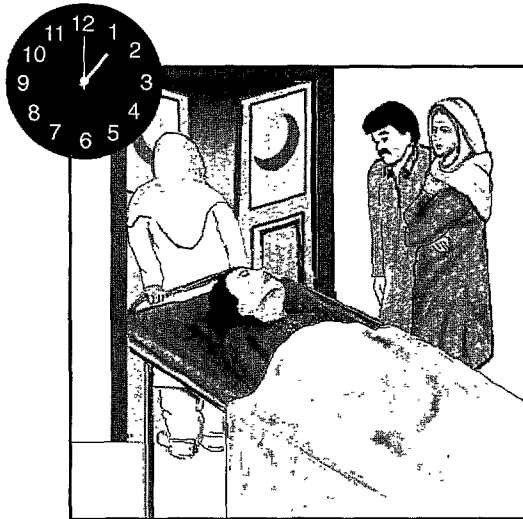
Jamal and his mother escorted Shaista to the taxi.



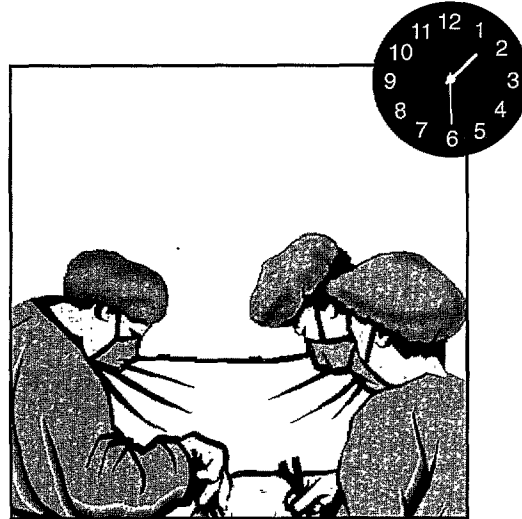
Shaista was taken to a maternity home nearby. Upon hearing Shaista's history, the doctor there advised the family to take her to Jinnah Post Graduate Medical Centre (JPMC) immediately.



Shaista was taken to the Main Emergency at JPMC and was directed to the Obstetrics & Gynecology Emergency (Wards 8 & 9).



By that time, Shaista had bled a lot. She was immediately received by the Department of Obstetrics & Gynecology (Wards 8 & 9).



After making necessary arrangements for blood and anesthesia, an emergency operation was performed.



The doctor at JPMC informed Shaista's family that she was all right but the baby was delivered dead. The doctor also told the family that if Shaista had been brought to the JPMC (Wards 8 & 9) earlier, the life of the baby could have been saved.

## WHAT CAUSED THE DELAY?

Shaista experienced a serious bleeding problem at six in the morning. From that time until two in the afternoon, when she was operated upon, eight hours had elapsed. The doctor at JPMC told her family that the baby could have been saved if they had brought her to the hospital earlier.

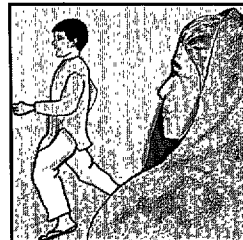
### What delayed the arrival of the woman to the hospital?



When Shaista initially began to bleed, her family could have recognized it as a serious condition and called a doctor immediately.



When Shaista's husband, Jamal, was going to work, he could have given permission to his family that if an emergency arose, they could take her immediately to the hospital in his absence. It is essential for families to discuss emergency plans.



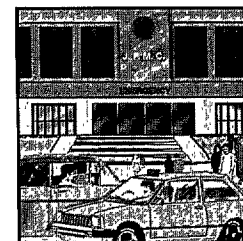
Shaista's mother-in-law called a dai to the home, when she could have called a doctor.



The local doctor should have referred Shaista directly to JPMC (Wards 8 & 9) rather than sending her to a small maternity home/clinic with inadequate facilities.



Arif lost valuable time in going to the factory and searching for his brother, Jamal. Jamal should have given permission and arranged for his wife to be taken to the hospital even if he was not at home.

