

Morbidity refers to an illness or disease.

♣ Mortality refers to death

(MCH) • Maternal and child health care is one of the main components of (PHC) systems as declared at the Alma Ata Conference in 1978.

(MCH) care is the health service provided to mothers (women in their childbearing age) and children.

♣ The targets for MCH are all women in their reproductive age groups, i.e., 15 - 49 years of age, children, school age population and adolescents.

Definition ♣ Maternal and child health (MCH) programs focus on health issues concerning women, children and families, such as access to recommended prenatal and well-child care, infant and maternal mortality prevention, maternal and child mental health, newborn screening, child immunizations, child nutrition and services for children with special health care needs

- Throughout the world, especially in the developing countries, there is an increasing concern and interest in maternal and child health care.

Objectives and Targets of Maternal Child Health Services ♣

1-To reduce morbidity and mortality among mothers and children, through health promotion activities rather than curative interventions. ♣

2-To improve the health of women and children through expanded use of fertility regulation methods, adequate antenatal coverage, and care during and after delivery.

3-To reduce unplanned or unwanted pregnancies through sex education and the wider use of effective contraceptives.

4-To reduce perinatal and neonatal morbidity and mortality.

5- Promotion of reproductive health and the physical and psychosocial development of the child and adolescent within the family.

6. To reduce the incidence and prevalence of sexually transmitted infections (STIs), in order to reduce the transmission of HIV infection.

7. To reduce the incidence and prevalence of cervical cancer. October 2021 11 Objectives of Maternal Child Health Services

8. To reduce female genital mutilation and provide appropriate care for females who have already undergone genital mutilation.

9. To reduce domestic and sexual violence and ensure proper management of the victims. October 2021 12 Objectives of Maternal Child Health Services

10-To increase political awareness on the need to develop comprehensive intersectoral population policies using all available resources

Justifications for the provision of MCH Care (Why)?

1-Mothers and children make up over 1/2 of the whole population. Children < 15 years are 34.3% of the population. Women in reproductive age (15 – 49) constitute around 20%. October 2021 14

2-Maternal mortality is an adverse outcome of many pregnancies.

3. Potential complications related to abortions include pain, bleeding, or an infection in the upper genital tract that causes endometritis.

4-About 80 percent of maternal deaths in developing countries are due to direct obstetric causes. They result "from obstetric complications of the pregnant state (pregnancy, labor, and puerperium the period of about six weeks after childbirth during which the mother's reproductive organs return to their original non-pregnant condition.), from intervention, omissions, incorrect treatment, or from a chain of events resulting from any of the above.

5- Most pregnant women in the developing world receive insufficient or no prenatal care and deliver without help from appropriately trained health care providers. More than 7 million newborn deaths are believed to result from maternal health problems and their mismanagement.

6-Poorly timed unwanted pregnancies carry high risks of morbidity and mortality, as well as social and economic costs, particularly to the adolescent and many unwanted pregnancies end in unsafe abortion.

7-Poor maternal health hurts women's productivity, their families' welfare, and socio-economic development.

8- Large number of women suffers severe chronic illnesses that can be exacerbated by pregnancy and the mother's weakened immune system and levels of these illnesses are extremely high.

9- Many women suffer pregnancy-related disabilities like uterine prolapse long after delivery due to early marriage and childbearing and high fertility

10- Nutritional problems are severe among pregnant mothers and 60 to 70 percent of pregnant women in developing countries are estimated to be anemic. Women with poor nutritional status are more likely to deliver a low-birth-weight infant (less than 2,500 grams) October 2021 20

Justifications for the provision of MCH Care

11- Majority of perinatal deaths are associated with maternal complications, poor management techniques during labour and delivery, and maternal health and nutritional status before and during pregnancy.

12- The large majority of pregnancies that end in a maternal death also result in fetal or perinatal death. Among infants who survive the death of the mother, fewer than 10 percent live beyond their first birthday.

