Maternal Care Manual: Contents

PERINATAL EDUCATION PROGRAMME

REGIONALIZED PERINATAL CARE

UNIT 15

OBJECTIVES

When you have completed this unit you should be able to:

1. List the advantages of regionalized perinatal care.
2. Describe the functioning of a perinatal care clinic.
3. Communicate better with patients and colleagues.
4. Safely transfer a patient to hospital.
5. Determine the maternal mortality rate.

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REGIONALIZED PERINATAL CARE

15-1 WHAT IS REGIONALIZED PERINATAL CARE?

Regionalized perinatal care is the care of all pregnant women and their newborn infants in a single health system within a clearly defined region. The responsibility for perinatal care in that region must fall under a single health authority as this standardizes care and prevents wasteful duplication of services. The borders of each health care region will have to be negotiated with the communities and local health authorities concerned. Similarly, other health care services should also be organized on a regional basis.

ALL PERINATAL CARE PROVIDED IN A REGION SHOULD BE THE RESPONSIBILITY OF A SINGLE HEALTH AUTHORITY

15-2 DO ALL WOMEN REQUIRE THE SAME CARE DURING THEIR PREGNANCY, LABOUR AND PUERPERIUM?

All patients should receive good care. However, all patients do not need the same care as they do not all run the same risk of developing perinatal problems. Patients can, therefore, be classified into 3 separate groups:

1. Most patients have only a small chance of developing problems during and after their pregnancy. These women are classified as LOW RISK. About 60% of women fall into the low risk category.
2. About 40% of women have an increased chance of medical or obstetric problems during their pregnancy and puerperium. They are classified as HIGH RISK patients.
3. About half of these high risk patients have an increased chance of complications during certain periods of their pregnancy, labour and puerperium only. These patients are said to be at INTERMEDIATE RISK. For example, a patient who has had a previous caesarean section for cephalopelvic disproportion is at low risk during her pregnancy and may, therefore, be cared for at a clinic. However, she is at increased risk during labour and, therefore, must be delivered in a hospital with facilities to perform a caesarean section.

15-3 SHOULD ALL PREGNANT WOMEN BE DELIVERED IN A HOSPITAL?

No. LOW RISK patients need PRIMARY PERINATAL CARE only. This consists of good, basic perinatal care which can be provided at a hospital, clinic or at home. Most low risk patients should be delivered at a clinic. Patients at HIGH or INTERMEDIATE RISK need more than primary care. They require SECONDARY PERINATAL CARE or TERTIARY PERINATAL CARE in hospital. Secondary perinatal care requires additional equipment as well as doctors and nurses with special training. Tertiary perinatal care usually consists of very expensive, intensive care which requires highly specialised staff and sophisticated equipment.

MOST PATIENTS ARE AT LOW RISK OF DEVELOPING CLINICAL PROBLEMS DURING PREGNANCY, LABOUR AND THE PUERPERIUM AND, THEREFORE, NEED PRIMARY PERINATAL CARE ONLY

15-4 SHOULD ALL PATIENTS BE DELIVERED BY A DOCTOR?

No. Patients at low risk who only need primary perinatal care can be safely delivered by a midwife. Patients needing secondary perinatal care may be delivered by a doctor or a midwife. Patients needing tertiary perinatal care are usually delivered by a doctor who has had specialist training, or a midwife with a doctor immediately available should complications develop. The important feature of tertiary care is the immediate availability of specialist staff and facilities should they be needed.

15-5 WHAT SHOULD BE THE RELATIONSHIP BETWEEN THE VARIOUS HOSPITALS IN A HEALTH CARE REGION?

Each health care region will have a regional hospital (level 3) which provides tertiary care. Some regional hospitals are attached to a medical school while most have a nursing college. Each region will also have a number of base or district hospitals (level 2) which will provide secondary care. The regional hospital is responsible for the district hospitals in that region.

The staff at the regional hospital should communicate closely with the staff at the district hospitals. Patients at the district hospitals needing tertiary care should be transferred to the regional hospital. In turn, the regional hospital staff should provide educational programmes for, and give management advice to, the district hospital staff. Each district hospital usually has a number of primary health care centres clinics or level 1 hospitals.

