


Humanization of maternal care: A new perspective on prenatal and childbirth protocols with clinical case resolution

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ABSTRACT

Prenatal care is a fundamental stage in the pregnancy-puerperal cycle, aimed at monitoring the health of the mother and fetus, identifying risk conditions early and promoting interventions that ensure a healthy and safe pregnancy. The objective of the narrative review is to present the state of the art on the main components of prenatal care, including care protocols, specific care for low-risk pregnant women, and strategies for managing complications at the time of delivery. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines were used for the search, selection, and extraction of data from the LILACS, BDENF, PubMed, Cochrane Library, CINAHL, Embase, SciVerse Scopus, TopCited, and Web of Science databases. A total of 261 articles were identified, after selection 15 were analyzed. Detailed knowledge about prenatal care, each stage of labor, and the hormonal factors that influence this process is essential for safe and effective care, ensuring maternal and fetal well-being. The nursing team's performance should always be based on respect for women's rights from the prenatal period, avoiding practices considered as obstetric violence, and ensuring a humanized approach that prioritizes the safety and comfort of the parturient. Understanding these practices is key to improving maternal and neonatal outcomes, providing a positive and safe antepartum and delivery experience.

Keywords: Prenatal, Childbirth, Humanization, Pregnancy.

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INTRODUCTION

Adequate prenatal care is essential for the promotion of maternal and fetal health. According to the World Health Organization (WHO), prenatal care aims to identify and treat early risk factors that may compromise pregnancy, as well as to promote the health and well-being of pregnant women (WHO, 2016). Studies demonstrate that regular prenatal care is associated with improved maternal and neonatal outcomes, including lower rates of perinatal mortality and obstetric complications (Dowswell et al., 2015).

Prenatal care also plays a crucial role in health education, providing information on nutrition, physical activity, warning signs, and newborn care. In addition, it is an opportunity to build a bond between the pregnant woman and the health professional, based on trust and respect, which is fundamental for a positive and safe birth experience. In this context, this review aims to present the state of the art on the main components of prenatal care, including care protocols, specific care for low-risk pregnant women, and strategies for managing complications at the time of delivery.

METHODOLOGY

It is a narrative review of the literature, promoted with a qualitative approach, understood as an appropriate study to describe and discuss the "state of the art" of a given theme, establishing theoretical and contextual understandings. The search for articles took place in June 2024 in the following databases: Latin American and Caribbean Literature on Health Sciences (LILACS); Virtual Library in Health Nursing (BDENF); Cumulative Index to Nursing & Allied Health (CINAHL); National Library of Medicine (PubMed); Cochrane Library (Cochrane); Excerpta Medica dataBASE (Embase); SciVerse Scopus TopCited (Scopus); and Web of Science described. The crossing occurred through the controlled descriptors "**Prenatal**", "Childbirth", "Humanization", "Pregnancy", belonging to the Medical Subject Headings (MeSH) and the Health Sciences Descriptors (DeCS). Articles, protocols, guidelines and guidelines, published in Portuguese, English or Spanish, without delimitation of the time of publication related to the theme, were included. Duplicate articles, editorials, dissertations, theses, works in other languages and that did not cover the topic addressed were excluded.

RESULTS AND DISCUSSION

CARE PROTOCOLS AND GUIDANCE DURING PRENATAL CARE

Low-risk pregnant women are those who, during the initial evaluation and prenatal follow-up, do not have preexisting medical conditions or risk factors that could complicate pregnancy. According to the Ministry of Health, a low-risk pregnancy is characterized by the absence of chronic diseases, such as hypertension and diabetes, and by the lack of obstetric complications in previous



pregnancies, such as recurrent miscarriages or premature births (Ministry of Health, 2020). These pregnant women have a reduced risk of developing complications during pregnancy and usually require a smaller number of consultations and interventions.

Comprehensive care for low-risk pregnant women should include, in addition to supplementation and vaccination, guidance on healthy eating, safe physical activity, and mental health care. Ongoing support and empowerment of pregnant women to make informed decisions about their care is critical to a positive pregnancy experience and to promoting favorable perinatal outcomes (Renfrew et al., 2014).

Laboratory Tests by Quarter

The Ministry of Health's prenatal care protocol recommends a series of laboratory tests distributed throughout the three trimesters of pregnancy. These tests are essential infectious tests that can affect the health of the pregnant woman or baby for monitoring maternal and fetal health, allowing the early detection of conditions such as anemia, infections, gestational diabetes, and diseases

Quarter	Recommended Tests	Frequency
First Quarter	Complete blood count, blood typing and Rh factor, fasting blood glucose, HIV serology, syphilis (VDRL), hepatitis B (HBsAg), toxoplasmosis (IgM and IgG), rubella (IgM and IgG), urine type I, urine culture	First appointment and repeat as needed
Second Quarter	CBC, fasting blood glucose, oral glucose tolerance test (OGTT) between 24-28 weeks, HIV and syphilis serology (VDRL), urine culture	Between 24-28 weeks
Third Trimester	Complete blood count, fasting blood glucose, HIV and syphilis serology (VDRL), urine culture, group B streptococcus	Between 35-37 weeks

Source: adapted from Brazil, 2012.

Laboratory tests in the first trimester are essential to establish a baseline of the pregnant woman's health and identify conditions that may require specific management.

- **Complete blood count:** Assess the general health status of the pregnant woman, including the detection of anemia, which is common in early pregnancy due to increased blood volume. It also helps identify infections and other hematological changes that can affect pregnancy.
- **Blood Typing and Rh Factor:** Determine the blood group and Rh factor of the pregnant woman. Identify if there is Rh incompatibility between mother and fetus, which can cause hemolytic disease in the newborn if not properly managed with the administration of anti-D immunoglobulin.



- **Fasting Glucose:** Assess blood glucose levels to detect preexisting diabetes mellitus or increased risk of developing gestational diabetes. Uncontrolled diabetes increases the risk of birth defects, miscarriage, and complications during childbirth.
- **Oral Glucose Tolerance Test (OGTT):** Performed between 24 and 28 weeks to diagnose gestational diabetes. Untreated gestational diabetes can lead to complications such as fetal macrosomia (large for gestational age baby), need for cesarean section, and increased risk of developing type 2 diabetes after pregnancy.
- **HIV serology:** Identify HIV infection to start antiretroviral treatment as soon as possible, reduce viral load, and prevent mother-to-child transmission of HIV from mother to fetus.
- **Syphilis Serology (VDRL):** Detecting syphilis, an infection that can be transmitted to the fetus during pregnancy, resulting in congenital syphilis, which can cause miscarriage, fetal death, or serious health problems in the newborn.
- **Hepatitis B (HBsAg):** Detect hepatitis B infection in the mother to prevent vertical transmission to the newborn, who has a high risk of developing chronic hepatitis B and its complications.
- **Toxoplasmosis (IgM and IgG):** Assess maternal immunity against toxoplasmosis and detect acute infection. Toxoplasmosis in pregnancy can lead to serious fetal complications, including congenital malformations and miscarriage.
- **Rubella (IgM and IgG):** Determine if the pregnant woman is immune to rubella. Rubella infection during pregnancy can cause congenital rubella syndrome, leading to heart defects, deafness, and blindness.
- **Urine Type I and Urine Culture:** Diagnosing urinary tract infections (UTIs), which are common in pregnancy due to anatomical and hormonal changes. Untreated infections can progress to pyelonephritis and are associated with a risk of complications such as preterm labor and low birth weight.
- **Group B Streptococcus Test:** Performed between 35-37 weeks to detect the presence of group B streptococcus. If positive, antibiotics are recommended during labor to prevent serious neonatal infections such as sepsis, pneumonia, and meningitis (Schrag et al., 2016).