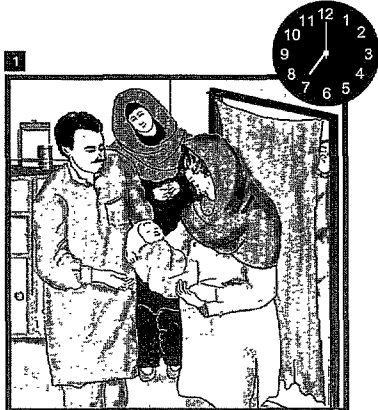


Shaista was first taken to the Main Emergency at JPMC. Her family should have taken her directly to Obstetrics & Gynecology Emergency (Wards 8 & 9) within JPMC.

# Posters



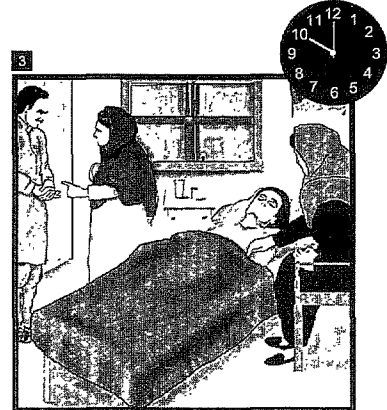
# POSTPARTUM HEMORRHAGE



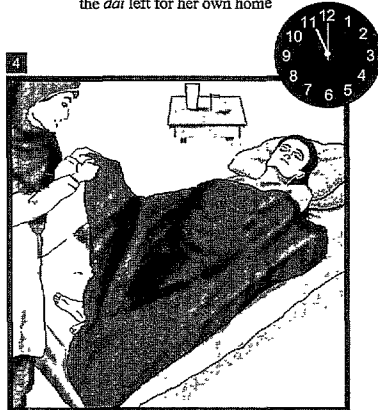
Samina delivered her fifth baby at home with a *dai's* assistance. There was a delay in the delivery of the placenta but the *dai* managed to remove it. It was 7 o'clock in the evening when the *dai* left for her own home



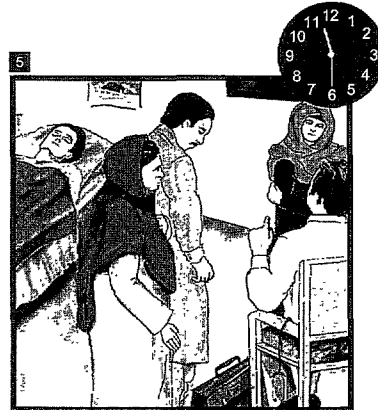
Samina's family was excited by the newborn and gathered around him. Samina was lying on the bed, covered by a blanket, and she was feeling weak.



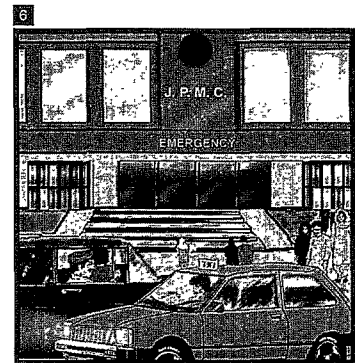
Around 10 PM, Samina started having cold sweats. She told Anjum, her sister-in-law, that she was feeling faint. Anjum became worried and immediately sent for the *dai*.



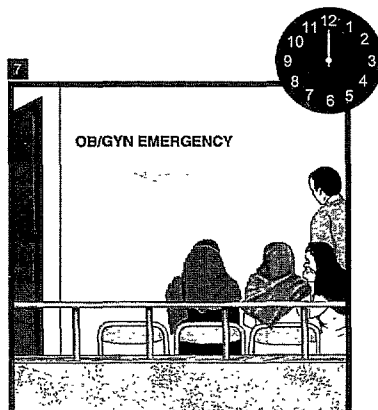
When the *dai* arrived at 11 PM and removed Samina's blanket to examine her, she found the bed sheet soaked with blood.



The *dai* became worried and immediately asked the family to call a doctor.



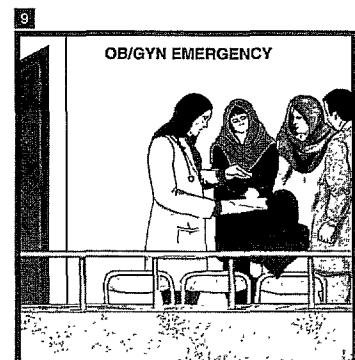
The doctor came, and upon seeing Samina's condition, he advised the family members that Samina should be taken to JPMC immediately since she was in shock and had lost a lot of blood.



Samina's husband, Shafiq, took her to JPMC Obstetrics & Gynecology Emergency (Wards 8 & 9), where she was admitted.