All medical and nursing staff in a health region should regard themselves as members of a team whose goal is to provide good quality care to all the patients in that region. All staff members should, therefore, co-operate and help one another. The responsibility for all mothers and infants in the region is then shared between all the staff working in that region. It is particularly important that the clinic and hospital staff work as a team and do not regard themselves as separate services.

The fragmentation of health services, with various hospitals and clinics falling under different authorities, is a major cause of poor perinatal care in many communities.

15-6 HOW SHOULD THE DISTRICT HOSPITAL ASSIST THE PERINATAL CLINICS IN THAT DISTRICT?

Each clinic (level 1) should be linked to a district hospital (level 2) within the same region. The district hospital is responsible for the perinatal care given at the clinics in that district. The clinic staff should contact this hospital for help or advice, and problem patients should be referred to that hospital when needed. The staff of the district hospital should rotate with the staff at the clinics. This ensures that the standard of care in the clinics is maintained at a high level, and also helps the hospital and clinics staff understand each other's difficulties.

15-7 HOW SHOULD CLINIC STAFF COMMUNICATE WITH THE REFERRAL HOSPITAL?

1. A telephone or 2-way radio is essential so that the clinic staff and the hospital staff can speak directly to each other.
2. Clear guidelines are needed to indicate which patients should be referred to hospital. If the clinic staff are uncertain whether a patient needs referral, they must discuss the problem with the staff of the referral hospital.
3. The staff at each clinic must know which hospital to contact if they need help. The hospital's telephone number must be displayed next to the clinic's telephone.
4. The clinic staff must collect all the relevant information on the patient before phoning to discuss the patient. Good notes must always accompany the patient as they are one of the most effective methods of communication. Either the complete patient record or at least the antenatal card must be sent with the patient. If the patient is in labour, the partogram must also be sent. It is essential that the clinic staff identify the patient's clinical problems.
5. When speaking to the hospital staff, stress the important information and summarize the problem. State clearly where advice is needed.
6. Always give your name and rank and ask who you are speaking to. If necessary, insist that you speak to a senior staff member if you are not satisfied with the advice you receive.

15-8 HOW CAN A REFERRAL HOSPITAL IMPROVE COMMUNICATION WITH THE CLINIC?

1. A telephone line for incoming calls only (a "hot line") should be available in the labour ward of the hospital so that the clinic staff can contact the hospital staff without delay.
2. The most senior and experienced nurse or doctor should receive the call. Each day and night someone should be allocated to answer the clinic calls.
3. Listen carefully, be patient, and try to obtain a clear idea of the problem.
4. Ask for important information which has not been provided.
5. It is better to admit the patient if there is any doubt about her condition.
6. Arrange the tranfer. Usually this is done by the referring clinic or hospital. However, in an urban region the receiving hospital may prefer to arrange the transport.
7. Indicate any emergency treatment which must be given before or during transport.
8. If possible, inform the clinic after the patient has arrived at the hospital. A reply letter should be used to indicate the patient's condition on arrival, the diagnosis made by the hospital staff and the patient's response to treatment. Feedback to the referring clinic is essential.

9. Ideally, all patients transferred from a clinic should be reviewed every month. In this way problems with referrals can be identified and corrected.
10. A check list available at the emergency telephone in the referral hospital helps to ensure that a complete history is obtained and that no important information is forgotten. If the person receiving the call does not know what advice to give, this information is then used when discussing the patient with a more senior colleague. The name and telephone number of the person making the call must always be recorded.

EXCELLENT COMMUNICATION AND CO-OPERATION BETWEEN THE STAFF OF HOSPITALS AND CLINICS IN A REGION ARE NEEDED TO PROVIDE GOOD PERINATAL CARE

THE PERINATAL CARE CLINIC

15-9 WHAT IS A PERINATAL CARE CLINIC?

A perinatal care clinic is a special clinic where midwives provide primary antenatal and postnatal care and also deliver low risk patients. The perinatal care clinic functions day and night, and should be situated in or near to the community which it serves. Primary perinatal care is part of PRIMARY HEALTH CARE and, therefore, the facilities of a primary health care centre are often used to provide perinatal care. In practice, the staff providing perinatal care usually provide other forms of primary health care as well. A perinatal clinic may also be run in a level 1 hospital. In large urban or periurban communities, there may be perinatal care clinics separate from primary health care centres. These perinatal care clinics have also been called "Midwife Obstetric Units" (or "MOUs") as midwives provide most of the care. Some clinics only offer antenatal care with the mother having to deliver at another clinic further away from her home. These antenatal care clinics must function as an extension of the perinatal care clinic as very close co-operation is essential.

