Maternal Healthcare

Dr. Israa Al-Rawashdeh MD, MPH, PhD
Faculty of Medicine
Mutah University
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RECAP

Components of Maternal care

Antenatal care services (ANC)

Delivery care services

Postnatal care services (PNC)

Antenatal Care

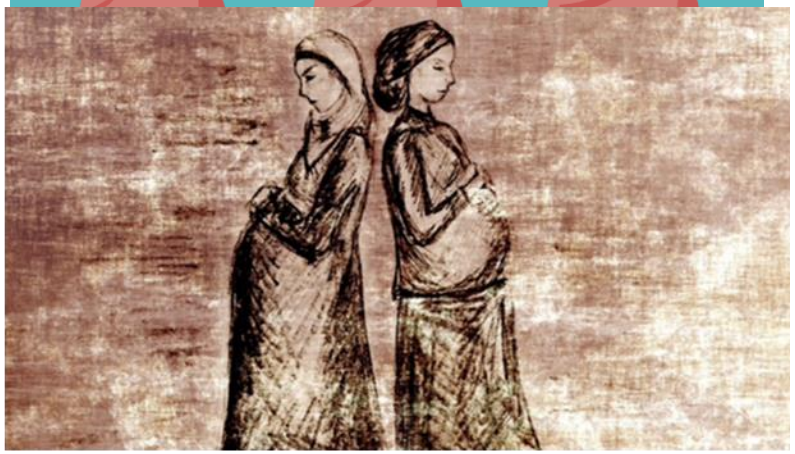
ANC is Essential

Antenatal care (ANC)

is the care provided by skilled health-care professionals to pregnant women in order to ensure a positive pregnancy experience and the best health conditions for both mother and baby during pregnancy

- **To identify high risk mothers and give them appropriate attention**
- **Reduces complications from pregnancy and childbirth.**
- **Reduces stillbirths and perinatal deaths.**

- **To prepare the mother for child birth.**
- **To prepare the mother to care for her baby.**



- **Integrated care delivery throughout pregnancy**

Pregnancy is a normal life event

Antenatal Care

Women want a

Positive Pregnancy Experience

from ANC

PPE means:

- ✓A healthy pregnancy for mother and baby (including preventing or treating risks, illness and death)
- ✓Physical and sociocultural normality during pregnancy
- ✓Effective transition to positive labour and birth
- ✓Positive motherhood (including maternal self-esteem, competence and autonomy)