Ultrasonography in Prenatal Care

Ultrasonography is a fundamental tool in prenatal care, used to monitor fetal development and identify structural anomalies and conditions that may affect pregnancy. The Ministry of Health recommends different types of ultrasound at specific times of pregnancy to optimize the monitoring and management of pregnancy.



Table 1 – Types of Ultrasonography

Type of Ultrasound	Right Time	Objective
Transvaginal or Obstetric Ultrasound	6-10 weeks	Confirm pregnancy, determine gestational age, check for fetal heartbeats
2nd trimester morphological ultrasound	18-22 weeks	Evaluate fetal anatomy, detect congenital malformations, evaluate amniotic fluid and placenta
3rd trimester morphological ultrasound or Doppler	28-32 weeks	Monitor fetal growth, assess amniotic fluid, check fetal position and placenta

When to Perform Each Type of Ultrasound

Initial obstetric ultrasound, performed between 6 and 10 weeks, is crucial to confirm intrauterine pregnancy, determine gestational age accurately, and verify embryo viability by identifying fetal heartbeats. This initial assessment helps predict the likely date of delivery and identify multiple pregnancies early (Salomon et al., 2019).

Morphological ultrasound, performed between 18 and 22 weeks, is recommended for a detailed evaluation of fetal anatomy. This test is essential for the detection of congenital malformations, such as heart defects and spina bifida, and allows the evaluation of the placenta and amniotic fluid, essential factors for fetal health (Reddy et al., 2015).

Growth ultrasound, performed between 28 and 32 weeks, is indicated to monitor fetal development in the third trimester, assess the growth and well-being of the fetus, check the amount of amniotic fluid and fetal position, important information for delivery planning (Papageorghiou et al., 2014).

Regular monitoring of maternal and fetal health is essential for the early detection of complications and for the implementation of preventive interventions. In addition to laboratory tests and ultrasounds, blood pressure measurement and monitoring for signs of preeclampsia are critical for the prevention of serious complications, such as eclampsia and HELLP syndrome (American College of Obstetricians and Gynecologists, 2020).

SUPPLEMENTATION DURING PREGNANCY: DOSES AND ADMINISTRATION

Supplementation during pregnancy is essential to prevent nutritional deficiencies that can affect the mother's health and fetal development. The Ministry of Health recommends folic acid and iron supplementation for all pregnant women, considering the following details:

- **Folic Acid:** Folic acid supplementation is recommended to prevent neural tube defects in the fetus. The indicated dose is **400 mcg per day**, starting at least one month before conception and continuing until the end of the first trimester (12 weeks) (Ministry of Health, 2012). Administration should be done orally, preferably in the fasting state, to optimize absorption.



- **Iron:** Iron supplementation is important for preventing iron deficiency anemia, a common condition during pregnancy due to increased iron demand. The recommended dose is **40-60 mg of elemental iron per day** from the 20th week of gestation until the end of pregnancy (Ministry of Health, 2012). Administration should be done after a meal to minimize gastrointestinal side effects such as nausea and constipation.

Benefits of Iron and Folic Acid Supplementation

Iron supplementation is vital for preventing iron deficiency anemia, which is one of the most common conditions during pregnancy due to increased iron demand. Anemia during pregnancy is associated with a higher risk of preterm birth, low birth weight, and postpartum hemorrhage. Supplementing with iron from the second trimester can prevent these complications and improve maternal and fetal health (Petry et al., 2019).

Folic acid supplementation is recommended before conception and during the first trimester of pregnancy to prevent neural tube defects in the fetus, such as spina bifida and anencephaly. Folic acid is an essential nutrient for fetal development, and its deficiency during the first weeks of gestation is directly associated with severe birth defects (Ministry of Health, 2020).

IMPORTANCE OF VACCINATION DURING PREGNANCY

Vaccination during pregnancy is crucial to protect both mother and baby against infectious diseases that can cause serious complications. Brazil's PNI includes specific recommendations for the vaccination of pregnant women, aiming to immunize against diseases that can be transmitted vertically (from mother to fetus) or that can have a significant impact on maternal and neonatal health. Vaccination helps create antibodies that are transferred to the fetus, providing passive immunity to the fetus.

The vaccines recommended for low-risk pregnant women by the PNI do Brasil include detailed information on the route of administration, type of needle and dose to ensure safe and effective vaccination.



Table 2 - Vaccination during pregnancy

Vaccine	Dose	Indicated Period	Observations
Diphtheria, tetanus and coqueluche (dTpa)	1 serving each pregnancy	From the 20th week of gestation and up to 45 days after delivery	It protects against diphtheria, tetanus and pertussis, essential to prevent transmission to the newborn. Apply to the deltoid muscle.
Diphtheria and Tethane (dT)	Start or complete 3 doses, according to vaccination history	Start or complete 3 doses, according to vaccination history	It protects against diphtheria and tetanus, essential to prevent transmission to the newborn. Apply to the deltoid muscle.
Influenza (gripe)	1 annual dose	During any period of gestation	Seasonal vaccination, important to protect against severe respiratory complications. Apply to the deltoid muscle.
Hepatitis B	3 servings (0, 1 and 6 months)	Start the scheme as soon as possible	Complete the vaccination schedule if the pregnant woman has not been previously vaccinated or has an incomplete schedule. Apply to the deltoid muscle.
COVID-19	2 doses (initial schedule) + booster dose	During any period of gestation	Vaccine recommended for all pregnant women, especially due to the increased risk of complications associated with COVID-19 infection. Apply to the deltoid muscle.

Source: Brazil - PNI, 2023.

Detailed Information for Each Vaccine:

1. dTpa (diphtheria, tethane and coqueluche):

- **Route of Administration:** Intramuscular (IM), preferably in the deltoid muscle.
- **Recommended Needle:** 25 x 6 mm (1 inch) for intramuscular injections.
- **Dose:** 1 single dose each pregnancy, given from the 20th week to maximize antibody transfer to the fetus.

2. dT (difteria):

- **Route of Administration:** Intramuscular (IM), preferably in the deltoid muscle.
- **Recommended Needle:** 25 x 6 mm (1 inch) for intramuscular injections.
- **Dose:** administer according to vaccination history, a booster should be administered every 10 years, to maximize the transfer of antibodies to the fetus.

