Intervening during & after pregnancy to prevent weight retention among African American women

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Obesity and pregnancy

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  - Majority of African American women now gain in excess of Institute of Medicine (IOM) guidelines

Obesity and pregnancy

- Childbearing period is critical life stage for African American women to experience – or avoid – excess weight gain and new or persistent obesity
- Strongest predictor of parity-related obesity = higher gestational weight gains
  - Majority of African American women now gain in excess of Institute of Medicine (IOM) guidelines
- Is targeting weight gain in pregnancy enough?

Also intervene postpartum?

- No RCTs have demonstrated long-term postpartum weight effects of antenatal interventions
- Ethnic minority women with obesity actually gain weight between 1 and 12 months after birth
- Intervening during ***and*** after pregnancy may be necessary to produce sustained postpartum weight loss
  - No published trials have tested this approach in African American women to date

Primary objective

- To determine whether a behavioral intervention implemented between 12 weeks' gestation and 6 months postpartum could increase the proportion of obese African American women who returned to their early pregnancy weights by 6 months postpartum

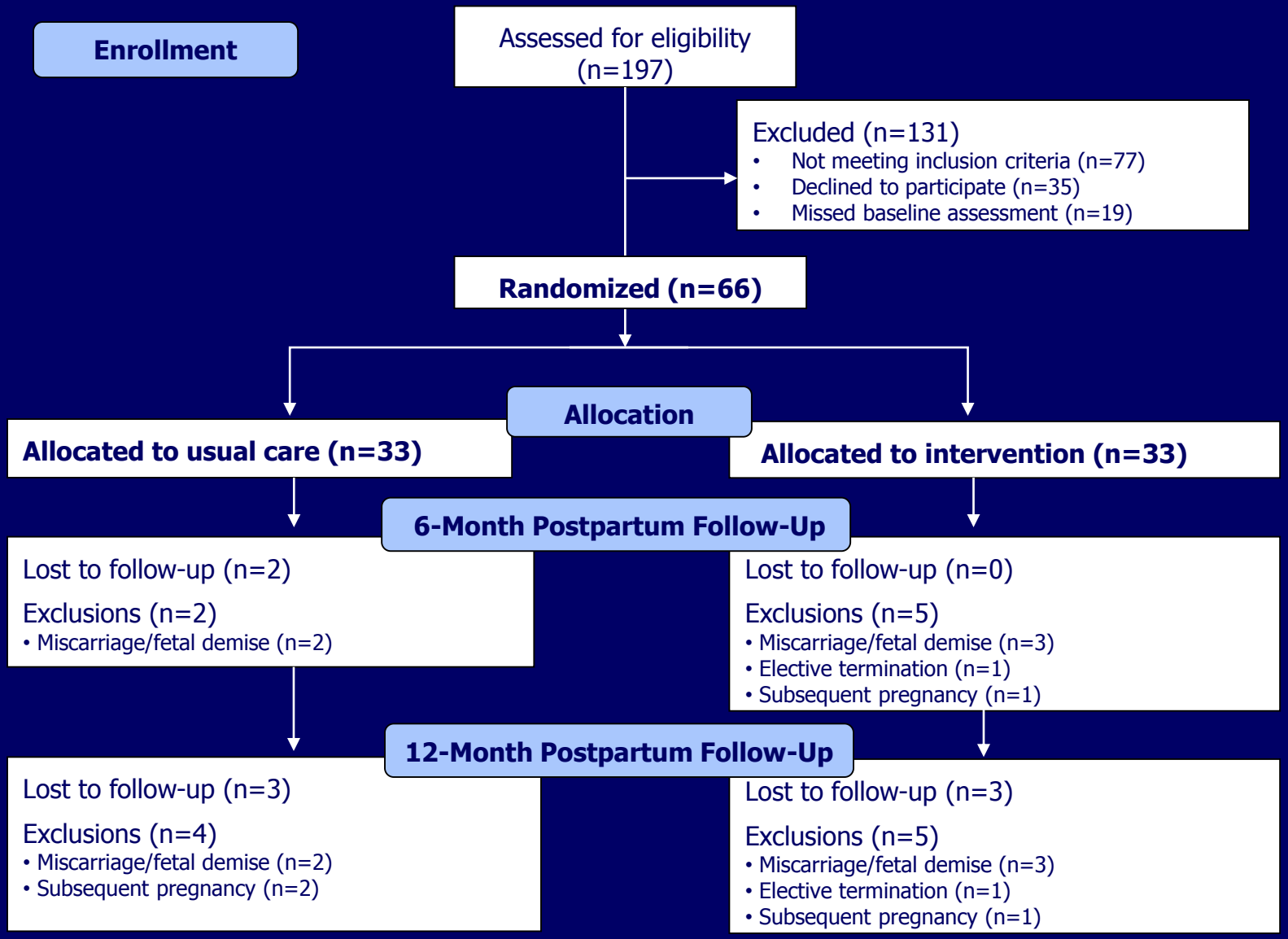
Recruitment

- Mothers were recruited from 2 large outpatient obstetric practices at Temple University
- Potential participants were identified via Temple's electronic medical record
- Study staff approached these patients in waiting rooms to evaluate trial interest and confirm eligibility

Eligibility criteria

- Age ≥18 years
- Self-identification as African American
- Gestational age < 20 weeks
- First trimester BMI 25-45 kg/m^2
- Medicaid recipient (income proxy)
- Cell phone ownership with unlimited texting
- Facebook member

Participant flow



Intervention arm

Content

- Target: modification of evidence-based, weight-related lifestyle behaviors
- 5 concrete, easily monitored strategies
  - ≤ 1 cup of SSB daily
  - ≤ 1 junk or grease daily
  - Weigh yourself weekly
  - Stick to 1 plate per meal
  - Walk ≥ 5000 steps daily
- Participants encouraged to set personal goals around each strategy, implemented one at a time, for 2 to 4 weeks, after a problem-solving session with health coach