Medical care; relevant and timely information; emotional support and advice

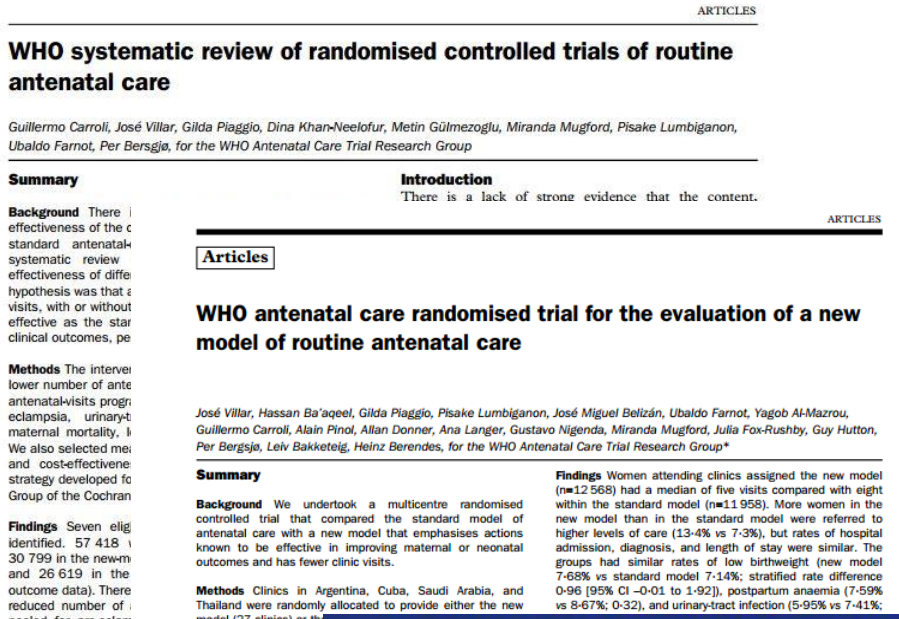
Downe S et al, 2016

Antenatal Care

WHO's 2016 ANC Model

Previously: The 4-visit WHO ANC model Carried out at four critical times (developed in the 1990s). It was also known as the Focused Antenatal Care Model (FANC).

Currently: because perinatal deaths increased with only four ANC visits + an increase in the number of ANC contacts is associated with an increase in maternal satisfaction → WHO recommends a minimum of **eight contacts**.



ARTICLES

WHO systematic review of randomised controlled trials of routine antenatal care

Guillermo Carroli, José Villar, Gilda Piaggio, Dina Khan-Neelofur, Metin Gülmezoglu, Miranda Mugford, Pisake Lumbiganon, Ubaldo Farnot, Per Bersgjø, for the WHO Antenatal Care Trial Research Group

Summary

Introduction

There is a lack of strong evidence that the content.

ARTICLES

Articles

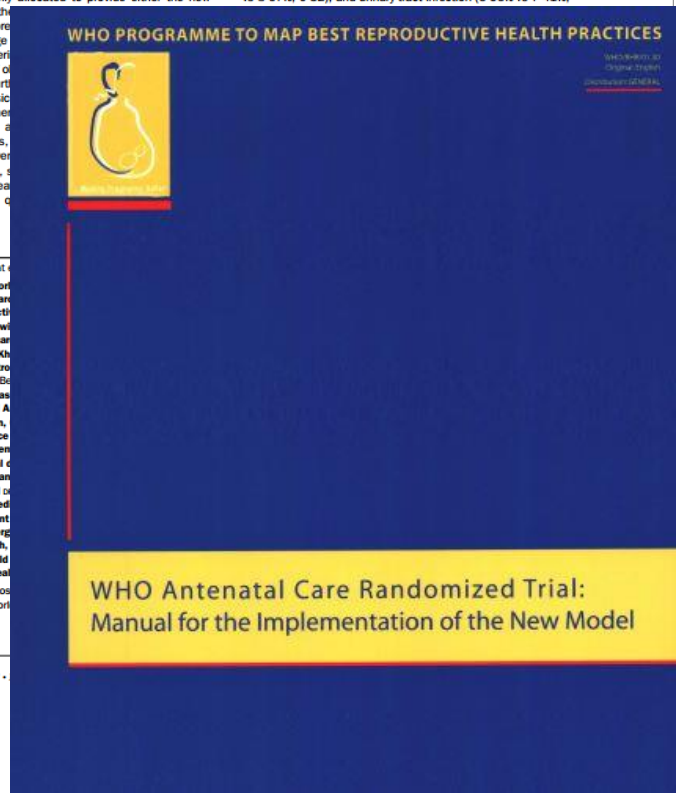
WHO antenatal care randomised trial for the evaluation of a new model of routine antenatal care

*José Villar, Hassan Ba'aqeel, Gilda Piaggio, Pisake Lumbiganon, José Miguel Belizán, Ubaldo Farnot, Yagob Al-Mazrou, Guillermo Carroli, Alain Pinol, Allan Donner, Ana Langer, Gustavo Nigenda, Miranda Mugford, Julia Fox-Rushby, Guy Hutton, Per Bergsjø, Leiv Bakketeig, Heinz Berendes, for the WHO Antenatal Care Trial Research Group**

Summary

Background We undertook a multicentre randomised controlled trial that compared the standard model of antenatal care with a new model that emphasises actions known to be effective in improving maternal or neonatal outcomes and has fewer clinic visits.

