**Gestational Diabetes**

National Midwifery Institute, Inc.

Study Group Coursework

*Syllabus*

Description:

This module explores gestational diabetes including risk, prevention and management in the within the midwifery scope of care. It includes recommended reading materials in print and online, and asks students to complete short answer questions for assessment, long answer questions for deeper reflection, and learning activities/projects to deepen your hands-on direct application of key concepts.

Learning Objectives:

* Identify the classification types of diabetes.
* Identify gestational diabetes risk factors in lifestyle, diet, and family history.
* Identify the screening and testing options for detecting gestational diabetes.
* Identify the routine application of the Oral Glucose Challenge Test (OGCT) and the Oral Glucose Tolerance Test (OGTT) in obstetric care.
* Identify your local community standard for glucose testing values requiring follow up.
* Understand random glucose screening and 2 hour postprandial screening as options for glucose screening.
* Identify the historical controversy over gestational diabetes and the OGTT.
* Identify the physiology of hypoglycemia.
* Explore the implication of hypoglycemia in long term development of diabetes.
* Identify the risk factors for “prediabetes” as listed by the American Diabetes Association.
* Describe the effects of pregnancy on maternal blood glucose levels.
* Identify nutritional and lifestyle changes that support normalizing blood glucose.
* Identify the role of glucosuria in evaluating a mother for gestational diabetes.
* Identify the apparent relationship between hypertension and pre-eclampsia and gestational diabetes.
* Identify the risks of gestational diabetes for the newborn.
* Define macrosomia.
* Identify the risks associated with macrosomic babies.
* Identify newborns for whom glucose monitoring is indicated.
* Identify the current standards of practice in your local community for monitoring gestational diabetes and newborn glucose levels.
* Review informed consent/informed choice.
* Review Hypertension and Pre-eclampsia modules.

Learning Activities:

* Research and read appropriate study sources, seeking out additional study sources where needed
* Complete short answer questions in attached module document for assessment
* Complete long answer questions for deeper reflection in attached module document for assessment
* Complete learning activities listed in attached module document for assessment
  + Create client referral and resource list for gestational diabetes
  + Create client handouts for dietary and lifestyle recommendations
  + Draft practice guidelines for gestational diabetes screening
* Submit work to Study Group Course Coordinator
* Reflect on feedback from Study Group Course Coordinator and re-submit work as needed

Study Sources (print):

The following texts are recommended for completion of this module. Use them to cross reference and build a more comprehensive understanding.

Using keywords from the Learning Objectives, search the index. Read those pages listed, and read the chapter in which they are found. Establish a context for the information so that you understand how other topics are related. In addition, read the chapter headings in the Table of Contents, and flip through each text to familiarize yourself with the content of chapters. As you work through Study Group modules, you will eventually read each text in its entirety.

* Holistic Midwifery, Vol. I, II, Frye
* Understanding Diagnostic Tests in the Childbearing Year, Frye
* Varney’s Midwifery
* Myles Textbook for Midwives
* Birth Emergency Skills Training, Gruenberg
* Clinical Practice Guidelines for Midwifery & Women’s Health, Tharpe, Farley, Jordan
* Assessment and Care of the Well Newborn, Thureen, Deacon, O’Neill, Hernandez
* The Natural Pregnancy Book, Romm
* Real Food for Gestational Diabetes, Nichols

Study Sources (online):

See NMI website Gestational Diabetes module web resources section for current online study sources for this module.

Related Modules:

* Nutrition
* Physical Assessment of the Adult
* Physical Assessment of the Newborn
* Labwork and other Clinical Assessments
* Hypertension
* Pre-eclampsia
* Uterine Size and EDD Discrepancies
* Urinary Tract Infections
* Liver
* Postpartum Care

Submitting Module for Assessment:

Study Group modules are accepted electronically in PDF format *only*. We encourage you to submit modules as you complete them throughout each quarter of enrollment.

Please e-mail your completed Study Group module to:

Study Group Course Work Instructor nmistudygroup@nationalmidwiferyinstitute.com

Once your module has been e-mailed to us, you will receive an e-mail confirmation that we have received it. Study Group modules are reviewed and returned in digital format as PDF documents. Modules can take up to 1 month from submission to be reviewed and returned to you. We will return your module as an e-mail attachment. Each module includes an Evaluation Sheet at the end of the pdf. The module’s page on the student portal also includes a link to a fillable online module evaluation sheet. Please take the time to fill out the module evaluation sheet and return it to us for each module, it helps us to improve our course work.