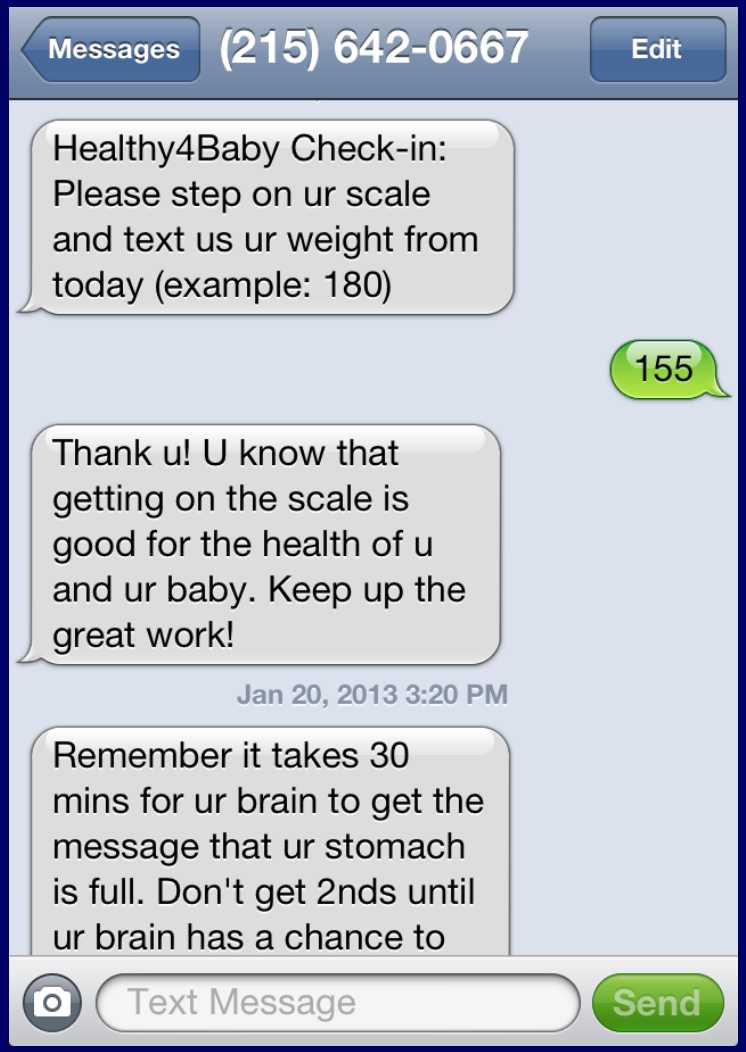
Intervention arm
Components

- 4 main components:
  - Text messaging
  - Facebook support group
  - Web-based weight gain (pregnancy) and weight loss (postpartum) graphs