Findings Women attending clinics assigned the new model (n=12 568) had a median of five visits compared with eight within the standard model (n=11 958). More women in the new model than in the standard model were referred to higher levels of care (13·4% *vs* 7·3%), but rates of hospital admission, diagnosis, and length of stay were similar. The groups had similar rates of low birthweight (new model 7·68% *vs* standard model 7·14%; stratified rate difference 0·96 [95% CI –0·01 to 1·92]), postpartum anaemia (7·59% vs 8·67%; 0·32), and urinary-tract infection (5·95% vs 7·41%;



Antenatal Care

2016 WHO ANC model

WHO FANC model	2016 WHO ANC model
First trimester	
Visit 1: 8–12 weeks	Contact 1: up to 12 weeks
Second trimester	
Visit 2: 24–26 weeks	Contact 2: 20 weeks Contact 3: 26 weeks
Third trimester	
Visit 3: 32 weeks Visit 4: 36–38 weeks	Contact 4: 30 weeks Contact 5: 34 weeks Contact 6: 36 weeks Contact 7: 38 weeks Contact 8: 40 weeks
Return for delivery at 41 weeks if not given birth.	

Antenatal Care

WHO Recommendations on Antenatal Care for a Positive Pregnancy Experience (2016 global recommendations)

- Priority to person-centred health care.
- Should be adaptable and flexible so that countries (with different settings, burdens of disease, social and economic situations, and health-system structures) can implement the recommendations based on their country context and populations' needs.

WHO Recommendations on Antenatal Care for a Positive Pregnancy Experience (2016 global recommendations)

- A minimum of **eight contacts** are recommended to reduce perinatal mortality and improve women's experience of care.

Care during first contact:-

1. **Registration of pregnant women:-** the mother is registered within 12 weeks of pregnancy.
2. **Taking health history.** -physical examination. -General medical examination. -Obstetrical examination. -Laboratory examination (blood and urine tests)
3. **Immunization** against Tetanus: Explained later in Table.
4. **Health education** during pregnancy regarding : Healthy Diet and keeping physically active during pregnancy is encouraged.

WHO Recommendations on Antenatal Care for a Positive Pregnancy Experience (2016 global recommendations)

5. Supplements:

- **Daily oral iron Iron (30–60 mg of elemental iron) and folic acid supplementation (400 µg (0.4 mg) folic acid)** for ‘all’ pregnant women to to reduce the risk of low birth weight, maternal anaemia and iron deficiency (strong recommendation).
- Folic acid should be started as early as possible (Before conception→ prevent neural tube defects)

WHO Recommendations on Antenatal Care for a Positive Pregnancy Experience (2016 global recommendations)

6. Smoking and drinking:- Mother should be advised to avoid smoking and drinking alcohol. It lead to intrauterine growth restriction and low birth weight.

Ask about tobacco use (past and present) and exposure to second-hand smoke as early as possible in pregnancy and at every ANC visit.

7. Caffeine is a stimulant (tea, coffee, soft drinks, chocolate, and some over-the-counter medicines). (a daily intake of over 300 mg of caffeine is associated with a higher risk of pregnancy loss and having a low-birth weight).

8. Drugs:- the mother should be advised not to take any medicine unless it is prescribed by the Doctor.

WHO Recommendations on Antenatal Care for a Positive Pregnancy Experience (2016 global recommendations)

9. Radiation:-the mother should be advised to avoid X-ray. Especially abdominal.

10. Protection from infections and illnesses:-the mother should be instructed to protect herself from the risk of infection (e.g. measles, Group B Streptococcus (GBS), Chickenpox (Varicella), syphilis, Rubella (German Measles)) because these infection can cause spontaneous miscarriages, malformation or birth defects.

11. Reporting alarming sign and symptoms:-the mother should be instructed to report to health personal if there is unusual pain, vaginal bleeding, swelling in the feet, hand or face, headache, blurred vision, dizziness, high fever, decrease in fetal movement.

