FOGSI - ICOG

Good Clinical Practice Recommendations GCPR

Routine Antenatal Care For The Healthy Pregnant Women

Convenor – Kiranmai Devineni Co-Convenor – Vidya Thobbi

Mentors – Hrishikesh D Pai, Madhuri Patel, Laxmi Shrikhande

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National Co-ordinators – CN Purandare, Rishma Dhillon Pai, Nandita Palshetkar, Jaydeep Tank

Co-ordinator – Surekha Tayade

NO TO VIOLENCE AGAINST WOMEN COMMITTEE

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No To Violence Against Women Committee

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Fogsi Good Clinical Practice Recommendations

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[This is a revised, updated, and modified version of the ICOG FOGSI GCPR IN 2008 by the following Committee-Chairperson: Dr. Mandakini Parihar, Committee: Family Welfare Committee. (2004 – 2008) ICOG Representative: Dr. Sadhana Desai]

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Disclaimer: These recommendations for "Routine Antenatal Care for Healthy Pregnant Women" have been developed, to be of assistance to obstetricians, gynecologists, consulting physicians, and general practitioners by providing guidance and recommendations for providing pregnant women with routine antenatal care. The recommendations included here should not be viewed as being exclusive of other concepts or as covering all legitimate strategies.

The suggestions made here are not meant to dictate how a particular patient should be treated because they neither set a standard of care nor do they guarantee a particular result. To diagnose patients, choose dosages, and provide the best care possible while also taking the necessary safety precautions, clinicians must rely on their own experience and knowledge. The writers or contributors disclaim all responsibilities for any harm and/or damage to people or property resulting from the use or operation of any techniques, goods, guidelines, or ideas presented in this content.

BACKGROUND AND EPIDEMIOLOGY MAKING PRINCIPLES OF CARE - INTRODUCTION TO GUIDELINES

Antenatal care is the care provided by the healthcare professionals to pregnant women throughout pregnancy to ensure best health conditions for both mother and baby. The essential components are: 1. Identification of high-risk factors, 2. Prevention and management of pregnancy-related complications, 3. Prevention and management of concurrent diseases in pregnancy, 4. Health education and health promotion.[1]

All pregnant women should be offered evidence-based information and support to enable them to make informed decisions regarding their care. Information should include the details of where they will be seen and who will undertake their care. Addressing women's choices should be recognized as being integral to the decision-making process.

Intent: The guidelines are a reference of recommended care and are not an endpoint of clinical care. The guidelines are subject to evolution with advances in scientific knowledge and technology.

PURPOSE AND SCOPE

These recommendations have been developed with the aim to cover the clinical antenatal care that all healthy women with an uncomplicated singleton pregnancy should receive and baseline care for all pregnancies. It does not cover the additional care that women thought to be at increased risk of complications should be offered **(*see* Appendix 1)**.

Appropriate modifications have been made considering the cultural and financial and resource diversity present in our country, with the final aim being to reduce all preventable maternal deaths and disabilities.

TARGETED AUDIENCE

Obstetricians, gynecologists, midwives, nurses, general practitioners, and other health personnel in charge of the antenatal care of women. This guideline is relevant to all doctors, obstetricians, and other specialists, who provide routine antenatal care in facilities and community.

METHODOLOGY

These good clinical practice recommendations (GCPR), given by the Federation of Obstetric and Gynaecological Societies of India (FOGSI), followed the process mentioned in Royal College of Obstetricians and Gynaecologists (RCOG) "Guideline for Guideline Development - 2020". The topic was selected and approved and a task force was formulated. The core group was identified and the timelines were discussed and communicated. The scope of the guideline was drafted, objectives were framed, and the stakeholders were listed and incorporated in the scope. A systematic review of the literature was conducted to provide the best possible evidence base for the GCPR. Existing guidelines, meta-analyses, systematic reviews, and key articles relating to blood transfusion were reviewed by the core group and recommendations relevant to the Indian scenario were framed. These recommendations review the available evidences in the field by the members of the task force, which include eminent obstetricians, gynecologists, and transfusion specialists of repute. The guideline was peer reviewed by experts, multiple times, and feedback was incorporated. No conflict of interest and good standing was appropriately expressed by all concerned for professional personal or nonpersonal interest, either financial or nonfinancial. The committee evaluated recommendations and evidence using the methodology of the United States Preventive Service Task Force (USPSTF), on the basis of the strength of evidence and magnitude of net benefit (benefits minus harms).

LEVELS OF EVIDENCE

Level of evidence	*Recommendation*	*Description*
Level 1	Strongly recommended	Data derived from multiple randomized controlled trials (RCTs) or meta-analyses
Level 2	Suggested	Data derived from a single randomized trials or large nonrandomized trial
Level 3	Unresolved	Consensus of opinion of experts or small studies, retrospective studies or registries
Grade A	Strongly recommended	Well-conducted RCT with 100 or more patients including meta-analysis
Grade B	Recommended	Poorly controlled RCT, well-conducted case control, or observational study
Grade C	Suggested	Expert opinion
CPP	Clinical Practice Points	Evidence not sought. A practice point has been made by the guideline evelopment group, where important issues arose from the discussion of evidence-based or clinical consensus recommendations

Executive Summary of Good Clinical Practice Recommendations

The **good clinical practice recommendations** can be divided into two parts for the care of a routine anténatal patient.

a. Basic essential care recommended for all pregnant women.
b. Additional care and investigations to be preferably offered if available for the routine antenatal care of a normal healthy woman.

Basic Essential Care Recommended for All Pregnant Women

1. All pregnant women must be counseled for regular antenatal visits. Minimum one visit in the first trimester, 8 contacts or visits by the antenatal care provider team at 12, 20, 26, 30, 34, 36, 38, and 40 weeks, and one additional visit 41 weeks (Level 1, Grade A).[1]
2. Maternal assessment:
   a. Detailed history: Assess risk-factors at every visit (CPP)
   b. Measure height weight, and body mass index (BMI) calculation at the first visit (Level A, Grade A)
   c. Blood pressure measurement at every visit (Level 1, Grade A)
   d. Auscultation of heart sounds and lungs at least once during the first visit/at every visit (CPP)
   e. General examination, pallor, edema, pulse rate every visit.
   f. Routine breast examination is not recommended for the promotion of postnatal breastfeeding (Level 2, Grade A).
   g. Obstetric abdominal palpation every visit from 14 weeks and fetal heart sound auscultation from 24–26weeks (CPP).
   h. Anemia: Full blood count test - FBC, where available or onsite hemoglobin testing with hemoglobinometer or point of care method is recommended for screening anemia at every visit[9]
   i. Blood grouping and Rh typing (Grade C)
   j. Proteinuria with urinary dipstick at every visit (Grade C)
   k. Complete urine examination and urine for culture sensitivity/onsite mid-stream urine gram staining and sensitivity for screening asymptomatic bacteriuria should be done at the first visit and repeated at 26 weeks and 34 weeks (Level 1, Grade A).
   l. Syphilis, human immunodeficiency virus (HIV), hepatitis B testing - counseled and offered at the first visit (CPP).
   m. Serum thyroid-stimulating hormone (TSH), Diabetes in Pregnancy Study Group of India (DIPSI) 2-hr blood sugar test for gestational diabetes mellitus (GDM) to be offered at the first visit. Repeat DIPSI after 24 weeks if negative in the first visit (Grade B, Level 2).
   n. Counseling and screening for pre-eclampsia with FOGSI ICOG Gestosis score (Grade C, Level 3).
3. Immunization with 2 doses of Td/single dose of Tdap and flu vaccine, when the season of flu exists.
4. Elemental iron-100 mg daily for 180 days and folic acid 400 µg daily to prevent anemia, puerperal sepsis, low birth weight, and preterm birth.[9]
5. Periconceptional folic acid is advised to reduce the risk of neural tube defects (Level 1, Grade A).
6. Calcium Supplements 1.5g daily to reduce risk of pre-eclampsia (Level 2, Grade A).