3. Influenza (gripe):

- **Route of Administration:** Intramuscular (IM), preferably in the deltoid muscle.
- **Recommended Needle:** 25 x 6 mm (1 inch).
- **Dose:** 1 annual dose, recommended for any trimester of pregnancy to protect against flu and severe respiratory complications.



4. **Hepatitis B:**

- **Route of Administration:** Intramuscular (IM), preferably in the deltoid muscle.
- **Recommended Needle:** 25 x 6 mm (1 inch).
- **Dose:** Schedule of 3 doses (0, 1 and 6 months). Start the schedule as soon as possible if the pregnant woman has not been previously vaccinated or has an incomplete schedule.

5. **COVID-19:**

- **Route of Administration:** Intramuscular (IM), preferably in the deltoid muscle.
- **Recommended Needle:** 25 x 6 mm (1 inch).
- **Dose:** 2 doses for the initial schedule plus booster dose. Recommended for all pregnant women, in any trimester of pregnancy, to protect against serious complications associated with COVID-19.

Proper administration of the recommended vaccines during pregnancy is essential to protect both the health of the pregnant woman and the fetus. Following vaccination guidelines, including the correct choice of route of administration, needle, and dose, is critical to ensure the safety and efficacy of immunization.

MONITORING AND MANAGEMENT OF RISK CONDITIONS IN PREGNANCY.

Importance of Vaccination during Pregnancy and Strategies to Improve Vaccination Coverage

Vaccination is a key strategy to prevent serious infectious diseases that can have a negative impact on maternal and fetal health. Vaccination directly protects the pregnant woman and, indirectly, the fetus, through the transfer of maternal antibodies, providing passive immunity to the newborn until it can be vaccinated directly (ACOG, 2017).

Vaccines such as Tdap (diphtheria, tetanus, and pertussis) and influenza are particularly important during pregnancy. Vaccination against pertussis is recommended from the 20th week of gestation to protect the newborn against the disease in the first months of life, a period in which it is more vulnerable and cannot yet be vaccinated directly. Influenza vaccination is recommended to protect pregnant women against serious respiratory complications, such as pneumonia, which are more common and severe during pregnancy (CDC, 2020).

Vaccination also has an indirect role in preventing premature births. For example, preventing serious respiratory infections, such as the flu, reduces the risk of complications that can lead to premature birth. Studies have shown that severe influenza infection during pregnancy is associated with an increased risk of preterm birth and low birth weight, justifying annual influenza vaccination (Gale et al., 2021).

To maximize the benefits of vaccination and supplementation, it is critical that health professionals promote adherence to these recommendations among pregnant women. This can be



achieved through health education, reminders for antenatal visits, and integration of vaccination and supplementation services during routine antenatal visits. (WHO, 2020).

Impact of Vaccination and Supplementation on Gestational Outcome

Vaccination and nutritional supplementation during pregnancy play a crucial role in promoting maternal health and preventing complications that may affect the fetus and newborn. Studies have shown that following vaccination and supplementation recommendations results in better outcomes for mother and baby, such as reduced preterm births, lower risk of low birth weight, and prevention of neonatal infections (Petry et al., 2019).

Compliance with vaccination and supplementation recommendations has a direct positive impact on maternal and neonatal outcomes. Studies have shown that women who receive adequate micronutrient supplementation and follow the recommended vaccination schedules have lower rates of obstetric complications, such as preeclampsia, gestational diabetes, and cesarean deliveries, improving the quality of obstetric care (McIntyre et al., 2019).

Vaccination of pregnant women against diseases such as hepatitis B and group B streptococcus is crucial for the prevention of neonatal infections. Vaccination against hepatitis B during pregnancy or the administration of immunoglobulin at birth prevents vertical transmission of the virus, protecting the newborn from developing chronic hepatitis. Similarly, screening and treatment of group B streptococcus prior to delivery prevents serious neonatal infections such as sepsis, pneumonia, and meningitis (Schrag et al., 2016).

Pregnant women who follow vaccination and nutritional supplementation guidelines are less likely to have babies with low birth weight (Figure 1)

Figure 1 – Impact of vaccination and supplementation on pregnancy



Source: prepared by the author.

Low birth weight is associated with several neonatal complications, such as breathing difficulties, jaundice, and a higher risk of infections. Adequate supplementation of micronutrients, such as iron and folic acid, contributes to healthy fetal growth and reduces the risk of intrauterine growth restriction (WHO, 2016).

PHYSIOLOGY OF CHILDBIRTH AND NURSING CARE

Labor is a complex physiological process that involves coordinated, adaptive changes in a woman's body to allow for the birth of the baby. Labor is divided into three main phases: the dilation period, the expulsive period, and the dequitation period. Each phase is characterized by specific events and the action of different hormones that facilitate the birth process.

The normal length of labor varies widely and depends on several factors, including whether it is the first delivery (primiparous) or whether the woman has had previous births (multiparous). Labor is diagnosed based on regular and progressive uterine contractions, accompanied by changes in the cervix (dilation and effacement) and fetal descent.

For primiparous women, labor can last from 12 to 18 hours. For multiparous women, labor tends to be shorter, lasting about 8 to 12 hours. The first stage of labor (dilation) is the longest,



especially the latent phase. The active phase of labor, which is faster, usually lasts about 4 to 8 hours for primiparous women and 2 to 5 hours for multiparous women.

The diagnosis is made when there are regular and painful uterine contractions that lead to changes in the cervix, such as dilation (opening) and effacement (thinning). Other signs include the presence of bloody show (bloody mucus), rupture of membranes (ruptured sac), and increase in the frequency and intensity of contractions.

Dilation Period

The dilation period is the initial and longest phase of labor. During this phase, the cervix undergoes significant changes that prepare it for the birth of the baby. The dilation period is divided into two subphases: the latent phase and the active phase.

- **Latent Phase:** Characterized by mild, irregular uterine contractions that result in the onset of cervical dilation (up to about 3-4 cm). This phase can be relatively long, especially in primiparous women, lasting several hours or even days. During the latent phase, the cervix begins to soften, shorten (erase), and gradually dilate.
- **Active Phase:** It begins when the cervix is dilated between 4 and 6 cm. During this phase, uterine contractions become more intense, regular and frequent, accelerating cervical dilation from 4 cm to complete dilation at 10 cm. The active phase is shorter than the latent phase, usually lasting 4 to 8 hours in primiparous women and less in multiparous women. The progression of labor during the active phase is closely monitored to ensure the safety of the mother and baby.

Hormones play a crucial role in regulating labor, particularly during the dilation period:

- **Oxytocin:** Oxytocin is the main hormone responsible for inducing and maintaining uterine contractions during labor. Released by the posterior pituitary, oxytocin is secreted in response to stretching of the cervix and stimulation of the nipples. Oxytocin promotes rhythmic and coordinated uterine contractions, which help dilate the cervix and move the baby through the birth canal. This hormone is often used in obstetric practices to induce labor or increase the strength and frequency of contractions (induction and increase of labor).
- **Prostaglandins:** Prostaglandins are lipid hormones that play an important role in preparing the cervix for labor. They promote softening (maturation) and cervical dilation, facilitating the passage of the baby through the birth canal. In addition, prostaglandins increase the sensitivity of the uterus to oxytocin, amplifying uterine contractions and accelerating the dilation process. Prostaglandin preparations are sometimes used



clinically to induce labor in women who are close to or beyond their expected delivery date.