AT A PERINATAL CARE CLINIC MIDWIVES PROVIDE PRIMARY PERINATAL CARE TO LOW RISK PATIENTS

15-10 WHAT ARE THE FUNCTIONS OF A MIDWIFE IN A PERINATAL CARE CLINIC?

The midwife is responsible for all the antenatal care, the care during labour and delivery, and the postnatal care given at the clinic. The midwife should function as an independent nurse-practitioner and meet all the primary perinatal care needs of low risk patients.

15-11 WHAT ARE THE FUNCTIONS OF A DOCTOR IN A PERINATAL CARE CLINIC?

The doctor does not fulfill the usual functions of a medical practitioner and should not see every patient who attends the perinatal care clinic. The functions of the doctor are:

1. To CONSULT, i.e. to examine and advise on the management of patients referred by the midwives with various problems.
2. To TEACH. It is essential that the doctor teaches the midwives the essential knowledge and clinical skills which they need to function competently in a perinatal care clinic.
3. To ADMINISTER. Together with the senior midwife, the doctor should plan, implement and evaluate all care given at the perinatal care clinic.

15-12 WHAT IS THE ROLE OF THE COMMUNITY IN A PERINATAL CARE CLINIC?

The perinatal care clinic should be acceptable to the community as a facility which provides excellent primary perinatal care for patients from that community. Every effort should be made to involve the community in establishing and running the clinic. It is desirable to form a lay organization (i.e. Friends of the perinatal care clinic) to help meet this role. Representatives from the community, together with medical and nursing staff, should sit on the management board of the perinatal care clinic. The community can help raise funds for the clinic and can also help provide some of the care, e.g. help run breast feeding clinics.

The clinic staff should co-operate and communicate with community members, such as village health workers, traditional birth attendants (TBAs), traditional healers, breast feeding advisors, social workers and school teachers, who can all assist in improving perinatal services in that community.

15-13 WHAT ARE THE ADVANTAGES OF A PERINATAL CARE CLINIC?

1. The patient remains close to her home and community.
2. More personal care can be given as labour and delivery take place in a relaxed atmosphere.
3. A saving in transfer and hospital costs.
4. The staff often can work close to their homes which saves both time and money. Staff also get great work satisfaction through being able to accept greater responsibility than in a hospital, provided that they receive support from the hospital staff.

The many advantages of delivering low risk patients in a perinatal care clinic only apply if the clinic is supported by a level 2 or 3 hospital. The community will not accept care given at a perinatal care clinic if rapid and safe transfer is not available when patients develop complications.

15-14 WHY IS DELIVERY IN A PERINATAL CARE CLINIC SAFER THAN A HOME DELIVERY?

Many low risk patients can be safely delivered at home. However, many homes do not have good lighting, a telephone, clean water and adequate space for a safe delivery. In addition, many homes are far from the hospital or clinic should problems occur with the mother or infant. In these circumstances it is far safer for the patient to deliver at a perinatal care clinic where staff and equipment are available to deal with most of the perinatal complications.

If patients are delivered at a perinatal care clinic and then discharged home after an average of 6 hours, many of the benefits of being close to the family and home surroundings can still be enjoyed.

*** *In an affluent community it may be possible to safely deliver carefully selected low risk patients at home provided a telephone and immediate transport are available in case complications develop.*

15-15 WHICH PATIENTS SHOULD NOT BE DELIVERED AT A PERINATAL CARE CLINIC BUT MUST BE REFERRED TO A HOSPITAL?

Every perinatal region must draw up its own detailed and easily understood list of criteria for referring patients from a perinatal care clinic (or level 1 hospital) to either a level 2 or a level 3 hospital. The responsibility for drawing up the list of referral criteria rests with the senior members of the obstetric, neonatal and nursing staff at the regional (level 3) hospital, in consultation with the medical and nursing staff at the level 1 and 2 hospitals and perinatal care clinics. Referral criteria will differ between regions as the criteria will depend on the distance the patient has to be transferred, the facilities and staff available at the clinics, and the quality of the available transport. (A complete set of guidelines for the referral of antenatal patients is listed in appendix 1 while complications needing referral of the patient are included in other units).

