Gestational Diabetes

for Student Midwives

HIVE Sessions Apr 24 & Apr 28, 2024

Terms

Gestational Diabetes Mellitus (GDM)

- Diabetes-like state diagnosed for the first time in pregnancy

Insulin Dependent Gestational Diabetes Mellitus (IDGDM)

- GDM condition requiring medication insulin to keep blood glucose levels within normal range

Glucose

- Sugar, as synthesized in digestion for bioavailability in bloodstream

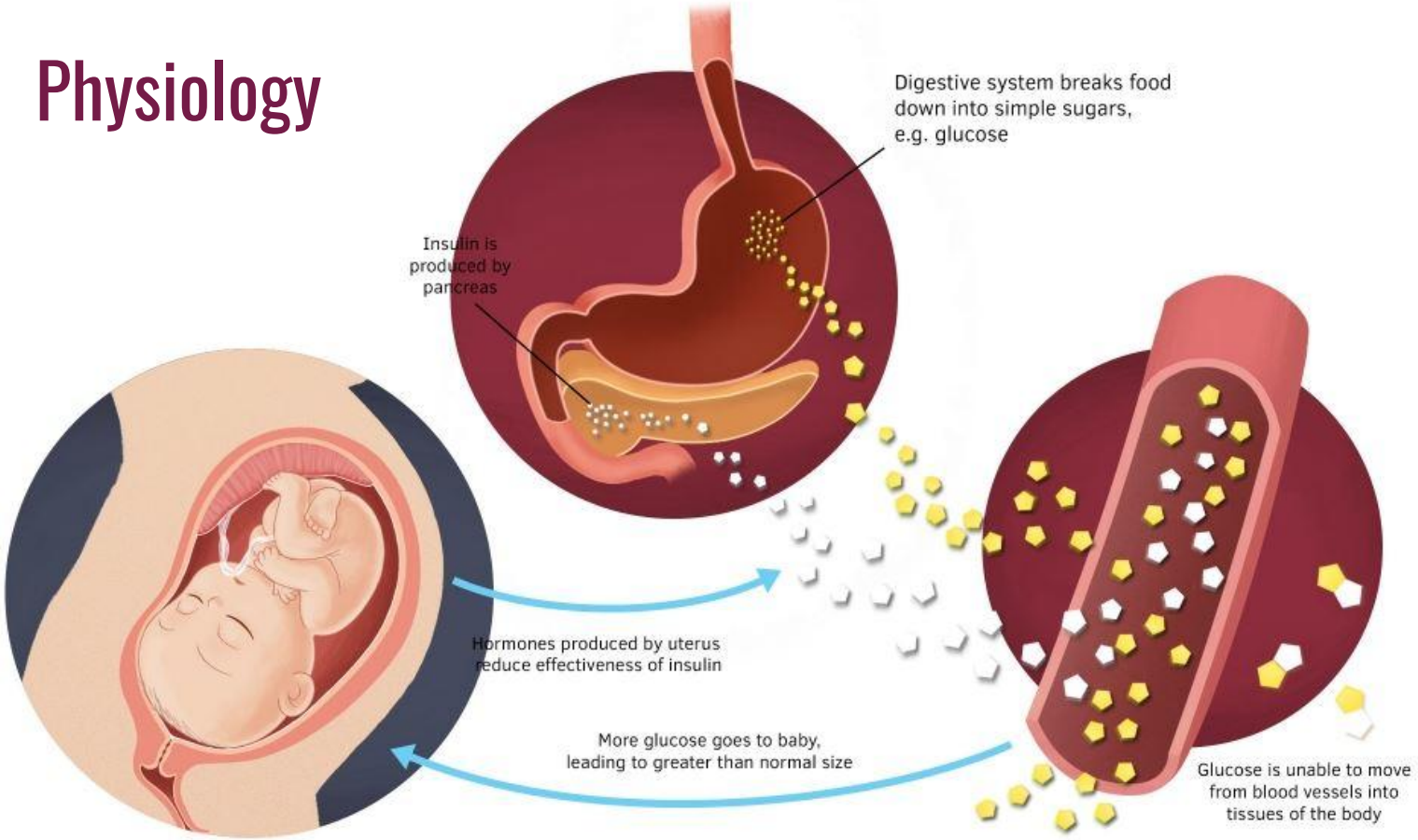
Insulin

- Hormone released by the pancreas to help blood glucose enter cells for energy and function

Insulin Resistance

- Cells unable to process insulin→ extra glucose in bloodstream → extra insulin made to try to overcome

Physiology


Digestive system breaks food down into simple sugars, e.g. glucose
Insulin is produced by pancreas
Hormones produced by uterus reduce effectiveness of insulin
More glucose goes to baby, leading to greater than normal size
Glucose is unable to move from blood vessels into tissues of the body

Risks of GDM - Why do We Even Care?