7. At least one early ultrasound for dating before 12 weeks and one for congenital anomalies should be done before 24 weeks of pregnancy. At the same opportunity cervical length and placental location can be screened (CPP).
8. Education on nutrition, diet, and hygiene (CPP).
9. Preparing a birth plan.
10. Education in breastfeeding and birth spacing, and contraception methods.
11. Institutional delivery by a doctor or a trained birth attendant.

Additional care and investigations to be preferably offered if available for the routine antenatal care of a normal healthy woman

Besides the basic essential ANC, the following should be preferably offered if easily available:
1. Preconception counseling and care
2. About 10–12 Antenatal visits, minimum one visit in the first trimester, monthly visits till 28 weeks, every 2 weekly till 36 weeks and weekly visits till delivery (Level 1, Grade A)
3. Counseling and screening for hepatitis C virus (HCV) testing in the first trimester
4. Counseling and screening for:
   a. Thalassemia and sickle cell anemia (Level 2, Grade A)
   b. Down's syndrome
   c. Fetal anomaly screening
   d. Screening for pre-eclampsia - FIGO combined screening (Grade A, Level 1)
   e. Immunization: Tdap where feasible single dose at 28 weeks, flu vaccine in 2nd trimester
5. Ultrasound evaluation once in each trimester:
   First trimester: Gestational age, Nuchal thickness,
   Second trimester: Fetal anomalies, cervical length (Level 1, Grade A), placental position (CPP)
   Third trimester for growth monitoring, placental position confirmation if low lying or placenta previa in 2nd trimester.
6. Anti-D prophylaxis to Rh-negative women at 28 weeks of gestation (Level 1, Grade B)
7. Additional screening for fetal infections, fetal growth restriction.
8. Clinical inquiry for domestic violence when suspected, only if minimum requirements advocated by the World Health Organization (WHO) are met (Grade A)
9. Screening for mental health issues if risk factors are present (Level 1, Grade A)
10. Institutional delivery is recommended.

1. INTRODUCTION TO THE FOGSI-ICOG GOOD CLINICAL PRACTICE

Recommendations

1.1 Woman-centered care and informed decision making

1.1.1 Pregnant women should have written/pictorial information about antenatal care including balanced diet, anemia prevention, food and respiratory hygiene, and regular check-ups. All information should be made available in local languages and in pictorial formats to make for easy understanding and acceptable.

1.1.2 They should be offered opportunities to attend antenatal classes, yoga, and exercises[2,3] (Level 2, Grade A)

1.1.3 Pregnant women should be offered evidence-based information and support to enable them to make informed decisions regarding their care. Information should include details of where they will be seen and who will undertake their care and emergency contacts. Addressing women's choices should be recognized as being integral to the decision-making process. The principles of Respectful Maternity Care must be followed always.[1] Partner may be involved in the counseling and decision making.[4]

1.1.4 At the first visit, pregnant women should be offered information about: the pregnancy-care services and options available; lifestyle considerations, including dietary information; and screening tests (CPP).

1.1.5 Pregnant women should be informed about the purpose of any screening test before it is performed (CPP).

1.1.6 At each antenatal appointment, trained personnel and/or doctors should offer consistent information and clear explanations. They should provide pregnant women with an opportunity to discuss issues and ask questions. The information should be provided in a format and language which the pregnant woman understands (CPP).

1.1.7 Communication and information should be provided in a form that is accessible to pregnant women, who have additional needs, such as those with physical, cognitive, or sensory disabilities, and those who do not speak or read (CPP).

1.2 Provision and organization of care

1.2.1 Who provides care?

1.2.1.1 A wide range of health professionals can provide effective antenatal care in an uncomplicated pregnancy - Auxiliary Nurse Midwife, MBBS Doctor, General Practitioner, Midwife, and a specialist Obstetrician can provide antenatal care in a mixed care or shared care model[1,4-6] (Level 2, Grade A).

1.2.1.2 Involvement of an obstetrician should be recommended as and when necessary in routine care and in cases when complications are present or anticipated (CPP).

1.2.1.3 The first antenatal booking appointment or registration is by an ANM/Midwife or a doctor in the first trimester as early as possible. The first visit ideally should be before 12 weeks[1,4-6] in the first trimester (Level 1, Grade A).

1.2.1.4 Risk assessment (Appendix 1) to identify women who need additional care must be done at the every visit and the involvement of the obstetrician/referral is to be done in all high-risk pregnancies.

1.2.1.5 In all antenatal patients with uncomplicated pregnancy - at least two check-ups one in the second trimester and one in the third trimester by an obstetrician is recommended (CPP).

1.2.2 Continuity of care

1.2.2.1 Antenatal care should be provided by doctor/Health care worker/midwife with whom the woman feels comfortable. There should be continuity of care by the obstetric care provider team throughout the antenatal period with the mandatory number of visits[1,4,5] (Level 2, Grade B).

1.2.2.2 A system of clear referral paths should be established, so that pregnant women, who require additional care, are managed and treated by the appropriate specialist teams, when problems are identified (CPP).

1.2.3 Where should antenatal appointments take place?

1.2.3.1 Antenatal care should be readily and easily accessible to all women, as close to their home as possible and should be sensitive to the needs of individual women and the local community - Home, PHC, and Specialist Clinic/hospital[1,6] (Level 2, Grade B).

1.2.4 Documentation of care

1.2.4.1 Maternity services should have a system in place, whereby women, preferably, carry a copy of their own case notes. Case notes may be held in paper (e.g., card, journal, handbook) and women are expected to take them along to all health visits[1] (Level 1, Grade A).

1.2.4.2 Structured maternity records should be used for antenatal care. Model antenatal card **(Appendix 7)** (CPP).

1.2.4.3 A standardized, national maternity record with an agreed minimum data set should be developed and used. This will help to provide the recommended evidence-based care to all pregnant women (CPP).

1.2.5 Frequency of antenatal appointments

1.2.5.1 A schedule of antenatal appointments should be determined by the function of the appointments. For a woman with an uncomplicated pregnancy, a schedule of appointments as per **Appendix 3** is recommended. It is recommended that a woman should have minimum 8 contacts or visits by the antenatal care provider team at 12, 20, 26, 30, 34, 36, 38, 40, weeks and one additional visit 41 weeks[1] (Level 1, Grade A).

1.2.5.2 Additional or longer antenatal appointments are recommended depending on the woman's medical, surgical, social, and psychological factors.[4,5] The standard number of visits are 12–14, wherever possible[4,5] (Level 1, Grade A).

1.2.6 Gestational age assessment: LMP and ultrasound

1.2.6.1 Pregnant women should be offered an early ultrasound scan before 12 weeks to determine gestational age [in lieu of last menstrual period (LMP) for all cases] and to detect multiple pregnancies before 24 weeks. This will ensure consistency of gestational age assessments, improve the performance of serum screening for Down's syndrome and reduce the need for induction of labor after 41 weeks[1] (Level 1, Grade A)

1.2.7 What should happen at antenatal appointments?

1.2.7.1 The content of the first appointment, and all appointments are recommended as per the list in **Appendix 3**.

1.3 Lifestyle considerations

1.3.1 Working during pregnancy

1.3.1.1 Pregnant women should be informed of their maternity rights and benefits. Most women can be reassured that it is safe to continue working during pregnancy provided there are no medical or obstetrical complications[7] (Level 3, Grade C).