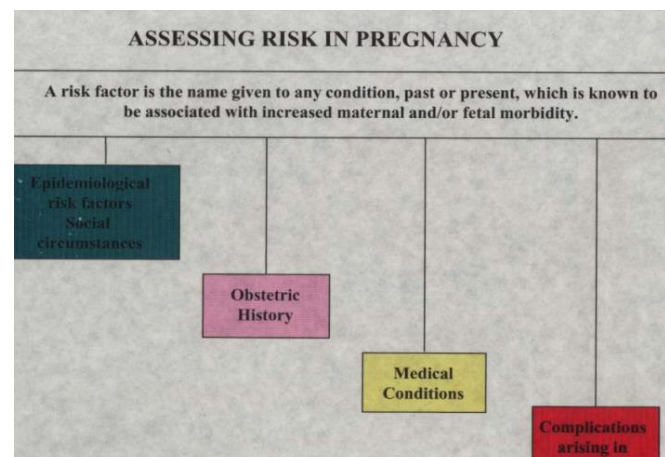
13- Ante partum hemorrhage (bleeding from or into the genital tract, occurring from 24 weeks of pregnancy and prior to the birth of the baby), Eclampsia (high blood pressure results in seizures during pregnancy), and other complications are associated with large number of perinatal deaths each year in developing countries plus considerable suffering and poor growth and development for those infants who survive.

14- Physiological changes that the mother and her child pass through.

15- More sensitive to the environmental factors changes.

Maternal Health Learning Objectives

- ♣ Understand the magnitude of maternal health problems / Maternal Morbidity
- ♣ Describe the factors that affect the health of mothers
- ♣ Describe maternal mortality
- ♣ Outline the major causes of maternal mortality
- ♣ Understand effects of maternal health on children, family and community



Epidemiological risk factors :

- ♣ Maternal Age.
- ♣ Parity (parity is defined as the number of times that woman has given birth to a fetus with a gestational age of 24 weeks or more, regardless of whether the child was born alive or was stillborn).
** Stillbirth is when a baby dies before she or he is born, after 24 weeks of pregnancy.
- ♣ Social circumstances.

Risk factors related to past obstetric history

- ♣ History of operative delivery (Operative vaginal delivery refers to a delivery in which the operator uses forceps, a vacuum, or other devices to extract the fetus from the vagina, with or without the assistance of maternal pushing).
- ♣ History of a stillbirth or neonatal death.
- ♣ Previous ante-partum hemorrhages.
- ♣ Previous post-partum hemorrhages.
- ♣ History of low- birth- weight infant

Risk factors Medical conditions

- ♣ Diabetes mellitus
- ♣ Anemia
- ♣ Hypertension
- ♣ Urinary tract infection (UTI).
- ♣ Heart disease
- ♣ Epilepsy
- ♣ Variety of problems related to drug usage and conditions treated.

Complications arising in pregnancy

- ♣ Hypertensive disorders.
- ♣ Anemia.
- ♣ Urinary tract infection.
- ♣ Ante-partum hemorrhage.
- ♣ Vaginal bleeding.
- ♣ Pre-term rupture of membranes
- ♣ Intrauterine growth restriction.
- ♣ High risk pregnant women are advised for more frequent antenatal visits.

Some indicators of health status of women

- ♣ 1-Maternal Mortality Rate /100,000 (15- 49 years death duet Pregnancy , Labor and post partum period)The most sensitive indicator for maternal health..
- ♣ 2- Malnutrition among women in reproductive age group

- ♣ 3-Teen-age pregnancy
- ♣ 4- Low birth weight deliveries (<2.5KG)
- ♣ 5-Weight gains during pregnancy Normal (8-11 Kg.)
- ♣ 6-% of women visited ANC clinics.
- ♣ 7-% of Labor attended by Medical Staff.
- ♣ 8-% of women receiving family Planning Services.

Maternal health and developing countries.

- ♣ Most women do not have a good Access to the Health care and sexual Health education services.
- ♣ A woman in sub-Saharan Africa has a 1 in 16 chance of dying in pregnancy or childbirth, compared to a 1 in 4,000 risk in a developed country.
- ♣ At the level of preconception and prenatal care, pregnancy complications and childbirth are the leading causes of death among women of reproductive age.
- ♣ Less than one percent of these deaths occur in developed countries, showing that they could be avoided if resources and services were available.

General Consideration

- ♣ More than 150 million women become pregnant in developing countries each year and an estimated 500,000 of them die from pregnancy-related causes.
- ♣ Maternal health problems are also the causes for more than seven million pregnancies to result in stillbirths or infant deaths within the first week of life
- ♣ Far too many women still suffer and die from serious health issues during pregnancy and childbirth.
- ♣ In 2015, an estimated 303 000 women worldwide died in pregnancy and childbirth, with 99% of these deaths occurring in low income countries (WHO 2018)
- ♣ two thirds (64%) occurring in the WHO African Region.
- ♣ Reducing maternal mortality crucially depends upon ensuring that women have access to quality care before, during and after childbirth.
- ♣ Maternal death, of a woman in reproductive age, has a further impact by causing grave economic and social hardship for her family and community.

