APPENDIX:

DEFINITIONS AND BACKGROUND INFORMATION FOR TEACHERS AND STUDENTS

This appendix includes definitions and background information on:

- Postpartum haemorrhage
- Obstructed labour
- Puerperal sepsis
- Eclampsia and pre-eclampsia
- Abortion

The appendix also includes tables that provide a summary of what midwives should know and do in order to prevent women dying from the above conditions.

Abortion: is the death and expulsion of the fetus from the uterus either spontaneously or by induction before the 22nd week of pregnancy. The specific number of weeks may vary from one country to another, depending on local legislation.

Spontaneous abortion: spontaneous onset of labour and evacuation of the fetus before it is considered viable, e.g. 22 weeks.

Threatened abortion: is presumed to occur when vaginal bleeding takes place in a pregnant woman during the first 22 weeks of pregnancy. If a gentle speculum examination is done after bleeding stops, the cervical os is seen to be closed. There may be backache and slight abdominal pain, but the membranes remain intact.

Inevitable abortion: means that it is impossible for the pregnancy to continue. There is often severe vaginal bleeding because a large area of the placenta has detached from the uterine wall. It is accompanied by acute abdominal pain which is similar to the pattern of uterine contractions in labour (it is intermittent). The cervix dilates and either the complete fetal sac is expelled, or part, usually placental tissue, is retained.

Complete abortion: means that all the products of conception - embryo/fetus, placenta and membranes - are expelled. This is more likely to occur in the first 8 weeks of pregnancy.

Incomplete abortion: means that although the fetus is expelled, part or all of the placenta is retained. There is severe bleeding, although the pain may stop. The cervix will be partly closed. This is more likely to occur in the second trimester of pregnancy.

Induced abortion: occurs as a result of interference which may be medical, surgical or result from the use of herbal preparations or other traditional practices which cause the uterus to expel or partly expel its contents. Induced abortion may be legal or illegal according to the law in the country.

Legal abortion: is carried out by a medical practitioner, approved by the law of the country, who terminates a pregnancy for reasons permitted under the law. There may also be requirements that such a procedure is carried out in an approved manner, and in an approved place or institution. Midwives should be familiar with the law of their country with regard to abortion. In some countries abortion is illegal whatever the reason or situation.

Illegal abortion: means any abortion which is performed by any person who is not permitted under the relevant law of the country to carry out such a procedure. There is a very high risk of sepsis and/or haemorrhage as well as other injuries.

Septic abortion: may occur following any kind of abortion but is more common following illegal abortion and incomplete abortion. Infection will first occur in the uterus but will rapidly spread to the fallopian tubes, pelvic organs and peritoneum and will cause septicaemia if not promptly treated. There will be fever, rapid pulse, headache, lower abdominal pain and profuse and offensive lochia leading to septic shock if not treated promptly and effectively.

Other types of abortion are:

Habitual or recurrent abortion: when a woman has had three or more consecutive pregnancies ending in spontaneous abortion. This may be associated with an incompetent cervix, or with general or pelvic disease. Previous trauma to the cervix may be the cause. Often the cause is unknown.

Missed abortion: describes a pregnancy where the fetus has died but the fetal tissue and placenta are retained in the uterus. Abdominal pain and vaginal bleeding will stop and the signs of pregnancy will disappear. The woman may have a brown vaginal discharge. If the dead tissue is retained in the uterus for more than 6–8 weeks there is a risk of the woman developing coagulation disorders which will result in serious bleeding problems.

Sometimes a missed abortion proceeds to form a blood mole where the fetus and placenta are surrounded by clotted blood within the capsular decidua. It usually occurs in the first trimester. If a blood mole is retained in the uterus for some months, the fluid becomes absorbed and the fleshy hard mass which remains is called a carneous mole. The fetus may still be found in the centre of this mass on histological examination.

Eclampsia and pre-eclampsia

Eclampsia: is a very serious complication of pregnancy and is characterized by convulsions and coma. It may be preceded by signs of pre-eclampsia or the onset may be rapid and sudden. Eclamptic fits can occur in pregnancy, labour or soon after delivery. The fits are similar to epileptic fits and there is a high mortality rate associated with eclampsia.

