

Cauvery College for Women (Autonomous)

Nationally Accredited (III Cycle) with 'A' Grade by NAAC

Annamalai Nagar, Tiruchirappalli-18.



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Batch : 2016-2017 Onwards

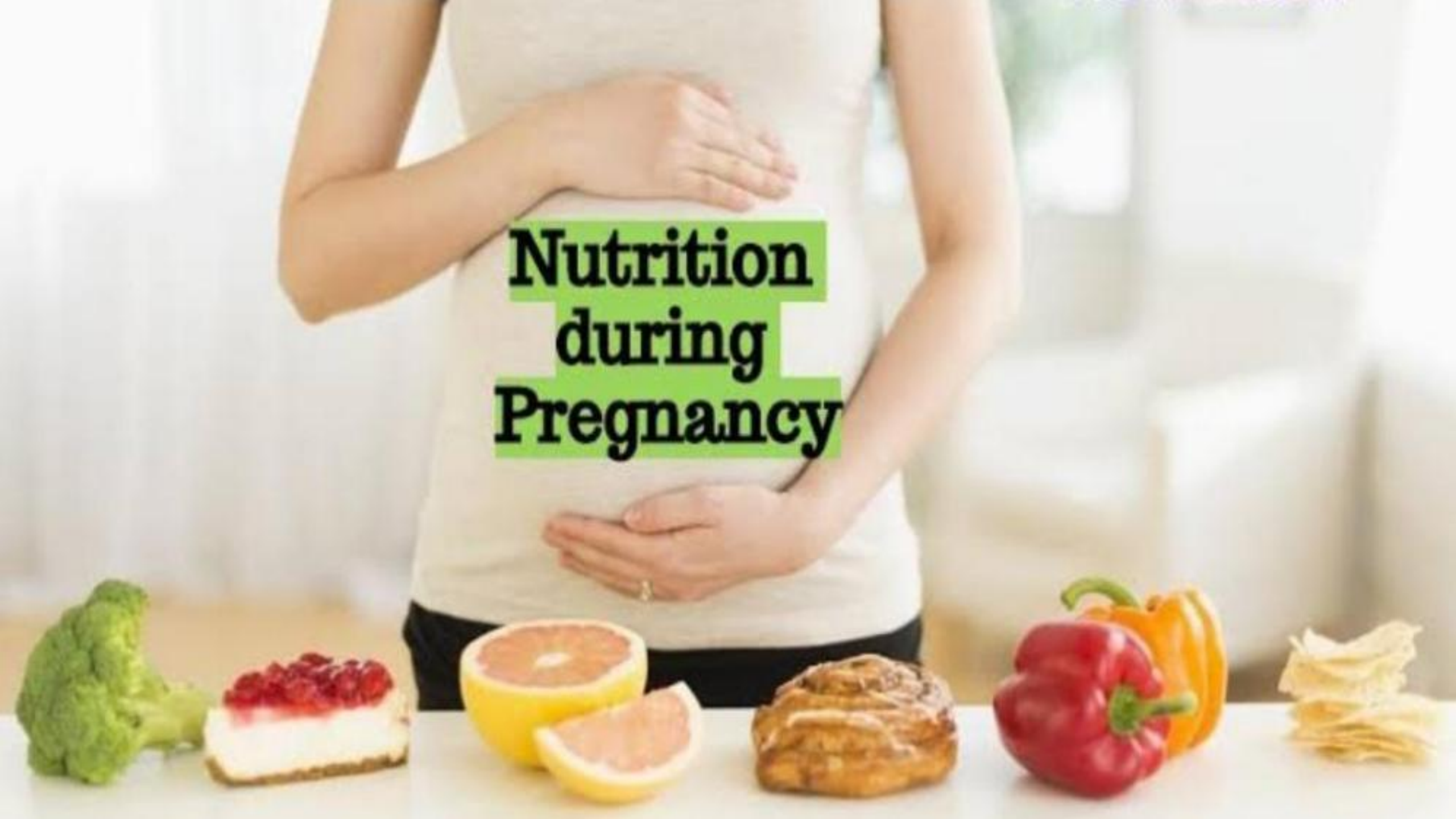
Semester : IV

Course Title : **Nutrition Through Life Cycle**

Course code : **16SCCND4**

Unit : I

Topic covered : b. Nutrition During Pregnancy.