Global scenario-Maternal health

- ♣ Each year, more than half million women die from causes related to pregnancy & childbirth.
- ♣ On average, each day~1500 women die from causes related to pregnancy & childbirth.
- ♣ Around 10 million women annually suffer from complications of pregnancy.
- ♣ 80% of maternal deaths could be avoided by access to essential maternity & basic health services.

2nd File /2nd week

Content of MCH Care Services and Priorities

M.C.H. Care at various stages of development: (Services): 1. Maternal 2. Infant and Child.

Maternal Health Services ♣ 1-Premarital. ♣ 2-Preconceptional.

- ♣ 3-Conceptional: Care during pregnancies and labor: A.N.C. (Risky Pregnancy)
- ♣ 4-Delivery Care (Centers, Staff and Equipment's).
- ♣ 5-Postnatal and Family Planning Services.

1-Premarital services Target population

1. Couples about to marry. 2. The newly weds. 3. Any individual seeking advise.

Premarital (pre- marriage) Main functions (there are more in page after([Immunization](#)))

- ♣ Family health education ♣ Sexuality and puberty ♣ Marriage and parenthood
- ♣ Avoiding hazards (smoking, Alcohol, drugs).
- ♣ Nutrition and weight monitoring.

→ BMI: preferred indicator of nutritional status.

→ Preconceptional intake of folic acid.

→ Prematurity, spontaneous abortions, low birth weight, and fetal deaths are complications of severe maternal anaemia.

→ Anemia during pregnancy is commonly associated with poor pregnancy outcome and can result in complications that threaten the life of both mother and fetus.

→ Birth is considered premature, or preterm, when it occurs before the 37th week of pregnancy. A normal pregnancy lasts about 40 weeks.

Prematurity ♣ Premature infants may also be born with life threatening conditions. These can include:

- ♣ brain hemorrhage,
- ♣ pulmonary hemorrhage.
- ♣ Hypoglycemia
- ♣ pneumonia, an infection and inflammation of the lungs
- ♣ patent ductus arteriosus, an unclosed hole in the main blood vessel of the heart
- ♣ anemia, a lack of red blood cells for transporting oxygen throughout the body
- ♣ neonatal respiratory distress syndrome, a breathing disorder caused by underdeveloped lungs.

Premarital (pre marriage) Main functions ♣ Immunization

→ Rubella, commonly known as 'German Measles' is a common childhood viral disease that may affect adults as well.

→ primary rubella infection in pregnancy, especially in the first trimester, can have serious consequences, namely miscarriage.

→ It can cause a series of birth defects known as congenital rubella syndrome (CRS). CRS can include hearing and visual impairments, heart problems, brain damage, growth problems and swelling in the brain, liver and lungs.

→ Vaccination against rubella was fitted into Jordanian Expanded Program on Immunisation in the year 2000 for children at 18 months of age . However, this program did not offer rubella vaccination for adolescent girls and adult females.

→ Pregnant women and their unborn babies are especially vulnerable. Because MMR vaccine is an attenuated (weakened) live virus vaccine, pregnant women should not get MMR vaccine.

→ Women who are planning to become pregnant should check with their healthcare professional to make sure they are vaccinated before they get pregnant. Adult women of childbearing age should avoid getting pregnant for at least four weeks after receiving MMR vaccine.

Also another (والله كخثار) Premarital (pre marriage) Main functions

- ♣ Medical history , past medical history.
- ♣ Sexually Transmitted diseases (STDs).
- ♣ Past Menstrual history.
- ♣ Physical examination.
- ♣ Genetic Counseling.
- ♣ Fertility investigation.
- ♣ Hormonal for females.
- ♣ Semen analyses for males

Premarital screening and genetic counselling (PMSGC)

- ♣ Premarital screening and genetic counselling (PMSGC), popular in the Middle East as it is religiously and socially unacceptable to bear children outside of marriage.
- ♣ aims to identify β -thalassaemia carriers among couples planning to marry.
- ♣ PMSGC programmes aim to reduce β -thalassaemia births through:
 - (i) prevention of at-risk marriages by discouragement during counselling.
 - (ii) where legal, termination of affected fetuses through prenatal diagnosis (PND) and therapeutic abortion.