Big & Small Babies

Greater risk of (most common)

- Macrosomia
- LGA

But also:

- IUGR
- SGA

Birth Complications

Resulting implications of birth with big baby

- Prolonged labor
- Hemorrhage
- Birth Injury
- Shoulder Dystocia
- 3rd/4th deg tears

Associated Complications

- Stillbirth
- Pre-Eclampsia
- Hypertension
- Polyhydramnios
- Preterm birth

Risk Factors

Pre-Existing Insulin Resistance	• Personal history diabetes • PCOS • BMI 30+ pre-pregnancy
Family History	• Of diabetes • Of gestational diabetes
Demographics	• Immigration • Ethnicity • Age • Stress + Oxidative Stress

Early Prevention

Screening

- Careful health history and discussion regarding risk factors
- Special look at pregnancy history in this client - are their points of their history that increase their risk now?
- Consider early testing if at high risk (14-16 weeks, and then again at 24-28 weeks)

Counseling

- Conversations early in pregnancy with special attention to prevention - not just wait and see what the test says
- Tailored risk profile and consideration
- Look at diet and exercise, sleep and stress - make recommendations before ever testing to set up for best pregnancy health

Informed Choice re: Gestational Diabetes Screening

Do you want to screen?

- And if no screening, do you accept the risks of undiagnosed GDM?

If you screen positive - will you do diagnostic testing?

If you are diagnosed, will you be able to follow modified diet / exercise / sleep / stress care plan?

Will you be able to maintain home monitoring?

Do you understand the points at which you may need to be risked out of care?

Screening Options

Random Glucose & HbA1C

Random glucose: typically less than 125 (depending on last meal)

HbA1C: typically less than 5.7%

Postprandial Testing

Done at home on a glucometer

Fasting: less than 95 mg/dL

2h after meal: ideally 100-120mg/dL, okay to 140

OGCT

Can be done with glucola, Fresh Test, or standard food. Takes 3 draws:

Fasting: 95 mg/dL +

1hr: 180 mg/dL+

2hr: 155 mg/dL+

What if a Client Screens Positive?

Will they consider Diagnostic Testing?

- OGTT - ideally in a lab
- At-home postprandial testing for 1-2 weeks

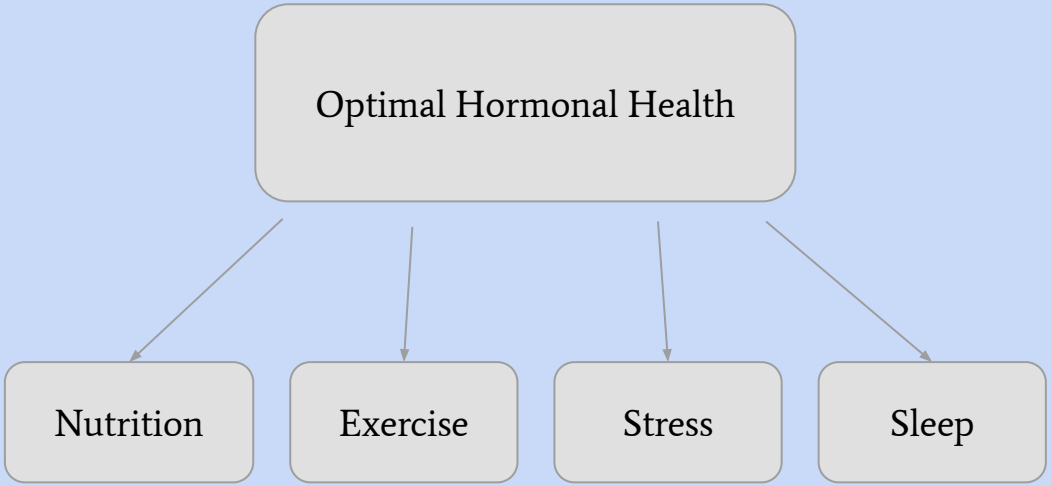
Will they do home monitoring?

