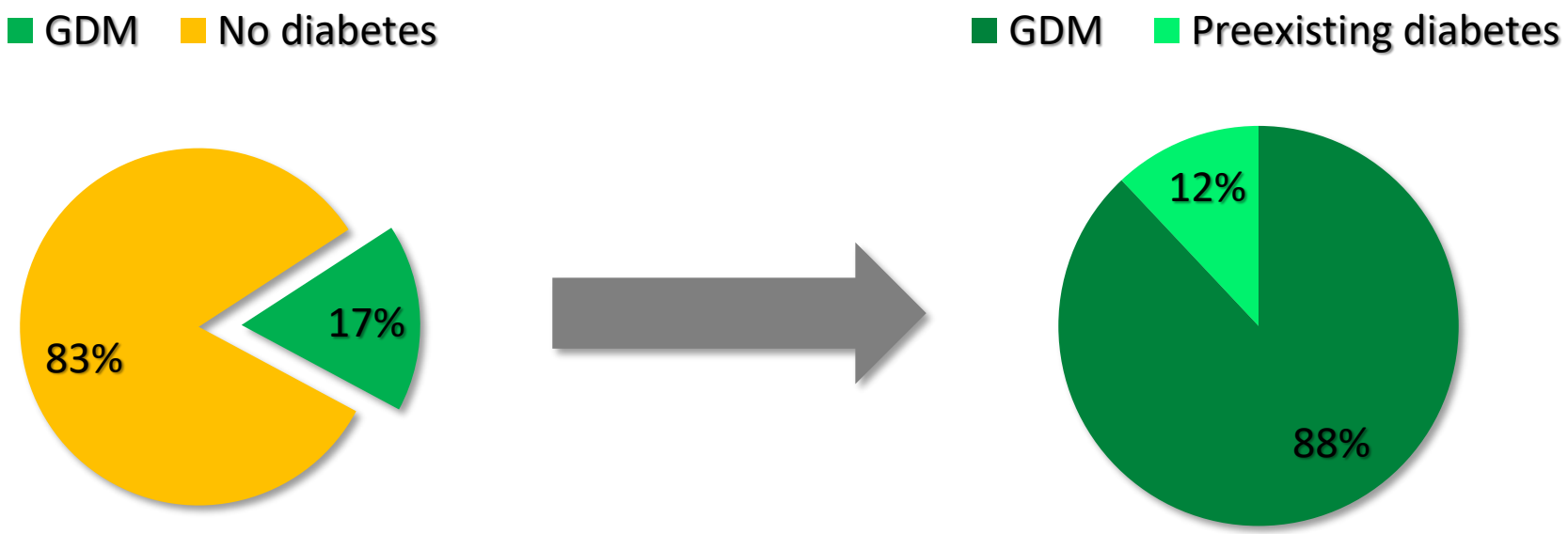
Diabetes in pregnancy

Haider Ayad Alidrisi

University of Basrah, College of Medicine

Definition and Prevalence

- Gestational diabetes mellitus (GDM) is defined as diabetes with first onset or recognition during pregnancy.
- 17% of all pregnancies will develop GDM



Glucose metabolism during pregnancy

- Insulin resistance occurs in normal pregnancy, particularly in the second half. Gestational diabetes develops when the pancreas is unable to secrete sufficient insulin to compensate for the insulin resistance.

Risk factors

- Overweight and obesity BMI ≥ 25.
- Age ≥ 25 years.
- Ethnicity (Arab).
- Previous glucose abnormalities during pregnancy.
- First degree relative with type 2 diabetes.
- Metabolic abnormalities like hypertension and dylipidemia
- PCOS
- Previous macrosomic baby (>4 kg).
- Polyhydramnios.
- Previous unexplained stillbirth.

Risk factors

- The western high fat diet,
- High CHO diet,
- High sodium diet

❖These are significant contributors to the development of GDM by causing excessive weight gain during pregnancy.

Screening and diagnosis of GDM

Perform a 75-g OGTT, with plasma glucose measurement fasting and at 1 and 2 h, at 24-28 weeks of gestation in women not previously diagnosed with overt diabetes

Perform OGTT in the morning after an overnight fast of at least 8 hrs

The test should be performed at the first antenatal visit in women with risk factors.

HbA1c not recommended neither for screening nor for follow up.