1.3.2 Nutritional supplements:

1.3.2.1 Pregnant women (and those intending to become pregnant) should be informed that dietary supplementation with folic acid, before conception and up to 12 weeks' gestation, reduces the risk of having a baby with neural tube defects (anencephaly, spina bifida). The recommended dose is 400 micrograms per day 1 (Level 1, Grade A).

1.3.2.2 Iron and folic acid supplementation should be offered routinely to all pregnant women. This is because there is a high incidence of anemia, hypoproteinemia, and osteopenia in the Indian population due to poor diet and repeated pregnancies. The recommended iron supplementation is 100 mg of elemental iron for at least 180 days in pregnancy from 2nd trimester onwards[1,8,9] (Level 1, Grade A).

1.3.2.3 Deworming in 2nd trimester: In view of the high prevalence of anemia, in our country in all pregnant women deworming in 2nd trimester can be considered[1,9] (Level 2, Grade B).

1.3.2.4 Calcium supplements: For all pregnant women daily calcium supplementation of 1.5 g oral elemental calcium is recommended as a nutritional supplement and importantly to reduce the risk of pre-eclampsia (Level 2, Grade A).

1.3.2.4.1 The calcium dose is divided into 3 doses preferably taken at mealtime from the first trimester itself depending on compliance. Women should be educated to take iron and calcium separately to decrease inhibitory influences on absorption.[8,10]

1.3.2.5 Protein supplements: Routine or universal supplementation of high protein and energy compounds is not recommended for our country[1] (Level 2, Grade B).

1.3.2.5.1 In undernourished women with low BMI or high prevalence of undernourished women in a region, energy protein supplementation along with nutrition education is recommended (Level 2, Grade B).

1.3.2.6 Other supplements: vitamin A, vitamin B6, vitamin C and zinc are not routinely recommended in all pregnant women and can be supplemented in the context of a deficiency (Level 2, Grade B).

1.3.2.7 Healthy diet and sunlight exposure for vitamin D is recommended by WHO.[1] FOGSI recommends routine antenatal vitamin D supplementation in Indian women due to high preva-lence of vitamin D insufficiency - 400–600 IU per day in pregnancy and lactation (Level 2, Grade B).[11]

1.3.2.8 Weight gain in pregnancy: Women who are underweight at the start of pregnancy (i.e. BMI <18.5 kg/m^2) should aim to gain 12.5–18 kg, women who are normal weight at the start of pregnancy (i.e. BMI 18.5–24.9 kg/m^2) should aim to gain 11.5–16 kg, overweight women (i.e. BMI 25–29.9 kg/m^2) should aim to gain 7–11.5 kg, and obese women (i.e. BMI >30 kg/m^2) should aim to gain 5–9 kg.[12]

1.3.3 Prescribed medicines

1.3.3.1 Prescription medicines during pregnancy should be limited to circumstances, where the benefit outweighs the risk (CPP).

1.3.4 Exercise in pregnancy

1.3.4.1 Pregnant women should be informed that a moderate course of exercise during pregnancy is safe and not associated with adverse outcomes[2] (Level 3, Grade C).

1.3.4.2 Exercise reduces the risk of hypertension, gestational diabetes and depression in pregnancy and postpartum period (Grade A Level 1).[3,13,14]

1.3.5 Sexual intercourse in pregnancy

1.3.5.1 Pregnant woman should be informed that sexual intercourse in a low-risk pregnancy is not known to be associated with any adverse outcomes[1] (Level 1, Grade A).

1.3.6 Alcohol and smoking in pregnancy

1.3.6.1 Due to increased fetal risks, it is suggested that women should avoid alcohol consumption when pregnant[1] Level 2, Grade A).

1.3.6.2 Pregnant women should be informed about the specific risks of smoking/tobacco use during pregnancy (such as the risk of having a baby with low birth weight, IUGR, and preterm) and should be encouraged to quit[1] (Level 2, Grade A).

1.3.7 Travel during pregnancy

1.3.7.1 Travel is safe. Occasional air travel is safe in the absence of obstetric and medical complica-tions. However, pregnant women should be counseled regarding precautions such as wearing seatbelts, using stockings to prevent pedal edema. There is no evidence of increased risk of deep vein thrombosis (DVT) with occasional air travel (Level 2, Grade B).[15]

1.3.7.2 Pregnant women should be informed that, if they are planning to travel abroad, they should discuss considerations such as flying, vaccinations, and travel insurance with their doctor.

1.4 Management of common symptoms of pregnancy

1.4.1 Nausea and vomiting in early pregnancy

1.4.1.1 Women should be informed that most cases of nausea and vomiting in pregnancy will resolve spontaneously by the end of the first trimester and that nausea and mild vomiting are not usually associated with a poor pregnancy outcome.

1.4.1.2 If a woman requests or would like to consider treatment, nonpharmacological agents (like ginger mint) or safe antiemetics may be advised (Level 1, Grade A).

1.4.1.3 Pharmacological treatments for nausea and vomiting, such as doxylamine and metoclopramide, should be reserved for those pregnant women experiencing distressing symptoms that are not relieved by nonpharmacological options (Grade C).[1]

1.4.1.4 In severe emesis, in-patient management will be required in lines of manage-ment of hyperemesis.[16]

1.4.2. Heartburn

1.4.2.1 Women who present with symptoms of heartburn in pregnancy should be offered
information regarding lifestyle and diet modification **(Appendix 4)**[17] (Level 2, Grade B).

1.4.2.2 Antacids may be offered to women whose heartburn remains troublesome despite lifestyle and diet modification (Level 2, Grade B).[17,18]

1.4.3 Constipation

1.4.3.1 Women with constipation in pregnancy should be offered information regarding diet modification and increased fluid intake. When these measures fail, medications may be considered[19] (Grade A, Level 2).

1.4.3.2 Bulk forming laxatives isapgol (psyllium husk)] are the first option followed by osmotic laxatives (lactulose). If still no response, a short course of stimulant laxative, such as senna/Bisacodyl [e.g. Dulcolax] oral tablets (5 mg X 2 tablets at bed time)/suppository (10 mg once), can be prescribed. Glycerol enema is the last option in case all the measures fail.[19]

1.4.4 Hemorrhoids

1.4.1.1 In the absence of evidence of the effectiveness of treatments for hemorrhoids in pregnancy, women should be offered information concerning diet modification. They should be encouraged to increase fluid intake and fiber in diet.[1]

1.4.1.2 They should be told to avoid long time standing/sitting and straining at defecation, which are known to worsen the symptoms. Laxatives may be required in some women (Level 1, Grade A). Applying ice pack/soaking in warm water are useful measures in relieving the symptoms.[20]

1.4.2 Varicose veins

1.4.2.1 Women who complain of varicose veins can be assured if asymptomatic; compression stockings can relieve discomfort, hence, to be advised if symptomatic. The elevation of affected leg, avoidance of prolonged standing and straining, wearing nonrestrictive clothing are other measures to be considered[21] (Level 1, Grade A).