  - Telephonic health coach calls

Print materials were also available to offer tailored skills training if mobile access was lost

1) Text messaging

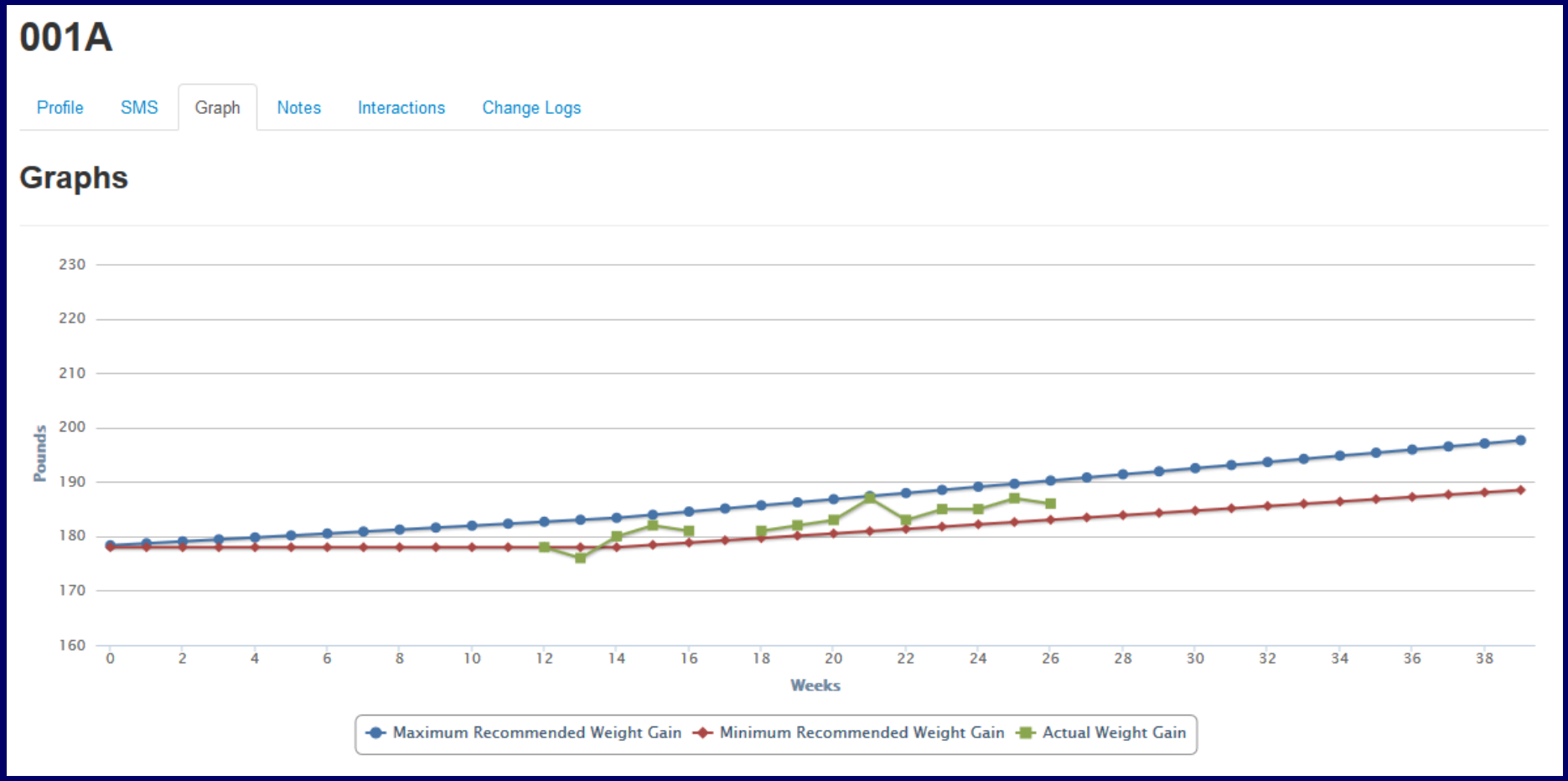
Skills and self-monitoring texts with feedback