**Nutrition
during
Pregnancy**





PREGNANCY



A typical **pregnancy** lasts 40 weeks from the first day of your last menstrual period (LMP) to the birth of the baby. It is divided into three **stages**, called trimesters: first trimester, second trimester and third trimester. The fetus undergoes many changes throughout maturation.

STAGES OF DEVELOPMENT



FERTILIZED EGG



1 DAY



1.5 DAY



2 DAY



3 DAY



4 DAY



BLASTOCYST



1 MONTH



2 MONTHS



3 MONTHS



4 MONTHS



5 MONTHS



6 MONTHS



7 MONTHS



8 MONTHS



9 MONTHS



- Start of the first trimester
- Ovulation and conception
- During week 4 some home pregnancy test will detect that you have conceived
- The embryo is just two cells



MONTH 1



- Signs of pregnancy: extreme fatigue; frequent urination; morning sickness; and hormonal fluctuations
- The baby's heart is beating
- The baby's brain is formed



MONTH 2



- Embryo officially becomes a fetus
- Decreased morning sickness
- Fetus is about the size of a plum



MONTH 3



- Start of the second trimester
- The baby's bones are hardening and will now show up on an x-ray
- The baby is around 5 inches long and weighs about 5 ounces



MONTH 4



- You begin to feel the baby start to kick
- The baby's hearing starts developing
- Common discomforts during this month: backache; indigestion; heartburn; headaches; water retention; dizziness; constipation



MONTH 5



- This month marks the halfway mark in your pregnancy
- At the end of this month the baby is almost fully formed



MONTH 6



- Possible occurrences of Braxton Hicks contractions
- The baby's brain is beginning to process sights and sounds
- The baby is about 13 inches long



MONTH 7



- The baby is fully formed and putting on weight
- The baby's lungs are almost fully developed



MONTH 8



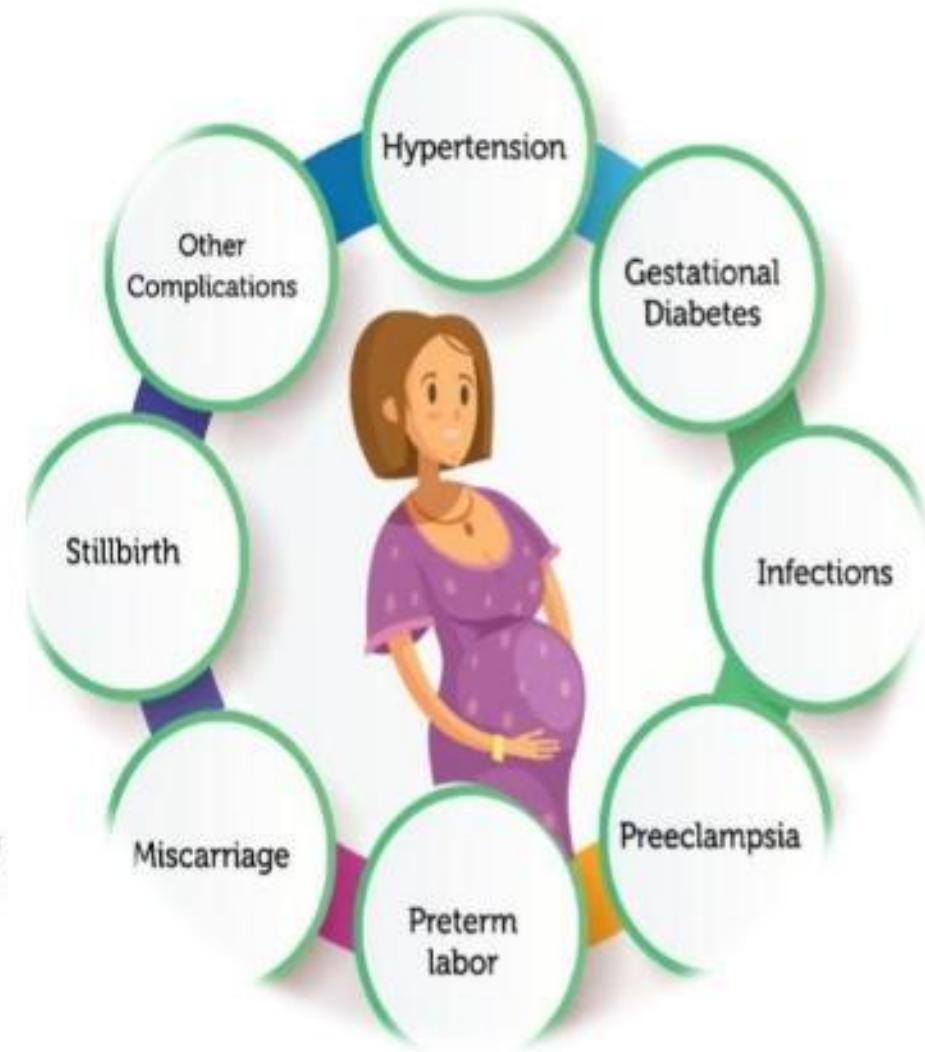
- Common discomforts: Braxton Hicks contractions; pelvic pressure; difficulty sleeping