Pre-eclampsia: is characterized by hypertension and proteinuria occurring after the 20th week of pregnancy. Hypertension is a blood pressure of 140/90 mm Hg or above. In severe pre-eclampsia the diastolic blood pressure is usually 110 mm Hg or above and there may also be one or more of the following symptoms: severe headache, blurred vision, nausea and/or vomiting, abdominal pain and a diminished urinary output, i.e. oliguria. Unless effective treatment is instituted quickly, the condition will deteriorate and eclampsia occurs.

Obstructed labour:

refers to a situation when the descent of the presenting part is arrested during labour due to an insurmountable barrier. This occurs in spite of strong uterine contractions and further progress cannot be made without assistance. Obstruction usually occurs at the brim but it may occur in the cavity or at the outlet of the pelvis.

Obstructed labour is due to mechanical factors which may be anticipated, such as cephalopelvic disproportion which can result from problems such as malnutrition, stunted growth, or pregnancy in the young teenager. Unless urgent and correct treatment is given obstructed labour will result in ruptured uterus which carries a high risk of maternal and fetal death

Postpartum haemorrhage: is defined as excessive bleeding from the genital tract at any time after the birth of the baby up to 6 weeks. Primary postpartum haemorrhage refers to bleeding within 24 hours of delivery, and secondary postpartum haemorrhage refers to bleeding after 24 hours and within 6 weeks.

The amount of blood loss which is described as a postpartum haemorrhage is 500 ml or more, or any smaller loss which causes deterioration in the woman's condition. It must be remembered that a much smaller loss will adversely affect the condition of a woman who is already anaemic.

Postpartum haemorrhage may be caused by an atonic uterus which fails to contract and compress the blood vessels in the normal way. This can easily occur when the uterus has been overstretched, as in grand multiparity, twin pregnancy or polyhydramnios. It is also associated with retained products, prolonged labour, precipitate labour, placental abruption, placenta praevia and general anaesthesia. A full bladder and mismanagement of the third stage may also cause bleeding. A woman can bleed at the rate of 500 ml per minute, and in 10 minutes she could lose all the blood in her body. Therefore skilled and urgent management is essential to save the life of a woman with postpartum haemorrhage.

Postpartum haemorrhage may be traumatic due to injury to the genital tract. This includes lacerations of the uterus, cervix, vaginal walls or external genitalia, including episiotomy wounds.

Puerperal sepsis: refers to infection of the genital tract which usually starts 24 hours or more after delivery. It may be localized in the perineum, vagina, cervix or uterus but can rapidly become widespread causing parametritis, peritonitis and septicaemia as it enters the bloodstream. This may be further complicated by septic shock and coagulopathy (clotting failure) which gives rise to bleeding problems.

Causative organisms include streptococci, staphylococci, Escherichia coli, clostridium tetani or welchii. The woman usually has a fever but this may not always be the case in clostridial infections. The uterus is tender, lochia offensive and lacerations or suture line may discharge pus. A woman who is anaemic, malnourished, has been in prolonged labour, has extensive lacerations, has not been immunized against tetanus, has a poor standard of hygiene or who has been subjected to traditional practices which may introduce organisms into the vagina, is at very great risk of puerperal sepsis. Puerperal sepsis can rapidly be fatal.

To prevent death from postpartum haemorrhage

What midwives should know:

- Postpartum haemorrhage is the most important single cause of maternal deaths and accounts for the highest proportion (25%) in the developing world.
- A Postpartum Haemorrhage (PPH) is defined as the loss of 500 ml or more of blood from the genital tract after delivery.
- Women with anaemia, prolonged labour, eclampsia, antepartum haemorrhage or intrapartum sepsis may tolerate badly a postpartum blood loss of less than 500 ml.
- Primary PPH refers to the occurrence of bleeding within 24 hours of delivery.
- Secondary PPH includes all cases of PPH occurring between 24 hours after delivery and 6 weeks postpartum.
- Retained placenta describes a situation in which the placenta has not been delivered within one hour after the birth of the baby.
- The most common causes of primary PPH are retained placenta (or placental tissue fragments) and uterine atony followed by vaginal or cervical lacerations and episiotomy.
- The causes of secondary PPH include retained placental tissue and infection.
- The main risk factors that make PPH more likely include: a history of previous third stage complications, a previous caesarean section, multiple pregnancy, high parity, anaemia, operative delivery, prolonged obstructed labour, induced labour, precipitate labour, placenta praevia, abruptio placentae.
- Because of the short interval from onset of PPH to death, quick access to health facilities is crucial for the prevention of maternal death from PPH.
- Maternal mortality from PPH is higher among women of low socioeconomic status because of lower health service utilization and less awareness of risk factors associated with PPH.
- Traditional beliefs and practices regarding blood loss after delivery and the management of the third stage of labour can affect the occurrence of PPH.

What midwives should do:

- Estimate correctly the amount of blood lost from the genital tract after delivery.
- Actively manage the third stage of labour.
- Remove the placenta manually, if retained.
- In case of PPH, massage the uterus to promote contraction, give an oxytocic drug, start an intravenous infusion, add an oxytocic drug to the infusion if bleeding persists, empty bladder, perform bi-manual or aortic compression and refer for further resuscitative measures and blood transfusion.
- Recognize and follow up pregnant women at high risk of PPH.
- Prevent, diagnose and treat anaemia.
- Set up emergency plans with village TBAs/auxiliaries to deal with postpartum haemorrhages.
- Educate the community about the seriousness of PPH, the need for speed in referral, and risk factors that make PPH more likely.
- Provide family planning services for women at high risk of PPH.
- Supervise TBAs, discourage traditional practices that increase the risk of PPH and educate them on the need for speedy referral in case of PPH.

To prevent death from obstructed labour

What midwives should know:

- Eight per cent of all maternal deaths are due to obstructed labour.
- Data on mortality from obstructed labour are not complete because many of these deaths are classified under sepsis, PPH, obstetric shock or ruptured uterus.
- Obstructed labour in surviving women frequently causes the debilitating condition of vesico-vaginal fistula and other obstetric fistulae.
- Obstructed labour may result from cephalopelvic disproportion (CPD) due to pelvic contraction. This can be caused by stunted growth from malnutrition and untreated infections in childhood and adolescence, by too early a start in childbearing before growth of the pelvis is complete, or by osteomalacia or rickets.
- Obstructed labour may also be caused by malpresentation or an abnormal fetus.
- The cultural causes of obstructed labour include childbearing at a young age, and traditional beliefs and practices regarding prolonged labour that may lead to delays in seeking medical help.
- Health services factors that affect maternal mortality from obstructed labour include the coverage of maternity care in the area, accessibility of health facilities, use of the partograph by staff and availability of blood for transfusion and operative facilities.

What midwives should do:

- Ensure all women at risk of obstructed labour are booked for delivery into a high level health facility, with operating facilities and blood transfusion service, e.g. a young teenager, bad obstetric history, history of rickets, osteomalacia, very short stature.
- Use a partograph during labour.
- Participate in emergency treatment of a woman in obstructed labour.
- Educate communities about the dangers of prolonged labour and the need for speedy referral.
- Educate women (and their families) who have had a caesarean section for obstructed labour about the reasons for the operation and the need for hospital care in a future pregnancy.
- Provide family planning services for women who have had a caesarean section for obstructed labour.

To prevent death from puerperal sepsis

What midwives should know:

- Puerperal sepsis is the second most important cause of maternal death, accounting for approximately 15 per cent of all maternal deaths in developing countries.
- Puerperal sepsis is almost always the result of intervention during labour and delivery.
- Traditional customs and belief systems in some areas may predispose to puerperal sepsis.
- The risk factors that predispose to puerperal sepsis are: premature rupture of membranes and prolonged obstructed labour, anaemia and malnutrition, lack of hygiene during labour and postpartum, no antenatal care, young age (under 16 years), home delivery (particularly for high-risk pregnancies)
- All but the first of these risk factors are linked to low socioeconomic class.