- **Estrogen and Progesterone:** During pregnancy, estrogen and progesterone play opposite roles in regulating labor. Estrogen prepares the uterus for labor by increasing the expression of oxytocin and prostaglandin receptors, while progesterone helps maintain pregnancy until labor begins by inhibiting premature uterine contractions. During the final stage of pregnancy, there is a change in the ratio of estrogen and progesterone, favoring the onset of labor.

Assistance during Dilation

During the dilation period of labor, adequate assistance is essential to monitor the safety and well-being of the mother and baby. We will detail the performance of exams such as the vaginal examination and the evaluation of the amniotic sac, addressing its indications, procedures and clinical implications.

Vaginal Touch

Vaginal **examination** is an essential technique used to assess the progress of labor. However, it must be carried out with clear criteria and respecting the comfort and dignity of women.

Vaginal examination is indicated at various times during labor to assess cervical dilation, cervical effacement, position of fetal presentation (e.g., baby's head), and height of presentation. In a normal labour, vaginal examination may be performed every 4 hours during the active phase to monitor progress (ACOG, 2020). Other times to perform the vaginal examination include before administering anaesthesia, after membranes rupture, if there is a significant change in the frequency or intensity of contractions, or if there are signs of foetal distress (WHO, 2018).

The vaginal examination should always be performed with the consent of the pregnant woman. When performed without consent, repeatedly and unnecessarily, or in a way that causes pain and embarrassment, vaginal examination can be considered a form of obstetric violence. Obstetric violence refers to any action or omission that causes physical, psychological, or emotional harm to the woman during childbirth (WHO, 2018). Respect for women's autonomy and clear communication about the need for the examination are essential to avoid the characterization of obstetric violence.

Steps to perform the Vaginal Touch

1. **Preparation:**



- **Hygiene:** The professional must sanitize their hands properly and use gloves in full-term pregnancies to prevent infections.
 - **Informed Consent:** Explain the procedure to the pregnant woman, the reasons for performing it, and obtain her consent. The woman must be comfortable and understand what will be done.
 - **Positioning of the Pregnant Woman:** The woman should be comfortably positioned in the supine position (lying on her back) with the knees bent and the legs slightly open. Privacy must be ensured during the exam.
2. **Exam:**
- **Lubrication:** Use a sterile lubricant to reduce discomfort during the examination.
 - **Fingers:** Gently insert your index finger and, if necessary, your middle finger into your vagina. The hand performing the exam should be relaxed, and the fingers should be introduced towards the cervix.
 - **Assessment of Cervical Dilation:** Dilation is measured in centimeters, ranging from 0 cm (no dilation) to 10 cm (complete dilation). The measure is based on the opening of the cervix.
 - **Erasure:** Erasure is the thinning of the cervix, measured as a percentage from 0% (no erasure) to 100% (fully erased).
 - **Evaluation of the Position and Height of the Fetal Presentation:** Evaluate the part of the fetal presentation (usually the head) in relation to the ischial spines of the maternal pelvis, classifying it in De Lee planes, from -5 to +5.
 - **Finger Removal:** Remove your fingers carefully, avoiding sudden movements that may cause discomfort.
 - **Documentation:** Document findings in the patient's chart, including dilation, deletion, time of presentation, and any other relevant details.

Amniotic sac

The **amniotic sac** plays an important role during pregnancy and labor, providing a safe and cushioned environment for the fetus. During labor, assessment of the integrity of the amniotic sac and the characteristics of the amniotic fluid are crucial.

Amniotic sac rupture (also known as ruptured pouch) is usually characterized by a sudden sensation of a jet of fluid or a continuous flow of amniotic fluid through the vagina (Ministry of Health, 2012). Pain associated with rupture of the amniotic sac is usually minimal or nonexistent; However, if the rupture is accompanied by severe pain, it may indicate a complication, such as placental abruption. The normal odor of amniotic fluid is mild and slightly sweet. A foul odor may



indicate the presence of intrauterine infection, such as chorioamnionitis, and requires immediate intervention (ACOG, 2020).

Amniotic fluid is usually clear or slightly cloudy. The presence of meconium (fetal feces) in the amniotic fluid may indicate fetal distress and may be described as "meconium" amniotic fluid. The green or brown coloration of the amniotic fluid suggests meconium and requires careful monitoring of fetal well-being (WHO, 2018).

When the sac ruptures, the length of time the amniotic fluid remains exposed to the vaginal environment is an important factor. If the sac remains torn for more than 18 hours before active labor begins, this is called prolonged rupture of membranes. Prolonged rupture of membranes increases the risk of infection, both for the mother and the baby. In this case, the prophylactic use of antibiotics is recommended to prevent ascending infection, especially if delivery is not imminent (ACOG, 2020).

The use of antibiotics is indicated in cases of prolonged rupture of membranes (>18 hours) or if there are signs of maternal infection (fever, leukocytosis, abdominal pain). Antibiotic prophylaxis is also recommended in pregnant women with GBS-positive group B streptococcus to prevent serious neonatal infections such as sepsis, pneumonia, and meningitis. Antibiotic treatment is usually started as soon as the ruptured sac is confirmed and prophylaxis is indicated (ACOG, 2020).

Amniotomy

Amniotomy is a useful obstetric intervention that can speed up labor when used appropriately.

Amniotomy should be performed only when clinically indicated and never without the woman's informed consent. Performing amniotomy without adequate indication or consent can be considered obstetric violence (WHO, 2018). Be aware of the risks associated with amniotomy, such as umbilical cord prolapse, infection, or hemorrhage. Take precautions to minimize these risks, including performing the procedure under sterile conditions and continuously monitoring fetal well-being.

STEP BY STEP TO PERFORM AMNIOTOMY

Preparation for the Procedure

- Before performing the amniotomy, confirm the clinical indications for the procedure. Common indications include slow or stagnant labor (progression dystocia), the need to improve fetal monitoring (internal monitoring), or increase the intensity of contractions in cases of prolonged labor (ACOG, 2020).
- Explain the procedure to the pregnant woman, including the benefits, risks, and possible alternatives. Obtain informed consent from the patient before proceeding. It is essential



to ensure that the pregnant woman is aware of what will be done and agrees to the procedure.

- Place the pregnant woman in a lithotomy or supine position with her knees bent and feet supported. Make sure it's comfortable and covered properly to maintain privacy.

Procedure

Perform a vaginal examination to determine the position of the cervix, fetal presentation, and to confirm cervical dilation. The cervix must be dilated by at least 3-4 cm for the procedure to be performed safely.

