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CONSULTANCY REPORT
AFGHAN HEALTH SECTOR SUPPORT PROJECT
MAY 23, 1990 - jUNE 11, 1990
MSH/PESHAWAR

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I. INTRODUCTION

The scope of work for my visit to Peshawar was as follows:

- 1) To assist the MCH Departments of MSH and the MOPH in conducting a workshop for the staff of the MCH Model Clinic. The workshop will focus on skills needed to manage the clinic and train Afghan health personnel.
- 2) To suggest ways in which the different components of the MCH Teaching Clinic (such as Under 5s Clinic, Pre-natal Clinic, Nutrition Unit, etc,) can operate with greatest efficiency and effectiveness, in a coordinated manner.
- 3) To recommend changes, additions, and deletions in the list of equipment, supplies, pharmaceuticals, and forms needed by the MCH Teaching Clinic and MCH clinics inside Afghanistan.
- 4) To recommend improvements in the curriculum for training different categories of Afghan health personnel focusing on MCH.
- 5) To complete a draft consultancy report before leaving Peshawar, with recommendations for follow-up to the visit.

II. GENERAL DESCRIPTION OF ACTIVITIES

The early days of my visit were primarily spent in meetings with staff from the MOPH Institute of Public Health and the women who are being hired to staff the MCH Training Clinic. We discussed plans for the upcoming workshop, including which topics to include, length and dates of the workshop and who to invite as participants. We also discussed general plans for the clinic such as possible locations, staffing, drugs and equipment, job descriptions, pre-natal and road to health cards and the development of health education material. At the time of our original discussions no decision had been made about the location of the MCH Training Clinic. On the second to last day of my visit it was decided that the clinic should be located in Pabee which was the preferred location by almost everyone involved.

Some time was spent visiting other agencies to see what health education material had been developed that could be used in the MCH Training Clinic and the workshop. We found very little material that had been developed for use in teaching Afghan mothers. Most of what has been developed was developed for use by certain specific categories of health workers such as Community Health Workers or Basic Health Workers and very little of it seemed to be appropriate for use in the MCH Training Clinic.

We also tried to collect various different "Road to Health" cards to see if any were suitable for use in the MCH Training

Clinic. Almost all of the various agencies and clinics and hospitals have developed their own cards, both for growth monitoring and prenatal care. We had some discussion with the clinic staff as to whether to use "Road to Health" cards at all or to use arm circumference bands. Most of the clinic staff had had experience in various methods of growth monitoring and all preferred the use of weighing and "Road to Health" cards.

Discussions also took place with members of the Preventive Medicine Department (PMD) of the MOPH to discuss ways of coordinating their immunization program with the MCH Training Clinic activities. The clinic will only offer tetanus toxoid immunization for women and the immunization of children will be done by the vaccinators from PMD. We discussed the possibility that MCH clinic staff, particularly the vaccinator attend the one-week training course offered at PMD. PMD agreed to have three members of it's staff attend the workshop and to have it's staff teach the immunization component of the workshop.

The rest of the days prior to the workshop were spent preparing the topics, teaching objectives, slides and other materials for the workshop.

The workshop was held from June 2nd through June 7th at the training center in the MOPH Institute of Public Health.

The days following the workshop were spent compiling the material developed during the workshop which will hopefully be used as training material in the MCH Training Clinic.

III. THE MCH TRAINING WORKSHOP

The participants of the workshop totaled 13 and included members of the Institute of Public Health MCH department, medical supervisors from three of the provinces in Afghanistan, two trainers of Basic Health Workers, three members of PMD and three of the proposed members of the MCH Training Clinic staff. All of the participants were very active and enthusiastic in discussions and in the development of training material to be used in the clinic. The basic topics which were covered in the workshop included health education, calculating target populations, activities and procedures of the Under 5s Clinic and the Pre-Natal Clinic, Immunization, "How to Be a Better Teacher", job descriptions for clinic staff, and the development of a medication and equipment list. Participants also visited some MCH clinics and PMD programs in the area and evaluated the activities in these clinics and discussed ways these clinics could be improved. A draft of the manual which was developed as a result of the workshop is attached to this report. Evaluations of the workshop by the participants were very positive with the only major and often repeated criticism being that the workshop was not long enough.

IV. RECOMMENDATIONS

A. Recommendations concerning the workshop.

-I hope that the material developed in the workshop can be used both in the clinic as training material and I would suggest that further workshops be held as new staff are added to the various MCH programs and that previous workshop participants be used as trainers. All of the participants were not only enthusiastic and knowledgeable, but also demonstrated their ability, in the workshop, to act as trainers.

-I suggest that the manual which was developed in the workshop be considered an open and unfinished document and that it be added to as health education material and other training material becomes available.

-I agree with the participants about the length of the workshop and recommend that any future MCH training workshops be at least two weeks in length. If possible it might be useful to divide the workshop into two, two-week sessions with a short break between them.

B. Recommendations concerning the operation of the MCH clinic.

-The workshop helped to prepare the clinic staff to work in the MCH Training Clinic and to provide training in it, however none of them have had to organize an MCH clinic. I would suggest that when plans for the MCH Training Clinic are finalized, that someone (preferably someone locally available), who has had experience working in MCH clinics be employed as a consultant for at least a month to help with the initial organization of the clinic.

-Concerning "Road to Health" cards and pre-natal cards I would suggest that new cards be developed for use in the MCH Training Clinic. I think we collected almost every card available in the area and all of the participants of the workshop and I agree that all of them had some major flaw. The major problem with most of them was that there was no space for writing a diagnosis and treatment in case of illness. Since PMD provides each patient with a vaccination card there is no need to include a space for vaccinations on the "Road to Health" card. The vaccination cards from PMD could easily be clipped to the patients card. I strongly feel that all patient cards should be kept by the patient rather than by the clinic and that the clinic provide a suitable plastic bag, specially ordered to hold the cards, for each patient. In the manual, under the sections entitled "Growth Monitoring" and "The Pre-Natal Card" I have enclosed sample drafts of cards which might be used in the development of new card.

-Clinic staff have requested that a uniform specific to the MCH Training Clinic be provided and I feel these would give them a sense of "ownership" and involvement in the clinic.

-There are several sections of the manual which I think should be laminated for easy access and use in the clinic. These include sections entitled; Patient Visits to the Under 5s Clinic, the four "At Risk" referral lists for pre-natal patients, The First Pre-Natal Visit, Follow-up Pre-Natal Visits and ost-Natal Visit. It might also be useful to laminate the job descriptions of the clinic staff.

-I feel that it is very important that health education material be developed for use in the MCH clinics and that adequate funding be provided for the development of good and long lasting materials. There are many people in the health education section of PMD and the MCH section of the Institute of Public Health, as well as workshop participants and MCH Training Clinic staff who would be very useful in this project.

-In the workshop we discussed providing every pregnant woman who comes to the pre-natal clinic with a "Cord Kit" to be used at her delivery. I am aware that trained Female Health Workers and some other categories of health workers are provided with delivery kits, but I feel that since many Afghan women are delivered by family members that each woman should have access to a new razor blade (for cutting the cord), sterile cord ties and cotton swabs soaked in antiseptic. I think these items could be packaged cheaply here in Peshawar and might also be used as an incentive for women to attend the pre-natal clinic.

-implanted

INTRODUCTION

Objectives:

- 1) Participants of the workshop will identify and discuss what things they hope to learn from the workshop.
- 2) The schedule of the workshop will be reviewed.
- 3) The organization and content of material will be reviewed.
- 4) Participants and trainers will introduce themselves.
- 5) Participants will write down what role the workshop can play in the development and planning of the MCH clinics.
- 6) Participants will discuss the components of a "good" and a "bad" clinic.

Teaching Materials: Materials needed for this first session are notebooks with dividers, copies of the objectives for each session, any material that needs to be read during the workshop, paper and pens for each participant, whiteboard and markers.