What midwives should do:

- Avoid unnecessary interference during labour and too frequent vaginal examinations.
- Ensure a clean safe delivery and high standards of hygiene in labour and during the postpartum period.
- Prevent prolonged and obstructed labour by use of the partograph.
- Prevent, diagnose and treat anaemia.
- Immunize pregnant women against tetanus.
- Detect early signs of sepsis such as temperature rise and severe afterpain.
- At discharge educate women about signs of infection and when to report back.
- Treat women with appropriate antibiotics in case of prolonged rupture of membranes, prolonged labour and at first signs of infection.
- Supervise traditional birth attendants and/or give feedback on referrals by TBAs to improve practice.
- Provide family planning services for women at high risk of puerperal infection.

To prevent death from eclampsia

What midwives should know:

- Eclampsia and pre-eclampsia are the most important obstetric causes of maternal mortality in the western world.
- In most developing countries these conditions rank third as a cause of maternal death, accounting for 12 per cent of all maternal deaths.
- Midwives should know the prevalence of these conditions in their area as it may vary from region to region.
- Eclampsia may occur in the antenatal, intranatal or the postnatal period Antenatal care and education about the symptoms and dangers of severe pre-eclampsia are important for the prevention of maternal deaths from eclampsia.
- The risk factors which make pre-eclampsia and eclampsia more likely to occur are first pregnancy, teenage pregnancy, women over 35 years, twin pregnancy, diabetes, hydatidiform mole, pre-existing hypertension.
- Midwives should know about the important role of prenatal care in the early detection and treatment of pre-eclampsia which can almost always avert progression to eclampsia.
- The differential diagnosis of eclampsia includes idiopathic epilepsycerebral malaria, pneumococcal meningitis, severe infections, sub-arachnoid or cerebral haemorrhage, brain tumour, and uraemia from another cause.
- Termination of pregnancy is the only way to “cure” pre-eclampsia. However, in mild cases, it can be controlled by conservative treatment until the fetus is viable.
- Midwives should know about traditional beliefs regarding oedema, pallor and headaches, and the influence of traditional healers in the community.

What midwives should do:

- Monitor blood pressure (record as early as possible to obtain a basal level), and check for proteinuria at first prenatal check, and if blood pressure is high.
- Institute or participate in emergency treatment for women with severe pre-eclampsia or eclampsia, i.e. anticonvulsant and antihypertensive.
- Educate families and communities about the signs and symptoms of pre-eclampsia and eclampsia, the seriousness of the condition and the need for prenatal monitoring of blood pressure and urine.
- Provide family planning services for women who have had pre-eclampsia or eclampsia.

To prevent death from abortion

What midwives should know:

- The risks of unsafe abortion are maternal death (in some Latin American countries, up to 50 per cent of maternal deaths are due to illegal abortion), post-abortion complications such as sepsis and haemorrhage and long-term reproductive problems such as infertility.
- Midwives should know which women are most likely to seek an abortion in their area (e.g. unmarried adolescents, high parity women, poor women).
- Midwives should know the extent of unwanted pregnancy in their area. If all the women who said they did not want any more children actually stopped having them, it is estimated that a third of Latin American births, a little more than a third of Asian births, and just under a sixth of African births would not occur.
- Prevention of unwanted pregnancy will significantly reduce maternal mortality and will reduce costs of maternal care, abortion services and the treatment of incomplete and septic abortion.
- Pregnancy poses health risks for women starting childbearing in adolescence, older and high parity women and women with short birth intervals. These women often want to limit childbearing. However, family planning services appropriate for these groups are not universally available and, in many societies, family planning programmes avoid serving unmarried adolescents because of ambivalent attitudes towards adolescent sexuality.

What midwives should do:

- Educate women, families and the community about family planning and abortion.
- Incorporate education on child spacing in prenatal, postnatal care and post-abortion care.
- Provide family planning services to women in the community or refer to the appropriate centre.
- Perform or participate in life-saving functions in case of incomplete or septic abortion.
- Engage in medical audit or confidential enquiries to find out the circumstances in which deaths from abortion occur.