*** *These referral criteria should be frequently reviewed in the light of the number and nature of the clinical problems requiring referral of patients to hospital.*

There must be REFERRAL CRITERIA for the mother as well as for the newborn infant. (The safe transfer of newborn infants is discussed in unit 30 of the Newborn Care Manual).

EACH PERINATAL CARE CLINIC MUST HAVE ITS OWN LIST OF REFERRAL CRITERIA

15-16 HOW CAN COMMUNICATION BETWEEN THE CLINIC STAFF AND THEIR PATIENTS BE IMPROVED?

1. Make time to speak to the patients.
2. If possible, find a place where the patient can speak to you in private.
3. Be honest when you tell patients about their clinical problems.
4. Listen to what they say and ask.
5. Use simple language.
6. Allow patients to ask questions.

7. Look at the patient when you speak to her.
8. Address the patient by name. Do not call her "Mommy!".
9. Watch, listen and learn when more experienced colleagues speak to patients.
10. Try to understand what the patient is feeling.
11. Be kind and helpful.
12. At the completion of an antenatal visit the patient must be clearly informed if the findings were normal.

15-17 WHAT CAN BE DONE TO SIMPLIFY NOTE KEEPING IN A PERINATAL CARE CLINIC?

Whenever possible, the patient should carry a hand-held antenatal card which contains all her antenatal information. This is a simple, cheap and highly effective method of recording patient information when caring for low risk patients. Most patients look after their cards and take them along to the clinic. It is uncommon for patients to lose their cards. This system avoids the frustrating situation where the patient presents at a clinic or hospital but her folder is being kept elsewhere. Using an antenatal card instead of a folder also shortens the time the patient has to wait at the clinic and reduces the workload of the staff. If an antenatal card system is used, there is no need to issue patient folders before labour.

TRANSFERRING PATIENTS SAFELY TO HOSPITAL

15-18 HOW SHOULD THE TRANSFER OF A PATIENT FROM A CLINIC TO A HOSPITAL BE ARRANGED?

It is essential that the base hospital be contacted BEFORE the patient is transferred. The clinical problem and the required management must be discussed between the perinatal care clinic staff and the hospital staff. Most patients who are transferred during the antenatal period do not need to get to hospital urgently and, therefore, do not need to be transported by ambulance. However, all patients transferred to hospital during labour will require transport. Usually the referring clinic or hospital will make the arrangements for transferring the patient. If the clinic arranges transport, the hospital must be notified of these arrangements.

ALWAYS CONTACT THE REFERRAL HOSPITAL BEFORE TRANSFERRING A PATIENT

15-19 WHAT CAN BE DONE TO MAKE THE TRANSFER OF A PATIENT AS SAFE AS POSSIBLE?

Before an ill patient may be transferred from a primary perinatal clinic to a hospital both she and her fetus or newborn infant must first be stabilized. They will then be in the best possible condition to be moved and will have the best chance of arriving safely at the hospital. To achieve these objectives the following must be done before the patient leaves the perinatal care clinic:

1. The patient and/or the fetus or newborn infant must be fully resuscitated.
2. An intravenous infusion (drip) must be in place.
3. All the necessary drugs must be readily available while the patient is being transferred to hospital.
4. Oxygen must be available as well as resuscitation equipment in good working order. The latter includes equipment for face mask ventilation and endotracheal intubation.
5. A person competent in adult and neonatal resuscitation must accompany the patient.

15-20 WHO SHOULD CARE FOR THE PATIENT WHILE SHE IS BEING TRANSPORTED TO THE HOSPITAL?

There are a number of referral criteria where it is quite safe for the patient to travel to hospital with only a lay person accompanying her, e.g. a patient in early labour who has had a previous caesarean section can use her own or public transport. These conditions must be detailed in the list of referral criteria. In all other circumstances, patients with complications must be accompanied by a qualified person competent in adult and neonatal resuscitation. This may be a midwife, doctor or trained ambulance personnel (ambumedics). To send an ill patient or newborn infant to hospital without being accompanied by such a qualified person is dangerous and is likely to result in serious complications or even the death of the patient and/or her infant.