I. HEALTH EDUCATION

OBJECTIVES: At the end of this session, the participant will--

- 1) Understand the purpose of health education
- 2) Be able to develop health education messages appropriate to the local beliefs and customs in order to effectively change behaviors which effect people's health
- 3) Demonstrate effective health education techniques for individuals and groups

ACTIVITY: The participants will divide into groups. Each group will be given a different topic related to MCH (e.g. prenatal care, nutrition, immunization, oral rehydration). Each group will develop messages and demonstrate effective communication techniques for their topic.

II CLINIC ACTIVITIES

Objective:

To describe the major activities of the clinic.

Preparation:

Prepare an outline of each major activity of the clinic:
immunization, under 5s clinic, pre-natal clinic, registration.

Learning Activity:

The participants of the workshop prepared an outline of the activities of the MCH clinic. The outline included the activities which take place in each section of the clinic, some medication which might be found in that section and what health education topics might be included in each place.

Registration:

-All patients who come to the clinic should be registered on arrival. The name of the patient and card number should be written in the registration book and a colored slip of paper with a number on it should be given to each patient. The colored slip of paper will direct the patient to the appropriate section of the clinic and the number given will help the clinic staff to determine in which order the patients should be seen. The colored slips of paper should be collected by the staff as the patient is seen and all of the colored slips should be returned to the registration room at the end of the day.

-No patient should go directly to see the doctor unless that patient looks very ill and in that case the registrar should take the patient directly to the doctor.

-If there is a shortage of staff in the clinic, it was suggested that the registration room only be open for a few hours in the morning so that the person doing the registering could be free to do other things in the clinic after the registration is closed.

-If possible, the area outside the registration room where patients wait should be covered or shaded in some way so that patients are not standing in the sun.

-Waiting areas outside each clinic area should be used for group health education or cooking demonstrations.

Under 5s Clinic

- The activities in the Under 5s Clinic should include
- Growth monitoring of all children under five years of age, using a scale and "road to health card" or an arm circumference band. Children with any degree of malnutrition should be seen more frequently in the Under 5s Clinic, receive individual counseling concerning nutrition and be referred to the nutrition room.
- Examination of newborn babies.
- Examination of children under 5.
- Screening and referral of "at risk" children.
- Treatment of common illnesses.
- Treatment of common skin diseases.

- Oral rehydration therapy.
- Referral of very ill children to the doctor.

Some suggested topics for group health education in the area of the under 5s clinic included:

- Diarrhea, dehydration, and rehydration.
- Sunshine and ricketts.
- Vitamin A deficiency.
- Cleanliness and child care
- Breast feeding
- Food hygiene and sanitation
- Weaning and nutrition.
- Immunization.
- Preventing childhood accidents

Pre-Natal Clinic:

- Monitoring of the health of the mother and fetus throughout pregnancy, including physical examination, abdominal palpation, blood pressure, listening to the fetal heart, measuring the weight and height of the mother, checking for anemia.
- Screening, identification and referral if necessary of women with risk factors. (See section V. B. for identification of "at risk" patients)
- Filling out the pre and post natal card in order to monitor the health of the woman and fetus during and after pregnancy.
- Provide patients with routine iron and folic acid during pregnancy and the post natal period.
- Monitor the patients hemoglobin and examine the urine for protein and sugar.
- Toward the end of pregnancy, provide each patient with a "cord kit", containing a new razor blade, sterile cord ties and cotton swabs soaked in an antiseptic solution.
- Following delivery provide information concerning birth spacing.

Health Education Topics:

- Introduction to the clinic, explaining the importance of pre-natal care.
- Nutrition during pregnancy.
- Danger signs during pregnancy.
- Common discomforts of pregnancy (home and local treatments)
- Preparation for labor and delivery
- Care of the newborn, including breast feeding.
- Postpartum care
- The delivery, including the use of "cord kits".
- Birth spacing

The Immunization Room:

- All MCH clinics will provide tetanus toxoid immunizations to women.
- The Preventive Medicine Department of the MOH will provide BCG and DPTP to children, through their immunization program.

Health Education:

- The importance of Immunization
- Where to obtain DPTP and BCG for children.
- The illnesses of diphtheria, whooping cough, tetanus and T.B.

The Nutrition Room:

- In MCH clinics with sufficient staff it was suggested that a nutrition room be included. Its activities would include:
- Intensive one-on-one health education with mothers of malnourished children.
- Oral rehydration of children with diarrhea.
- Demonstration of the preparation of nutritious foods for children, especially weaning foods.

Health Education:

- Nutritious foods
- Good weaning foods
- Sanitary food preparation
- Prevention of diarrhea
- Breast feeding

The Doctors Office:

- The activities should include:
- Examination of patients referred by the clinic staff.
- Promotion of clinic activities through work with the community, community leaders, mullahs, provincial health officer, Preventive Medicine Department (PMD), other departments in the Ministry of Health and elected officials
- Monitoring the health status of the community.
- Promoting the control of communicable diseases and the prevention of epidemics.
- Supervision of the whole clinic.
- Supervision of the health education program.
- Supervision of training programs and the training health center staff.
- Supervising the staff in developing training materials.
- Monitoring the activities of the various departments and solving problems.
- Provide monthly reports to the Provincial Health Officer concerning clinic activities.
- Assist the MOH in immunization campaigns and mass media health education campaigns.
- Promote clinic outreach programs (such as health education programs in the mosque).

III CALCULATING TARGET POPULATIONS

Objective:

To calculate the target population for T.T. immunization, D.P.T. & polio immunization and growth monitoring.

Preparation:

Where possible, collect the following information from clinic records:

- 1) The total population of the clinic area.
- 2) The age distribution of the population living in the clinic area. If this information is not available, use this standard age distribution:

0-11 months	4%
12-59 months	13%
5 years-14 years	28%
15 years-44 years	44%
45 years +	11%

Total 100%

Purpose:

-There are different target populations for different clinic activities. It is useful to be able to calculate the target population for each of these clinic activities so that you will know how effective your program is.

Learning Activities:

- 1) Discuss the age distribution of the population. (see section on preparation)
- 2) Explain the target population for:
 - A. T.T. All pregnant women. The estimate for this target population is roughly the same as the estimate for the 0-12 month population.
 - B. DPT/Polio: 3-14 months. For a rough estimate of the number of children in this target population, you can use the estimate for the 0-12 month population.
 - C. Growth Monitoring: The estimate for this target population should include all children ages, 0-59 months.
- 3) Demonstrate how to calculate the target population for DPT:

The clinic area population X children aged 0-12 months. For example, if the population in the clinic service area is 31,000, then the target population for DPT is $31,000 \times 0.04\% = 1,240$ children under the age of one year.
- 4) Review and answer questions.
- 5) Work shop participants should calculate the target population for T.T. injections. The target population is all pregnant women.

- 6) Workshop participants should calculate the target population for growth monitoring.
- The target population for growth monitoring is children aged 0-59 months. If the population in the clinic service area is 31,000, then the target population for weighing is $31,000 \times .17\% = 5,270$ children under 5 years of age.
- 7) Discuss with workshop participants this issue: The statistics listed the "preparation" section were estimates from other countries. The number of babies born in Afghanistan or in the refugee camps is almost certainly much higher than these figures. How would a high birth rate affect your calculations? (If birth rates are high, then the numbers of children in the 0-11 month category and the 12-59 month category will be higher which increases the size of the target population.)
- 8) Summarize:
- There are different target populations for different clinic activities.
 - You can estimate the target population. You don't have to have the exact figures.
 - Target populations will tell you how many people could receive the service in the clinic area if they could get to the clinic or if everyone would use the service at the clinic.

IV A. EXAMINATION OF A NEWBORN
(see handout #1)

Objectives:

- 1) To discuss the components of the physical examination of a newborn baby and to discuss the importance of these components.
- 2) To determine what information is important to obtain from the mother and the child.
- 3) To determine which health education messages mothers of newborn infants should receive.

Preparation: A doll or live infant should be used to demonstrate the examination of a newborn. There are several good slides which can be included in this section. They are from "Teaching Aids at Low Cost", (TALC) and they are from the set entitled "Primary Child Care". They are slides numbered: PCi13, PCi20, PCi21, PCi22, PCi23, PCj1, PCj2, PCj3, PCj4, PCj5, PCj6, PCj7, PCj8, PCj9, PCj10, PCj12, PCj13, PCj14, PCj15, PCj16, PCj17, PCj18, PCj19, PCj20, PCj21, PCj22,. Be sure to follow the script that goes along with the slides.