1.4.3 Vaginal discharge

1.4.3.1 Women should be informed that an increase in vaginal discharge is a common physiological change that occurs during pregnancy. If this is associated with itch, soreness, offensive smell, or pain on passing urine, there may be an infective cause. In these cases, evaluation and treatment should be considered (Level 1, Grade A).

1.4.3.2 A 7-day course of a topical cotrimazole is an effective treatment and should be considered for vaginal Candida infections in pregnant women; Oral 150-mg dose of fluconazole must not be used.[22]

1.4.3.3 Women at high risk for preterm labor may be benefitted by clinical examination, identification, and the treatment of bacterial vaginosis, especially when they present with vagi-nal discharge. Oral or vaginal antimicrobials are recommended for this[22] (Level 1, Grade A).

1.4.4 Backache

1.4.1.1 Backache is a common problem which only increases as the pregnancy advances. Women should be informed that regular exercise can reduce back ache[1] (Level 2, Grade B). Massage therapy and group or individual back care classes might help to ease backache during pregnancy.

1.4.5 Leg cramps: Magnesium, calcium are the pharmacological treatment options for relief of leg cramps in pregnancy and there is no role for nonpharmacological options[1] (Level 3, Grade B).

1.5 Clinical examination of pregnant women

1.5.1 Measurement of weight

1.5.1.1 Maternal weight and height should be measured at the first antenatal appointment, and the woman's BMI calculated (weight [kg]/height[m][1,4,6] (Level 1, Grade A).

1.5.1.2 Regular weight check during pregnancy should be done with every ANC visit.[6]

1.5.2 Blood pressure measurements

1.5.2.1 Routine evaluation of blood pressure at every ANC visit and more importantly, look for even minimal rise in BP or fluctuations. Calculate the mean arterial pressure (MAP). Calculate the risk according to Gestosis score (When total score is ≥3; pregnant woman should be marked as 'At risk for HDP'[23] (Level 1, Grade A). These are predictive for the development of fetal growth restriction and pre-eclampsia.

1.5.2.2 Large double cuff for obese women should be used for accurate readings.

1.5.3 Examination of cardiovascular system, lungs, and breast.

1.5.3.1 Routine breast examination is not recommended for the promotion of postnatal breastfeeding (Level 2, Grade A; ACOG).

1.5.3.2 It is a good practice to examine respiratory system by the auscultation of lung fields in all pregnant women, when the care provider is a doctor (CPP).

1.5.3.3 When the care provider is a doctor, the examination of heart by the auscultation of heart sounds is a good practice to pick up possible cardiac condition (CPP).

1.5.4 Pelvic examination

1.5.4.1 Routine antenatal pelvic examination does not accurately assess gestational age, nor does it accurately predict preterm birth or cephalopelvic disproportion. It is recommended when ultra-sound facilities for gestational age are not available (CPP).

1.5.5 Abdominal examination

1.5.5.1 Every ANC visit after the first trimester should include abdominal examination for checking that the uterine size is corresponding with the period of gestations. Early fetal growth restriction scan be detected by inappropriate growth. Multiple pregnancy, hydramnios, etc. can be suspected if there is excessive growth (CPP).

1.6 Domestic violence

1.6.1 In our country, there is a high incidence of domestic violence, even when the woman is pregnant. Yet, universal screening of all women at healthcare encounters about Intimate partner violence is not recommended.[1]

1.6.2 Clinical Inquiry

1.6.2.1 Antenatal care can be a setting where routine inquiry can be adopted if the care providers are well trained on the first-line response and minimum requirements are met.[5] When there is a high possibility of violence either from history or clinical examination.

1.6.2.2 This must be done in privacy and safety (the partner should not be present).

1.6.2.3 The purpose of clinical enquiry is to improve clinical diagnosis and further care, and to be done only if appropriately trained to ask about IPV and how to provide the minimum response and beyond, privacy and confidentiality ensured if there is a facility for supportive response and appropriate referral - the WHO minimum requirements* (Indirect but strong recommendation).[1,5]

1.6.2.4 The checklist for risk factors for clinical enquiry is listed in **Appendix 1.2**.

1.6.3 Referral: In our country, the appropriate referral and link up can be done with Sakhi centers or one-stop crisis centers (CPP).

1.7 Mental health

1.7.1 Mental health issues are widely prevalent in pregnant women. One in 5 women will experience mental health issues either during antenatal period or in the extended postpartum period - one year after childbirth.[24]

1.7.2 Antenatal check-up is a window of opportunity for identifying mental health issues and providing appropriate mental health support. Positive childbirth experiences and high quality maternal and child health (MCH) services are protective factors against poor perinatal mental health.[24]

1.7.2.1 Antenatal care should be respectful and non-stigmatizing.

1.7.2.2 Risk factors for poor mental health are listed in **Appendix 1.2**.

1.7.2.3 It is recommended that obstetricians and obstetric care providers must screen for emotional and mental well-being including depression and anxiety by a well validated screening tool in the peripartum period (Level 1, Grade A).[25-27]

1.7.2.4 Screening alone can have benefits, though maximum benefits are with the initiation of treatment and referral to mental healthcare providers after screening[25] (Level 1, Grade A).

1.7.2.5 Screening for mental health issues requires appropriate training and linkage to specialist services, counseling, and psychotherapy facilities. Identifying women experiencing mental health symptoms, by use of GAD-2, 3 and 7 score for anxiety disorders **(Appendix 1.4)** and PHQ-9 for depression are given in **Appendix 1.3**.

1.8 Screening for hematological conditions

1.8.1 Anemia

1.8.1.1 Pregnant women should be offered screening for anemia. Screening should take place early in pregnancy (at the first appointment) and at every subsequent antenatal visit (Level 4). This allows enough time for treatment if anemia is detected.

1.8.1.2 FBC testing to be done and if not possible point of care Hb testing with hemoglobinometer is to be done at every visit.[1]

1.8.1.3 In our country, there are ethnic groups who are at risk for thalassaemia and sickle cell anemia.

1.8.1.3.1 Screening for sickle disease and thalassemia is to be offered to every pregnant woman in high prevalence areas (Level 2, Grade A).[4]

1.8.1.3.2 Carrier screening is advised in pregnant women at high risk with complete blood count and hemoglobin high performance liquid chromatography. If a woman's initial screening is abnormal, the screening of the partner should be performed (Level 3, Grade A). For beta-thalassemia trait, NESTROFT test; for Hb E, DCIP test; anf for Hb S, solubility test are recommended.[28]

1.8.2 Blood grouping

. 1.8.2.1 All women should have their blood group and Rh D status determined at booking (Grade C).

1.8.2.2 Routine anti-D prophylaxis with 300 µg is recommended at 28 weeks for Rhesus D-negative women without preformed antibodies (Level 1, Grade B).

1.8.2.3 The dosage of anti-D prior to 20 weeks is 150 µg IM deltoid, and post 20 weeks is 300 µg IM deltoid. If 150 µg is not available, then 300 µg should be given (Good practice point); RAADP should be offered to all non-sensitized Rh D-negative women (anti-D Immunoglobulin for Rh prophylaxis: Key Practice Points -FOGSI TOG 2022) (CPP).[29]

1.8.2.4 Women should be screened for Rh antibodies at the first visit and again at 28 weeks; and if positive, they should be offered referral to a specialist center for further investigation and advice on subsequent ANC (Grade C).

1.8.2.5 It is recommended that postpartum anti-D prophylaxis is offered to all non-sensitized pregnant women who are RhD negative[1] (Level 1, Grade A).