- **Amniotomy:** Use a sterile amniotomy hook. This instrument is thin and has a slightly sharp end to gently break through the amniotic membrane.
- **Hook Insertion:** With one hand protecting the perineum and fingers of the other hand inserted into the vagina to guide, carefully introduce the amniotomy hook along the fingers to the cervix.
- **Break the Membrane:** Once the hook is in contact with the amniotic membrane, make a gentle motion to break through the membrane. The goal is to make a small perforation that allows the controlled release of amniotic fluid.
- **Control of Fluid Release:** After rupture, the amniotic fluid will begin to flow. Allow the fluid to flow slowly to avoid a sudden discharge that could cause umbilical cord prolapse or other complications.

Care after Amniotomy

- **Amniotic Fluid Evaluation:** Observe the color, odor, and amount of amniotic fluid. The liquid should be clear or slightly cloudy. The presence of meconium or a foul odor may indicate fetal distress or infection and requires immediate attention (WHO, 2018).
- **Fetal Monitoring:** After amniotomy, monitor fetal heart rate for any signs of fetal distress, such as variable or delayed slowdowns. Use a transducer for continuous monitoring if necessary.
- **Maternal Monitoring:** Continue to monitor the mother's vital signs and watch for any changes in labor, such as an increase in the intensity of contractions.
- **Documentation:** Record the procedure in the patient's chart, including the indication for amniotomy, amniotic fluid findings, and any change in maternal or fetal status after the procedure.



Cardiofetal Monitoring

Cardiofetal **monitoring** is an essential practice to assess the well-being of the fetus during labor. It can be performed through intermittent auscultation with a fetal sonar or continuous electronic monitoring (cardiotocography).

- **Cardiofetal Beat Reference Values:** The normal fetal heart rate (FHR) range during labor is **110 to 160 beats per minute (bpm)** (ACOG, 2020). Values outside this range may indicate abnormalities that require further evaluation.

Bradycardia and Tachycardia:

- **Bradycardia:** Bradycardia is defined as a persistent fetal heart rate below 110 bpm for more than 10 minutes. This may indicate fetal involvement and requires prompt evaluation and appropriate intervention. Potential causes of bradycardia include umbilical cord compression, maternal hypotension, uterine hyperactivity, or placental abruption. In case of bradycardia, immediate interventions include changing the mother's position to improve placental perfusion (e.g., left lateral position), administering oxygen to the mother, assessing the possibility of umbilical cord compression, and, if necessary, considering intravenous fluids or tocolytics to reduce uterine contractions. If bradycardia persists, an emergency cesarean section may be required (WHO, 2018).
- **Tachycardia:** Tachycardia is defined as a persistent fetal heart rate above 160 bpm for more than 10 minutes. It may be a sign of maternal fever, intrauterine infection (chorioamnionitis), fetal hypoxemia, or use of certain medications. In case of fetal tachycardia, it is important to assess for the presence of maternal fever, administer antipyretics as needed, and consider antibiotics if infection is suspected. Maternal hydration and adjusting the mother's position can also be helpful. If tachycardia persists or there are signs of fetal involvement, obstetric intervention may be required (ACOG, 2020).

Step by step to perform Fetal Cardiofetal Monitoring with Fetal Sonar

The use of fetal sonar to auscultate fetal heart rate is a common practice in low-risk births. Here is a step-by-step guide to accomplish this procedure:

1. **Equipment and Patient Preparation:**
 - **Equipment:** Check that the fetal sonar is in good working order and that conductive gel is available.
 - **Explanation of the Procedure:** Explain the procedure to the pregnant woman and obtain her consent. Make sure she's comfortable and relaxed.



2. **Gel Application and Transducer Positioning:**

- **Use of Conductive Gel:** Apply an appropriate amount of conductive gel to the sonar transducer to improve the transmission of sound waves. This helps to capture the fetal heartbeat more clearly.
- **Location of the Point of Maximum Audibility:** Position the sonar transducer over the pregnant woman's abdomen, usually below the navel for a cephalic presentation, and move it slowly until you locate the point where the fetal heartbeat is most audible.

3. **Auscultation and Monitoring:**

- **Auscultation:** Once the fetal heartbeat is located, listen for at least 60 seconds to assess the average fetal heart rate. Normal fetal heart rate is 110 to 160 bpm.
- **Regular monitoring:** During the active phase of labor, the fetal heartbeat should be auscultated every 15-30 minutes. During the expulsive phase, auscultation should be performed every 5 minutes or after each contraction (RCOG, 2019).

4. **Actions in Case of Heart Abnormalities:**

- **Bradycardia (<110 bpm):** If fetal bradycardia is detected, reposition the mother (e.g., to the left side), administer oxygen, and assess the need for additional interventions, such as intravenous fluid administration or an emergency cesarean section.
- **Tachycardia (>160 bpm):** If you detect fetal tachycardia, check for signs of maternal fever or infection. Administer antipyretics and consider the use of antibiotics if necessary. If tachycardia persists, assess the need for obstetric intervention.

CHILDBIRTH AND BIRTH

Childbirth is a complex and multifaceted physiological process that can occur in many ways, depending on the conditions of the mother and baby. There are three main types of delivery: normal (vaginal) delivery, cesarean delivery, and assisted deliveries such as forceps or vacuum-extractor. Each type of delivery has its specific indications, benefits, and risks, and the management of complications is crucial to ensure the safety and well-being of the mother and baby **【WHO, 2018】** .

Types of Delivery: Normal (Vaginal) Delivery

Normal delivery, also known as vaginal delivery, is the most natural and preferred method for birth, when there are no complications that prevent this type of delivery. During vaginal delivery, the baby passes through the mother's birth canal, involving three main stages: dilation, expulsion, and dequitation of the placenta. This type of delivery is associated with a faster recovery for the mother and a lower risk of respiratory complications for the newborn **【ACOG, 2020】** .



Dilation is the first stage of normal delivery, where the cervix gradually dilates to about 10 centimeters to allow the baby to pass through. This stage can last from a few hours to more than a day, depending on various factors, such as whether it is the mother's first delivery or whether there are ongoing medical interventions 【WHO, 2018】 . Proper assistance during this phase is crucial to ensure that the dilation process takes place safely and efficiently.

The second stage, the expulsive stage, is when the baby descends through the vaginal canal and is born. This stage requires pushing force on the part of the mother, and the baby's position is a critical factor. The cephalic position (head down) is ideal for vaginal delivery, while other positions, such as the breech position (buttocks down), can complicate labor and often require additional medical assistance or even a caesarean section 【RCOG, 2017】 .

During vaginal delivery, there may be a need for an episiotomy, which is an incision in the perineum to widen the birth canal and prevent serious lacerations. However, episiotomy is no longer routinely performed, and is recommended only in specific cases to prevent extensive lacerations or major complications 【NICE, 2014】

The practice of episiotomy has been widely debated and is currently recommended only in specific situations, such as imminent fetal distress or assisted operative delivery (use of forceps or vacuum-extractor), where rapid expulsion of the baby is necessary to avoid complications. We will detail the process of performing an episiotomy, who can perform it, and the care needed during the procedure.