Learning Activity: The following things should be included in the examination:

Handout #1

EXAMINATION OF THE NEWBORN

1) General Appearance

- Undress the baby and look at it. Does it appear normal?
- Look at it's size, color, breathing and the movement of it's limbs.
- During this time, talk to the mother about how she is feeding the baby.
- What questions would you ask her?
 - Does the baby suck well?
 - Does she have enough milk?
 - How many times a day does she feed the baby?
 - Are her breasts or nipples sore?
 - Does she think the baby is well?
- Begin a detailed examination of the baby. Always start at the top.

2) Top of the Head

- Is there any unusual swelling? Look for excessive moulding, caput, or cephalohematoma.
- Check the fontanelle. If it is bulging, this can be a sign of excess pressure inside the head.
- If the fontanelle is depressed, this may be a sign that the infant is dehydrated.

3) Eyes and Ears

- The eyes should be in line with the ears. If they are not, this is sometimes a sign of mental retardation.
- Make sure there is no eye or ear infection and that the eyes and ears are clean.
- How would you teach the mother to wash the child's eyes and ears?
- If there is mild eye irritation teach the mother how to clean the eyes with a mild salt water solution. If the infection is more severe, tetracycline eye ointment may be needed.

4) Mouth

- With clean hands, check to see that the palate is intact and that the baby sucks well.
- Examine the mouth for thrush. If the baby has thrush, prescribe gentian violet three times each day.

5) Arms and Legs

- Make sure the limbs are straight.
- Does the baby have the correct number of fingers and toes?
- Check for "clubbed feet". Demonstrate how to wrap clubbed feet. (See-Preparaion section, above). The feet should be wrapped for at least six weeks

6) The Spine

- Make sure the spine is straight and that there are no depressed areas. A slightly depressed area may be a sign of spina bifida.

7) The Anus

- Make sure the child has been passing stool normally.

8) Umbilicus

- Examine the umbilicus to make sure that it is clean and not infected. If there is an infection, teach the mother how to clean it and prescribe gentian violet or antiseptic. If it is severe, refer the baby to the doctor.

9) Reflexes

- Check all of the normal reflexes, including:
 - The stepping reflex
 - The grasp reflex
 - The sucking reflex
 - The Moro reflex
- Always explain what you are doing, to the mother. When you have finished the examination, be sure to tell the mother if the infant is normal or if there are any problems.

IV B. VISITS TO THE UNDER 5s CLINIC

Objectives:

- 1) To discuss the examination of children. (see handout #2)
- 2) To determine which children should be referred to the doctor.
- 3) To determine which children are "at risk" and should visit the clinic more often.
- 4) To determine what health education should be given to mothers who visit the under 5s clinic and to work in groups to develop and present health education material using discussion, roleplaying, storytelling, flip charts, etc.

Preparation: "Teaching Aids at Low Cost" (TALC) Has some slides which are useful in teaching this section. They are found in the group of slides called Primary Child Care. The slides most appropriate for this section are numbered: PCa8, PCa9, PCa11, PCa12, PCa13, Pcb8, Pcb9, Pcb10, Pcb11, Pcc12, Pcc13, Pcc15, Pcd13, Pcd14, Pcd15, Pcd17, Pcd18, Pcd19, Pcd20, Pcd21, Pcd22, Pcd23, Pcd24, Pce1, Pce3, Pce4, Pce6, Pce7, Pce8, Pce9, Pce14, Pce16, Pce17, Pce18, Pce19, Pce20, Pce21, Pce24, Pcf11, Pcf12, Pcf13, Pcf15, Pcf16, Pcf23, Pcf24, PCg5, PCg9, PCg10, PCg11, PCg12, PCg13, PCg14, PCg15, PCg19, PCg20, PCg21, PCg22, PCg24, Pch1, Pch2, Pch3, Pch4, Pch15, Pch16, Pch17, Pch19, Pch20, Pci8,. Be sure to show these slides while reading and discussing the script that goes along with the slides.

Handout # 2

A VISIT TO THE UNDER 5s CLINIC

When the mother and child first arrive at the clinic try to put the mother and child at ease. Interview the mother to see why she has come to the clinic. What is the reason for her visit: immunization, growth monitoring, illness, vaccination?

Next, weigh the child and plot the weight on the "Road to Health "card. (see section IV. D. for information about growth monitoring).

Perform a physical examination. Include the following steps in the physical examination:

General Appearance

-Look at the general appearance of the child. Examine the child with your eyea, ask yourself the following questions and use your common sense.

-Does the child look sick?

-Does the child look underweight or malnourished?

-Does the child look dehydrated?

-Does the child look pale or jaundiced?

-Does the child move and act normally?

-While you are examining the child, talk to the mother and child to try

to get an idea of the health of the child. These are a few of the types of questions you might ask:

- Does the child eat well?
- Does the child sleep well?
- Does the child seem happy?
- Does the infant suck well?
- Does the mother have enough milk?

Fontanelle

- In infants aged newborn to 18 months, examine the fontanelle.
- A bulging fontanelle can be a sign of excess pressure in the head.
- A depressed fontanelle can be a sign of dehydration.

Eyes

- Look at the conjunctiva (the white part of the eyes). Is it normal, or is it red or yellow?
- If possible, check the vision. How could you do this simply?
- Make sure there is no discharge.
- Tearing can be a sign of infection or irritation.
- Ask the mother if the child has normal night vision. Night blindness can be a sign of early vitamin A deficiency.

Ears

- Check the ears for signs of pain and infection, especially in a child with a fever or a cold. Pull the ears gently. If this is painful, it might be a sign of infection.
- Are the eyes in line with the ears? Low set ears may be a sign of mental retardation.
- Check the hearing. There are simple ways to test hearing for children of different ages.
- In children with hearing problems who are between birth and 4 months of age you may find that they do not react when you clap your hands loudly.
- For children 4 months to 2 years, stand behind them and rattle a piece of paper behind the right ear and then the left ear. A child with hearing problems may not turn his head toward the direction of the sound.

Throat and Mouth

- With a flashlight, check the throat, gums, teeth, cheeks and palate.
- Hold down the tongue with a tongue blade or spoon handle. Notice if the throat is red or if the tonsils are swollen or have spots with pus.
- Examine the mouth for signs of thrush, sores, inflamed gums, sore tongue, rotten or abscessed teeth.
- Check to see if there are any lymph nodes in the neck which are painful or swollen. If there are any swollen glands, this might be a sign of a throat or ear infection.

Respiratory System

- Observe the way the child breathes.
- Look for signs of difficulty in breathing, rapid, shallow or noisy breathing, flaring of the nostrils. If there is retraction ("sucking in" of the skin between the ribs or at the angle of the neck, behind the collar bone when a person breathes in), this is a sign of serious breathing difficulty.
- If the child has a cough, ask the mother how long the child has been coughing and if he coughs up mucus.

Arms and Legs

- Check to see that the limbs are straight. Check for "clubbed feet" and normal hip abduction.
- Check to see that there are no painful or swollen joints
- Look for loss in the thickness or tone of the muscle. Notice any difference in the thickness of arms or legs. Look for uneven strength between the 2 legs or 2 arms.

Abdomen

- Palpate the abdomen to see if there is any tenderness.
- Check to see if the liver or spleen is enlarged.
- Look for any unusual swelling or lumps.
- Look for the presence of hernias

Spine

- Check to see that the spine is straight and that there are no depressed areas.

Skin

- Examine the skin all over.
- Look for signs of a rash or infection. (see handout #6 for diagnosis and treatment of common skin diseases.

Many of the common childhood diseases can be treated in the Under 5s Clinic. Handout #5-Common Childhood Diseases, may be helpful in diagnosing and treating these diseases. Any child with a more serious illness should be referred to the doctor. It may be helpful for the staff of the clinic to compile a list of problems, illnesses or symptoms which should be referred to the doctor.

