

Feeding the Fetus

In the womb, babies get all they need from their mother's body. What happens when there's a problem with the mother's diet?

Overweight and underweight

Around the world, **9.7%** of women are underweight and **14.9%** are obese

Maternal obesity is associated with:

- ! Increased maternal morbidity
- ! Preterm birth
- ! Infant mortality
- ! Increased risk of GDM

Maternal underweight is associated with:

- ! Preterm birth
- ! Low birth weight (LBW)
- ! Under-5 mortality
- ! Poor mental and physical development

In underweight women, multiple micronutrient supplements reduced risk of:

LBW	▼12-14%
Preterm birth	▼4-8%
SGA*	▼3-8%



Preconceptional weight <43kg or gestational weight gain <8kg

= 3x higher risk of SGA* or LBW infant

It's not just nutrition during pregnancy that matters - a fetus can be affected if a woman does not have the right nutrients in girlhood and pre-conception.

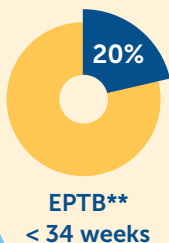
Micronutrient deficiencies and anemia are common among women of reproductive age.



Globally **29%** of nonpregnant women and **38%** of pregnant women are anemic.



15 million preterm babies (<37 weeks) are born annually



Babies < 34 weeks have increased risk of short/long term health problems, including:

- ! Lungs
- ! Gut
- ! Immune system
- ! Vision
- ! Hearing
- ! Developmental difficulties

Preterm birth

2nd leading cause of death for children under age of 5

Imbalance of omega-3 and omega-6 fatty acids:

premature cervical ripening

uterine contractions

pre-term birth

Omega-3 LCPUFA

WHO Recommendation – pregnancy:

Median intake (childbearing age):

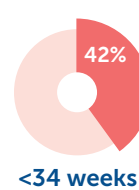
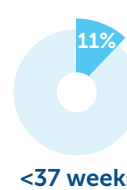


300mg/day

<100mg/day

Correcting low maternal omega-3 levels through supplementation may reduce the risk of EPTB.**

Omega-3 LCPUFA supplementation during pregnancy reduce preterm birth:



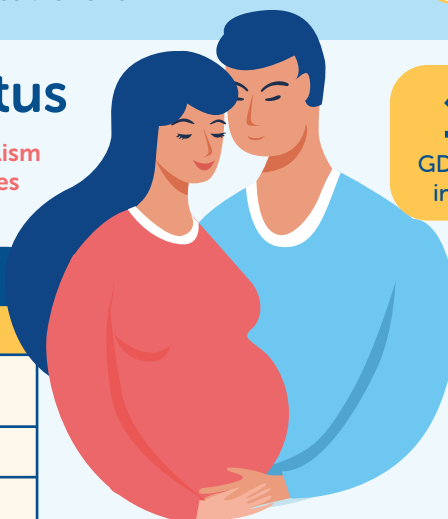
Gestational diabetes mellitus



GDM occurs when a pregnant woman's metabolism cannot maintain normoglycemia, which regulates transfer of glucose and nutrients to the fetus

Untreated GDM increases risks:

Short term	Long term
Fetal overgrowth	Non-communicable diseases for both mother and child
Shoulder dystocia	Childhood obesity
Cesarean section	Cardiovascular abnormalities
Hypertensive disorder	Glucose/insulin dysfunction
	Allergic/respiratory health and neurodevelopmental outcomes



1 in 6 pregnant women worldwide has GDM

GDM may result in epigenetic changes in the fetus which are not reversible

Nutritional strategies might help reduce the incidence of GDM in women at risk

Probiotics

L. rhamnosus and *B. lactis* Bb12:
▼63% vs placebo

Myoinositol

▼50-60% in high risk women

* Small for Gestational Age ** Early Preterm Birth

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NM Nestlé Nutrition Institute

Karger