15-21 WHAT DOCUMENTATION SHOULD BE SENT WITH THE PATIENT?

All the clinical notes of the patient (and her newborn infant) must be sent with her to the hospital. Good record keeping is an essential part of perinatal care. Before transferring a patient you must, therefore, make sure that the patient record gives an accurate account of what has happened to the patient up to the time of transfer. It is very important to include details of the complications and the management. Clearly state why the patient requires transfer to hospital.

15-22 WHAT ARE THE MAIN DANGERS TO THE PATIENT WHILE SHE IS BEING TRANSPORTED TO THE HOSPITAL?

1. Antepartum haemorrhage.
2. Convulsions, i.e. eclampsia.
3. Intracranial haemorrhage due to severe uncontrolled hypertension.
4. Respiratory arrest.
5. Cord prolapse.
6. Delivery before arrival at the hospital.

MATERNAL MORTALITY

15-23 WHAT IS THE MATERNAL MORTALITY RATE?

The maternal mortality rate is the number of women who die during pregnancy, labour or the puerperium, and is expressed per 100 000 deliveries. Therefore, if 25 women die during pregnancy, labour or the puerperium in a health care region where 50 000 deliveries are done a year, the maternal mortality rate for that region in that year will be 50 per 100 000 (i.e. 25/50 000 x 100 000).

The maternal mortality rate in developing countries or poor communities in developed countries is usually 50 or more per 100 000 deliveries. This contrasts with the maternal mortality rate of less than 10 per 100 000 in most industrialized countries with good health services.

It is important to note that women who die as a result of complications in early pregnancy, e.g. septic miscarriage or ectopic pregnancy, are included under maternal deaths.

THE MATERNAL MORTALITY RATE IN DEVELOPING COUNTRIES IS HIGH

15-24 WHAT IS THE VALUE OF KNOWING THE MATERNAL MORTALITY RATE IN YOUR REGION?

It is very important to determine the maternal mortality rate in EACH region of the country as this rate reflects the quality of the care provided to women during pregnancy, and during and after delivery. Even in a poor community, the maternal mortality rate can be reduced by the provision of good perinatal care. Knowing the maternal mortality rate of a region also allows comparisons to be made with other regions or comparisons between patients delivered in different years in a region. As the quality of perinatal care improves the maternal mortality rate should decrease.

By determining the causes of maternal death, preventable causes may be identified, e.g. postpartum haemorrhage. Measures to prevent these complications can then be introduced throughout the region.

Information on maternal deaths should be collected by the health authorities in each region and be interpreted by specialists at the tertiary hospital. A maternal mortality notification form must be used for the data collection.

**** Since October 1997 it has been compulsory to notify al maternal deaths in South Africa to the provincial Maternal, Child and Women's Health (MCWH) Directorate. Maternal death notification forms, as well as an explanatory document on the way the forms have to be completed, must be available at all institutions dealing with pregnant women.*

A photostat copy of the patient's entire folder must accompany the maternal death notification forms, as well as photocopies of the patient's folders from any other hospitals or clinics where the patient had been managed before. All information in these folders will be kept strictly confidential.

15-25 WHAT ARE THE IMPORTANT CAUSES OF MATERNAL MORTALITY IN A DEVELOPING COUNTRY?

The commonest causes of maternal mortality in South Africa are:

1. The complications of HIV/AIDS.
2. The hypertensive disorders of pregnancy, especially uncontrolled hypertension causing intracranial haemorrhage.
3. Haemorrhage, especially postpartum haemorrhage.
4. Infection, often complicating prolonged obstructed labour.

In many developing countries, haemorrhage and infection are responsible for more deaths than are the hypertensive disorders of pregnancy. As perinatal services improve, deaths due to haemorrhage and infection will decrease.

In contrast, the commonest causes of maternal mortality in a developed country, such as the United Kingdom, are thromboembolism, the hypertensive disorders of pregnancy and deaths resulting from complications of anaesthesia.

15-26 SHOULD EACH MATERNAL DEATH BE DISCUSSED AT A SPECIAL MEETING?