Episiotomy

It should be performed by trained health professionals, such as obstetricians, obstetric nurses, and physicians with experience in childbirth. These professionals must have adequate anatomical knowledge, surgical skills, and training in obstetric procedures to perform episiotomy safely and effectively 【ACOG, 2020】 .

Episiotomy is not routinely performed and should only be considered in specific circumstances, such as:

- Fetal suffering, where there is a need to accelerate labor.
- Assisted operative delivery (forceps or vacuum-extractor).
- Risk of severe perineal lacerations or complications that can impair the delivery process 【NICE, 2014】 .

Step by Step on How to Perform Episiotomy

The instruments needed to perform an episiotomy include:

- **Episiotomy scissors** (curved or straight blunt tip scissors).



- **Anatomical forceps.**
- **Gaze estéril.**
- **Antiseptic solution** (e.g., chlorhexidine).
- **Local anesthetic** (e.g., 1% lidocaine).
- **Absorbable suture** (usually 3-0 or 4-0 polyglycolic acid thread) for perineum repair 【ACOG, 2020】 .

Local anesthesia is necessary to minimize pain and discomfort during the procedure. 1% lidocaine is a commonly used local anesthetic. Before the incision, the anesthetic is injected into the perineum, specifically at the site where the episiotomy will be performed. A "V"-shaped injection is administered to numb the subcutaneous tissue and bulbocavernosus muscle, blocking local sensory nerve endings 【WHO, 2018】 .

There are two main types of episiotomy based on the direction of the incision:

1. **Median episiotomy:** The incision is made in the midline of the perineum, towards the anus. This type is less painful and heals faster, but carries a higher risk of extension to the anal sphincter and rectum.
2. **Mid-lateral episiotomy:** The incision is performed at the midline and then deflects laterally at a 45-degree angle toward the buttock, avoiding the anal sphincter. This type is preferred to minimize the risk of anal or rectal sphincter laceration and is the most recommended technique in current practice 【NICE, 2014】 .

Technique to Perform Episiotomy

1. **Preparation:** Check that all instruments and materials are sterilized and ready for use. Position the patient appropriately on the delivery table.
2. **Antisepsis:** Clean the perineal area with antiseptic solution (such as chlorhexidine) to reduce the risk of infection.
3. **Anesthesia:** Administer 1% lidocaine to the perineum area. Wait a few minutes for the anesthetic to take effect, ensuring that the patient does not feel pain during the incision.
4. **Incision:** Using episiotomy scissors, make a 2-3 cm incision in the perineum, towards the chosen side (median or mediolateral). Make sure the incision is sufficient to facilitate delivery, but avoid an excessively long incision to minimize tissue damage.
5. **Monitoring:** Continue to monitor the progress of the birth. Once the baby is being born, check that there is no need for episiotomy extension.
6. **Episiotomy Repair:** After birth and placenta delivery, inspect the episiotomy area. Suture the muscle and skin layers using an absorbable suture, such as 3-0 or 4-0



polyglycolic acid thread. Ensure adequate hemostasis to prevent post-procedure bleeding
【ACOG, 2020】 .

Although episiotomy was previously a routine practice, its use is now more restricted to specific situations to avoid unnecessary risks and promote a faster and more comfortable recovery for the patient. The decision to perform an episiotomy should be based on solid clinical evidence and the individual needs of the patient, always prioritizing maternal and newborn safety and well-being
【NICE, 2014; ACOG, 2020】 .

Normal (vaginal) delivery positions play a key role in the parturient's comfort, labor efficiency, and delivery success. Different positions can be adopted throughout the different stages of labor, and the choice of the ideal position depends on several factors, including the woman's preference, the stage of labor, the clinical condition of the mother and baby, and the guidance of health professionals. Below, I present an expanded discussion about the various positions for vaginal delivery, their advantages, disadvantages and indications.

POSITIONS FOR VAGINAL DELIVERY

Lithotomy Position

The lithotomy position is the most common in many hospitals. In this position, the woman is lying on her back, with her legs raised and supported by supports (leggings).

Advantages:

- It facilitates the health professional's access to the perineum, which is useful for procedures such as episiotomy or the use of forceps and vacuum extractor.
- It allows for easy fetal monitoring and emergency interventions.

Cons:

- It can reduce the diameter of the pelvis and limit the space available for the baby to descend.
- It can lead to a higher risk of perineal lacerations and greater discomfort for the mother due to the pressure on the lumbar and sacral region.
- The horizontal position can lower maternal blood pressure, affecting uteroplacental blood flow 【ACOG, 2020】 .

Squatting position (crouching)

In the squatting position, the woman squats with her knees bent and her feet flat on the floor or in support. This position can be facilitated by a whelping stool or squatting supports.

Advantages:

- Maximizes the diameter of the pelvis, making it easier for the baby to descend and rotate.



- Gravity helps push the baby down.
- Reduces the risk of perineal lacerations and may decrease push time during childbirth 【Gupta et al., 2017】 .

Cons:

- It can be physically demanding for a woman to maintain for long periods, especially without physical preparation.
- It can be difficult to monitor the baby or perform interventions quickly if necessary.

Lateral Lying Position (Lateral Decubitus)

The woman lies on her side, usually with a pillow or support between her knees.

Advantages:

- Comfortable and easy to maintain for long periods, especially for women who want to avoid back pressure.
- It maintains good uteroplacental blood flow and can help prevent hypotension.
- It can be helpful in delaying a very fast delivery, giving time for the perineal tissue to stretch gradually, reducing the risk of lacerations 【ACOG, 2020】 .

Cons:

- Gravity does not directly help the baby's descent.
- It may be more difficult for the healthcare professional to access the perineum or perform interventions.

Sitting Position

Description: The woman is sitting in a birthing chair, birthing ball, or on an adjusted bed, with her feet resting on the floor or on supports.

Advantages:

- Gravity helps the baby to descend, facilitating labor.
- More comfortable and easier to support than the squatting position.
- It allows the woman to actively participate in the birthing process, pushing more effectively.

Cons:

- The position can also put some pressure on the sacral region.
- It may not be ideal for all situations, such as in cases of complicated births or where quick medical intervention is required 【WHO, 2018】 .



Bathtub or Water Position

The woman works in a bathtub or birthing pool with warm water, which provides a relaxing environment.

Advantages:

- Warm water helps relax muscles and relieve pain during labor.
- It may reduce the need for anesthesia and pain medications.
- It facilitates freedom of movement, allowing the woman to adopt various comfortable positions during labor 【Cluett & Burns, 2012】 .

Cons:

- It can be difficult to perform medical interventions or continuous fetal monitoring.
- It is not appropriate for all women, especially those with medical complications or high-risk pregnancies.

Gaskin Position (On All Fours)

The Gaskin position, also known as the "on all fours" position, is where a woman gets on her knees and rests her hands or forearms on the floor, on a bed, or on a flat surface. This position allows the weight of the belly to be supported by the knees and arms, taking the pressure off the lower back and sacrum. The name "Gaskin's position" is a tribute to the American midwife Ina May Gaskin, who popularized the use of this position in her obstetric practices in the 70s. She promoted this position as an effective way to relieve pain during labor and facilitate the descent of the baby, especially in situations of shoulder dystocia 【Gaskin, 2003】 .