IV C DEVELOPMENTAL MILESTONES

Objectives:

- 1) To discuss the normal development of children.
- 2) To discuss the causes of delays in development.
- 3) To discuss the importance of delays in development. What do they mean?

Teaching Materials: Handout #3, Developmental Milestones.

Handout # 3

DEVELOPMENTAL MILESTONES

Aim: A lecture for students setting out simple milestones of normal development. This knowledge should enable students and staff to recognize deviations from normal and also be of help in using milestones to assess approximate age of the child in cases of doubt.

Discussion:

-What are milestones?

-Milestones are particular points in a child's development at which he learns to perform certain skills, e.g. sitting, standing and walking. A child will gain each new skill within a certain period of time if he is developing normally.

-What is the importance of knowing and recognizing milestones?

-Unless we know how a normal child develops we cannot see when something is not happening as it should with a child's development. If we know at what age we can expect a child to be doing certain things, this will help us to know whether or not he is developing in a normal way. Sometimes a mother will bring her child to the clinic and will not be sure of how old he is. If we know what milestones we can expect a child to have reached by a certain age then we can observe the child and assess approximately what age he is.

Normal Milestones: We will look at some of the most important milestones of development from birth up to 2 years of age.

Birth: When a child is born there are many things which he is already able to do.

-Ask the students to list these things. (Cries, sucks, sneezes, swallows, etc.)

-By looking at the baby it is quite easy to see that he can do these things. However, he is also able to do other things which are not quite so obvious. These are the normal reflexes which he has. They are spontaneous, automatic responses which the child makes under certain conditions. There are many of these, but among the most important is the Moro reflex.

-Explain and demonstrate the reflex to the students with a small baby if possible. The baby is placed on its back and the back of its head is held in the palm of the hand an inch or so above the table. The hands are When the hands are rapidly released the baby will throw its

arms open and then close them together over it's body. This reflex will disappear by the time the baby is 3 - 4 months old.

Four to Six Weeks:

-At this thime the baby will be smiling readily at his mother. He will follow his mother with his eyes.

Eight Weeks:

-At this age if you hold the baby in the palms of your hands, or he is lying on his stomach on the table, he will have developed enough control of his head to raise it wel above the level of the rest of his body.

Twelve to Sixteen Weeks:

-The baby will now turn his head to sounds that are made near to him and level with his ears. If a samll object is placed in his hands he will hold on to it for a short time.

Twenty Weeks:

-He should weigh twice his birth weight and should reach for interesting objects.

Twenty-six Weeks:

-By now the child should be sitting up alone with his hands down in front of him for support. When lying on his back he will lift his head up alone.

Eight Months:

- The child will sit without support and support his own weight on his legs while being held. He can roll over from his stomach and roll all the way over until he lands on his stomach again.

Nine to Ten Months:

-The child should be crawling and will clap his hands together.

Eleven Months:

-The child should be able to stand when you hold his hands.

Twelve Months:

-He will walk with one or two hands held. He should say one or two words that have meaning.

Thirteen to Fourteen Months:

-The child can walk without help and can sit down from a standing position.

Eighteen Months:

-The child will walk up and down stairs when someone is holding his hands. He begins to jump and feeds himself well with a spoon. He should be saying many words. He begins to have bladder control and will indicate to the mother when he is wet.

Two Years:

-The child goes up and down stairs alone, using two feet on each step. He is usually dry during the day and sometimes at night. He joins two

or three words together with understanding.

Teething: As the baby grows and develops he will usually cut his teeth in a particular sequence and at a particular time. This is the order at which the teeth usually erupt.

Lower central incisor-- 6 months
Lower lateral incisor-- 7 months
Upper central incisor-- 7 and 1/2 months
Upper lateral incisor-- 9 months
Lower first molar-- 12 months
Upper first molar-- 14 months
Lower cuspid-- 16 months
Upper cuspid-- 18 months
Lower second molar-- 20 months
Upper second Molar-- 24 months

As mentioned before, one of the important reasons for knowing a child's milestones is to be able to recognize when a child is not developing as he should. Whenever you see a child remember what milestones it should have reached at that age and check them.

Reasons for Delay in Reaching Milestones:

- 1) Disease- A birth injury or neurological disease would delay a child's ability in many areas, muscle control, speech, etc. Hearing or visual defects will delay his development.
- 2) Lack of Opportunity- Children can only develop their skills if given the opportunity to learn. For example, if a child is tightly swaddled for many months he will not have the opportunity to use his limbs and muscles and will therefore be slower to learn to sit, crawl, walk, etc. A child who is not frequently talked to by his mother will be slow in learning to speak himself-as it is only by hearing the sounds of speech that the child learns to copy them. Mothers should be encouraged to stimulate their children as much as possible, by speech and play, etc.

***Although developmental milestones are important, clinic staff must be careful in the way they use these milestones to evaluate children. A judgement should not be made on the basis of one visit and staff must be very careful in the way they discuss development with the mother. Many children are slightly slow to develop, but this does not necessarily mean the child has something wrong with it. The developmental milestones are only to be used as a guide in assessing a child.

IV D. GROWTH MONITORING

Objectives:

- 1) To discuss the importance of growth monitoring.
- 2) To discuss how to teach students to fill out the road to health card. (see handout #4)
- 3) To discuss how clinic staff should use the road to health card in working with mothers.
- 4) To discuss what should be done when children don't follow the normal growth curve.

Preparation:

Have road to health cards available for each participant.
Include Handout #4, The Road to Health Card, available for students or workshop participants.
A transparency of a growth chart is helpful in explaining the use of the card.

Handout #4

THE ROAD TO HEALTH CARD

Purpose:

-The purpose of the discussion is to teach the use and interpretation of the Road to Health Card as it is used in the clinic.

Method:

-A discussion involving questions and a demonstration using an enlarged model of a Road to Health Card or transparency.

Content: (Type of question and general content of the answer)

-What is this card? (It is a Road to Health Card which shows the growth of a child from birth to five years.)

-What is the Road to Health? (It is the ideal pathway along which the child's weight should travel as he grows.)

-Why is it important to know how much the child weighs? (For a child to be healthy it must grow well and gain weight steadily. A child who grows well will be strong and be able to withstand illness. While his body grows so does his brain and he will grow from a strong child to a strong and healthy adult. The child who is not growing well will become ill more easily and will be slow in his development. A child should be weighed regularly and his weight plotted on his card, so that it can be seen whether or not he is following the Road to Health and steadily gaining weight.)

-What is necessary for a child to grow and gain weight? (Good food and

care and freedom from illness.)

How can you help at the clinic with these things?

- 1) Encourage the mothers to attend the clinic regularly.
- 2) Teach mothers about the importance of correct breastfeeding and the early introduction of mixed feeding. (A short discussion of the main points of infant feeding can be included here.)
- 3) Help in the prevention of illness- points to be mentioned include the importance of vaccination and teaching good hygiene.

Demonstration of How to Fill in the Road to Health Card and Chart the Weight:

Each student must participate and be given a child's age and weight to be charted on the card. Some students seem to find difficulty in dating the card to correspond correctly with the child's age in months. It is important to insure that this is understood if the card is to be filled out correctly.

Importance of the Weight Curve:

Explain to the students that individuals vary in size, some are bigger than others. The students themselves can be used as examples of this. Stress that the upward direction of the weight curve is of particular importance and indicates a growing child, even if the curve may not always follow directly the Road to Health.

Flat or dropping curves are causes for concern and the mother should be questioned to try to identify possible reasons for the child's failure to grow.

What are the main reasons for a child's failure to gain weight?

- 1) Inadequate feeding, both quantity and quality of both breast milk and mixed feeding.
- 2) Illness- Students should investigate the general health of the child and question the mother regarding her methods of feeding. Important points include illnesses such as measles, repeated diarrhea, whooping cough, frequent chest infections, etc.
- 3) The feeding pattern- This includes cessation of breast feeding at an early age, abrupt weaning, late introduction of solid foods, etc.