Please follow these formatting guidelines when submitting modules:

* Your first initial and last name in title of PDF, along with name of module. Example: “ERyanFirstStage.pdf”
* Title of module on the document’s front page
* Your name on the document’s front page
* Provide the text of each question, followed by a blank line and then your thoughtful answer (without the question, you have commentary without context)
* Blank line between the answer for a question and the next question: question, blank line, answer, blank line, question, blank line, answer…
* Please leave margin space for our comments!
* Don’t use script or cursive writing style text
* Font size not smaller than 12
* Credit sources of direct quotes

Completion Requirements and Feedback:

In order to complete this module for graduation purposes from National Midwifery Institute you must review all resources, complete the attached short answer questions for assessment, long answer questions for deeper reflection, and learning activities/projects, and submit them as detailed above. Upon return to you, your coursework may have feedback or ask for additional information or exploration on certain topics. Your work will be evaluated n the following Rubric (pasted below). You must achieve a minimum score of **7.5** in order to move on to your next module, though we encourage all students to strive for a **10.**

|  | **Level 1**  **(0 Points)**  **Not Adequate** | **Level 2**  **(1 Point) Developing Adequacy** | **Level 3**  **(1.5 points)**  **Meets Basic Expectations** | **Level 3**  **(2 points) Exceeds Expectations** | **Student Score** |
| --- | --- | --- | --- | --- | --- |
| **Completion of module prompts and elements** | -Module not completed | -Major Elements of module are missing | -All aspects of module elements present, with some minor questions unanswered or missing | -All aspects of module elements present and answered completely |  |
| **Demonstrates Comprehension of module content and concepts** | - Lack of comprehension | - Responses are unclear and do not reflect basic comprehension of module concepts | - Responses are clear and reflect basic comprehension of module content and concepts | - Responses are clear, well written, and reflect in-depth comprehension of module content and concepts. Added subpoints and additional reflections demonstrate a deeper knowledge and curiosity. |  |
| **Analysis** | - Key terms not defined | -Inaccurate definitions of key items  -Limited connections made between evidence, subtopics and clinical experience | -Accurate definitions of key items  -Connections made between evidence, subtopics and clinical experience -Incorporation of original ideas and incorporates some clinical experience  in responses where possible | - Accurate definitions of key items  -Strong connections made between evidence, subtopics and clinical experience |  |
| **Evidence** | - No research evidence used | -Research not used  -Research not clearly connected to questions asked in module | -Research is present but limited -Research presented is weak or not relevant to communities served by midwives | -Research is abundant -Research is compelling and relevant to communities served by midwives |  |
| **Engagement with Learning Resources** | -Evident study sources were not utilized | -Evident study sources were partially utilized | -Evident that study sources were fully utilized | -Evident that study sources were fully utilized and independent research was undertaken -Full incorporation of original ideas, personal analysis and incorporates relevant clinical experience in all areas possible |  |

Skills

Following are excerpts from the NMI forms for assessment of midwifery skills, which include all skills identified and required by NARM. Review the following skills and consider how they each relate to the content of this module. If you are currently working with a preceptor, take this opportunity to focus on these areas. During Supervised Primary Care you will formally evaluate these skills together using the NMI forms *Form 52 - Assessment of Student’s Midwifery Skills* and *Form 53 - Student Self-Assessment of Midwifery Skills.*

Following are excerpts from the NMI forms for assessment of midwifery skills, which include all skills identified and required by NARM. Review the following skills and consider how they each relate to the content of this module. If you are currently working with a preceptor, take this opportunity to focus on these areas. During Supervised Primary Care you will formally evaluate these skills together using the NMI form Preceptor Evaluation/Student Self-Assessment of Midwifery Skills.

1. Midwifery Counseling, Education and Communication:

A. Provides interactive support and counseling and/or referral services to the

mother regarding her relationships with her significant others and other health

care providers

B. Provides education, support, counseling and/or referral for the possibility of

less-than-optimal pregnancy outcomes

C. Provides education and counseling based on maternal

health/reproductive/family history and on-going risk assessment

D. Facilitates the mother's decision of where to give birth

1. The advantages and the risks of different birth sites

2. The requirements of the birth site

3. How to prepare, equip and supply birth site

E. Educates the mother and her family/support unit to share responsibility for

optimal pregnancy outcome

F. Educates the mother concerning the natural physical and emotional processes

of pregnancy, labor, birth and postpartum

G. Applies the principles of informed consent

H. Provides individualized care

I. Advocates for the mother during pregnancy, birth and postpartum

J. Provides education, counseling and/or referral, where appropriate for:

3. Prenatal testing

4. Diet, nutrition and supplements

8. Complications

4. Labor, Birth and Immediate Postpartum

D. Assesses the condition of, and provides care for the newborn by:

1) keeping baby warm,

2) making initial newborn assessment

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*Short Answer Questions*

Short Answer Questions:

1. Provide the current medical definition of the following:

1. Type 1 Diabetes
2. Type 2 Diabetes
3. Insulin-Dependent Diabetes
4. Gestational Diabetes

2. What does the abbreviation GDM stand for?

3. What are the symptoms of diabetes? What are the symptoms of gestational diabetes?

4. Describe the effects of pregnancy on blood glucose levels. What is the physiology of gestational diabetes?

5. Discuss oxidative stress.

1. what is oxidative stress?
2. how is it linked to GDM?
3. what effects does this have in turn to the pregnant body, and growing baby?