Pre-marital medical exams JPFHS 2017

- ♣ About half of ever-married women and their husbands had a pre-marital medical exam.
- ♣ Premarital exams are much more common among those with higher education (over 65%) than those with no education (below 25%).

Preconception services ♣ Preconception health is a woman's health before she becomes pregnant.

- ♣ Past and recent Medical history.
- ♣ Social history (smoking, drug addiction).
- ♣ Controlling risk factors.
- ♣ Psychological counseling.

What is antenatal care ? ♣ Antenatal care (ANC)—the services offered to mother and unborn child during pregnancy—is an essential part of basic primary healthcare during pregnancy, and offers a mosaic of services that can prevent, detect and treat risk factors early on in the pregnancy.

ALSO ***Antenatal*** care is a systemic supervision of a women during pregnancy to monitor the progress of foetal growth and to ascertain the well being of the mother and the foetus

& A proper antenatal check ups provides necessary care to the mother and to help identify any complications of pregnancy

Conceptional : Objectives of Antenatal care (ANC)

- ♣ 1-Promote and maintain the physical, mental and social health of mother and baby by providing education on nutrition, personal hygiene and birthing process.
- ♣ 2-Detect and manage complications during pregnancy. 19 Conceptional : Objectives of Antenatal care (ANC)
- ♣ 3-Assess the risk of complications in later pregnancy, labour or delivery and arrange for a suitable level of care.
- 4-Develop birth preparedness and complication readiness plan
- ♣ 5-Help prepare mother to breastfeed successfully, experience normal puerperium, and take good care of the child physically, psychologically and socially

Why antenatal care is important ? to ensure a normal pregnancy with delivery of a healthy baby from a healthy mother

Why antenatal care is important?

- ♣ Prevent development of complications
- ♣ Decrease maternal and infant mortality (death) and morbidity (disease) by affording increased chances of the timely identification of high-risk pregnancies.
- ♣ Remove the stress and worries of the mother regarding the delivery process
- ♣ Teach the mother about child care, nutrition, sanitation and hygiene
- ♣ Advice about family planning

The antenatal period is also an ideal opportunity to supply information on future birth spacing, which is recognized as an important factor in improving infant survival.

3rd file / 2nd week

ANC ♣ Antenatal care can play a role in identifying danger signs or predicting complications around delivery by screening for risk factors and arranging for appropriate delivery care when indicated.

Antenatal checks and tests ♣ Weight and height checks to calculate BMI (body mass index)

- ♣ Urine tests urine is checked for several things , including protein or albumin.
- ♣ Blood pressure test (A rise in blood pressure later in pregnancy could be a sign of pre-eclampsia)
- ♣ Blood tests
- ♣ ultrasound scan

Urine Check ♣ Diabetes. High levels of glucose (or sugar) in your urine may indicate pre-existing type 1 or type 2 diabetes or, later on in pregnancy, gestational diabetes (GD).

- ♣ Gestational diabetes is also tested for with a glucose (blood sugar) screening.
- ♣ Preeclampsia. Protein in urine is sometimes a sign of preeclampsia, or pregnancy-induced high blood pressure.
- ♣ A urinary tract infection (UTI). white blood cells in urine may be a sign of a UTI.
- ♣ Dehydration. Dark, coloured urine usually signals that there is a need to drink more water

What can an ultrasound scan be used for?

- ♣ To check the baby size.
- ♣ To detect abnormalities.
- ♣ To show the position of the baby and the placenta. For example, when the placenta is low down in late pregnancy, a caesarean section may be advised (Placenta praevia (low-lying placenta). It may also cause bleeding.
- ♣ To check that the baby is growing normally

According to JPFHS 2017-2018

- Almost all of the women who received ANC for their most recent birth had had key ANC services performed, including having their blood pressure measured (97%), a urine sample taken (96%), a blood sample taken (97%), and their weight measured (97%)

ANC visits

♣ In low- and middle-income countries (LMICs), ANC utilization has increased since the introduction of the 2002 WHO ANC model, known as 'focused' ANC (FANC).

♣ This model aims at delivering 'reduced but goal-orientated' clinic visits, at which essential interventions should be provided to pregnant women at specified intervals.

♣ With the FANC model, healthy women with no underlying pregnancy complications should be scheduled a minimum of four ANC visits, and more than four in the case of danger signs or pregnancy-related illnesses.

♣ For many of the essential interventions in FANC, it is crucial to [initiate the care as follows](#):

1. First visit: during the first trimester of pregnancy (up to 12 weeks of gestation).
2. Second visit at 24 to 28 weeks of gestation.
3. Third visit at 32 weeks
4. Fourth visit between 36 and 38 weeks of gestation.

