Stopping Gestational Diabetes in Daughters and Mothers: A Gestational Diabetes Risk Reduction Program for American Indian/Alaska Native Girls and their Adult Female Caregivers – Strategic Plan for Dissemination

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for the Stopping GDM Study Group
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Faculty/Presenter Disclosure

• In the past 12 months, Dr. Kelly Moore has no relevant financial relationships with the manufacturer(s) of commercial services discussed in this CME activity.

• I do not intend to discuss an unapproved/investigative use of a commercial product/device in my presentation.
Objectives

At the end of this session, participants will be able to:

1. Describe the Stopping GDM program
2. Identify key avenues by which they can participate in Stopping GDM program dissemination
3. Generate ideas for key strategies for best practices of Stopping GDM dissemination in their community
Background

- American Indian and Alaska Native (AIAN) women are disproportionately affected by adolescent obesity, adolescent pregnancy, and gestational diabetes mellitus (GDM); all with nearly twice the United States prevalence.
- GDM can cause pregnancy & newborn complications
- GDM in turn increases the risk of obesity and type 2 diabetes in the mother and offspring
- Great need for early preconception counseling interventions prior to pregnancy to reduce risk for GDM in AIAN girls and young women
Rapid and dynamic cognitive, developmental, and emotional changes occur during childhood, adolescence, and emerging adulthood. Diabetes management during childhood and adolescence places substantial burdens on the youth and family, necessitating ongoing assessment of psychosocial status and diabetes distress commonly except in cases in which refusal would significantly endanger health (22).

Beginning at the onset of puberty or at diagnosis of diabetes, all adolescent girls and women with childbearing potential should receive education about the risks of malformations associated with unplanned pregnancies and poor metabolic control and the use of effective contraception to prevent unplanned pregnancy. Preconception counseling using developmentally appropriate educational tools enables adolescent girls to make well-informed decisions (23). Preconception counseling resources tailored for adolescents are available at no cost through the ADA (24). Refer to the recent ADA position statement “Psychosocial Care for People With Diabetes” for further details (15).

Screening
Timeline for Stopping GDM Project

Year 1-2 (Phase 1)
- Qualitative focus groups: cultural tailoring for AIANs
- HCP/Co-I Task Forces: Gestational diabetes, Diabetes prevention for teens, M-D communication, toolbox
- Development of SGDM educational materials by revising and tailoring original READY-Girls materials
- Pilot in one Urban Indian health setting

Year 3-4 (Phase 2)
- Multi-site randomized controlled trial

Year 5 (Phase 3)
- Dissemination
- Analysis
- Revision
Project Background

- This project includes adaption of an existing preconception counseling (PC) program
- READY-Girls is a validated PC program for teens with diabetes to raise awareness of diabetes and pregnancy, pregnancy-related complications, prevent unplanned pregnancies, and how to plan pregnancies to decrease their risks.
- Originally developed for non-AIAN teens with diabetes
- Collaboration with University of Pittsburgh and American Diabetes Association
- Principal Investigators (Charron-Prochownik & Moore) partnered to adapt READY-Girls for AIAN teens at risk for GDM
READY-Girls PC Education Program

• Reproductive-health Education and Awareness of Diabetes in Youth for Girls (READY-Girls)
• A theory and evidence-based preconception counseling program for teens with diabetes - starting at puberty
• Format
  – Video (DVD)
  – Book
Stopping GDM Program

• Mother-daughter dyadic online intervention

• Stopping GDM program for AIAN girls at risk for GDM with focus on:
  – Raising awareness of Gestational diabetes (susceptibility, severity)
  – Family planning – How to plan pregnancies
  – GDM risk reduction (benefits, barriers, self-efficacy)
    • Starting before pregnancy:
      – Healthy weight
      – Healthy eating
      – Physical activity
    – Mother-daughter communication
  – Daughter-HCP communication

• Format
  – Electronic book (eBook)
  – Video (online)
  – Mother communication booklet
  – Tool Box (general and regional)
Educational Materials
Who gets GDM?
A woman is more likely to get GDM if she has the following risk factors.

True or False?
American Indian/Alaska Native women have a higher risk of developing GDM.

- True

Even if you don't get GDM during your first pregnancy, American Indian/Alaska Native women are still at risk for getting GDM in their future pregnancies.

