OPQIC and George Kaiser Family Foundation Present:

LOW-DOSE ASPIRIN INITIATIVE: REDUCING PREECLAMPSIA AND PRETERM BIRTHS IN OKLAHOMA

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Disclosure:
Funding for this project is supported by Oklahoma's own George Kaiser Family Foundation.

Thank You!
I. Current state of Preeclampsia and Preterm Birth

II. Defining Preeclampsia

III. Low-Dose Aspirin and Preeclampsia Prevention

IV. LDA Guidelines

V. Project Goals

VI. OBGYN Practice Considerations

VII. OPQIC QI Clinic Toolkit

VIII. Public Awareness Campaign

IX. Q&A
Preeclampsia is a leading contributor to severe maternal morbidity and maternal death.

2022 Oklahoma birth certificate data
- 48,314 live births, 8.8% with HPD (4,251.6), 0.5% with eclampsia (241.5) (OSDH)
- From 7/1/22-6/30/23, there were 2,445 SoonerCare patients diagnosed with preeclampsia, and 108 cases of eclampsia.

Preeclampsia is responsible for 6% of all medically indicated early preterm births, and 19% of preterm births.
- Preterm birth rate in OK 11.9%
- 45% higher in black women (2).

53% of OK counties are maternity care desert – distance to appointment, time off work to travel, emergent care access

High risk for cardiovascular diseases later in life after preeclampsia.

In Oklahoma, approximately ~1 woman dies every month and ~70 more have life-threatening complications related to childbirth.
WHAT IS PREECLAMPSIA?

• Referred to by many names: toxemia, gestational hypertension, preeclampsia, superimposed preeclampsia (existing chronic hypertension)
• Sometimes accompanied by HELLP Syndrome
  ◦ H - hemolysis
  ◦ EL - Elevated liver enzymes
  ◦ LP - Low platelet count
• Most commonly characterized by BP >=140/90 or greater and proteinuria (impaired kidney)
• Preeclampsia in the pregnant individual can lead to kidney, liver, or brain damage, blood clots, postpartum hemorrhage, eclampsia (seizures and/or coma), stroke, or death.
• Pregnancy complications include preterm birth, placental abruption, FGR, low birthweight.
  **Preeclampsia can also occur in the postpartum period.
Preeclampsia is thought to be caused by a problem with the placenta.

Poor placenta formation related to multiple causes, including:
- Chronic uteroplacental ischemia (poor blood flow to baby)
- Immune maladaptation (mother’s immune system)
- Genetic imprinting(3).
- Exaggerated inflammatory response to trophoblast development (facilitates exchange of nutrients/waste to placenta) (9)
- Poor remodeling of spiral arteries: Spiral arteries do not dilate as they would in a normal pregnancy, restricting blood flow.

Focus on prevention or delaying the onset of preeclampsia.
Prevalence of chronic hypertension is >50% an average of 14 years after pregnancy.

2x risk of death from cardiovascular disease.

Women with preeclampsia <34 weeks have a 4-8x higher risk of death from CD (5).

Increased risk of metabolic syndrome and chronic or end-stage renal disease (6).

It's unclear if preeclampsia itself is a predictor of CD or if it's the causative agent.
LOW-DOSE ASPIRIN FOR THE PREVENTION OF PREECLAMPSIA

• NSAID - Anti-inflammatory, Anti-platelet
• Method of action to inhibit action by key enzymes:
  ○ COX-1 lines the inner surface of blood vessels and regulates 2 types of prostaglandins:
    ▪ Prostacyclin - Vasodilator
    ▪ Thromboxane - Vasoconstrictor
  ○ COX-2 production related to inflammatory signals from the body
• LDA inhibits COX-1 enzyme’s ability to produce thromboxane but does not affect prostacyclin.
• A systematic review process revealed no maternal or fetal risks associated with LDA.
Low-dose aspirin significantly reduces rates of preeclampsia (15%), perinatal mortality (21%), preterm birth (20%), and FGR (18%) (4)

Final Recommendation Statement
Aspirin Use to Prevent Preeclampsia and Related Morbidity and Mortality: Preventive Medication
September 28, 2021
Despite recommendations from ACOG, USPSTF and SMFM, LDA is used in <50% of high-risk and <25% of patients with >1 moderate risk factor (7).