Yes. It is very important that each maternal death is discussed to discover the cause. The aim is not to punish anyone who made an error but rather to learn from the case report in order to prevent the same mistake being made again. Once the common causes of maternal death in a region are identified, steps must be taken to prevent the problems which lead to those deaths.

CASE PROBLEMS

CASE 1

A patient is diagnosed as having poor progress of labour at a community health care clinic. The clinic functions independently and is not formally attached to a hospital. When the clinic staff attempt to contact the hospital they are unable to get any reply from the hospital's telephone exchange. They, therefore, hire a taxi and send the patient to the hospital with a letter asking for help with the further management of the patient.

1. What is wrong with the administration of this clinic?

Every clinic which provides perinatal care should be attached to a hospital within the same health care region. This will greatly improve the communication between a clinic and its referral hospital.

2. How could the communication by telephone between the clinic and the hospital be improved?

A direct telephone line from the clinic to the labour ward is needed. This will avoid problems with the telephone exchange and provide immediate contact between the clinic and hospital staff.

3. Why should the clinic staff always speak to the hospital staff before transferring a patient?

Sometimes the patient can be safely managed at the clinic after the clinical problem has been discussed with the hospital staff. This will prevent having to transfer the patient. The management before and during transfer can be decided upon during discussion with the doctor at the hospital. If the patient has to be transferred, the hospital must be informed so that they can make arrangements for her management at the hospital, e.g. prepare for a caesarean section.

4. What is the danger of transferring a patient in a taxi?

If a patient is moved to a hospital in a taxi, equipment and a person trained in resuscitation usually are not available to handle an emergency which may occur while the patient is being transferred, e.g. haemorrhage.

CASE 2

A patient presents with a minor complaint at a perinatal care clinic. A junior member of the clinic staff sees the patient but does not know how to manage her. The patient is, therefore, referred to a regional hospital (level 3) for further care.

1. Was the patient correctly managed?

No. The most senior and experienced person available at the clinic should have been consulted first. The patient's problems would most probably have been solved at the clinic, making the referral unnecessary.

2. What else could have been done if none of the clinic staff knew how to manage the problem?

The referral hospital for that clinic should have been contacted by telephone so that the patient's problem could have been discussed with the doctor on duty.

3. If the patient did require referral to hospital, which hospital would have been the most appropriate to care for the patient?

The district hospital (level 2) in the same health care region as the clinic.

4. Why is it always important to carefully consider the referral before transferring a patient to hospital?

Because unnecessary referral causes great inconvenience to the patient and her family. Transport and hospital fees also add to the patient's health expenses. Furthermore, unnecessary referrals place an extra workload on the already overburdened level 3 hospitals. These should reserve their resources for patients with serious complications requiring specialist care. Therefore, patients with minor problems should always be cared for at a level 1 clinic or hospital as this is more convenient for the patient and reduces the cost of health care.

CASE 3

All deliveries and maternal deaths are recorded in a health care region. During a certain year there were 30 000 deliveries and 20 maternal deaths. The commonest cause of maternal death was postpartum haemorrhage.

1. What is the definition of a maternal death?

The death of a woman during pregnancy, labour or the puerperium.

2. How is the maternal mortality rate expressed?

Per 100 000 deliveries.

3. What is the maternal mortality rate in the above health care region for that year ?

20/30 000 x 100 000 = 67 per 100 000 deliveries.

4. Is this maternal mortality rate typical of a developing or a developed community?

A developing community where the rate is usually 50 or more per 100 000 deliveries. In contrast, the maternal mortality rate in a developed community is usually less than 10/ 100 000 deliveries.

5. Are you surprised that the commonest cause of maternal death was postpartum haemorrhage?

No. Haemorrhage is one of the commonest causes of maternal death in many developing communities. Most of these haemorrhages can be prevented by the correct management of the third stage of labour at a level 1 clinic.

6. How can the common causes of maternal death be identified in a perinatal care region so that steps can be taken to reduce their occurrence?

By arranging regular meetings with representatives of all the staff in the region where each maternal death can be discussed. The cause of the death should be identified and the management of the patient must be examined. In this way the staff can learn which clinical errors may result in serious complications. Steps can then be taken to avoid these errors in future.