- True

What's my risk of getting GDM?
Check all the risk factors for GDM that are a 'yes' for you:

- Are overweight before getting pregnant
- Are not physically active
- Are American Indian or Alaska Native
- Have been told you have pre-diabetes
- Have been told you have high blood sugar
- Were younger than 18 years old when you started your first period
- Have a health problem called polycystic ovaries syndrome (PCOS)
- Have a mother, father, brother, or sister with diabetes
- Had diabetes while pregnant during another pregnancy
- Have given birth to a baby weighing more than 9 pounds
- Are over age 25

The good news is that you can lower your chances of getting diabetes while you are pregnant by:

- Being at a healthy weight when you get pregnant
- Eating a healthy diet
- Being physically active
- Not gaining too much weight while you are pregnant

If you are pregnant and want to be more physically active, it is important to check with your nurse or doctor to be sure it is safe.
American Indian and Alaska Natives are Twice as Likely to Get Gestational Diabetes or GDM
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Stopping GDM Pilot

• Piloted newly developed Stopping GDM education materials (eBook, video) and online-based survey portal with AIAN mothers and daughters in one Urban Indian Health Organization setting

• Participants met study coordinators at DIHFS for one 2 hour session
Stopping GDM Pilot

• Pilot participants needed to be
  – AIAN mother/daughter ‘dyad’ (or couple)
  – Daughter between 12-20 years old
  – Daughter with Body Mass Index (BMI) percentile in the overweight or obese range for age
  – Daughter with A1C in non-diabetes range

• Each participant – both mother and daughter – received a $25 gift card for her time
Stopping GDM Pilot

• Two hour session included:
  – Informed consent / assent (project approved by University of Colorado IRB and National IHS IRB)
  – Checking daughter’s A1C by fingerstick
  – Internet access to educational materials and study survey on research web portal for each participant on a study laptop
    • Pre- and Post- Surveys
    • Educational eBook
    • Educational Video
Stopping GDM Pilot

- Surveys included questions about
  - Knowledge of gestational diabetes, reproductive health, diabetes prevention before and after reading eBook and watching video
  - Self-efficacy questionnaire
  - Demographics
  - Likability of eBook and video
Stopping GDM Pilot Participants

• Five mother/daughter dyads
• One mother brought 2 daughters who both qualified
• Total = 5 mothers and 6 daughters
Stopping GDM Pilot Findings

• Several issues with the online survey (e.g., date of birth was hard to enter)
• Font size needed to be increased for the eBook for some participants
• Participants mentioned the session got ‘a little too long’
• Participants liked the video
• Participants liked the images/actors ‘relatability’
## Stopping GDM Pilot Findings

<table>
<thead>
<tr>
<th>Mother and Daughter</th>
<th>PRE M ± SD (Range)</th>
<th>POST M ± SD (Range)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diabetes Prevention Comprehensive Knowledge (total score) (range 0-11)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother (n=4)</td>
<td>7.75 ± 3.30 (4.00-11.00)</td>
<td>8.75 ± 1.50 (7.00-10.00)</td>
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<tr>
<td>Daughter (n=5)</td>
<td>5.00 ± 2.00 (3.00-8.00)</td>
<td>6.40 ± 2.30 (4.00-10.00)</td>
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<tr>
<td><strong>Reproductive Health Knowledge (total score)</strong></td>
<td></td>
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<tr>
<td>Mother</td>
<td>8.50 ± 3.70 (5.00-13.00)</td>
<td>12.00 ± 0.82 (11.00-13.00)</td>
</tr>
<tr>
<td>Daughter</td>
<td>4.40 ± 3.58 (0.00-9.00)</td>
<td>9.20 ± 1.64 (8.00-12.00)</td>
</tr>
<tr>
<td><strong>Reproductive Health Knowledge subscale (range 0-6)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td>4.75 ± 0.96 (4.00-6.00)</td>
<td>5.50 ± 0.58 (5.00-6.00)</td>
</tr>
<tr>
<td>Daughter</td>
<td>2.40 ± 2.07 (0.00-5.00)</td>
<td>4.60 ± 1.52 (3.00-6.00)</td>
</tr>
<tr>
<td><strong>GDM Knowledge subscale (range 0-7)</strong></td>
<td></td>
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</tr>
<tr>
<td>Mother</td>
<td>3.75 ± 3.30 (0.00-7.00)</td>
<td>6.50 ± 0.58 (6.00-7.00)</td>
</tr>
<tr>
<td>Daughter</td>
<td>2.00 ± 1.87 (0.00-5.00)</td>
<td>4.60 ± 1.67 (2.00-6.00)</td>
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<tr>
<td><strong>Satisfaction Book (total score) (range 3-12)</strong></td>
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<td></td>
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<tr>
<td>Mother</td>
<td></td>
<td>9.25 ± 0.50 (9.00-10.00)</td>
</tr>
<tr>
<td>Daughter</td>
<td></td>
<td>9.00 ± 2.74 (7.00-12.00)</td>
</tr>
<tr>
<td><strong>Satisfaction Video (total score) (range 4-16)</strong></td>
<td></td>
<td></td>
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<tr>
<td>Mother</td>
<td></td>
<td>12.75 ± 2.22 (11.00-16.00)</td>
</tr>
<tr>
<td>Daughter</td>
<td></td>
<td>11.20 ± 2.49 (8.00-15.00)</td>
</tr>
<tr>
<td><strong>Satisfaction Website (total score) (range 2-8)</strong></td>
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<td></td>
</tr>
<tr>
<td>Mother</td>
<td></td>
<td>7.00 ± 1.15 (6.00-8.00)</td>
</tr>
<tr>
<td>Daughter</td>
<td></td>
<td>6.80 ± 0.84 (6.00-8.00)</td>
</tr>
</tbody>
</table>
## Stopping GDM Pilot Findings

