WHO recommendations on antenatal care for a positive pregnancy experience November 2016

www.who.int/reproductivehealth/publications/maternal_perinatal_health/anc-positive-pregnancy-experience/en/

- The new ANC guidelines **include 39 recommendations** adopted by the Guideline Development Group (GDG), and **10 recommendations relevant to ANC** that have been consolidated into this guideline from other existing WHO guidelines

A. Nutritional interventions

Iron and folic acid supplements *	A.2.1: Daily oral iron and folic acid supplementation with 30 mg to 60 mg of elemental iron and 400 µg (0.4 mg) of folic acid is recommended for pregnant women to prevent maternal anaemia, puerperal sepsis, low birth weight, and preterm birth.	Recommended
	A.2.2: Intermittent oral iron and folic acid supplementation with 120 mg of elemental iron and 2800 µg (2.8 mg) of folic acid once weekly is recommended for pregnant women to improve maternal and neonatal outcomes if daily iron is not acceptable due to side-effects, and in populations with an anaemia prevalence among pregnant women of less than 20%.	Context specific recommendation
Calcium supplements	A.3: In populations with low dietary calcium intake, daily calcium supplementation (1.5–2.0 g oral elemental calcium) is recommended for pregnant women to reduce the risk of preeclampsia.	Context specific recommendation
Vitamin A supplements	A.4: Vitamin A supplementation is only recommended for pregnant women in areas where vitamin A deficiency is a severe public health problem, to prevent night blindness.	Context specific recommendation
Zinc supplements	A.5: Zinc supplementation for pregnant women is only recommended in the context of rigorous research.	Context specific recommendation (research)
Multiple micronutrient supplements	A.6: Multiple micronutrient supplementation is not recommended for pregnant women to improve maternal and perinatal outcomes.	Not recommended
Vitamin B6 (pyridoxine) supplements	A.7: Vitamin B6 (pyridoxine) supplementation is not recommended for pregnant women to improve maternal and perinatal outcomes.	Not recommended

B. Maternal and fetal assessment

Anaemia	B.1.1: Full blood count testing is the recommended method for diagnosing anaemia in pregnancy. In settings where full blood count testing is not available, on-site haemoglobin testing with a haemoglobinometer is recommended over the use of the haemoglobin colour scale as the method for diagnosing anaemia in pregnancy.	Context-specific recommendation
Intimate partner violence (IPV)	B.1.3: Clinical enquiry about the possibility of intimate partner violence (IPV) should be strongly considered at antenatal care visits when assessing conditions that may be caused or complicated by IPV in order to improve clinical diagnosis and subsequent care, where there is the capacity to provide a supportive response (including referral where appropriate) and where the WHO minimum requirements are met.	Context-specific recommendation
Human immunodeficiency virus (HIV) and syphilis*	B.1.7: In high-prevalence settings, provider-initiated testing and counselling (PITC) for HIV should be considered a routine component of the package of care for pregnant women in all antenatal care settings. In low-prevalence settings, PITC can be considered for pregnant women in antenatal care settings as a key component of the effort to eliminate mother-to-child transmission of HIV, and to integrate HIV testing with syphilis, viral or other key tests, as relevant to the setting, and to strengthen the underlying maternal and child health systems.	
Tuberculosis (TB)	B.1.8: In settings where the tuberculosis (TB) prevalence in the general population is 100/100 000 population or higher, systematic screening for active TB should be considered for pregnant women as part of antenatal care.	Context-specific recommendation