1.9 Screening for fetal anomalies

1.9.1 Screening for structural anomalies

1.9.1.1 Pregnant women should be offered an ultrasound scan to take place between 18+0 weeks and 23+6 weeks to screen for fetal anomalies and to determine placental location (Level 3). The ultrasound can be performed up to 23 +6 weeks of gestation in women who book late.

1.9.2 Screening for Down's syndrome

1.9.2.1 Pregnant women to be offered an ultrasound scan between 11+2 weeks and 14+1 weeks to determine gestational age, nuchal translucency, and detect multiple pregnancy.

1.9.2.2 Pregnant women to be offered screening for Down's syndrome, Edwards' syndrome, and Patau's syndrome by combined testing and if accepted is performed between 11+2 and 14+1 weeks of pregnancy (crown-rump length of fetus between 45 mm and 84 mm) and blood sampling for beta-human chorionic gonadotrophin (hCG) and pregnancy-associated plasma protein A (PAPP-A). If combined testing is missed, quadruple test is of-fered between 14 weeks and 20 weeks [alpha-fetoprotein (AFP), hCG, unconjugated estriol, inhibin A].[30]

1.10 Screening for infections

1.10.1 Asymptomatic bacteriuria

1.10.1.1 Pregnant women should be offered routine screening for asymptomatic bacteriuria by midstream urine culture. In settings where urine culture is not available, on-site midstream urine Gram-staining is recommended over the use of dipstick tests as the method for diagnosing asymptomatic bacteriuria in pregnancy.[1]

1.10.1.2 Identification and treatment of asymptomatic bacteriuria reduces the risk of preterm birth. Urine culture should be repeated every trimester if there is history of recurrent urinary tract infection[31] (CPP).

1.10.2 Hepatitis B virus

Serological screening for hepatitis B virus should be offered to pregnant women, so that effective postnatal intervention can be offered to infected women to decrease the risk of mother-to-child-transmission (CPP).

1.10.3 Human immunodeficiency virus

1.10.3.1 Pregnant women should be offered screening for HIV infection early in antenatal care because appropriate antenatal interventions and antiretroviral therapy (ART) can reduce mother-to-child transmission of HIV infection and counseling should be done[32] (2015 WHO consolidated guidelines on HIV testing services) (the strength of the recommendation and the quality of the evidence were not stated).

1.10.3.2 A system of clear referral paths should be established in each unit or department, so that pregnant women, who are diagnosed with an HIV infection, are managed and treated by the appropriate specialist teams with retroviral therapy as recommended.

1.10.4 Syphilis

1.10.4.1 Screening for syphilis should be offered to all pregnant women at an early stage in antenatal care because treatment of syphilis is beneficial to the mother and fetus (CPP).

1.10.5 Bacterial vaginosis

1.10.5.1 Recurrent vaginal infections and a high incidence of preterm labor are interlinked, and hence whenever possible and feasible pregnant women should have a vaginal smear to rule out the possibility of bacterial vaginosis (CPP).

1.10.5.2 Trichomoniasis screening should be offered in women who have vaginal discharge and itching and redness along with vaginal discharge (CPP).

1.11 Pre-eclampsia

1.11.1 At the first contact, a woman's level of risk for pre-eclampsia should be evaluated. A careful history taken early in the first trimester can predict mothers 'at risk' very early with FOGSI HDP GESTOSIS SCORE.[22]

1.11.1.1 Screening for pre-eclampsia using the gestosis score is the minimum that can be done to screen for pre-eclampsia in low-resource settings.[22] When the total score is ≥3; pregnant woman should be marked as 'At risk for Pre-eclampsia. (Grade C /Level 3). See **Appendix 3**: How to measure MAP and **Appendix 4** for prophylaxis for pre-eclampsia in high-risk women.

1.11.1.2 In settings where it is feasible, follow the FIGO first trimester pre-eclampsia screening guidelines using clinical information and biomarkers (Grade A, Level 1).[33]

1.11.1.3 Pregnant women should be informed of the symptoms of advanced pre-eclampsia, which include headache; problems with vision, such as blurring or flashing before the eyes; abdominal pain just below the ribs; vomiting, and sudden swelling of face, hands, or feet (CPP).

1.12 Preterm birth

1.12.1 Routine vaginal examination to assess the cervix is not an effective method of predicting preterm birth and should not be recommended.

1.12.1.2 We recommend pregnant women with singleton gestation should have transvaginal sonography (TVS) assessment of cervical length at 19–23 weeks.[33] (Grade A, Level 1) (Although SMFM 2016, ACOG 2012, and RANSCOG 2017 do not mandate universal screening, they do consider it a reasonable strategy to reduce the burden of preterm labor).[34,35]

1.12.1.2 All such women with cervix length 2.5 cm and less should be advised vaginal progesterone in the form of 200 mg soft gels or 90 mg vaginal gel (micronized progesterone) until 37 weeks.[33]

1.13 Placenta previa

1.13.1 The mid-pregnancy routine fetal anomaly scan should include placental localization to identify women at risk of persisting placenta previa or a low-lying placenta.[35] With a high incidence of placenta accreta spectrum (PAS), it is a good practice point to locate placenta (CPP).

1.13.1.1 Transvaginal ultrasound is preferable.

1.13.1.2 Under ideal conditions, a third trimester ultrasound should be offered for all pregnant patients (CPP).

1.13.1.3 All asymptomatic low-lying placentas should be reassessed at 32 weeks to decide the mode of delivery (Grade C).

1.13.1.4 All post cesarean pregnancies should also be assessed for PAS if a placenta previa is diagnosed (Grade C).

1.14 Gestational diabetes mellitus

1.14.1 All pregnant women should be screened twice during ANC for gestational diabetes[36,37] (Grade A, Level 1). The first testing should be done during the first antenatal contact as early as possible in pregnancy. The second testing should be done during 24–28 weeks of pregnancy if the first test is negative.

1.14.1.2 It is important to ensure the second test as many pregnant women develop blood sugar intolerance during this period (24–28 weeks).

1.14.1.3 The test is to be conducted for all pregnant women even if she comes late in pregnancy for ANC at the time of first contact. If she presents beyond 28 weeks of pregnancy, only one test is to be done at the first point of contact.

1.14.1.4 DIPSI method is recommended (Grade B, Level 2), most feasible for our country **(Appendix 5)**.

1.15 Thyroid deficiency

1.15.1 In our country, thyroid deficiency is endemic in many areas, especially in the northern regions. It is recommended that all pregnant women should be screened at 1st antenatal visit by measuring TSH levels (Grade B, Level 2).[38]

These recommendations are a collaboration between the Indian Thyroid Society (ITS) and Federation of Obstetric and Gynaecological Societies of India (FOGSI).

1.16 Immunization during pregnancy

1.16.1 Td vaccine to be administered to adolescents at 10 and 16 years of age and to pregnant women as per the National Health Mission, Government of India (GOI) Guideline. All pregnant women should be immunized against tetanus and pertussis and diphtheria-Tdap at 27–36 weeks.[39,40] However, in places where TD or Tdap is not available or feasible, immunization should be with TT (CPP).

1.16.2 Women who are or will be pregnant during influenza season should receive an annual influenza vaccine and Covid vaccine.[39,40]

1.16.3 Rubella yellow fever (all vaccines with live virus should be avoided (CPP).

1.17 Diet and hygiene during pregnancy

1.17.1 Nutritional counseling: Counseling about healthy eating and keeping physically active during pregnancy is recommended for pregnant women to stay healthy and to prevent excessive weight gain during pregnancy[1] (Level 1, Grade A).