Patient surveys indicate only 58% of high-risk and 5% of moderate-risk patients recalled a provider recommendation to take aspirin.

Low rates of use due to:
- Low-rates of prescribers recommending LDA
- Patients don't remember receiving a recommendation
- Patients may be hesitant to take even though it's recommended
AIM

Reduce rates of preeclampsia and preterm birth in Oklahoma by increasing low-dose aspirin usage during pregnancy.

PROJECT SCOPE

Ensure providers have access to the most current guidelines and are prescribing aspirin to eligible patients.

Education and informational materials that target nurses, pharmacists, doulas, and midwives.

Public awareness campaign regarding the benefits of aspirin targeting the general population.
Updated GUIDELINES
More patients could benefit from aspirin therapy.

Table 1. Clinical Risk Assessment for Preeclampsia*

<table>
<thead>
<tr>
<th>Risk level</th>
<th>Risk factors</th>
<th>Recommendation</th>
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<tbody>
<tr>
<td>High²</td>
<td>• History of preeclampsia, especially when accompanied by an adverse outcome</td>
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<td></td>
<td>• Multifetal gestation</td>
<td>Recommended low-dose aspirin if the patient has ≥1</td>
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<td></td>
<td>• Chronic hypertension</td>
<td>of these high-risk factors</td>
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<td></td>
<td>• Pregestational type 1 or 2 diabetes</td>
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<td></td>
<td>• Kidney disease (i.e., systemic lupus erythematosus, antiphospholipid</td>
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<td></td>
<td>syndrome)</td>
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<td></td>
<td>• Combinations of multiple moderate-risk factors</td>
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<tr>
<td>Moderate¹</td>
<td>• Nulliparity</td>
<td>Recommended low-dose aspirin if the patient has ≥2</td>
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<tr>
<td></td>
<td>• Obesity (i.e., body mass index &gt;30)</td>
<td>moderate-risk factors</td>
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<td></td>
<td>• Family history of preeclampsia (i.e., mother or sister)</td>
<td>Consider low-dose aspirin if the patient has 1 of</td>
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<td></td>
<td>• Black persons (due to social, rather than biological, factors)⁴</td>
<td>these moderate-risk factors</td>
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<td></td>
<td>• Lower income⁴</td>
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<td></td>
<td>• Age 35 years or older</td>
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<td></td>
<td>• Personal history factors (e.g., low birth weight or small for gestational</td>
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<td>age, previous adverse pregnancy outcome, &gt;10-year pregnancy interval)</td>
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<tr>
<td></td>
<td>• In vitro conception</td>
<td></td>
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<tr>
<td>Low</td>
<td>Prior uncomplicated term delivery and absence of risk factors</td>
<td>Do not recommend low-dose aspirin</td>
</tr>
</tbody>
</table>

*Includes only risk factors that can be obtained from the patient medical history.

²Includes single risk factors that are consistently associated with the greatest risk for preeclampsia. Preeclampsia incidence would likely be at least 8% in a population of pregnant individuals having 1 of these risk factors.

¹These factors are associated with increased risk due to social, personal, and historical inequities shaping health exposures, access to health care, and the unequal distribution of resources, not biological propensities.

Some are more consistently than others. A combination of multiple moderate-risk factors may place a pregnant person at higher risk for preeclampsia.
ASPIRIN ADMINISTRATION

• Therapy initiated at 12 weeks gestation, or between 12-16 weeks.
  ○ New guidelines: 12-28 weeks gestation
  ○ Take 1 tablet every day at bedtime until birth.