C. Preventive measures

Tetanus toxoid vaccination	C.5: Tetanus toxoid vaccination is recommended for all pregnant women, depending on previous tetanus vaccination exposure, to prevent neonatal mortality from tetanus.	Recommended
Malaria prevention: Intermittent preventive treatment in pregnancy (IPTp)*	C.6: In malaria-endemic areas in Africa, intermittent preventive treatment with sulfadoxine-pyrimethamine (IPTp-SP) is recommended for all pregnant women. Dosing should start in the second trimester, and doses should be given at least one month apart, with the objective of ensuring that at least three doses are received.	Context specific recommendation
Pre-exposure prophylaxis for HIV prevention *	C.7: Oral pre-exposure prophylaxis (PrEP) containing tenofovir disoproxil fumarate (TDF) should be offered as an additional prevention choice for pregnant women at substantial risk of HIV infection as part of combination prevention approaches.	Context specific recommendation

E. Health systems interventions to improve the utilization and quality of ANC

Woman-held case notes	E.1: It is recommended that each pregnant woman carries her own case notes during pregnancy to improve continuity, quality of care and her pregnancy experience.	Recommended
Midwifery-led continuity of care	E.2: Midwife-led continuity of care models, in which a known midwife or small group of known midwives supports a woman throughout the antenatal, intrapartum and postnatal continuum, are recommended for pregnant women in settings with well-functioning midwifery programmes.	Context-specific recommendation
Group antenatal care	E.3: Group antenatal care provided by qualified health-care professionals may be offered as an alternative to individual antenatal care for pregnant women in the context of rigorous research, depending on a woman's preferences and provided that the infrastructure and resources for delivery of group antenatal care are available.	Context-specific recommendation (research)
Task shifting components of antenatal care delivery	E.5.1: Task shifting the promotion of health-related behaviours for maternal and newborn health to a broad range of cadres, including lay health workers, auxiliary nurses, nurses, midwives and doctors is recommended.	Recommended
	E.5.2: Task shifting the distribution of recommended nutritional supplements and intermittent preventive treatment in pregnancy (IPTp) for malaria prevention to a broad range of cadres, including auxiliary nurses, nurses, midwives and doctors is recommended.	Recommended
Antenatal care contact schedules *	E.7: Antenatal care models with a minimum of eight contacts are recommended to reduce perinatal mortality and improve women's experience of care.	Recommended

In detail: **Iron and folic acid supplements**

- Daily oral iron and folic acid **supplementation with 30 mg to 60 mg of elemental iron and 400 µg (0.4 mg) folic acid** is recommended for pregnant women to prevent maternal anaemia, puerperal sepsis, low birth weight, and preterm birth.
- In settings where anaemia in pregnant women is a severe public health problem (i.e. **where at least 40% of pregnant** women have a blood haemoglobin [Hb] concentration < 110 g/L)**, a daily dose of 60 mg of elemental iron is preferred over a lower dose.**
- In the first and third trimesters, the Hb threshold for diagnosing anaemia is 110 g/L; in the second trimester, the threshold is 105 g/L (50).
- If a woman is diagnosed **with anaemia during pregnancy, her daily elemental iron should be increased to 120 mg** until her Hb concentration rises to normal (Hb 110 g/L or higher) (34, 51). Thereafter, she can resume the standard daily antenatal iron dose to prevent recurrence of anaemia.

- **Intermittent oral iron and folic acid supplementation with 120 mg of elemental iron and 2800 µg (2.8 mg) of folic acid once weekly** is recommended for pregnant women to improve maternal and neonatal outcomes if daily iron is not acceptable due to side effects, and in populations **with anaemia prevalence among pregnant women of less than 20%.**
- In general, anaemia prevalence of less than 20% is classified as a mild public health problem.
- **Before commencing intermittent iron supplementation, accurate measurement of maternal blood Hb concentrations is needed to confirm the absence of anaemia**. Therefore, this recommendation may require a strong health system to facilitate accurate **Hb measurement and to monitor anaemia status throughout pregnancy**.
- If a woman is diagnosed with anaemia (Hb < 110 g/L) during ANC, she should be given 120 mg of elemental iron and 400 µg (0.4 mg) of folic acid daily until her Hb concentration rises to normal (Hb 110 g/L or higher) (34, 51). Thereafter, she can continue with the standard daily antenatal iron and folic acid dose (or the intermittent regimen if daily iron is not acceptable due to side-effects) to prevent recurrence of anaemia.