Samina was given three bottles of blood and the doctors explored and evacuated the uterus.



The doctors told Samina's family that a piece of the placenta had been left in the uterus, due to which she lost a lot of blood. They explained to her *dai* that the placenta should not be removed forcibly and that it should be examined for completeness after it is expelled. Moreover, patients such as Samina should be observed for a while for occurrence of bleeding. If bleeding is heavy, then they should immediately be referred to JPMC (Wards 8 & 9).

IF A WOMAN BEGINS TO BLEED HEAVILY DURING CHILDBIRTH, OR SOON AFTERWARDS, SHE SHOULD IMMEDIATELY BE TAKEN TO JPMC (WARDS 8 & 9)



# ANTEPARTUM HEMORRHAGE



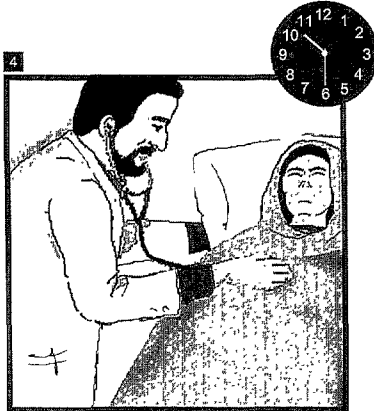
1 Shamim was pregnant for the first time. One evening, during her 7th month of pregnancy, she experienced some spotting which turned to frank bleeding by the next morning.



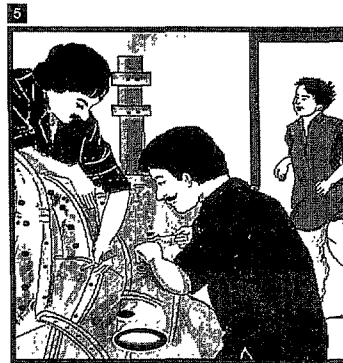
2 Her husband worked in a nearby factory, and he left for work, as usual, early in the morning.



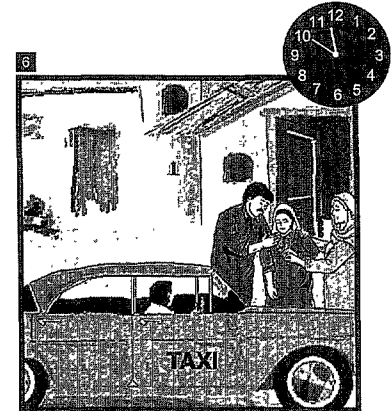
3 Shamim's mother-in-law sent her younger son, Arif, to call a *dai* to their home. The *dai* came but suggested that they call a doctor also.



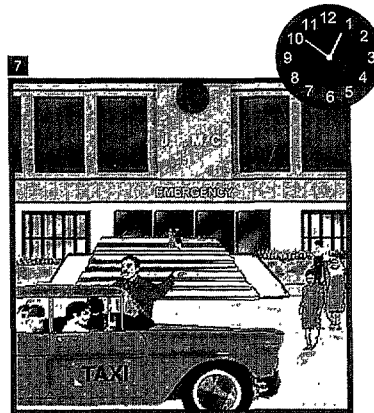
4 When the doctor came and saw Shamim's condition, he advised that she should be taken to JPMC immediately.



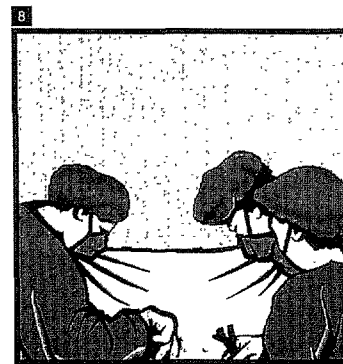
5 Arif was sent to the factory to look for Saleem and, after some time, found him working on a machine.



6 Both of them arrived home in a taxi and took Shamim to JPMC in a taxi.



7 When they reached the Obstetrics & Gynecology Emergency (Wards 8 & 9) at JPMC, Shamim's condition was poor.



8 She was admitted there and operated upon. The efforts of the doctors saved her life but the baby could not be saved.



9 The hospital surgeon told Shamim's family that the serious situation could have been avoided, and the life of the baby could have been saved also, if the family had brought her to the JPMC (Wards 8 & 9) earlier.