1.17.2 Pregnant women should be advised to consume a variety of foods, including green and orange vegetables, meat, fish, beans, nuts, whole grains, and fruits, which are culturally appropriate and provide adequate energy, protein, vitamins, and minerals.[1]

1.17.3 Pictorial charts and if possible suggested nutrients should be given to all pregnant women with advice on improvements in daily diet needs (CPP).

1.17.4 Pregnant women should be informed of primary infection prevention measures, such as: washing hands before handling food, thoroughly washing all fruits and vegetables before eating, thoroughly cooking raw meats and fish, wearing gloves, and thoroughly washing hands after handling soil and farming avoiding cat/cow feces in litter or in soil.

1.18 Fetal growth and well-being

1.18.1 Abdominal palpation for fetal presentation

1.18.1.1 Fetal presentation should be assessed by abdominal palpation at 36 weeks or later, when presentation is likely to influence the plans for the birth (CPP).

1.18.1.2 Suspected fetal malpresentation should be confirmed by an ultrasound assessment and referred for appropriate management by obstetrician (CPP).

1.18.1.3 Measurement of symphysis–fundal distance

1.18.1.3.1 Replacing abdominal palpation with symphysis-fundal height (SFH) measurement for the assessment of fetal growth is not recommended as a change of current practice or vice versa to improve perinatal outcomes. Either abdominal palpation or measurement of SFH is accepted to assess fetal growth clinically[1,41] (Level 1, Grade C).

1.18.2 Auscultation of fetal heart[1]

1.18.2.1 Auscultation of the fetal heart may confirm that the fetus is alive, but is unlikely to have any predictive value. However, auscultation of the fetal heart may provide reassurance to the women (CPP).

1.18.3 Routine monitoring of fetal movements

1.18.3.1 All pregnant women should be told about the importance of fetal movements. They should be advised to report to the healthcare worker or the doctor if they feel reduced fetal movements (Good Practice Point). Daily counting of fetal movements in routine antenatal care is not recommended (Level 1, Grade C).[1,42]

1.18.4 Cardiotocography

1.18.4.1 The evidence does not support the routine use of antenatal electronic fetal heart rate monitoring (cardiotocography) for fetal assessment in women with an uncomplicated pregnancy. Cardiotocography may be offered in selected cases[1] (CPP).

1.18.5 Umbilical and uterine artery Doppler ultrasound

1.18.5.1 The use of umbilical artery Doppler ultrasound for the prediction of fetal growth restriction may be offered if indicated. However, it is not recommended for routine, uncomplicated pregnancies, unless there are any maternal or fetal indications or specific indication (Existing evidence does not provide conclusive evidence that the use of routine umbilical artery Doppler ultrasound, or combination of umbilical and uterine artery Doppler ultrasound in low-risk or unselected populations benefits either mother or baby) (Grade C-D, Level 1).[43]

2. EDUCATION ON BREASTFEEDING AND INFANT CARE

2.1 Whenever possible, all pregnant women should be taken around the postnatal ward and allowed to interact with just delivered women to understand and be prepared for normal labor.

2.1.1 Educate mothers on the advantages of breastfeeding and dangers of artificial feeding on every aspect of breastfeeding during their antenatal period with pictorial aids and posters.[44]

2.1.1.1 Counsel on the importance of colostrum and role of the early initiation of breastfeeding within one hour in establishing exclusive breastfeeding, initiation of early skin-to-skin contact with the newborn.[45]

2.1.1.2 Discuss questions asked by mothers related to breastfeeding and dispel common myths about feeding practices.

2.1.1.3 Inform mothers how and when to express breastmilk.

2.1.1.4 Inform mothers and other family members that babies do not need any other food and drinks from birth to 6 months of life.

2.1.1.5 Inform mothers about the other advantages of breastfeeding - contraceptive benefit, protection from anemia, breast, and ovarian cancers.

2.2 Whenever possible, the pregnant women should be taught how to breastfeed their babies, correct suckling position, and to look after the hygiene.

2.2.1 The proper care to be followed breastfeeding, burping the infant, and how to position the infant when sleeping should all be taught to the women during the ANC period itself.

2.2.2 Pre-pregnancy classes on labor and infant care can be offered, whenever possible.

2.2.3 Counseling on infant feeding for working mothers, mothers not able to feed due to inadequate milk, mothers on medication or with specific illnesses must be ensured for appropriate management and referral, if required.

2.2.4 Counseling on infant feeding options in the context of HIV (for mother identified as HIV positive) during antenatal period and after birth.[46]

2.2.5 Provide hospital- and health facilities-based capacity to support exclusive breastfeeding, including revitalizing, expanding, and institutionalizing the Baby-friendly Hospital Initiative in health systems.[47]

3. CONTRACEPTION AND BIRTH SPACING

3.1 Contraceptive counseling should be made available to women in the antenatal period to enable them to choose the method they wish to use after childbirth. The importance of birth spacing should be stressed and they should be informed about all the methods that can be safely used during the postpartum period, when they are breast feeding their babies.

3.2 For counseling about contraception, a patient-centered, shared decision-making model to be used.[48,49]

3.3. At the first postnatal visit, intrauterine contraception/contraceptive device (IUCD)/Injectable contraceptive/ progestogen-only pill (POP)/Implant/preference for TL should all be offered as the basket of choices. All these should be offered with adequate counseling and proper selection according to the WHO criteria for each method. The importance of lactational amenorrhea method (LAM) should be stressed for all women and breastfeeding should be encouraged.[50]

3.4 Women who are breastfeeding should be informed that the available evidence indicates that progestogen-only methods of contraception [levonorgestrel-releasing intrauterine system (LNG-IUS), progestogen-only implant (IMP), progestogen-only injectable (POI), and POP] have no adverse effects on lactation, infant growth, or development.[51]

3.5 Women should be informed about the effectiveness of the different contraceptive methods, including the superior effectiveness of long-acting reversible contraception (LARC), when choosing an appropriate method to use after childbirth.[52]

3.6 The provision of LARC at the time of delivery is convenient for women who wish to initiate contraception immediately, avoiding the need for an extra visit, which has been identified as a barrier to uptake of LARC after childbirth.[52,53]

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APPENDICES

APPENDIX 1: WOMEN REQUIRING ADDITIONAL CARE

These recommendations are offered for the baseline clinical care for all pregnant women, but it does not offer information on the additional care that some women will require.

Pregnant women with the following conditions usually require care additional to that detailed in these **Good Clinical Practice Recommendations**. These will qualify as **high-risk pregnancies** and/or complicated pregnancies and should be managed according to the clinical judgment of the obstetrician.

History suggestive of social exclusion-Unmarried pregnancy, No family support/Orphan, Widow/Divorced, HIV, Domestic Violence/Intimate partner Violence *, Mental health issues **

1. Underweight (BMI less than 18 at first contact)
2. Obesity (BMI 35 or more at first contact)
3. Extremes of age
4. Anemia
5. Cardiac disease
6. Hypertension (essential as well as pregnancy induced)
7. Renal disease
8. Thyroid, diabetes, and other endocrine disorders
9. Epilepsy requiring anticonvulsant drugs
10. Asthma and other respiratory disorders
11. Hematological disorder
12. HIV or HBV infected
13. Drug use such as heroin, cocaine (including crack cocaine) and ecstasy
14. Autoimmune disorders
15. Psychiatric disorders
16. Malignant disease.