MONTH 9

MOST COMMON COMPLICATIONS

Most common pregnancy related complications can be miscarriage, ectopic pregnancy, hypertension and diabetes in pregnancy, preterm labour, poor fetal growth, preterm rupture of membranes, obstetric cholestasis and low placenta. Jun 22, 2016



Complications of Pregnancy that may Impact Nutritional Status

- Nausea and Vomiting
- Constipation
- Food safety -food borne illness (high risk getting sick from eating unsafe food)
 - Pregnant mother have low ability to fight off infection.
 - Unborn baby's immune system is not fully developed
 - Increase risk of miscarriage or premature delivery



Pregnancy Problems

- Gestational diabetes
- Preeclampsia
- Low amniotic fluid
- Infections during pregnancy
- Rh incompatibility
- Ectopic pregnancy
- Premature birth
- Miscarriage
- Stillbirth



Energy Requirements During Pregnancy

- Additional Energy Needs for Normal Weight Women:¹
 - 2nd trimester + 360 kilocalories
 - 3rd trimester + 470 kilocalories
 - Lactation + 500 kilocalories RNI 2005
- Different Energy requirement for differences in age, body size, pre-pregnancy weight and lifestyles.¹

Vital nutrients for a pregnant women



Folic acid

B complex



Omega 3



Vitamin C



Protein

Iron



Fibre



Antioxidants



Calcium

Selenium



Zinc

The First Trimester

- A time of rapid cell division, organ development, and preparation for the demands of rapid fetal growth that occur during 2nd and 3rd trimester
- Critical nutrients during this phase include:
 - Protein
 - Folic acid
 - Vitamin B₁₂
 - Zinc



The 2nd and 3rd Trimesters

- **Energy intake** is especially important since 90% of fetal growth occurs during the last half of gestation.
- Critical nutrients during this phase include:
 - Protein
 - Iron
 - Calcium
 - Magnesium
 - B vitamins
 - Omega-3 fatty acid, docosahexaenoic acid (DHA)



Food to avoid

- Raw or unpasteurized milk
- Raw or partially cooked eggs
- Undercooked meat and poultry
- Raw or undercooked fish or shellfish
- Mercury can harm the developing nervous system in an unborn child or young baby.
 - Choices that are **lower** in mercury include salmon, tilapia, trout, pollock, and catfish.
 - Avoid eat fish **high** in mercury like shark, swordfish, tilefish, and King mackerel.



CONCLUSION



- Pregnant mother are encourage to get a balance diet to ensure sufficient nutrients for fetal growth and development.
- Those extra nutrients that essential included extra energy, protein (iron, zinc), healthy fat (omega-3 fatty acids), variety vegetables and fruits (folate, vitamin B, vitamin C) milk (calcium) and adequate fluid intake
- Reduce unhealthy food choices such as high refined sugar beverage/ foods (empty nutrients dense calorie), high saturated fat (deep-fried foods, coconut milk) and salty foods (processed, preserved and canned foods)



“Thank You”