Table 2. Radiation and the fetus.

Radiation hazard	Dose
Permanent sterility (adult)	5 Gy
Embryonic death	100–500 mGy
Maximum permitted dose for the fetus of a pregnant worker	0.5 mSv/month (50 mrem)
Total gestational dose equivalent	5 mSv (500 mrem)
Risk of a congenital malformation/developing malignancy after irradiation *in utero*	120 (0.024% risk) to 1 rem (0.2% risk)

Adapted with permission from [52].

WHO Recommendations on Antenatal Care for a Positive Pregnancy Experience (2016 global recommendations)

- **Tetanus toxoid vaccination** is recommended for **all** pregnant women to prevent neonatal mortality from tetanus.
- – If a pregnant woman has not previously been vaccinated or if her immunization status is unknown→ two doses of tetanus toxoid-containing vaccine (TTCV) 1 month apart.
- – In most people, two doses protect against tetanus infection for 1–3 years.
- A third dose is recommended 6 months after the second dose, which extend the vaccine's protection to 5 years.
- – Two further doses for women who are first vaccinated against tetanus during pregnancy should be given after the third dose, in the 2 subsequent years or during two subsequent pregnancies.
- If a woman has received one to four doses of a TTCV in the past, she should receive one dose of TTCV during each of her subsequent pregnancies, for a total of five doses (five doses protects a woman throughout the childbearing years).

for women of childbearing age

Dose	When to give	Expected duration of protection
TT 1	at first contact or as early as possible in pregnancy	none
TT 2	at least 4 weeks after TT 1	1 - 3 years
TT 3	at least 6 months after TT 2	5 years
TT 4	at least one year after TT 3 or during subsequent pregnancy	10 years
TT 5	at least one year after TT 4 or during subsequent pregnancy	All childbearing years

Anemia in pregnancy:

- Defined in pregnancy as a Hb concentration of less than 110 g/L (less than 11 g/dL).
- **Predisposing factors :**
- **Increased Iron Requirements:** During pregnancy, a woman's blood volume increases to support the growing fetus.
- **Dietary Intake:** Inadequate dietary intake of iron-rich foods is a common predisposing factor for iron deficiency anemia. (PICA, excessive vomiting)

- **Gastrointestinal Conditions:** Conditions lead to malabsorption of iron in the digestive system, such as celiac disease or inflammatory bowel disease.

Anemia in pregnancy:

- **Multiple Pregnancies:** Women who are pregnant with twins, triplets, or more are at increased risk of iron deficiency anemia due to the greater demands on their iron stores.
- **Short intervals between pregnancies:** can lead to inadequate recovery of iron stores from the previous pregnancy, increasing the risk of anemia.
- **Vegetarian or Vegan Diet:** Women who follow a strict vegetarian or vegan diet may be at increased risk of iron deficiency anemia, as plant-based sources of iron (non-heme iron) are not as absorbed by the body as heme iron from animal sources.
- **Previous Anemia:** Women who had a history of anemia or low iron stores before becoming pregnant are at a higher risk of developing iron deficiency anemia during pregnancy.
- **Blood Loss :** Excessive blood loss during pregnancy (antenatal hemorrhage) deplete iron stores.

Anaemia in pregnancy:

Complications of severe anemia:

❑Maternal complications :

1. Maternal Fatigue and Weakness
2. Cardiac failure (The heart has to work harder to compensate for the reduced oxygen-carrying capacity of the blood)
3. Increasing fatality due to ante-partum or post-partum hemorrhage.
4. Immune System Impairment: Anemia can weaken the immune system, making pregnant women more susceptible to infections during pregnancy and childbirth.

❑Fetus / newborn complications:

1. Preterm birth, Low birth weight, intra uterine growth restriction.
2. Fetal Distress: Severe anemia can lead to oxygen deprivation for the developing fetus, potentially causing fetal distress and complications during labour (asphyxia)
3. Stillbirth
4. Increased peri-natal mortality .