6. List risk factors for gestational diabetes.

7. Discuss the thought and correlation of obesity/high BMI and Gestational Diabetes.

8. Are there racial or ethnic differences in risk for developing Gestational Diabetes?

9. Is there a disparity in risk for developing Gestational Diabetes between immigrants/migrants (from any country to any country), and people pregnant in the country they have always lived in?

10. Are there higher rates of GDM in impoverished communities?

11. Discuss the connection between pre-conception PCOS and Gestational Diabetes.

12. If a client is identified (by self or midwife) as having risk factors for gestational diabetes, what preventative measures can be put in place to help the client regulate blood sugar normally in pregnancy?

13. At what point in pregnancy is gestational diabetes risk explored, and at what point in pregnancy is testing typically done? Why this point in pregnancy?

14. In the context of gestational diabetes testing, describe how you use informed choice/informed consent with your clients.

15. Discuss the following screening methods for gestational diabetes (numbered below). Be sure to cover for each:

1. what do they measure?
2. how is the test performed?
3. what are the benefits and drawback of this type of testing for GDM?
4. what are normal and abnormal values?
5. how accurate are they in diagnosing GDM?
6. if this type of test comes back “positive”, what are your next steps?

you may also choose to add any personal or client reflections on using these methods.

1. urinalysis test strips
2. random serum glucose
3. HbA1C
4. 2-hr post-prandial
5. OGCT
6. OGTT

16. What does a high fasting blood glucose indicate?

17. What piece of equipment may be utilized on site for evaluating maternal blood sugar levels?

18. If a client is diagnosed with gestational diabetes, are they risked out of midwifery care?

19. What is your management plan for a client with gestational diabetes?

20. What is the typical obstetrical management plan for a client with gestational diabetes?

21. What complications may occur from poorly controlled gestational diabetes for the pregnant person?

22. Discuss the connection between GDM and Pre-Eclampsia and Gestational Hypertension.

23. What is the cesarean section rate for clients with GDM? Why might this be?

24. What is the current local obstetrical standard of practice regarding gestational diabetes and induction of labor for post dates pregnancy?

25. What is the risk of developing Type 2 Diabetes later in life if a client has GDM during pregnancy? Why?

26. What complications may occur from poorly controlled gestational diabetes for the newborn?

27. Discuss macrosomia.

1. what is the weight indication of macrosomia?
2. what are the primary concerns with macrosomia?

28. Identify newborns for whom glucose monitoring is indicated. What role does gestational age, apparent sex of the baby, and newborn weight have to do with determining which babies need glucose monitoring?

29. What are the protocols for monitoring newborn glucose levels at your local community hospital or with the local pediatricians?

30. What is hypoglycemia?

31. Describe the physiology of hypoglycemia.

32. What are the symptoms of hypoglycemia during pregnancy?

33. What diet and lifestyle indications might you observe in someone with hypoglycemia?

34. Hypoglycemia may be a precursor to which condition?

35. What dietary instruction would you offer a pregnant client who is hypoglycemic?

Continued…..

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*Long Answer Questions for Deeper Reflection*

Questions Requiring Longer, More Thoughtful Answers:

(number continued from previous section).

36. Discuss the historical controversy over gestational diabetes diagnosis, lab values, testing protocols, research and funding, and more.

37. Identify current thought from the International Association of Diabetes and Pregnancy Study Groups (IADPSG) and the American Diabetes Association (ADA) on Gestational Diabetes.

38. What nutritional and lifestyle changes support normalizing blood glucose? What do you recommend to client with hypoglycemia? What do you recommend to clients with risk factors for gestational diabetes? What do you recommend to clients with gestational diabetes?

39. After your research, what options do you feel most comfortable with giving your clients for gestational diabetes testing? Will you offer these options yourself or send them elsewhere for testing?

40. Describe what you think of the “breakfast” or food-based challenges for GDM screening. Have you seen these in use? What research have you found on them? What do you think about them in your practice?

Continued…..

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*Projects/Learning Activities*

Projects(send completed projects with the rest of your course work for this module)

(number continued from previous section).

41. Research local services that assist prenatally with gestational diabetes. Add this to your client referral and resource list, with a brief description of the services offered. (This may be a list you keep handy rather than distribute to all clients)

42. Make client handouts based on your dietary and lifestyle recommendations explored in question 37. Submit these for review.

43. Draft practice guidelines for gestational diabetes screening in your own practice, including (at a minimum) reference to your use of informed consent, screening procedures, timing of tests, management plans, and response to newborns needing glucose monitoring. Submit this draft and include it later in your Practice Guidelines projects (in the Charting and Practice Guidelines Module.)