Variation of the Rate of Growth at Different Ages:

-Children grow at different rates at different times. The younger the baby, the more quickly he should be growing. A baby who is growing well will double his birth weight by about five months of age. By one year he should be 3 times his birth weight and by the age of two years he should be 4 times as heavy as when he was born.

-For example: If a child was 3 kg at birth, at five months he should be around 6 kg, at one year 9 kg and at two years 12 kg.

-Demonstrate to the students how such a pattern of growth follows the Road to Health on the weight card. The students should understand from this, that a small baby under six months should be gaining weight quickly and steadily, while an older child of eighteen months grows more slowly. They must understand that failure to gain weight in a small baby is immediately important and the child must be seen frequently.

Explanation of the Road to Health Card to the Mother

The mother should understand that the Road to Health Card is a valuable record of her child's progress. This might be achieved by the mother understanding the importance of the Road to Health in her child's successful growth. It can be explained that a child who grows well and follows the Road to Health will be a strong, healthy child, while the child who is not growing well and who falls off the Road to Health is more likely to become sick more often and will not be as healthy. The mother sees her child each day and becomes so familiar with him that she does not notice if he stops growing. Regular weighing at the clinic will spot this. The mother should gain sufficient understanding of the card so as to be able to identify her child's weight and recognize if her child is following the Road to Health or not. This is much more difficult for mothers who are illiterate and clinic staff and students much take extra time to explain to these mothers.

Other Aspects of the Road to Health Card;

-A blank Road to Health Card is shown to the students. Points to be mentioned include:

- 1) Breastfeeding: Demonstrate how the card is marked to indicate continuation of breast feeding each time the child visits the clinic. When breast feeding stops, this should be entered in writing on the card.
- 2) Mixed feeding: Demonstrate how the card is marked from the time the card is introduced.
- 3) Serious illness: Any serious illness is recorded in writing on the card.
- 4) At risk section: Students are shown the section on the card where any reason for the child being especially at risk is entered. Ask the students for some reasons why a child might be classified as being "at risk". Answers should include:

CHILDREN AT RISK

1. Low birth weight and prematurity.
2. Serious illness.
3. Feeding problems-bottle feeding, lack of breast milk, etc.
4. Twins
5. Many older siblings
6. Many children previously dead in the family.
7. The death of a parent, mother or father.
8. A family history of T.B.

IV E MALNUTRITION

Objectives:

- 1) To discuss signs of malnutrition.
- 2) To discuss the prevention of malnutrition.
- 3) To develop health education material to teach mothers about good nutrition.

Teaching Materials: There are some excellent slides on malnutrition that have been developed by "Teaching Aids at Low Cost", (TALC). They are to be found in the section entitled "Primary Child Care" and they are numbers: PCc1, PCc2, PCc3, PCc4, PCc5, PPCc6, Pcc7, PCc8, PCc9, PCc10, PCc12, PCg5, PCg6, PCg7, PCg8. When using these slides, be sure to read the script that goes with them.

MALNUTRITION

there are several different types of malnutrition. Malnutrition is caused by an improper diet. Something is missing from the diet which the body needs. The kind of malnutrition seen most often in the Under5s clinic is a general malnutrition caused by insufficient calories and protein in the diet, or by chronic diarrhea. It occurs most often in children during the weaning period. When the child is malnourished it is small for its age, slow to develop and more likely to become sick. These are some of the signs and symptoms of general malnutrition:

- lethargy or irritability
- slow growth rate, low weight
- slow development (if the child is not walking by 18 months, check for malnutrition)
- small upper arm circumference, (this is the measurement taken half way between the elbow and shoulder). In children aged 1 - 5 years the measurement should be around 16 cm. A measurement of less than 14 cm. is an indication of some degree of malnutrition and a measurement of less than 12 cm is a sign of severe malnutrition. An arm circumference band can be made from a piece of x-ray film or even a piece of string.)
- sadness or lack of energy.

Poor nutrition can directly cause several health problems. They are:

- 1) Children who are poorly nourished are more likely to get severe diarrhea and to die from it, than are children who are well nourished.
- 2) Measles is especially dangerous for malnourished. Children who are well nourished usually recover easily from measles while children who are

malnourished often die or are left weak and debilitated and may die from the next illness they get, even if these illnesses are normally minor illnesses.

- 3) Tuberculosis is more common in children who are malnourished and in these children it becomes worse more rapidly.

MARASMUS

There are several types of malnutrition. The first of these is marasmus, sometimes called "dry malnutrition". Marasmus comes from not eating enough of any kind of food. The symptoms of marasmus are:

- The child is always hungry. Although when marasmus becomes very severe the child may become too weak to ask for food or even eat it.
- The child is very weak.
- The child has a potbelly.
- The child is very thin.
- His skin is dry.
- The child's eyes may lack shine and moisture.
- The child's hair is often dry and sometimes light colored.
- The child has the face of an old man.

The treatment for marasmus is:

- The child needs more food, especially energy foods.
- Often it is useful to treat this child for worms and give him vitamins.
- When feeding begins, marasmic children often vomit. It is important to be persistent and feed them frequent small meals.

KWASHIORKOR

The second severe form of malnutrition is Kwashiorkor or "wet malnutrition". Kwashiorkor comes from not eating enough protein. The child may be getting enough energy foods, but not enough protein. For instance if a family feeds a child only sweet tea and rice. The signs and symptoms of kwashiorkor are:

- A swollen, "Moon" face.
- The child is miserable
- The child stops growing. On the growth chart the child may appear to gain weight, but it will not grow taller. It appears to gain weight because the tissues are holding water.
- The child's arms and legs may be covered with sores and peeling skin.
- The child's hands and feet are swollen.
- The child's skin and hair lose some of their color.
- The child's upper arms are thin.
- The child's muscles are wasted although fat may still be present.

Kwashiorkor usually appears when a child has diarrhea or another infection. It occurs most often while children are being weaned. Breast feeding is stopped and the children are given foods made with rice,

corn, sugar or other energy foods without enough protein-rich foods.

Children with Kwashiorkor are dangerously ill. They need protein rich food, but the electrolyte balance of the body is "off" and it is difficult to get the electrolytes back in balance. If available powdered milk is helpful. It is good to add some sugar to it. Beans, peas and lentils are good sources of protein. Sugar and oil can be added to these to make a porridge.

VITAMIN A DEFICIENCY

Data is not available about how common Vitamin A deficiency is in Afghanistan today, but during the years before the war Vitamin A deficiency was very common. With the shortage of food in Afghanistan today it is likely that it is even more common.

Vitamin A deficiency is caused by a diet that is poor in vegetables. The first signs of Vitamin A deficiency is night blindness. Children no longer see well at night. Later the eyes become very dry. Following that, bubbles of a foamy substance, which is hard to remove can sometimes be found on the conjunctiva. Later scarring of the cornea occurs and the child becomes blind.

Vitamin A deficiency can be prevented by giving foods which are high in Vitamin A like carrots, pumpkin, and any green vegetable like spinach. Vitamin A capsules can also be given. A child who is over 6 months of age should receive one capsule every 6 months.

RICKETS

Rickets is a very common form of malnutrition in Afghanistan. Rickets is a form of malnutrition caused by Vitamin D deficiency. This deficiency occurs when children are not exposed to sunlight and do not drink milk. It is common in Afghanistan because of the belief that children should be kept at home and away from the eyes of strangers.

The signs and symptoms of rickets are:

- Bowed legs
- Enlarged joints
- Curved bones
- A bony necklace along the upper part of the rib cage.
- A fontanelle which is very late in closing.

The treatment for rickets is to expose the child frequently to sunlight. Severe forms may need to be treated with fish liver oil or vitamin D capsules.

ANEMIA

Anemia is common in children who do not eat enough iron-containing foods, such as eggs, dark green leafy vegetables and meat. Anemia may also occur following a large blood loss. It is also common in children who are breastfed for more than six months without receiving additional food.

The signs of anemia are:

- Pale or transparent skin

- Pale insides of eyelids
- Pale gums
- White fingernails
- Weakness and fatigue
- When anemia is very severe, the face and feet may be swollen, the heartbeat rapid, and the child may have shortness of breath.
- Children who like to eat dirt are usually anemic.