GDM diagnosis

GDM diagnosis when any one of the following is achieved	Fasting plasma glucose ≥92 mg/dL
	1 h plasma glucose ≥180 mg/ dL
	2 h plasma glucose ≥153 mg/ dL

Diabetes during pregnancy increases the risk of adverse outcomes for the mother:

Pregnancy	• Hypertension, Polyhydramnios, Preterm labor
Labor	• Shoulder dystocia, Operative vaginal delivery, 3rd and 4th degree perineal tear, Caesarean section, Postpartum hemorrhage
Later in life	• Type 2 diabetes

Diabetes during pregnancy increases the risk of adverse outcomes for the mother:

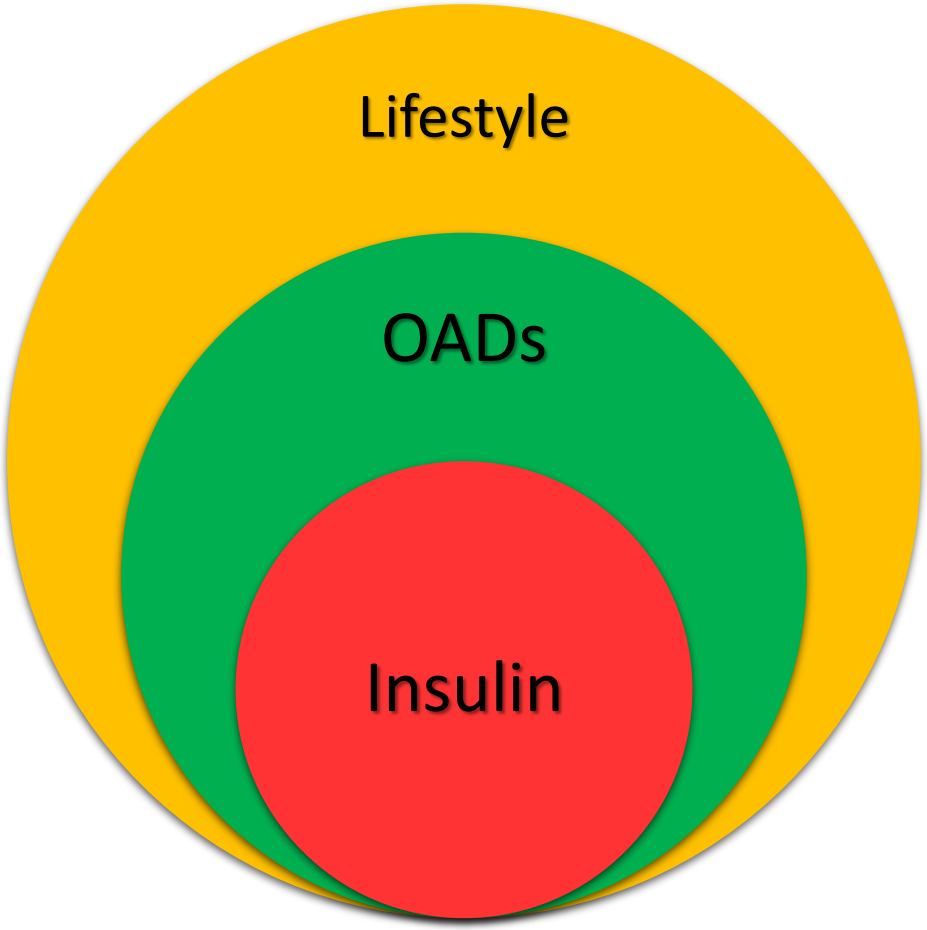
Diabetes risks in pregnancy

- Increased DKA, Increased hypoglycemia, Worsening of retinopathy, Worsening of any existing kidney, heart, or nerve problems.

Diabetes during pregnancy increases the risk of adverse outcomes for the fetus:

Unrecognized diabetes	• Stillbirth, Congenital malformation, Miscarriage, Perinatal death
Fetal development	• Macrosomia, Large for gestational age
Birth traumas, during and after birth	• Shoulder dystocia, Bone fractures, Brachial plexus palsy, Hyperbilirubinemia, Neonatal hypoglycemia, RDS

Management of GDM



Dietary modification, particularly reducing consumption of refined carbohydrates. Highly effective in the vast majority.

Metformin can be useful. Glibenclamide is safe in pregnancy.

Insulin is often required.

Targets by serial blood glucose monitoring

Pre-prandial 95 mg/dL

1 hr post-prandial 160 mg/dL

2 hr post-prandial 140 mg/dL

Follow up of patients with GDM

- 50% will develop diabetes by 10 years after delivery, Screening for type 2 diabetes as recommended

- After 3-6 month of delivery, OGTT should be done to see if diabetes mellitus will disappear or not.