• Aspirin must be taken >90% of the time to be most effective (8).
  • Medication reminder apps, alarms, calendar
  • Requires regular follow-up
Sending an electronic prescription is recommended.
- Improves medication reconciliation
- Provides specific directions for use on bottle.
- OHCA will pay for 100 tablets of low-dose aspirin for a 100-day supply for the prevention of preeclampsia in pregnant persons. Refills allowed.
- Covered by most commercial plans.

Alternative options:
- Instruct the patient to buy low-dose aspirin OTC at the drugstore
  - Barrier: timeliness of purchase, follow-up, cost
- Provide aspirin onsite (request from pharm rep)
  - Barrier: drug sample laws, may have to purchase, quality tracking
OBGYN Practice

INTERNAL ANALYSIS
PATIENT CARE GAPS

• Differences in recommendations amongst providers.
• Need for improved access to healthcare and prescriptions (transportation barriers).
• Siloed health professionals.
• Patient not considered as part of the care team and decision-making.
• Lack of educational materials that span different educational attainment levels or languages (patient medical literacy).
• “Information” as a social determinant of health
  • How we deliver it → where we deliver it → who delivers it = improved patient outcomes (10)
THINGS FOR AN OBGYN PRACTICE TO CONSIDER:

• What is the current protocol for prescribing aspirin?
• What type of screening is done to identify eligibility?
• What type of patient education is being offered?
• What does patient follow up look like?
• In what way are we ensuring patients have access to aspirin?
ENSURING PATIENT BUY-IN AND COMPLIANCE

- Patient self-screens eligibility during first prenatal appointment.
- Nurse guides patient through screening process.
- Provider discusses patient's eligibility for aspirin.
- Provider issues easy-to-understand instructions on why aspirin is important. Include "teach-back" if applicable.
- Patient is given a prescription for aspirin.
- Revisit aspirin compliance each visit and identify barriers to adoption.
- Role of doula: empower patients to ask questions, are patients high risk?
OBGYN Practice Toolkit
**For patient use:**
Complete at first prenatal visit with intake paperwork.

**For clinician use:**
Scan as media to patient's profile

**For provider use:**
Clarify who is, and who is not eligible for prophylactic LDA use.
Posters for office displays.

Adherence calendars.

Provide to patients who are told to take aspirin.
Patient completes screening form during first prenatal appointment.

Nurse completes screening form with patient and/or asks score.

Provider discusses aspirin eligibility with patient. Explains what aspirin does.

Patient is provided aspirin education brochure.

Provider prescribes low-dose aspirin to patient's preferred pharmacy.

Patient attends following prenatal appointments.

Nurse completes medication rec, identifies barriers to adoption.

Provider asks about patient concerns regarding aspirin.

L&D asks about prenatal vitamins and aspirin use in pregnancy.

Incorporate doulas - empower patients to ask questions, direct patients to resources.
Public Awareness Campaign
OSDH Public Awareness Campaign

#AskAboutAspirin
Social media, media spots.
OPQIC Social Media Campaign

DID YOU KNOW LOW-DOSE ASPIRIN (81MG) CAN HELP REDUCE YOUR RISK OF DEVELOPING PREECLAMPSIA?

Do you have risk factors? Talk to your doctor today. #AskAboutAspirin

#AskAboutAspirin
English and Spanish
Link to preeclampsia.org/aspirin
QUESTIONS?

Learn more:
www.opqic.org/lda
For more information on this initiative or to schedule a presentation, contact Melissa-Warde@ouhsc.edu.
Sources

1) C. (2023, JUNE 19). HIGH BLOOD PRESSURE DURING PREGNANCY. CENTERS FOR DISEASE CONTROL AND PREVENTION. HTTPS://WWW.CDC.GOV/BLOODPRESSURE/PREGNANCY.HTM

2) 2022 MARCH OF DIMES REPORT CARD FOR OKLAHOMA. (N.D.). MARCH OF DIMES | PERISTATS. HTTPS://WWW.MARCHOFDIMES.ORG/PERISTATS/REPORTS/OKLAHOMA/REPORT-CARD