Women who have experienced any of the following in previous pregnancies:

- Recurrent pregnancy loss
- Preterm birth
- Severe pre-eclampsia, HELLP syndrome, or eclampsia
- Rhesus isoimmunization or other significant blood group antibodies
- Uterine surgery including cesarean section, myomectomy, or cone biopsy
- Antepartum or postpartum hemorrhage
- Previous MRP
- Puerperal psychosis
- Grand multiparity (more than five pregnancies)
- A stillbirth or neonatal death
- A baby with a congenital anomaly (structural or chromosomal).

Appendix 1.1: Checklist for Clinical Enquiry About IPV/Domestic Violence in ANC Adapted from WHO

- Unexplained recurrent physical trauma
- Violent, abusive intrusive partner during consultation
- Recurrent abortions, unintended pregnancies, MTPs
- Late or delayed booking
- Stillbirths
- Unexplained genitourinary symptoms/STIs
- Features suggestive of anxiety depression
- Alcohol and substance abuse
- Self-harm, hesitant cuts on body, arms
- Suicidal tendencies.

Appendix 1.2: Risk Factors for Poor Mental Health

- Adolescent teen pregnancy
- Difficult birth experiences
- Low socioeconomic status
- Poor or absent social support
- Gender discrimination and gender based violence
- Substance use
- Infertility
- Low educational opportunities
- Unwanted pregnancy.

Appendix 1.3: PHQ-9 - Patient Health Questionnaire

ID.......................... **Date ....**

Over the last 2 weeks, how often have you been bothered by any of the following problems? Tick to indicate your answer.

	Not at all	***Several days***	***More than half the days***	***Nearly every day***
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or the opposite – being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead or of hurting yourself	0	1	2	3
Total				

For Initial Diagnosis

1. If there are at least 4 ticks in the shaded section including Questions #1 and # 2, consider a depressive disorder. Add score to determine severity.
2. Consider Major Depressive Disorder
   - If there are at least 5 ticks in the shaded section (one of which corresponds to question #1 or #2

Total Score	***Depression severity***
1–4	Minimal depression
5–9	Mild depression
10–14	Moderate depression
15–19	Moderately severe depression
20–27	Severe depression

Appendix 1.4: GAD-7 - Anxiety Questionnaire

Over the last two weeks how often have you been bothered by the following problems	***Not at all***	***Several days***	***More than half the days***	***Nearly every day***
1. Feeling nervous, anxious or on edge	0	1	2	3
2. Not being able to stop or control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it is hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritable	0	1	2	3
7. Feeling afraid as if something awful might happen	0	1	2	3

Column Totals .... +. .... +. .... +. ....
Total Score ....
GAD -7 total score for the seven items ranges from 0–21
0–4 Minimal anxiety
5–9 Mild anxiety
10–14 Moderate anxiety
15–21 Severe anxiety

Appendix 1.5: GAD-2

- Over the last 2 weeks, how often have you been bothered by feeling nervous, anxious, or on edge?
- Over the last 2 weeks, how often have you been bothered by not being able to stop or control worrying?
- An answer of 'not at all' scores 0; 'several days' scores 1; 'more than half the days' scores 2; 'nearly every day' scores 3.
- If a woman scores 3 or more on the GAD-2 scale, consider: using the GAD-7 scale for further assessment or referring the woman to her GP or, if a severe mental health problem is suspected, to a mental health professional.

APPENDIX 2: ANTENATAL APPOINTMENTS (SCHEDULE AND CONTENT)

The schedule below, which has been determined by the purpose of each appointment, presents the recommended number of antenatal care appointments for women who are healthy and whose pregnancies remain uncomplicated in the antenatal period.

First Appointment(s)

Ideally, the first appointment needs to be earlier in pregnancy (prior to 12 weeks). This is a trend we need to educate our patients on as the first trimester offers a large volume of information. There may be need in early pregnancy for two appointments. At the first (and second) antenatal appointment:

- Give information, with an opportunity to discuss issues and ask questions; offer verbal information supported by written information (on topics such as diet and lifestyle considerations, pregnancy care services available, maternity benefits and sufficient information to enable informed decision making about screening tests).
- Identify women who may need additional care (see Appendix 1) and plan pattern of care for the pregnancy.
- Start folic acid prophylaxis if not started already.
- Check blood group and RhD status.
- Offer screening for anemia, GDM -DIPSI, pre-eclampsia, hepatitis B virus, HIV, thyroid status, rubella susceptibility, and syphilis.
- Offer screening for asymptomatic bacteriuria.
- Offering screening for Down's syndrome if available:
  - nuchal translucency at 11–14 weeks and Double marker
  - if missed quadruple marker serum screening at 14–20 weeks.
- Offer early ultrasound scan for gestational age assessment as far as possible. Ultrasound scans to determine gestational age using:
  - crown–rump measurement if performed at 10–13 weeks
  - bi-parietal diameter or head circumference at or beyond 14 weeks
  - Weight and BP Record-
  - CVS and respiratory system examination and breast examination
  - Start iron prophylaxis at 14 weeks if no hyperemesis.

16–20 Weeks

The next appointment should be scheduled at 16 weeks to:

- Review, discuss, and document the results of all screening tests undertaken; reassess planned pattern of care for the pregnancy and identify women who need additional care (see Appendix 1)
- Immunization TT/Td/Tdap.
- Investigate a hemoglobin level of less than 11 g/dL and start iron therapy.
- Measure blood pressure-MAP and test urine for proteinuria.
- At 18–20 weeks, an ultrasound scan should be performed for the detection of structural anomalies. Cervical length measurement also to be done at this gestation to screen for preterm labor. For a woman whose placenta is found to extend across the internal cervical os at this time, another scan in third trimester should be offered and the results of this scan reviewed at next appointment.

24–28 Weeks

At this appointment:

- Measure and plot symphysis-fundal height
- Ask about fetal movements
- Measure blood pressure and test urine for proteinuria
- Give information with an opportunity to discuss issues and ask questions
- Immunization Td/TT 2nd dose/Tdap
- Offer screening for GDM if negative in first visit or missed in first visit

- Offer a second screening for anemia
- Offer anti-D to rhesus-negative women, where available and indicated.

30–36 Weeks

At this visit
- Measure blood pressure and test urine for proteinuria
- Measure and plot symphysis-fundal height
- Ask about fetal movements
- Check fetal heart
- USG if feasible for fetal growth, placenta, and well-being
- Review, discuss and document the results of screening tests undertaken at 28 weeks
- Reassess planned pattern of care for the pregnancy and identify women who need additional care **(*see* Appendix 1)**.

36–40 Weeks

At this appointment:
- Measure blood pressure and test urine for proteinuria
- Measure Hemoglobin-third screening - Hb
- Ask about fetal movements
- Measure and plot symphysis–fundal height
- Check position of baby and fetal heart
- For women whose babies are in the breech presentation consider external cephalic version where expertise is available or refer to a district hospital for further management
- Review ultrasound scans report if placenta extended over the internal cervical os at previous ultrasound and if needed refer to a district hospital for further management.

After 40 Weeks

For women who have not given birth by 41 weeks:
- Closer antepartum vigilance
- Measure blood pressure and test urine for proteinuria
- Ask about fetal movements
- Measure and plot symphysis-fundal height
- Check position of baby
- Review and if needed refer to a district hospital for further management
- Consider induction if inducible and favorable cervix.