Recommendations for management of IDA in pregnancy

- Full blood count should be assessed at least at booking and at 28 weeks.
- Give dietary information to maximize iron intake & absorption.
- Routine iron supplementation for all women in pregnancy is recommended. (Minimum dosage should be ***30-60 mg of elemental iron a day***).
- Women with iron deficiency anaemia (IDA) should be given ***100–200 mg elemental iron daily.***
- Referral to secondary → if there are significant symptoms / severe anaemia (Hb<7.0 g/dL), late gestation (>34 weeks), or if there is failure to respond to oral iron.
- Once Hb in the normal range, supplementation *should continue for 3 months & at least until 6 weeks postpartum* to refill iron stores.

Ultrasound scan during pregnancy

- An ultrasound (U/S) scan before 24 weeks' gestation **(early ultrasound)** is recommended for all pregnant women to:
  - ❖ estimate gestational age
  - ❖ detect fetal anomalies & multiple pregnancies
  - ❖ improve the maternal pregnancy experience
- An (U/S) scan after 24 weeks' gestation **(late ultrasound)** is not recommended for pregnant women who had an early (U/S).
- (U/S) is used for other indications (e.g. obstetric emergencies) or in other medical departments

Intrapartum (delivery) care for a positive childbirth experience

- 1. Respectful maternity care – maintains their dignity, privacy & confidentiality, ensures freedom from harm & mistreatment, & enables informed choice & continuous support during labour & childbirth.
- 2. Effective communication between maternity care providers & women in labour. (simple & culturally acceptable methods).
- 3. A companion of choice is recommended throughout labour and childbirth.
- 4. Pain relief strategies: depending on a woman's preferences
- 5. Encouraging the adoption of mobility & an upright position during labour in women at low risk.

Intrapartum (delivery) care for a positive childbirth experience

- **Preparing delivery equipment and supplies**.
- **Comprehensive physical examination of the mother**, including abdominal palpation, fetal heart monitoring, vital signs checks, and assessment of labor pain and uterine contractions.
- **Conducting the delivery while monitoring for complications** and providing pain relief as needed.
- **Immediate post-delivery care** for both mother and baby
- **Record and report the birth** to relevant authorities

Post-Natal Care (PNC)

- The postnatal period—is a critical phase in the lives of mothers and newborn babies.
- **“Postnatal Period” : all events occurring to the mother & the baby after birth up to 6 weeks (42 days).**

Post-Natal Care (PNC)

- Postnatal care focuses on recovery monitoring and early detection of issues.

Aims:

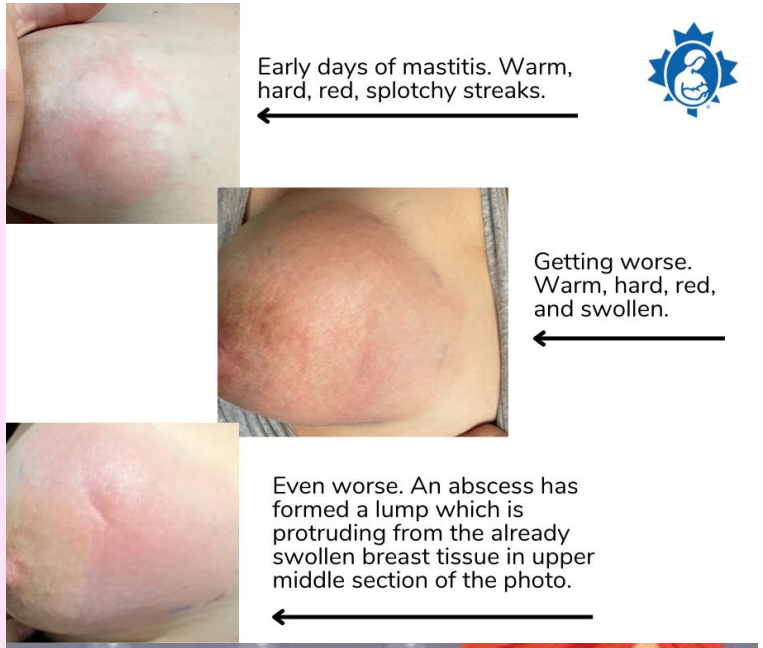
1. **Protect the mother** from health risks like infections (e.g., puerperal infection)
2. **An opportunity to introduce family planning** → prevent early subsequent pregnancies
3. **An opportunity to establish breast-feeding**.