Pregnancy risk factors that should be considered in ANC

1-Age under 18 or above 35 in Jordan mean age of females at first marriage 2017 is 26.3 years

2-Height (less 150 cm) And Wt. under or over wt. Short stature may lead to preterm birth, bleeding during delivery.

3-Residency

4-Education

5-Income

6-Past Medical history: Diabetes, cardiac problem, renal disease etc.

7-Past obstetric history: Previous caesarean section, vacuum, or forceps delivery

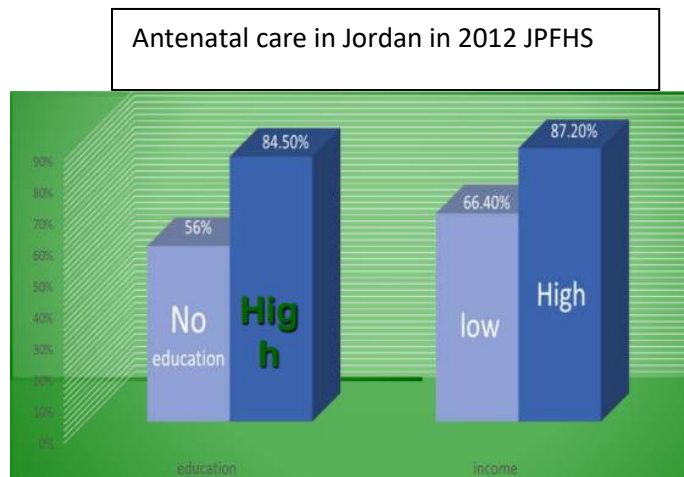
8. Previous perinatal death, stillbirth

9. Previous Post partum haemorrhage (PPH)

10. Previous ante partum haemorrhage (APH) 13 Pregnancy risk factors that should be considered in ANC

11-General condition of the woman pre conceptual (Hb level, nutritional, blood pressure and general condition.)

12- Social history : Smoking, Alcohol or any drug therapy , economic status.



TEENAGE PREGNANCY (adolescent pregnancy) (being pregnant in the age ranging from 15-19 years)

- ♣ Children born to very young mothers are at increased risk of sickness and death.
- ♣ Teenage births result in health consequences; children are more likely to be born pre-term, have lower birth weight, and higher neonatal mortality, while mothers experience greater rates of post-partum depression.
- ♣ Teenage mothers are more likely to experience adverse pregnancy outcomes. Teenage girls are more often present later for care.
- ♣ An individual's education and training can be disrupted by teenage pregnancy.
- ♣ There is also an association between domestic violence and teenage pregnancy

Interventions and practice recommendations to manage teenage pregnancy (Act to reduce the risk of unintended adolescent pregnancy)

- ♣ Encourage long-acting reversible contraception (LARC), which has been shown to be more reliable in this age group and should be the first-line recommendation.

Antenatal care in teenage pregnancy ♣ Assess nutritional adequacy.

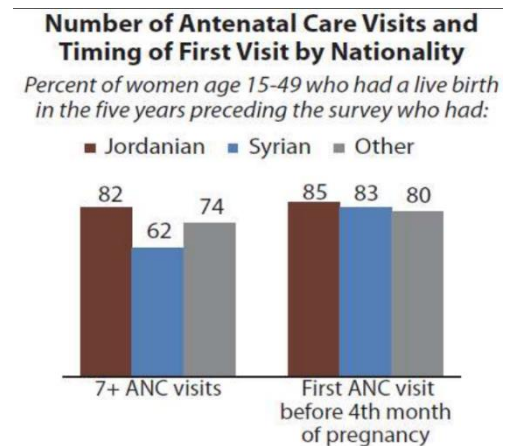
- ♣ Recognise that teenagers may have less anatomical knowledge and will be less likely to understand what is happening to their bodies so may benefit from explanations at all stages.
- ♣ Teach about signs and symptoms of preterm labour.
- ♣ Discuss contraceptive options before delivery. ♣ Encourage and facilitate breastfeeding.