General

Throughout the entire antenatal period, healthcare providers should remain alert to signs or symptoms of conditions, which affect the health of the mother and fetus, such as anemia, domestic violence, pre-eclampsia and diabetes, malpresentations and IUGR, etc.

If any of the high-risk factors are detected, then, refer the patient to higher center for further management under expert guidance.

These recommendations will help us in identifying women at risk and hence help in early interventions and prevention of mishaps.

Our aim is to reduce maternal and morbidity by these early detections and interventions.

APPENDIX 3

How to Measure MAP

- Sitting position with arms at heart level, using appropriately sized cuff (after 5-minute rest)
- Mid-arm circumference: Small <22 cm | Normal 22–32 cm | Large 33–42 cm
- Measure BP in both arms simultaneously and:
  - Two sets of BP measurements at 1-minute intervals
  - Total of 4 sets are used in the calculator
- MAP = DP+1/3 (Systolic Pressure–Diastolic Pressure).

APPENDIX 4

Prophylaxis for Women at High Risk

- Aspirin for prevention of preterm pre-eclampsia-Start between 11w0d and 14w6d
- ~150 mg every night until §36 weeks | Delivery | Pre-eclampsia diagnosed
- Do not prescribe low-dose aspirin for all pregnant women
- Calcium
- Low calcium intake (<800 mg/d)
  - Calcium replacement: ≤1 g elemental calcium/d **or**
  - Calcium supplementation: 1.5–2 g elemental calcium.

APPENDIX 5: GDM - DIPSI 5

A total of 75 gm glucose is to be given orally after dissolving in approximately 300 mL water whether the pregnant women come in fasting or non-fasting state, irrespective of the last meal. The intake of the solution must be completed within 5–10 minutes.

A plasma standardized glucometer should be used to evaluate blood sugar 2 hours after the oral glucose load. If vomiting occurs within 30 minutes of oral glucose intake, the test must be repeated the next day, or else refer to a facility. If vomiting occurs after 30 minutes, the test continues. The threshold blood sugar level of ≥140 mg/dL (more than or equal to 140) is taken as cut-off for the diagnosis of GDM.

APPENDIX 6: LIFESTYLE, DIETARY, AND MEDICINAL INTAKE MODIFICATIONS

Lifestyle modifications
• Avoid eating within 3 hours of going to bed • Elevate the head of bed by 10–15 cm • Lie down on the left side, rather than the right side or supine • Avoid tobacco use • Weight loss is recommended for overweight breastfeeding mothers • Maintain an upright posture, especially after eating • Chew gum to neutralize acid • Increase physical activity to help with gastric motility
Dietary changes
• Abstain from alcohol intake • Avoid trigger foods and beverages (e.g. fatty or spicy foods, chocolate, mints, caffeinated beverages, citrus juices, tomatoes, and carbonated products) • Consume frequent small meals • Drink fluids between meals, and limit fluid intake with meals • Keep a food diary to identify trigger foods
Medicinal intake modifications
• Avoid medications that decrease LOS pressure • Avoid potentially harmful medications (e.g. anticholinergics, calcium channel antagonists, theophylline, antipsychotic agents, antidepressants)

APPENDIX 7: ANTENATAL CARD

Name: Hosp Reg

Number

ID

Age: Years DOB

DD / MM/ YYYY

Partners /Parents Name Community heath worker Name

Address: Mobile number

Literacy status Illiterate / Primary school / High school / Graduate

Social class / Income

Mobile Number Email ID:

OBSTETRIC HISTORY **G** **P** **L** **A**

Marital life in years LMP

Menstrual cycles Regular / Irregular EDD

Any OCP use Yes / No

Conception Spontaneous / infertility treatment

Previous Delivery LSCS / Vaginal delivery LSCS - 1/2/3

Consanguinity No / Yes BLOOD GROUP and Rh type

Pregnant	partner	ICT	Anti-D

No	Year	Term /Preterm/ Abortion	Mode of delivery	Birth weight	Baby condition alive/ asphyxia/ stillbirth/ neonatal/ childhood death	Sex of the baby	Any complications Antepartum, intrapartum Postpartum	Place of birth	Breast-feeding	NICU admission	Milestones	Immunization

Vaccine	Flu	Covid	TDap/TT/Td
Yes/no			
Date			

PAST HISTORY: Medical History

Cardiac disease	Epilepsy	Diabetes	Hypertension
Tuberculosis	Asthma	Renal disease	Any other

Treatment history	Drugs	Duration

Surgical History

Appendix	Laparotomy	Cardiac surgery
Myomectomy	Diagnostic laparotomy	Others

Family History

Multiple pregnancy	Hypertension	Diabetes

Allergies

Dust	Drugs	Any other

Pre-eclampsia: Risk assessment

Gestosis Score	<3	>3

Thalassemia screening – NESTROFT/HPLC	Negative	Carrier	Positive

Social Determinants/Factors

Teen pregnancy/Unmarried pregnancy	No family support/Orphan	Widow/Divorced
HIV positive	Domestic violence/intimate partner violence*	Drug/substance abuse or dependence – smoking, alcohol-toddy
Mental health issues **	Others	

*Clinical inquiry only if minimum requirements are met WHO-Refer Checklist appendix -FOGSI ICOG GCPR Routine antenatal care -2023
** Refer appendix -checklist for poor mental health- FOGSI ICOG GCPR Routine antenatal care -2023

Risk factors assessment, history and screening: Red flags for high-risk pregnancy-can be shaded with color.

Obstetric Risk	Medical Risk	Surgical Risk
Social Risk	Allergies/Hypersensitivity	Pre-eclampsia Risk

G P L A GA - EDD

Booking Visit	Weight:	Height:	BMI
Breast	Thyroid	CVS	RS

ANTENATAL VISITS

Date	*GA*	*WT*	*PR*	*Pallor*	*edema*	*BP-MAP*	*SFH*	*Pres*	*FHS*	*Treatment*	*Review and plan*

INVESTIGATIONS

TEST	Date	Date	Date
HIV			
HbsAg			
RPR			
DIPSI Test			
S. Creatinine			
S. TSH			
CUE - pus cells, protein			

Additional Investigations

HbA1C		
HPLC		
Urine C/S		

Hemogram

	Date-1st Trimester	*Date 2nd trimester*	*Date 3rd trimester*
Hb			
WBC			
Platelets			
MCV			
MCH			
MCHC			
RDW			
PS			

ULTRASOUND

TYPE	***Date***	***Details***	***Biochemical markers***	***Doppler***	***Remarks***
Dating					
First trimester screening- Trisomy PE Screening			Double marker PIGF	UTPI	
Anomaly scan Cervical length Placenta					
Growth scan					

VACCINATIONS

Birth Plan

Referral

Disclaimer - These recommendations for "ROUTINE ANTENATAL CARE FOR THE HEALTHY PREGNANT WOMEN" have been developed, to be of assistance to obstetricians, gynecologists, consulting physicians and general practitioners by providing guidance and recommendations for managing women with anemia and suffering from hemorrhagic conditions. The recommendations included here shouldn't be viewed as being exclusive of other concepts or as covering all legitimate strategies. The suggestions made here are not meant to dictate how a particular patient should be treated because they neither set a standard of care nor do they guarantee a particular result. To diagnose patients, choose dosages, and provide the best care possible while also taking the necessary safety precautions, clinicians must rely on their own experience and knowledge. The writers or contributors disclaim all responsibility for any harm and/or damage to people or property resulting from the use or operation of any techniques, goods, guidelines, or ideas presented in this content.