WHEN and HOW MANY postnatal visits should occur?

- **Provide postnatal care in first 24 hours for <u>every</u> birth:**
- Early visits are essential as most maternal and newborn deaths occur in the first week, especially on the first day. This period is also essential for promoting healthy behaviors.
- After an uncomplicated vaginal birth in a health facility, healthy mothers & newborns should stay for at least 24 hours after birth.
- **Recommended Schedule for Postnatal Visits**:
- **Day 1 (within 24 hours)**
- **Day 3 (48–72 hours)**
- **Between days 7–14**
- **Six weeks after birth**
- **Issues or concerns** (e.g. LBW or mothers have HIV) should have two or three visits in addition to the routine visits.

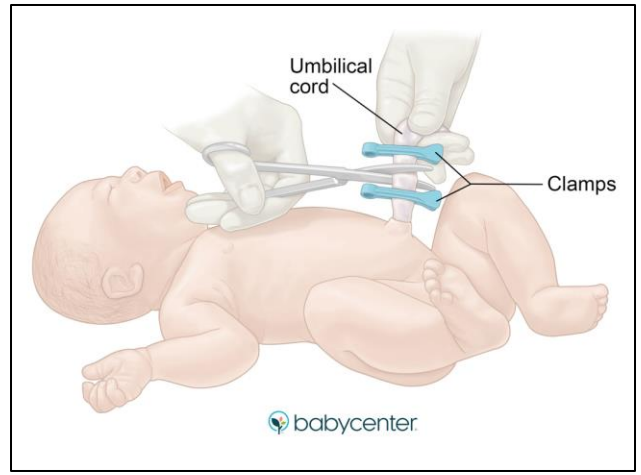
PNC recommendation for the mother:

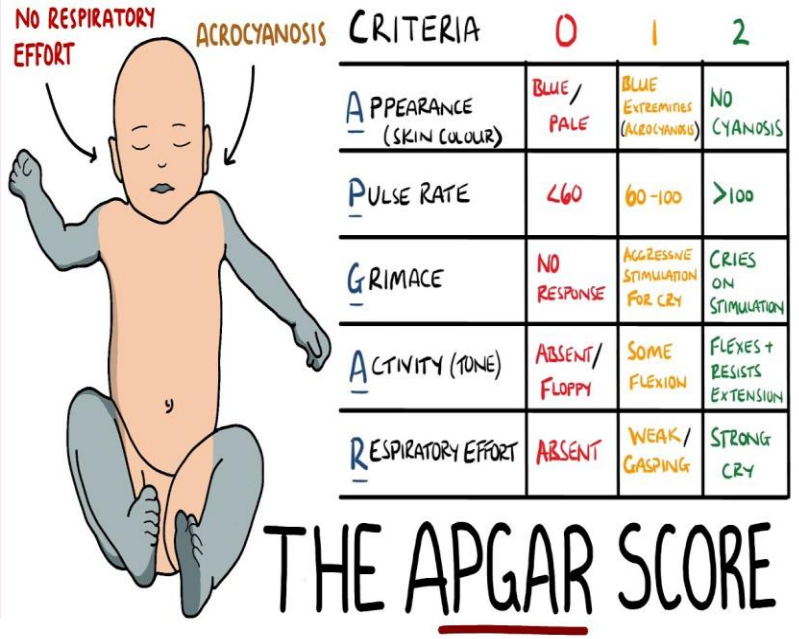
- **Monitor health**: Check for bleeding and measure temperature regularly.
- **Support breastfeeding**: Ensure proper breastfeeding techniques and check for signs of mastitis.
- **Manage anemia**: Provide necessary treatment to anemia.
- **Administer tetanus toxoid immunization** if needed.
- **Screen for postpartum depression**: At 10–14 days after birth, inquire about the mother's emotional well-being to address mild or transient postpartum depression ("maternal blues").