The treatment and prevention of anemia is to eat foods which contain a lot of iron like: meat, fish, chicken, eggs, liver, dark green leafy vegetables, beans, peas and lentils. Iron tablets should be given to children with severe anemia.

IV F COMMON CHILDHOOD ILLNESSES

Objectives:

- 1) To discuss the diagnosis and treatment of several childhood illnesses.
- 2) To determine which illnesses are serious and should be referred to the doctor.
- 3) To develop health education material concerning common childhood illnesses.

Teaching Materials: Handout # 5 can be used in the teaching and discussion of common childhood illnesses.

IV G COMMON SKIN DISEASES

Objectives:

- 1) To discuss the diagnosis and treatment of several common skin diseases.
- 2) To determine which skin diseases are serious and need to be referred to the doctor.
- 3) To develop health education material concerning the prevention of common skin diseases.

Teaching Materials: Handout #6 can be used in the discussion of common skin diseases.

Impetigo It is a common bacterial infection in children and is very infectious. The lesions are usually found on the child's face, nose or ears, or on it's head or buttocks. They begin as small, flat lesions. Later they become wet with a thin pus. Later a crust forms over the lesion.

Treatment; - in the clinic remove the crusts by soaking or oiling.
 - dry with antiseptic or gentian violet.
 - in severe cases, especially with temperature give Triplopen and repeat it once in three days.

Health Education - Give the mother a small bottle of gentian violet and instruct her to wash the area with soap at least three times a day and then apply the gentian violet.
 - the mother should return with the child in one week.

Tinea Capitis (ringworm) Is a fungus which affects the scalp. If it is not severe it may go away by itself as the child grows older. It often causes the hair to break off and you can see the short pieces which are left and round, pale grey lesions. Often the lesions become infected by bacteria and they become soft and swollen.

Treatment - if the lesions are not infected wash the head and apply benzoic acid ointment (Whitfield's) three times daily.
 - if the lesions are infected, do not apply Whitfield's ointment. Wash the head and shave or cut the hair. Remove the crusts. Apply antiseptic ointment and bandage the head. When the infection is gone, treat the head with Whitfield's Ointment three times a day.

Health Education- Teach the mother that she must put nothing on the child's head. She must burn the child's hat or at least boil it. She should destroy his comb and it is very important that no one else in the family uses the same comb as the child. Barbers often spread this disease because they often do not wash their combs or scissors.

note: If the tinea capitis is very severe, refer the patient to the doctor to receive Griseofulvin tablets.

Burns If more than 9% of the body surface is burned refer the patient to the hospital immediately. There are three types of burns. In the first type, the skin is only red. In the second type of burn the skin will form blisters on it. The third type of burn is the most serious. The skin is so badly burned that the deeper growing part of the skin is burned.

Treatment - For minor burns with red skin, clean the burn with antiseptic and leave it exposed to the air or cover it with a dry dressing.
 - If the burn has blistered, do not open the blister. Clean it gently with antiseptic and cover it with tulle gras. Leave the dressing on for five days. You may cover the burn with gentian violet.
 - If the burn is severe the child must go to the hospital. Clean the

burn gently with antiseptic and put a clean bandage on until the child can get to the hospital.

- If the burn is infected and contains pus or smells bad, remove the dead skin and crusts. Apply antiseptic and then gentian violet or iodine. Leave the burn exposed and give IP for six days. Clean the burn and apply gentian violet each day.

note: These are the only things that should be applied to burns: Gentian violet, Pot. Permanganate, Iodine, Thulle Gras, dry Dressing.

Health Education: Find out how the child was burned. Talk to the mother about keeping the child away from fires and hot things. Instruct the mother to keep the dressing on until she brings the child back to you. Warn her that if she does not do this the burn may become infected and will scar badly.

Skin Ulcers- Skin ulcers are common in malnourished children. They often begin with small wounds which become infected. The edges of the wound become red and pus forms under the crust. The sore becomes larger and the tissue is no longer covered by skin or a scab.

Treatment: - Clean the wound with antiseptic solution like Hibitane or Potassium Permanganate.

- Remove the dead tissue and pus.
- Apply antiseptic cream or powder and cover with a dressing. If you have used powder wet the dressing before applying. It is important that the dressing does not stick to the wound when you remove it.

¶ If the wound is severe, give Penicillin therapy.

Health Education- If the ulcer is very large tell the mother she must bring the child everyday to have the dressing changed. Explain that ulcers take a very long time to heal.

- If the ulcer is not severe, the dressing should be changed every three days.
- If there is edema around the ulcer the child should rest and the limb should be elevated.

Boils and Abscesses A large lesion which is full of pus is called an abscess. The skin covering it is very thin. Boils are much deeper and usually start where hair grows. Boils and abscesses heal quickly after the pus is removed, but it is very important never to squeeze them. Squeezing them only spreads the infection.

Treatment:- Before lancing an abscess or boil it must feel fluid and the skin over it must feel very thin. If the abscess or boil is still hard, apply a dry dressing and tell the mother to apply hot wet compresses several times each day. Hot, wet compresses help to bring abscesses and boils to a "head".

- If there is a spreading cellulitis around the boil, or many boils, give a course of Penicillin.

¶ If the boil or abscess is ready to be opened, lance the skin with a scalpel and open the wound with a pair of forceps. Never cut deeply with the scalpel because you could cut a vein or artery.

IV H DIARRHEA AND DEHYDRATION

Objectives:

- 1) At the completion of the session, workshop participants will be able to:
 - A. Describe the clinical picture of diarrhea and dehydration.
 - B. Interview parents and examine infants and children with diarrhea and dehydration.
 - C. Describe the difference between moderate and severe dehydration.
- 2) To discuss the treatment of dehydration.
- 3) To develop health education material to be used in teaching mothers about diarrhea and dehydration and be able to demonstrate to mothers how to use oral rehydration solution.

Preparation:

- 1) Have on hand oral rehydration pre-mixed packets, sugar, salt and water.
- 2) "Teaching Aids at Low Cost", (TALC), the section entitled "Primary Child Care", slide numbers: PCc19, PCc20, PCc21, PCc22, PCc23, PCc24, PCd1, PCd2, PCd3, PCd4, PCd5, PCd6, PCd7, PCd8, PCd9, and PCb9

V A PRE-NATAL CARE

Objective:

- 1) To understand the major functions of pre-natal care, which are:
 - A. The promotion of health during pregnancy through advice and educational activities.
 - B. The screening, identification, and referral if necessary of women with risk factors.
 - C. The monitoring of health throughout pregnancy in order to detect and deal with problems if and when they occur.
- 2) To understand some common problems that can occur which can undermine the effectiveness of pre-natal care.

Maternal mortality rates are a measure of how many women die each year as a result of becoming pregnant. Maternal mortality rates are written as the number of women who die per 100,000 live births. The maternal mortality rate for Afghanistan is probably among the highest in the world. In 1977, a survey done in Afghanistan estimated that the maternal mortality rate was 640/100,000 live births. No one has done a recent survey, but there are factors which have probably caused this rate to increase. What do you think are some of the reasons why the maternal mortality rate might have increased? (malnutrition, less available medical care, fewer medical personnel present in the rural areas, more difficulty in reaching a hospital in case of emergency, war related injuries leading to death.)

What are the major causes of maternal death? We don't have any current information about the causes of death among women in Afghanistan, but the causes of death are usually the same in the countries surrounding Afghanistan. These are

- Pre-eclampsia and Eclampsia
- Obstructed Labor and Rupture of the Uterus
- Hemorrhage
- Puerperal Sepsis (infection)
- Self-induced or Illegal Abortion

There are also some indirect causes of maternal mortality. Indirect causes of maternal mortality are diseases that might be present before pregnancy but are made worse by the pregnancy and contribute to the death of the mother. These are illnesses like anemia, heart disease, or diabetes. There are also coincidental deaths which may occur while the woman is pregnant, but not as a result of the pregnancy, like car accidents or war injuries.