<table>
<thead>
<tr>
<th>Demographic: M ± SD (Range) or n (%)</th>
<th>Mother (n=3)*</th>
<th>Daughter (n=5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>44.42 ± 8.78 (34.51-51.23)</td>
<td>15.96 ± 2.71 (13.75-19.46) (n=4)</td>
</tr>
<tr>
<td>Education (highest level of education attained)</td>
<td></td>
<td></td>
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<tr>
<td>Grade 8 or less</td>
<td></td>
<td>2 (40)</td>
</tr>
<tr>
<td>Between grades 9-12</td>
<td></td>
<td>2 (40)</td>
</tr>
<tr>
<td>High school graduate</td>
<td></td>
<td>1 (20)</td>
</tr>
<tr>
<td>Some college/university</td>
<td>2 (66.7)</td>
<td></td>
</tr>
<tr>
<td>Vocational school</td>
<td>1 (33.3)</td>
<td></td>
</tr>
</tbody>
</table>

* Only 3 of the 4 mothers completed the socio-demographic form.
Stopping GDM Pilot Findings

• Positive changes in pre/post knowledge for both mothers and daughters from watching the video and reading the eBook in the following areas:
  – Diabetes prevention knowledge
  – Reproductive health knowledge
  – Self efficacy for healthy living and pregnancy planning
Timeline for Stopping GDM Project

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Stopping GDM RCT

Baseline Visit
- Consent, wt, ht, A1C
- Randomization
- Intervention or control (surveys and March of Dimes pamphlet #1; I-group video)

3 month F/u
- Wt, ht
- Surveys and March of Dimes pamphlet #2; I-group eBook part 1

6 month F/u
- Wt, ht
- Surveys and March of Dimes pamphlet #3; I-group eBook part 2

9 month F/u
- Wt, ht, A1C
- Surveys; entire intervention for C-group
- Face-to-face HCP Reproductive Health Plan
- Tool box
- Access to book and video at completion of Phase 2 data collection at all sites
Update on Stopping GDM RCT

- Added new site (Portland, OR)
- Expanded age range and BMI inclusion criteria
- Decreased data collection period by shortening time between study visits to 3 months
- Continue recruitment through October 1, 2019
Challenges with RCT

• Obtaining all IRBs (University, Tribal, National and Regional Indian Health Service)
• Recruitment at all sites
• Mothers/daughters together
• Solutions:
  – remote access
  – home-based
  – paper surveys
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Dissemination Plan

• “Participants” are Health Care Providers
• Recruiting Health Care Providers to learn about Stopping GDM and recommend program to their patients (Free)
• Indian Health Service Webinar – scheduled October 2019; with pre/post knowledge & satisfaction questionnaire for CEU credits
• Provider “portal” online at U Pitt for background information on Stopping GDM & downloadable copies of eBook, mother communication book, video and general tool box
Dissemination Plan cont’d

• Stopping GDM: eBook, video, mother communication booklet, tool box
• Patients will have satisfaction survey (optional) post viewing only
• Conferences (such as IMICH)
• Indian Health Service webinar (October 2019)
• Offer to all HCP at each current participating site: Navajo, St Regis Mohawk, U of Oklahoma Tulsa Campus Harold Hamm Diabetes Center, Tulsa, Portland and additional communities
Other ideas for dissemination to health care providers in your communities?
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