Advantages of Gaskin's Position:

- **Back Pain Relief:** This position is often recommended for women who experience severe back pain during labor, as it helps to relieve pressure on the lower back and sacral region.
- **Facilitating Fetal Rotation:** The Gaskin position can help facilitate the baby's rotation from an occipito-posterior position (where the baby is "looking up") to an occipito-anterior position (where the baby is "looking down"), which is more favorable for vaginal delivery.
- **Reduced Risk of Perineal Lacerations:** Because the weight of the upper body is distributed across the knees and hands, there is less pressure on the perineum, which may reduce the risk of severe perineal lacerations 【Gupta et al., 2017】 .
- **Gravity Assists in Descent:** Although gravity is not directly pulling the baby down as it does in an upright position, being on all fours creates an angle that can help the baby descend more easily through the birth canal.



- **Facilitates Childbirth in Cases of Shoulder Dystocia:** The Gaskin position is especially useful in cases of shoulder dystocia, an obstetric emergency where the baby's shoulders are trapped after the head has been born. By turning the woman into this position, the pelvic diameters can expand, making it easier to release the trapped shoulder 【Gaskin, 2003】 .

Disadvantages of Gaskin's Position:

- **For** some women, holding this position for an extended period can be physically taxing, especially if there is no adequate support for the arms and knees.
- **Fetal Monitoring and Medical Interventions:** It may be more difficult to perform continuous fetal monitoring or rapid interventions in emergencies when a woman is on all fours. The position can limit the health professional's access to the perineum and birth canal.
- **Need for Adequate Support:** The position requires the woman to have support on her knees and hands, and not all birthing surfaces are suitable for maintaining this position comfortably for long periods 【ACOG, 2020】 .

Indications for the Use of Gaskin Position:

- Prolonged labor or a halt in labor progression due to unfavorable fetal position.
- Severe back pain during labor, suggesting that the baby may be in an occipitoposterior position.
- Shoulder dystocia diagnosed after the birth of the baby's head.
- Parturient's desire for pain relief and greater comfort, especially if other positions are not working 【RCOG, 2017】 .

The choice of position for normal delivery is highly individualized and must consider the safety and comfort of the woman, in addition to the specific clinical needs of each case. Health professionals should be prepared to support women in their choices, offering evidence-based guidance and facilitating positions that maximize comfort and safety during labor 【ACOG, 2020; WHO, 2018】 . In all situations, effective communication and ongoing support are key to a positive and safe birth experience.

TYPES OF DELIVERY - CESAREAN DELIVERY

Cesarean delivery is a surgical intervention used for the birth of the baby when vaginal delivery is not safe or possible. This surgery involves an incision in the mother's abdomen and uterus to extract the baby. Indications for a caesarean section may include placental abruption, placenta previa, fetal distress, anomalous position of the fetus, among other complications 【WHO, 2018】 .



While cesarean delivery is a life-saving intervention, especially in emergency situations, it is also associated with higher risks of complications for both mother and baby compared to vaginal delivery. Among the risks for the mother are infections, hemorrhages, anesthetic complications and prolonged postoperative recovery. For the baby, the risks include breathing difficulties, especially when delivery is carried out before 39 weeks of gestation without clear indication 【ACOG, 2020】 .

Rising caesarean section rates in many countries have been a cause for global concern, as many of these surgeries are performed without clear medical need, exposing mothers and babies to preventable risks. The World Health Organization recommends that the rate of caesarean sections should not exceed 10-15% of births, as above this percentage there is no evidence of benefits for maternal and neonatal mortality 【WHO, 2015】 .

Types of Childbirth - Assisted Births

Assisted births involve the use of instruments, such as forceps or vacuum puller, to help extract the baby during vaginal delivery. These procedures are indicated in cases where there is difficulty in expelling the baby, such as in situations of maternal exhaustion, detected fetal distress or when the baby is in an anomalous position that prevents the natural progression of labor 【RCOG, 2011】 .

The use of forceps or vacuum-extractor requires specific skills from the health professional to minimize the risks of trauma to the mother and baby. Possible complications include vaginal lacerations, severe perineal injuries, hemorrhages, and fetal injuries such as bruising or nerve damage. However, when used correctly, these instruments can be safe and effective in preventing more serious complications that could occur with prolonged delivery or an emergency caesarean section 【(Johanson, R., Menon, V., 2000).

Forceps-assisted or vacuum-extractor deliveries should be performed by qualified health professionals trained in obstetrics, such as obstetricians, physicians with specialized training in childbirth.

Difference Between Forceps and Vacuum-Extractor

1. **Forceps:**

- **Description:** The forceps is a metallic instrument that resembles a large forceps with two curved blades that fit around the baby's head. There are different types of forceps, such as the Simpson, the Kjelland and the Piper, each designed for different obstetric situations.
- **Indication:** The use of forceps is indicated when there is a need for help during delivery, such as in cases of maternal exhaustion, lack of progress in the second stage of labor, fetal suffering that requires rapid completion of labor, and some fetal presentations that



do not progress easily in the birth canal. It can also be used when there are contraindications to the use of the vacuum-extractor, such as in cases of extreme prematurity or when there is a need to control the rotation of the baby's head.

- **Advantages:** The forceps allow greater control over the rotation and traction of the baby's head, which can be especially useful in cases of shoulder dystocia or poorly positioned fetal presentations.
- **Disadvantages:** The use of forceps is associated with a higher risk of maternal injuries, such as vaginal and perineal lacerations, and fetal injuries, such as forceps marks, cephalohematomas, and, rarely, facial or cranial nerve injuries.

2. **Vacuum-Extractor (Suction Cup):**

- **Description:** The vacuum-extractor is a device that uses a suction cup (usually silicone or metal) that is attached to the baby's scalp. The suction cup is connected to a vacuum pump that creates suction, allowing the healthcare provider to apply traction to the baby's head to facilitate delivery.
- **Indication:** The vacuum-extractor is indicated in situations similar to those of the use of forceps, such as maternal exhaustion, lack of progress in the second stage of labor and fetal distress. It is often preferred to forceps in cases where minor manipulation is needed and to avoid injury to the mother and baby. However, it is not recommended in situations of extreme prematurity, cephalopelvic disproportion, or if the exact position of the baby's head cannot be determined.
- **Advantages:** The vacuum-extractor is less invasive than forceps and is generally associated with a lower risk of severe lacerations and maternal trauma. It also allows for faster assisted delivery, with less need for deep anesthesia.
- **Disadvantages:** The use of the vacuum extractor can cause bruising on the baby's scalp (cephalo-hematomas) and, in rare cases, intracranial hemorrhage. It should not be used if the baby is in an anomalous position that requires rotation, as the vacuum-extractor does not allow rotational control like forceps.

Indications for the Use of Forceps or Vacuum-Extractor

The use of forceps or vacuum-extractor should be carefully considered based on the conditions of the mother and baby, the progression of labor, and the experience of the health care provider. Key indications include:

1. **Maternal Exhaustion:** When the parturient is exhausted and unable to continue pushing effectively, especially after prolonged labor.