PNC recommendation for the new born:

- Dry and assess breathing: Thoroughly dry the baby and check their breathing immediately after birth.
- Apgar score assessment: Evaluate the baby's physical condition at 1 minute and again at 5 minutes post-birth.
- Clamp and cut the umbilical cord: Do this within 1–3 minutes unless resuscitation is needed
- **Maintain baby's temperature** to prevent hypothermia due to their immature heat regulation system.

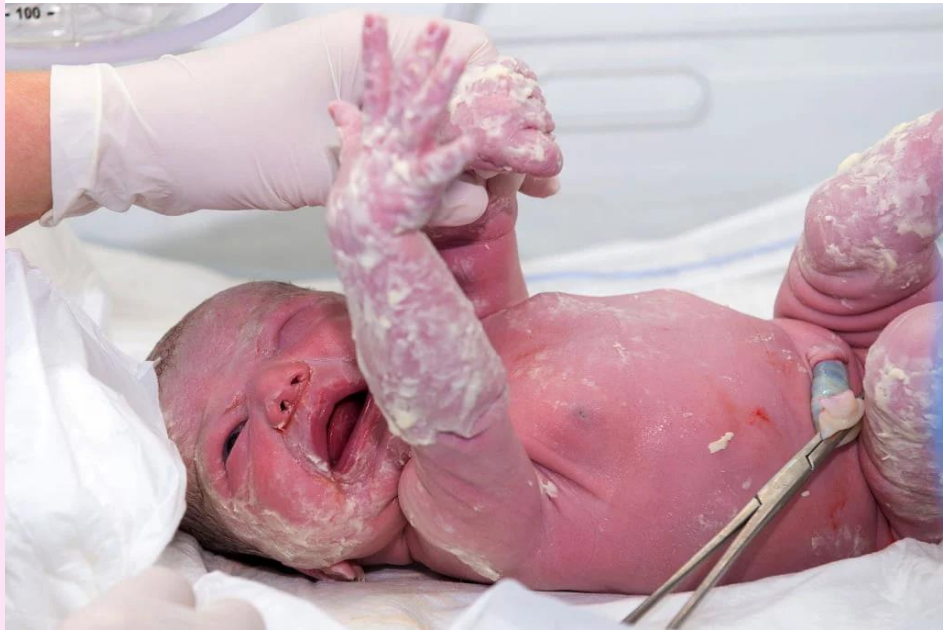




Postnatal Care (PNC):

PNC recommendation for the new born:

- Promote skin-to-skin contact with the mother **within the first hour** to support warmth and breastfeeding.
- Encourage exclusive breastfeeding (EBF) for the first 6 months, providing continuous counseling at postnatal visits.
- Conduct a full clinical check (e.g., weight, signs of distress, eyes, cord) after the initial feed.
- Administer vitamin K and hepatitis B vaccine within 24 hours of birth.
- Preserve the vernix on the baby's skin for at least 6 hours, ideally up to 24 hours, to protect the skin.



In Jordan, (Population and Family Health Survey 2023)

- **Antenatal Care (ANC):** **97%** of women aged 15–49 who had a live birth in the last two years received care from a skilled provider (doctor, nurse, or midwife), with 64% completing eight or more ANC visits
- **Tetanus Protection**: Only 18% of women had their most recent birth protected against neonatal tetanus
- **Delivery Care :** **99%** of live births were delivered in a health facility
- **Postnatal Care:** 83% of mothers and 87% of newborns received a postnatal check within the first two days after birth

THANK YOU