IF A PREGNANT WOMAN HAS SPOTTING THAT CONTINUES FOR MORE THAN ONE DAY OR FRANK BLEEDING WITH OR WITHOUT PAIN, SHE SHOULD IMMEDIATELY BE TAKEN TO JPMC (WARDS 8 & 9)





# ECLAMPSIA



1 Ameena was full term pregnant with her first baby. She often suffered from headaches. Her hands and feet had also become swollen.



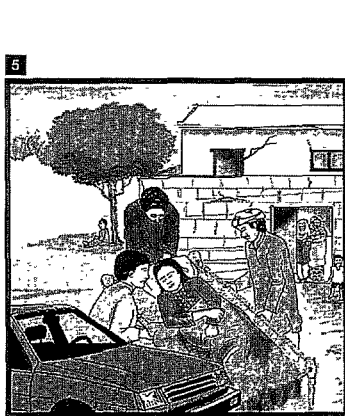
2 One night her husband, Saeed, woke up hearing noises. He saw that Ameena's condition was abnormal. Froth was coming out from her mouth and she was having fits.



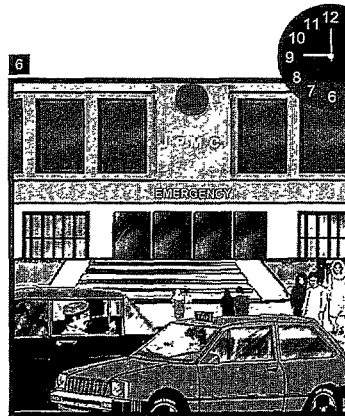
3 Saeed woke up his family and they called an *Amil Baba* to dispel the evil spirits. Despite the *Amil Baba's* attempts, Ameena's condition did not improve.



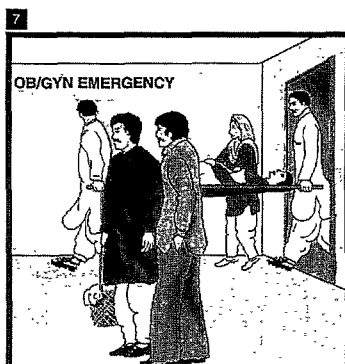
4 The family then called a doctor, who advised them to take Ameena to JPMC immediately.



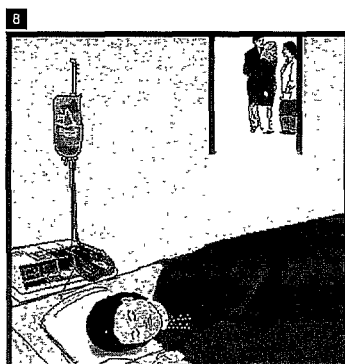
5 Ameena was taken to the hospital in a taxi.



6 They reached the main emergency at JPMC.



7 From there, they were sent to the Obstetrics & Gynecology Emergency (Wards 8 & 9) at JPMC, where Ameena was admitted.



8 Ameena was kept in isolation, and a drip was started immediately. She was also given some medications. One hour later, she delivered a baby who died soon after being born.

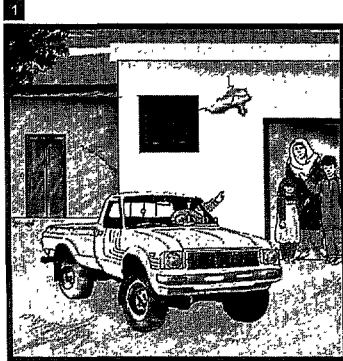


9 The doctors at JPMC told Ameena's family that her condition could have been prevented if she had antenatal check-ups, especially blood pressure checks, done during her pregnancy. The baby could also have been saved if the family had brought Ameena to JPMC (Wards 8 & 9) earlier.

**IF A PREGNANT WOMAN HAS FITS, SHE SHOULD IMMEDIATELY BE TAKEN TO JPMC (WARDS 8 & 9)**



# OBSTRUCTED LABOR



1 Salma was expecting her third baby any day. She planned to have her baby delivered at home by a *dai*. Her husband Ahmed, was a pick-up driver and sometimes remained away from home for several days.



2 Early one morning, Salma started to have labor pains. Ahmed was not home, so she sent her son to call Rubina, her sister-in-law, and Sakina, a *dai*.