Human immunodeficiency virus (HIV) and syphilis testing

- In high-prevalence settings, provider-initiated testing and counselling (PITC) for HIV should be considered a routine component of the package of care for pregnancy women in all antenatal care settings. **In low-prevalence settings, PITC can be considered for pregnant women in antenatal care** settings as a key component of the effort to eliminate mother-to-child transmission of HIV, and to integrate HIV testing with syphilis, viral or other key tests, as relevant to the setting, and to strengthen the underlying maternal and child health systems.
- To prevent mother-to-child transmission of syphilis, all pregnant women should be screened **for syphilis at the first ANC visit in the first trimester and again in the third** trimester of pregnancy

Malaria prevention: Intermittent preventive treatment in pregnancy (IPTp)

- In malaria-endemic areas in Africa, intermittent preventive treatment **with sulfadoxine-pyrimethamine (IPTp-SP) is recommended for all pregnant women**. **Dosing should start in the second trimester, and doses should be given at least one month apart**, with the objective of ensuring that at least three doses are received.
- WHO recommends a package of interventions for preventing and controlling malaria during pregnancy, **which includes promotion and use of insecticide-treated nets**, **appropriate case management with prompt, effective treatment, and, in areas with moderate to high transmission of Plasmodium falciparum, administration of IPTp-SP.**
- To ensure that pregnant women in endemic areas start IPTp-SP as early as possible in the second trimester, policy-makers should ensure health system contact with women at 13 weeks of gestation. **Policy-makers could also consider supplying women with their first SP dose at the first ANC visit with instructions about the date (corresponding to 13 weeks of gestation) on which the medicine should be taken.**
- SP acts by interfering with folic acid synthesis in the malaria parasite, thereby inhibiting its life-cycle. There is some evidence that high doses of supplemented folic acid (i.e. 5 mg daily or more) may interfere with the efficacy of SP in pregnancy**. Countries should ensure that they procure and distribute folic acid supplements for antenatal use at the recommended antenatal dosage (i.e. 0.4 mg daily).**
- **The malaria GDG noted that there is insufficient evidence on the safety, efficacy and pharmacokinetics of most antimalarial agents in pregnancy, particularly during the first trimester.**

Pre-exposure prophylaxis for HIV prevention

- **Oral pre-exposure prophylaxis (PrEP) containing tenofovir disoproxil fumarate (TDF) should be offered as an additional prevention choice for pregnant women at substantial risk** of HIV infection as part of combination prevention approaches.
- **"Substantial risk" is provisionally defined as HIV incidence greater than 3 per 100 person-years** in the absence of PrEP, but individual risk varies within this group depending on individual behaviour and the characteristics of sexual partners. Local epidemiological evidence concerning risk factors and HIV incidence should be used to inform implementation.
- Thresholds for offering PrEP may vary depending on a variety of considerations, including resources, feasibility and demand.
- The level of protection is strongly correlated with adherence

Antenatal care contact schedules

- The decision regarding the number of contacts with a health system was also influenced by the following:
  - evidence supporting improving safety during pregnancy through increased frequency of maternal and fetal assessment to detect problems;
  - evidence supporting improving health system communication and support around pregnancy for women and families;
  - evidence from HIC studies indicating no important differences in maternal and perinatal health outcomes between ANC models that included at least eight contacts and ANC models that included more (11–15) contacts;
  - evidence indicating that more contact between pregnant women and knowledgeable, supportive and respectful health-care practitioners is more likely to lead to a positive pregnancy experience.

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.	

Implications for MiP control

- IPTp
  - *for all women*
- ITNs
  - *Not clear who provides them*
- Antimalarials in first trimester
  - *GMP guidelines*
- HIV co-infection
  - *Cotrimoxazol prophylaxis unclear*
  - *IPTp for all*
  - *PrEP implications*