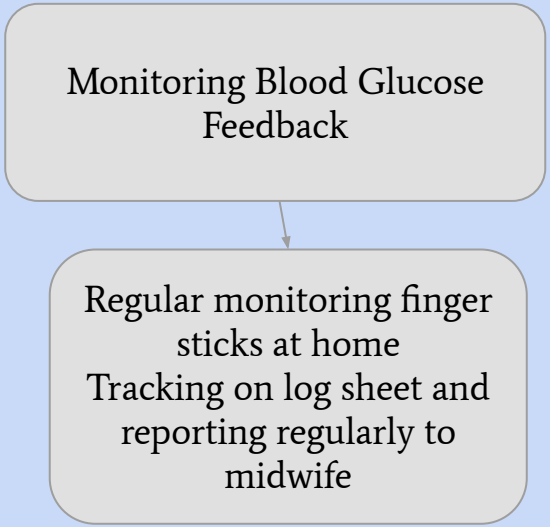
- For confirmation
- For ongoing monitoring if you're going to use the screen as the "diagnosis"

Gestational Diabetes Management

To keep clients **low risk** and **out-of-hospital** you'll need to...

Manage the physiology of GDM adequately!





Hormonal Health: Nutritional Advice

- Plan meals around protein & vegetables (fibre)
- Ensure you have a high protein breakfast
- You still need to eat carbs! Be choosy about which ones.
- Pair carbs & sugar intake with fat & protein
- You need to eat every 2 hours, at least a snack, centered on protein.
- You need to eat before bed, and likely if/when you wake in the night
- Get direct feedback on nutrition response with home glucose monitor

Give clients resources! I like...

- *Real Food for Gestational Diabetes*
- Instagram: @gestational.diabetes.nutrition

Hormonal Health: Exercise, Stress, Sleep

Exercise

- Mild to moderate exercise daily PLUS
- Ideally, a small walk after each meal
- Avoid high-intensity stressful exercise

Stress & Sleep

- Keep daily stressors to a minimum, modify lifestyle & expectations
- Support team to deal with large stressors
- Get 7-9 hours of sleep (total) nightly

Home Monitoring: Midwife Supported

Measure and track blood glucose with home glucometer at these key times:

- Fasting (first thing in the AM) (<95)*
- 1 hr after breakfast (<140)*
- 1 hr after lunch (<140)*
- 1 hr after dinner (<140)*

Additionally, keep a corresponding **nutrition log**

Check in every 3-7 days with midwife

*from ACOG & ADA

“Uncontrolled” GDM : Referring for Insulin Management

Decide within your practice guidelines what counts as “good glycemic control” and what counts as “poor glycemic control”.

If home monitoring is done approx 4x daily, most midwives will accept ~10-20% of values outside of target ranges especially when diet, exercise, stress or sleep were not optimal. If a particular target cannot be met (ex: always fasting blood glucose), this may be more concerning.

If you *cannot* achieve good glycemic control with attention to improvement and parameters within 2 weeks, most midwives will refer out to an OB for insulin management. Insulin-dependent gestational diabetes is **out of scope** for OOH midwives.

Increased monitoring for GDM

In a medical model...

- Daily kick counts in third trimester
- BPP & NST q4weeks from 28-36 weeks
- BPP @ 38, 40 weeks
- NST q1wk from 36wks - birth
- Induction of labour by 40w6d (ACOG, NICE) *when good glycemic control*
- Blood sugar monitoring q1-2h *in labor*

You can decide how much of this is appropriate, possible, and desired by your population out-of-hospital

Neonatal Care
in the context of GDM

Consider

- Home glucose monitoring (heel stick) - hospital @2h PP and before each next feed (approx 40+ mg/dL)

Infant born to parent with gestational diabetes is at greater risk for:

- Hypoglycemia
- Withdrawal (jitters, temp instability)

Ensure extra attention to:

- Excellent feeding (?supplementing) q2h
- Skin to Skin