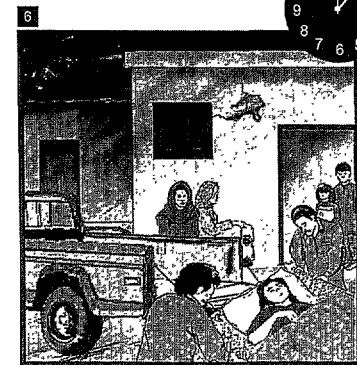
3 Both of them lived nearby and arrived soon. *Dai* Sakina examined her and said that the delivery would most probably take place in the evening and went away.



4 Salma experienced labor pains all day. When *Dai* Sakina came to see her again in the evening, she was worried since there was no progress in labor. She called the more experienced *Dai* Basra, who gave Salma an injection to hasten the delivery.



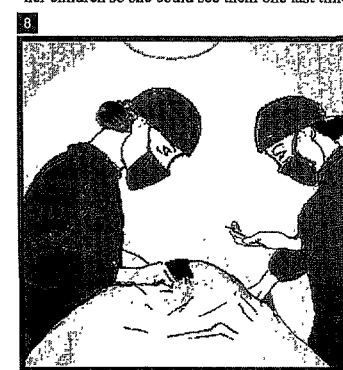
5 Some more hours passed and Salma's condition became worse. She started sweating and felt drowsy. Therefore, both *daïs* advised that Salma should be taken to JPMC. Since it was midnight, Rubina waited for Salma's husband Ahmed, or her brother Haleem, to arrive. Salma asked Rubina to wake up her children so she could see them one last time.



6 Around 1 AM, Haleem arrived with a pick up and began to make preparations to take Salma to the hospital. Some of the neighbours also accompanied them so that they could donate blood at the hospital, if needed.



7 At approximately 2 AM, they arrived at the Obstetrics & Gynecology Emergency (Wards 8 & 9) at JPMC



8 Salma was immediately taken in and examined. The doctors decided to operate immediately, since the baby's position was wrong and the uterus had ruptured. Salma needed three bottles of blood and delivered a dead baby by an abdominal operation.

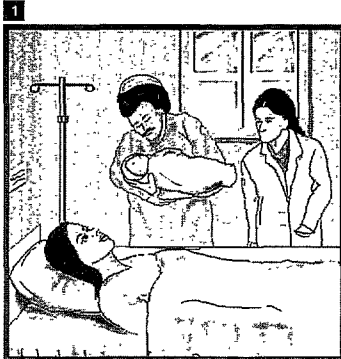


9 The timely efforts of the doctors saved Salma's life. The doctors told her family that the baby could have been saved if they had brought Salma to JPMC (Wards 8 & 9) earlier.

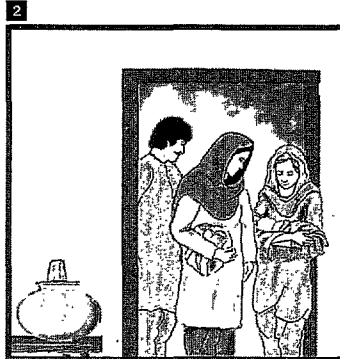
ANY WOMAN WITH A FIRST BABY HAVING LABOR PAINS FOR MORE THAN 18 HOURS, AND THOSE WITH SUBSEQUENT BABIES HAVING PAINS FOR MORE THAN 12 HOURS, SHOULD IMMEDIATELY BE TAKEN TO JPMC (WARDS 8 & 9)



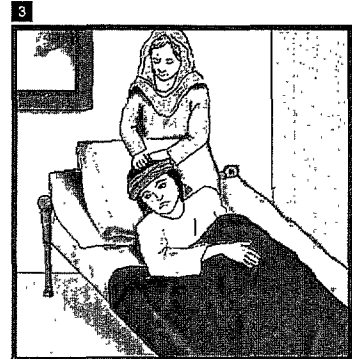
# PUERPERAL SEPSIS



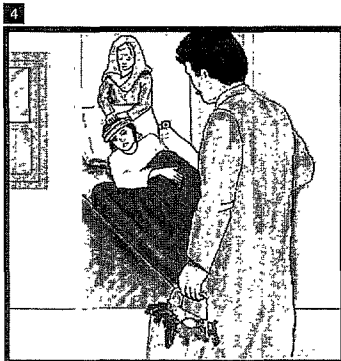
1  
Shahida delivered a live baby boy in a small clinic near her house. It was a difficult delivery.



2  
Shahida was feeling weak and unwell, but she was very anxious to go home. Therefore, she left the hospital two days after the delivery.