2. **Absence of Progress in the Second Stage of Labor:** When the baby's head does not descend properly into the birth canal after an adequate time of pushing attempts.
3. **Fetal distress:** When there are signs of fetal distress, such as persistent slowing of fetal heart rate, that require rapid completion of labor to prevent serious fetal complications.
4. **Specific Maternal Conditions:** In cases where the mother has medical conditions that contraindicate prolonged or intense pushing, such as certain heart diseases or severe respiratory diseases.
5. **Anomalous Fetal Presentation:** When the baby is in a position that does not allow natural progression through the birth canal, and there is a need for instrumental manipulation to facilitate safe delivery.

CONCLUSION

Despite the challenges, there are many opportunities for growth in the field of obstetric nursing. The increased demand for humanized, woman-centered obstetric care provides opportunities for the development of innovative, evidence-based practices. Studies show that the implementation of continuous care models, where obstetric nurses accompany women throughout pregnancy, results in better maternal and neonatal health outcomes.

CLINICAL CASE SOLVING

Clinical case 1 - Carla is a 28-year-old pregnant woman, in the second trimester of her first pregnancy. During the prenatal visit, she expresses concerns about the frequency of the recommended appointments and tests, as she feels that she is already healthy. She asks the obstetric nurse if all these visits and exams are really necessary. Why is regular prenatal care essential, even for pregnant women who feel healthy?

- A) To increase the anxiety of the pregnant woman in relation to pregnancy.
- B) To monitor the health of the mother and fetus, identify risk conditions early and promote preventive interventions.
- C) To ensure that the pregnant woman undergoes all available medical examinations, regardless of their need.
- D) To comply only with the administrative requirements of the health system.

Clinical case 2 - Marta, a 30-year-old pregnant woman in the second trimester, was advised to start iron supplementation. She questions the need for this supplementation, as she does not have symptoms of anemia and believes that iron can cause unpleasant side effects, such as constipation. What is the main reason for recommending iron supplementation from the second trimester of pregnancy, even for pregnant women without symptoms of anemia?



- A) To prevent iron deficiency and iron deficiency anemia, which are common due to increased iron demand during pregnancy.
- B) To improve the quality of sleep during pregnancy.
- C) Because it is a recommended practice only in some countries, without global consensus.
- D) To increase the energy of the pregnant woman to perform more physical activities.

Clinical case 3 - Maria, a 28-year-old primiparous pregnant woman, arrived at the hospital with regular contractions every 5 minutes, lasting 60 seconds. On initial examination, the vaginal examination revealed a dilation of 4 cm, with 50% effacement. The amniotic fluid was clear, and the fetal heart rate was 140 bpm. Maria is in the active phase of labor. During continuous monitoring, after 4 hours, dilation did not progress beyond 5 cm, and contractions began to space out every 7 minutes. The doctor decided to perform an amniotomy to try to speed up labor. Maria and her family were informed of the risks and benefits, and consent was obtained. After the amniotomy, Maria's contractions intensified, and the dilation progressed to 7 cm over the next two hours.

In view of the scenario presented, what would be the most appropriate conduct to be adopted by the health team to ensure the safety and well-being of Maria and the baby?

- A) Continue to monitor Maria without additional intervention, as labor is now progressing.
- B) Administer oxytocin to increase the frequency and intensity of contractions.
- C) Consider a cesarean section due to the initial lack of progression of labor.
- D) Perform continuous fetal monitoring and regular evaluation of labor progress, maintaining minimal interventions until there is a clear indication for further actions.

Clinical case 4 - Joana, a 35-year-old multiparous woman, arrives at the hospital in spontaneous labor. She is 39 weeks pregnant and had a previous vaginal delivery without complications. During the initial examination, it is found that Joana is 8 cm dilated and 100% effaced. The contractions are regular, occurring every 2 minutes, lasting 60 seconds. The health team decides not to intervene at the moment, allowing labor to proceed naturally. However, after 45 minutes, monitoring reveals a persistent fetal heart rate of 105 bpm for more than 10 minutes, suggesting fetal bradycardia. The medical team discusses possible interventions with Joana and decides to carry out an additional evaluation.

What is the most appropriate intervention to be taken by the health team to ensure the safety of the fetus and the mother?

- A) continue fetal monitoring and wait another 30 minutes to see if the fetal heart rate returns to normal.



- B) Position Joana in the left lateral decubitus position, administer supplemental oxygen and infuse intravenous fluids to improve uteroplacental perfusion.
- C) perform a cesarean section immediately to avoid the risk of prolonged fetal distress.
- D) apply an oxytocin infusion to intensify contractions and accelerate labor.

CORRECT ANSWERS

Clinical case 1 - Letter: (A). To prevent iron deficiency and iron deficiency anemia, which are common due to increased iron demand during pregnancy. **Rationale:** A because iron supplementation is recommended from the second trimester onwards to prevent iron deficiency and iron deficiency anemia, common conditions during pregnancy due to the increased demand for iron to support fetal growth and increased maternal blood volume. Anemia during pregnancy is associated with risks such as premature birth, low birth weight, and maternal complications, such as postpartum hemorrhage (Ministry of Health, 2012; Petry et al., 2019).

Clinical case 2 - Letter (C). To diagnose gestational diabetes, which can occur even in pregnant women with no previous history of blood glucose problems. **Rationale:** The Oral Glucose Tolerance Test (OGTT) is performed between 24 and 28 weeks to diagnose gestational diabetes, a condition that can develop during pregnancy even in women with no history of diabetes or blood glucose problems. Therefore, testing is an important preventive measure to ensure the health of the mother and baby (Ministry of Health, 2020).

Clinical case 3 – letter (D). perform continuous fetal monitoring and regular evaluation of labor progress, maintaining minimal interventions until there is a clear indication for new actions. Rationale: The most appropriate conduct according to current guidelines on the management of active labor. After the amniotomy, there was progress in Maria's cervical dilation, which indicates that labor is progressing. Additional interventions, such as administering oxytocin or performing a cesarean section, should only be considered if there are signs of fetal distress or failure to progress properly, as recommended by the American College of Obstetricians and Gynecologists (ACOG, 2020) and the World Health Organization (WHO, 2018).

Clinical case 4 – letter (B). Position Joana in the left lateral decubitus position, administer supplemental oxygen, and infuse intravenous fluids to improve uteroplacental perfusion. Rationale: When persistent fetal bradycardia is detected, the priority is to improve uteroplacental perfusion and oxygenate the fetus. Positioning the mother in the left lateral decubitus position can help relieve compression of the inferior vena cava, increasing venous return and improving blood flow to the uterus. Administration of supplemental oxygen and intravenous fluids may also help increase fetal oxygenation and perfusion. This approach is consistent with the



American College of Obstetricians and Gynecologists (ACOG, 2020) and World Health Organization (WHO, 2018) guidelines on the management of obstetric emergencies.



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