There is rarely only one cause of maternal death. There may be a medical cause of death, but behind that medical cause are other factors which contribute to the death such as lack of accessibility to pre-natal care, lack of emergency referral facilities, lack of trained staff, equipment or transportation. There are also social, cultural and political factors which influence whether not the pregnant woman seeks care and who she seeks care from.

The five main direct causes of maternal mortality along with anemia cause 80% of maternal deaths. In this workshop we should be looking for ways to help prevent these deaths in our MCH clinics. Many of these causes are preventable at the MCH clinic level and if they are not preventable at least we should be able to detect them and refer the woman to a place where

she can be helped. Let's look at each of the causes of maternal mortality individually. The first of these is pre-eclampsia.

Pre-eclampsia-Pre-eclampsia used to be called toxemia. When it is very severe it is called eclampsia. Pre-eclampsia usually occurs after the 30th week of pregnancy and rarely before the 24th week. The three signs of pre-eclampsia are:

- high blood pressure
- edema
- protein in the urine.

This disease causes a reduced flow of blood to the uterus, which may slow fetal growth. If it becomes very serious, it may cause the death of the mother and the fetus. The cause of pre-eclampsia is not known, but we know that it is more common in certain groups of people. Groups prone to pre-eclampsia are:

- very young or very old
- women carrying twins
- women who had hypertension before pregnancy
- women with chronic kidney disease
- a primigravida
- women with diabetes
- a woman with a hydatidiform mole

Pre-eclampsia may be mild, moderate or severe. The signs and treatment of each are:

Mild or early pre-eclampsia-

Symptoms:

- The earliest signs of pre-eclampsia may be a gradual increase in the blood pressure at monthly pre-natal visits.
- You may notice some slight edema on the patients ankles or hands. This may be an indication of early pre-eclampsia, but slight edema is common in pregnancy and is often normal.
- Some women may have these symptoms throughout pregnancy and never get any worse.

Treatment:

- When you notice these signs in a pre-natal patient you should monitor her more closely. Ask her to come to the clinic every two weeks and advise her to rest as much as possible.

Moderate pre-eclampsia-

Symptoms:

- B.P. at least 140/90
- Protein in the urine
- edema of the ankles, hands and feet

Treatment:

- Advise the woman that she must stay in bed as much as possible until her delivery. This will be difficult for her, so if possible, talk to her family and see if they will agree to help.
- The woman should attend the pre-natal clinic every two weeks.
- Refer the woman to the doctor. Some doctors may want her to receive medicine to help her relax. They may give her valium or phenobarbitol. Even though these medicines should not normally be taken during pregnancy it may be necessary to prevent severe pre-eclampsia.

Severe Pre-eclampsia-

The symptoms of pre-eclampsia are warning signs that eclampsia may occur.

Symptoms:

- A sharp increase in blood pressure, usually at least 160/110
- An increase in the amount of protein in the urine.
- An increase in edema
- The woman may complain of a headache.
- Her vision may be blurred or she may see flashes of light.
- She may complain of abdominal pain.
- Her nose may bleed
- She may have vomiting
- Her urinary output may be decreased
- She may have slight twitching of her muscles.

**** The woman may only have a few of these signs, but if you decide she has severe pre-eclampsia-IT IS AN EMERGENCY!!!**

Treatment:

- Get a doctor immediately. If no doctor is available give valium.
- Keep the room very dark and quiet. A loud noise or too much light may cause the woman to have a seizure.
- Keep the woman sedated and as soon as possible, transfer to the hospital.

Eclampsia-

Pre-eclampsia becomes eclampsia when the patient has a seizure and goes into a coma. Eclampsia may occur any time during the pre-natal period, during labor, or even several days after delivery. During labor is a critical time because 45% of the patients who have seizures have them during this time.

Symptoms:

- The patient has a seizure, which may resemble an epileptic seizure. There may be no warning, the woman may suddenly become rigid, then her limbs twitch, she becomes cyanotic and then goes into a coma. The coma may last several minutes or hours.

Treatment:

- The aim of treatment is to keep the woman alive and prevent further seizures.
 - Turn her on her side and try to keep her airway open. If you have a plastic or rubber airway, use it. If you don't have one, use a tongue blade padded with gauze.
 - Protect her from injury by keeping the area around her free of hard or sharp objects.
 - Get a doctor immediately. The woman needs intravenous valium and magnesium sulphate.
 - Keep the room dark and quiet.
- Get her to a hospital as soon as possible. (In the hospital the aim will be to have the woman deliver as soon as possible. The disease will continue as long as the woman is pregnant.)

Prevention:

With good pre-natal care pre-eclampsia can be detected early and monitored carefully. If the pre-eclampsia progresses to a moderate degree

the woman can be referred to a doctor and to a hospital for delivery. In countries where pre-natal care is not available to provide a warning that pre-eclampsia is occurring this disease accounts for a high percentage of maternal deaths. In Bangladesh this disease is the cause of between 15% and 21% of all the maternal deaths.

- Encourage the mother to rest, lying on her left side.
- Encourage the mother to reduce her intake of salt.

Obstructed Labor-

Obstructed labor is usually thought of as true labor which has lasted over 24 hours. It accounts for many of the maternal deaths in the Asian region. In Bangladesh it is responsible for between 10% and 17% of all of the maternal deaths.

Causes:

- In most of the cases obstructed labor occurs because the bony birth canal of the mother is either too small or too distorted by disease for the head of the baby to pass through the birth canal easily. The height of the mother is often directly related to the size of her pelvis. Obstructed labor is far less common in tall women. In Nigeria a study was done to compare caesarean section rate and the height of the mother. They found that 40% of the women who were under 1.45 meters required a caesarean, 14% of the women who were 1.50 meters tall had a caesarean and only 1% of the mothers who were 1.60 meters or taller. The height of a person is determined by genetic, physiological and environmental factors including nutrition. In areas where nutrition is poor and diseases like malaria, measles and diarrhea are common women are shorter than women in areas where these problems occur less frequently.
- Rickets, or vitamin D deficiency also affects the size of the pelvis and may cause obstructed labor. Vitamin D deficiency is caused by either a lack of vitamin D in the diet or a lack of sunlight. Vitamin D deficiency may also cause the pelvis to be contracted.
- The incidence of obstructed labor is also related to the age of the mother. A woman reaches her maximum height by the age of 18, but her pelvis continues to grow for another three years. In areas where women marry and have children young many of the cases of obstructed labor are a result of the immaturity of the pelvis.
- Obstructed labor may also be caused by malpresentation of the fetus, such as a breech, brow presentation or transverse lie.
- Twins who are not positioned correctly may cause obstructed labor.
- There are some causes of obstructed labor which may occur during labor itself such as dehydration, exhaustion or a full bladder.
- Injections of Syntometrine cause severe muscle spasm, obstructed labor and sometimes rupture of the uterus.

Prevention:

- Some of the causes of obstructed labor cannot be prevented medically. Better nutrition, immunization, improvements in living conditions and delaying marriages are all important in preventing obstructed labor.
- In the MCH clinic, the role of the staff is to recognize mothers who are at risk of obstructed labor and to make sure that they deliver in a facility where trained help is available. A contracted pelvis, the short stature of a woman, her young age, malpresentation of the fetus or a previous difficult delivery are all things that can be recognized in the clinic.

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- The community should be taught that obstructed labor is a serious condition and that the woman needs help.
- Those who normally attend the birth must be taught the importance of adequate fluid intake, rest and an empty bladder.
- The community and anyone who attends a delivery should be made aware of the danger of Syntometrine injections.

Hemorrhage-

Bleeding related to pregnancy and delivery is usually divided into two categories; antepartum hemorrhage which is a hemorrhage that occurs before the child is born and postpartum hemorrhage which occurs after the birth of the baby.

Causes:

- Bleeding that occurs before the 28th week of pregnancy is usually associated with abortion of one kind or another. Bleeding after the 28th week of pregnancy is usually caused by the placenta lying over the cervix, the placenta separating from the uterus early, an injury, rupture of the uterus, or sometimes a disease affecting the lower genital tract.
- Bleeding during pregnancy is more often associated with women aged 35 years or older, women who have had four or more previous births and for some reason, women who are poor, although the reason for this relationship is not known.
- Bleeding following delivery is usually caused by the placenta failing to separate from the uterine wall following delivery or by pieces of the uterus being left following delivery. The bleeding that is caused by pieces of the placenta being retained may occur right after delivery or as long as a month later.