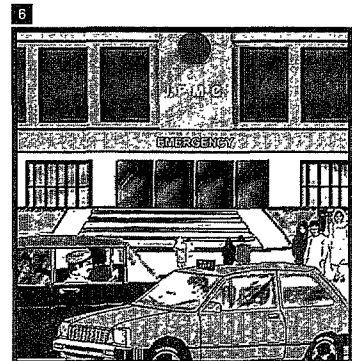
3  
The day after Shahida came home, she felt feverish.



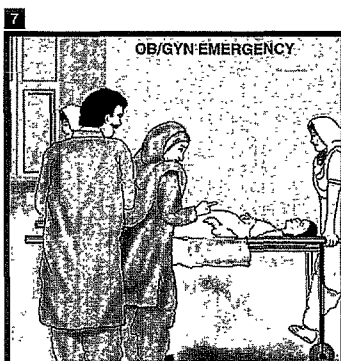
4  
When her husband, Hameed, arrived home from work in the evening, Shahida's face was flushed due to high fever and she had severe pain in the abdomen, due to which she was unable to move. Hameed's mother was worried and was sitting by Shahida's side.



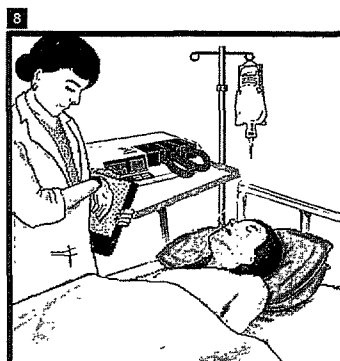
5  
Hameed became very worried and immediately rushed to call a doctor from the nearby clinic. The doctor, after examining Shahida, said that she had a severe infection and advised that she should immediately be taken to JPMC.



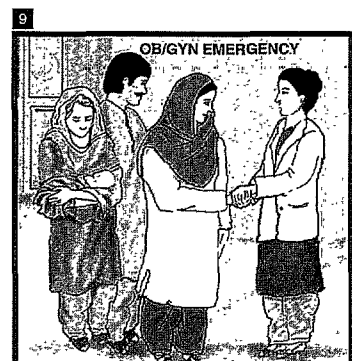
6  
Hameed did not delay taking Shahida to JPMC Obstetrics & Gynecology Emergency (Wards 8 & 9).



7  
She was admitted to the Obstetrics & Gynecology (Wards 8 & 9) at JPMC.



8  
Shahida was given several drips, injections and a bottle of blood. She remained in the hospital for approximately one week.



9  
The doctors appreciated the quick decision taken by Hameed to bring his wife to JPMC (Wards 8 & 9) without delay. Due to Hameed's timely decision, Shahida was able to receive treatment at the hospital. Otherwise, she could have died of complications due to infection.

IF A WOMAN HAS SEVERE PAIN IN ABDOMEN OR HIGH FEVER AFTER CHILD BIRTH, SHE SHOULD IMMEDIATELY BE TAKEN TO JPMC (WARDS 8 & 9)



## CARE OF PREGNANT WOMEN



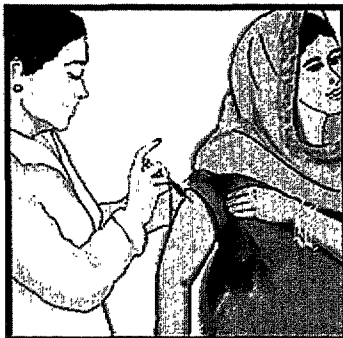
During pregnancy, check-ups are essential for maintaining the health of a pregnant woman and her baby. These check-ups should be done by a doctor at least three times, during 3-4 months, 6-7 months, and 8-9 months of pregnancy. Check-ups will ensure normal progression of pregnancy and will reveal any complications in a timely manner.



Every pregnant woman should take iron and folic acid tablets. These tablets will make her healthier and reduce tiredness. These tablets are not expensive and can be obtained from a chemist.



Pregnant women sometimes cannot eat a full meal. In such instances, she should try to eat less but more frequently. A pregnant woman needs more food than normal to ensure proper development of the baby. If possible, lentils, vegetables, eggs, meat, and fruit should be included in a pregnant woman's diet.



During pregnancy, tetanus toxoid vaccination is important for the protection of the mother and her baby against tetanus. These injections should be given during the 6th and 7th months of pregnancy.