Antenatal classes in Europe Topics covered by antenatal classes are:

- ♣ health in pregnancy, including a healthy diet
- ♣ exercises to keep fit and active during pregnancy
- ♣ what happens during labour and birth
- ♣ coping with labour and information about different types of pain relief
- ♣ relaxation techniques during labour and birth
- ♣ information about different kinds of birth and interventions
- ♣ caring for the baby, including feeding
- ♣ "refresher classes" for those who've already had a baby
- ♣ health after birth

Access to ANC services

♣ As outlined by the WHO, access to ANC services consists of several elements, including distance and/or time to a facility, the physical availability of services, cultural and social factors that may impede access, economic and other costs associated with use of services, and the quality of the services offered



Antenatal Care / Jordan JPFHS 2017 ♣ Almost all ever-married women (98%) age 15-49 received at least one antenatal care (ANC) visit from a skilled provider (doctor or nurse/midwife).

♣ The timing and quantity of antenatal care visits are important. About 9 in 10 (92%) women age 15-49 made 4+ ANC visits.

Pregnancy complications	
Problem	Symptoms
Anemia Hb.< 10	<ul style="list-style-type: none"> ▪ Feel tired or weak ▪ Look pale ▪ Feel faint ▪ Shortness of breath
Gestational diabetes Too high blood sugar levels during pregnancy	<ul style="list-style-type: none"> ▪ Usually, there are no symptoms. Sometimes, extreme thirst, hunger, or fatigue ▪ Screening test shows high blood sugar levels
<p>Preeclampsia</p> <p>A condition starting after 20 weeks of pregnancy that causes high blood pressure and problems with the kidneys and other organs. Also called toxemia.</p> <p>Pregnant teens and women over 40 are at increased risk.</p>	<p>High blood pressure</p> <p>Swelling of hands and face</p> <p>Too much protein in urine</p> <p>Stomach pain</p> <p>Blurred vision</p> <p>Dizziness</p> <p>Headaches</p>
Preterm labour – Going into labour before 37 weeks of pregnancy	<p>Increased vaginal discharge</p> <p>Pelvic pressure and cramping</p> <p>Back pain radiating to the abdomen</p> <p>Contractions</p>

Maternal Morbidities

♣ The WHO Maternal Morbidity Working Group defines maternal morbidity as “any health condition attributed to and/or aggravated by pregnancy and childbirth that has a negative impact on the woman’s wellbeing”

HYPERTENSIVE DISORDERS OF PREGNANCY

♣ Chronic hypertension is defined as blood pressure exceeding 140/90 mm Hg before pregnancy or before 20 weeks' gestation.

♣ When hypertension first is identified during a woman's pregnancy and she is at less than 20 weeks' gestation, blood pressure elevations usually represent chronic hypertension.

Preeclampsia (PE)

♣ Preeclampsia (PE) is a multisystem, pregnancy specific disorder that is characterised by the development of hypertension and proteinuria (elevated levels of protein in the urine) after 20 weeks of gestation.

♣ PE is a leading cause of maternal, perinatal (from the 20th week of gestation to the 4th week after birth), and foetal/neonatal mortality and morbidity worldwide 28 Preeclampsia (PE) ♣ Clinically, PE presents as new-onset hypertension in a previously normotensive woman, with systolic and diastolic blood pressure readings of ≥ 140 and ≥ 90 mmHg, respectively, on 2 separate occasions that are at least 6 hours apart, together with proteinuria that develops after 20 weeks of gestation

♣ Preeclampsia occurs in approximately 5% of all pregnancies, 10% of first pregnancies, and 20- 25% of women with a history of chronic hypertension.

♣ Hypertensive disorders in pregnancy may cause maternal and fetal morbidity and remain a leading source of maternal morbidity.

♣ Although the exact path physiologic mechanism is not clearly understood, preeclampsia can be thought of as a disorder of endothelial function with vasospasm. (placental ischemia).

* Reduce blood flow from uterus to placenta- placental ischemia release of proteins from the placenta that go to mother circulations- vasospasm in blood vessels- Hypertension

♣ Evidence also indicates that an altered maternal immune response to fetal/placental tissue may contribute to the development of preeclampsia. 31 Preeclampsia (PE)

♣ PE can evolve into eclampsia which is a severe complication that is characterised by new-onset of epileptic seizures, due to angiospasm in the brain and brain oedema.

RISK FACTORS ♣ Maternal risk factors: ♣ First pregnancy ♣ Age younger than 18 years or older than 35 years ♣ History of preeclampsia ♣ Family history of preeclampsia in a first-degree relative ♣ Black race

Medical risk factors: ♣ Chronic hypertension ♣ Preexisting diabetes (type 1 or type 2). ♣ Renal disease ♣ Obesity