Prevention:

- MCH clinic staff should identify during pregnancy those women who are at particular risk and refer them to a hospital for delivery.
- MCH clinic staff should refer any women they see with bleeding, during pregnancy, labor, delivery or postpartum to a hospital.
- MCH clinic staff should be trained in emergency procedures which can control hemorrhage such as uterine massage, uterine compression and manual removal of the placenta. They should also teach traditional birth attendants some of these emergency measures.
- The clinic staff should work with the community to develop an emergency system of transportation to the hospital.
- Health education for women so that they report any instances of bleeding.

Infection (Puerperal sepsis):

In Bangladesh, 31% of all the maternal deaths were due to infection and 21% of these followed abortion.

Causes:

- Women are more susceptible to infection following delivery or abortion than they are normally. The site where the placenta separates from the uterus is open, there may be vaginal or perineal tears and they are in

a weakened condition following birth. The vulva, vagina and cervix are all open following delivery and there may be blood clots, parts of the placenta or amniotic sac left behind.

-Infection can enter the genital tract from the birth attendants unclean hands, dirty instruments, dirt and dust or fecal material.

-Infection can be caused when things are inserted into the vagina by the birth attendant like herbs, leaves, cow dung, mud or various oils. Do you know any traditional practices in Afghanistan which might cause infections? (traditional birth attendants sometimes place their feet near the perineum to help the woman push.

-We must be careful not to blame all infections on deliveries done at home. In England when infection rates were compared following home and hospital deliveries infection rates were higher following hospital deliveries. However, in one area of Bangladesh there were 22 maternal deaths caused by infection. When researchers examined where these women delivered they found that 15 of the women had delivered in their own homes, 6 in the home of their parents, 1 in the health center and none in the hospital.

-Infection rarely follows a normal delivery unless things are introduced into the vagina.

Symptoms:

-In the beginning of the infection, the infection is usually located in the uterus and the woman may complain of some pain and tenderness in the lower abdomen. A bad smelling vaginal discharge is usually present.

-As the infection spreads the symptoms may include fever, increasing abdominal pain, vomiting, headache and loss of appetite.

-The infection may spread to form abscesses in the fallopian tubes, the pelvis and underneath the diaphragm.

-In the most severe cases the infection may spread to the blood, brain, muscles and kidney.

-If the infection cannot be controlled the patient may die from shock, kidney failure or liver failure.

-When the infection is not controlled a woman may die within 6 days of contracting the infection.

Treatment:

-In mild cases, measures to improve the general health of the woman may be sufficient. These include a good diet, rest and medication to reduce pain.

-Antibiotics should be used carefully in more serious cases. Many of the organisms that cause puerperal sepsis have become resistant to antibiotics because they are so often used when they are not needed. If antibiotics are stopped as soon as the symptoms are relieved but before the organism is completely killed the organism can start to grow again and be more resistant to the antibiotic.

Prevention:

-The most important prevention is to provide clean and sterile conditions during delivery.

-All of the people who might be involved in the delivery need to know how to prevent infection and how to recognize the signs of infection.

-Health workers should refer women with infections to the doctor for treatment.

-An emergency transport system should be established to transport women

with serious infections.

Abortion:

Causes:

-Abortion is one of the oldest methods of fertility control. In countries where restrictive laws have been passed and abortion made illegal, abortions have not stopped or even been greatly reduced. What has increased when abortion is made illegal is the number of deaths caused by abortion. This was true in many of the states in the United States where restrictive abortion laws were passed.

-The major cause of illegal or self-induced abortion is the lack of access to family planning methods.

-The risk from abortion depends on:

- 1) The method used
- 2) The competence of the abortionist.
- 3) The stage of pregnancy at which the abortion is performed.
- 4) The age and general health of the pregnant woman.
- 5) The availability of medical care if anything goes wrong.

-Abortion related deaths are usually caused by infection and hemorrhage.

Prevention:

Prevention of abortion is mainly access to family planning.

V B PRE-NATAL PATIENTS WHO ARE "AT RISK"

Objective:

1. To establish criteria for patients who:
 - A. Should be seen more often in the pre-natal clinic.
 - B. Should be referred to the doctor.
 - C. Referred for hospital delivery.
 - D. Sent as an emergency referral to the hospital.
- 2) To discuss some of the risk factors like pre-eclampsia/eclampsia (see handout #7)
- 3) To develop some points to consider when establishing protocol's for referral.

ESTABLISHING PROTOCOLS FOR REFERRAL

When deciding how to use risk factors for referral there are several points which should be considered. They are:

- 1) How strong is the link between the risk factor and the bad outcome?
- 2) How serious is the bad outcome? Can the woman die?
- 3) Sometimes a combination of minor risk factors can add up to become a strong risk factor.
- 4) Is referral really possible? Can the patient actually get there? There is no point in referring a woman to a hospital 8 hours away when she has no transportation. Too often a referral can actually mean passing the responsibility of the patient on to someone else.

PATIENTS WHO ARE "AT RISK"
AND SHOULD HAVE MORE FREQUENT PRE-NATAL VISITS

- 1) Primigravida
- 2) Para five or above.
- 3) Patients who have had abnormal weight gain or weight loss.
- 4) Patients mwho have early signs of pre-eclampsia (high blood pressure, 130/80 or above, proteinuria +, any edema.
- 5) Patients who have had previous problems during other pregnancies ,like stillbirths, spontaneous abortion, bleeding, or pre-eclampsia.
- 6) Patients who are having problems during this pregnancy,like anemia, signs of pre-eclampsia, bleeding in early pregnancy.
- 7) Women with signs of malnutrition or are underweight at the beginning of the pregnancy.
- 8) Women who are over 40 yearsof age or under 17 yearsof age.

PATIENTS WHO ARE "AT RISK"
AND SHOULD BE REFERRED TO THE DOCTOR

- 1) Patients who have a blood pressure of 140/90 or higher.
- 2) Patients with edema on the hands or face.
- 3) Patients with proteinuria of + or ++.
- 4) Patients with severe anemia.
- 5) Any problems or illnesses which cannot be taken care of in the pre-natal clinic, like T.B., urinary tract infection, vaginal discharge, etc.
- 6) Any patients who have suspected pelvic deformities.
- 7) Any patient who has had more than one stillbirth.
- 8) Patients who have had previous delivery complications like hemorrhage, obstructed labor or previous caesarean section.
- 9) Patients who have mal-presentation after 36 weeks of pregnancy, (breech or transverse lie).
- 10) Patients with twins.
- 11) Patients who have a suspected fetal abnormality like hydrocephalus.
- 12) Patients who have any vaginal bleeding.
- 13) Women who are 145 cm. or less.
- 14) Leakage of amniotic fluid.
- 15) Women having premature contractions.
- 16) Women who are ill or have a vaginal infection.
- 17) Women who have a vaginal or perineal laceration following delivery.

EMERGENCY HOSPITAL REFERRAL

- 1) Women who have severe vaginal bleeding. If possible keep the woman lying flat with her legs resting on a pillow. Give her plenty of fluids and get her to the hospital as quickly as possible. If there is no hospital available get a doctor. If the baby has been delivered and the bleeding will not stop, massage the uterus gently to make it hard.
- 2) A patient who goes into labor before the thirty-sixth week of pregnancy.
- 3) A patient in labor with an abnormal presentation like breech or transverse lie.
- 4) A patient who has a retained placenta following delivery which you are unable to remove.
- 5) A patient who shows signs of eclampsia (severe edema, very high blood pressure, +++ protein in the urine, or any of these accompanied by twitching, severe headache or convulsions).
- 6) Cord prolapse or cord presentation.
- 7) Bleeding which continues for more than 10 days after the delivery of the baby.
- 8) A woman in obstructed labor.
- 9) When the fetus shows signs of asphyxia during labor.
- 10) When the uterus is either hypertonic or atonic during labor.