2) Facebook support group

Forum for support and additional skills

3) Weight gain tracker



4) Health coach calls

- Bachelor's level health coach, trained in methods of behavioral weight control, called participants to:
  - Goal set around strategies
  - Problem-solve barriers to achieving goals
- 15 minutes in length, weekly for the first two study weeks and then twice monthly until delivery
  - Mimicked same call schedule between 2 and 6 months postpartum
- Scripts adapted from our prior lifestyle interventions in non-pregnant/postpartum adults

Intervention arm
Implementation

- Each participant was assigned the same 12-week program schedule in pregnancy and postpartum:

Study week	Location	Behavioral strategy
Baseline	In-person at Temple	Weigh yourself weekly
Week 1	Telephone	Limit sugar-sweetened beverages to 1 cup per day
Week 2 Week 4	Telephone Telephone	Limit junk and high fat food to no more than 1 per day
Week 6 Week 8	Telephone Telephone	Walk 5,000 steps daily
Week 10 Week 12	Telephone Telephone	Stick to 1 plate of food at each meal

- Thereafter, health coach prioritized the order by which each of the 5 strategies would be repeated

Usual care arm

- Standard prenatal/postnatal care at Temple University
- Additionally received information about optimal weight gain in pregnancy and weight loss postpartum from the American College of Obstetricians and Gynecologists

Outcome assessments

- Primary outcome: % at or below early pregnancy weight by 6 months postpartum (within 0.9 kg)
- Secondary outcomes
  - % at or below early pregnancy weight by 12 months postpartum
  - Mean changes in weight from early pregnancy to 6 and 12 months postpartum
  - Intervention engagement and acceptability

Statistical analyses

- To compare baseline characteristics between *Rx* groups
  - Pearson χ^2 or Fisher's exact tests for categorical variables
  - T tests or Mann-Whitney U tests for continuous variables
- To examine *Rx* group differences for outcomes
  - Multivariable logistic regression, controlling for BMI, parity, and age
- Modified intent-to-treat approach: participants lost to follow-up were treatment failures

Baseline results

Characteristic[a]	Usual care (n=33)	Intervention (n=33)
Maternal age (years)	25.0 ± 5.7	25.9 ± 4.9
Early pregnancy weight (kg)[b]	87.2 ± 14.0	86.7 ± 15.6
Early pregnancy BMI category (kg/m^2)		
25-29.9	39%	33%
30-45.0	61%	67%
Nulliparous	30%	27%
Single	67%	73%
Unemployed	52%	55%
Education		
High school graduate or less	76%	70%
Technical school	12%	9%
Some college or more	12%	21%
Gestational age at baseline (weeks)	13.4 ± 4.1	11.5 ± 2.9

[a]There were no significant differences between groups.
[b]Early pregnancy weights were abstracted from prenatal records, mean = 7.9 weeks' gestation.

Weight change postpartum

	Usual care	Intervention
At or below early pregnancy weight at **6 months** postpartum[a,b]	9/31 (**29%**)	16/28 (**57%**)

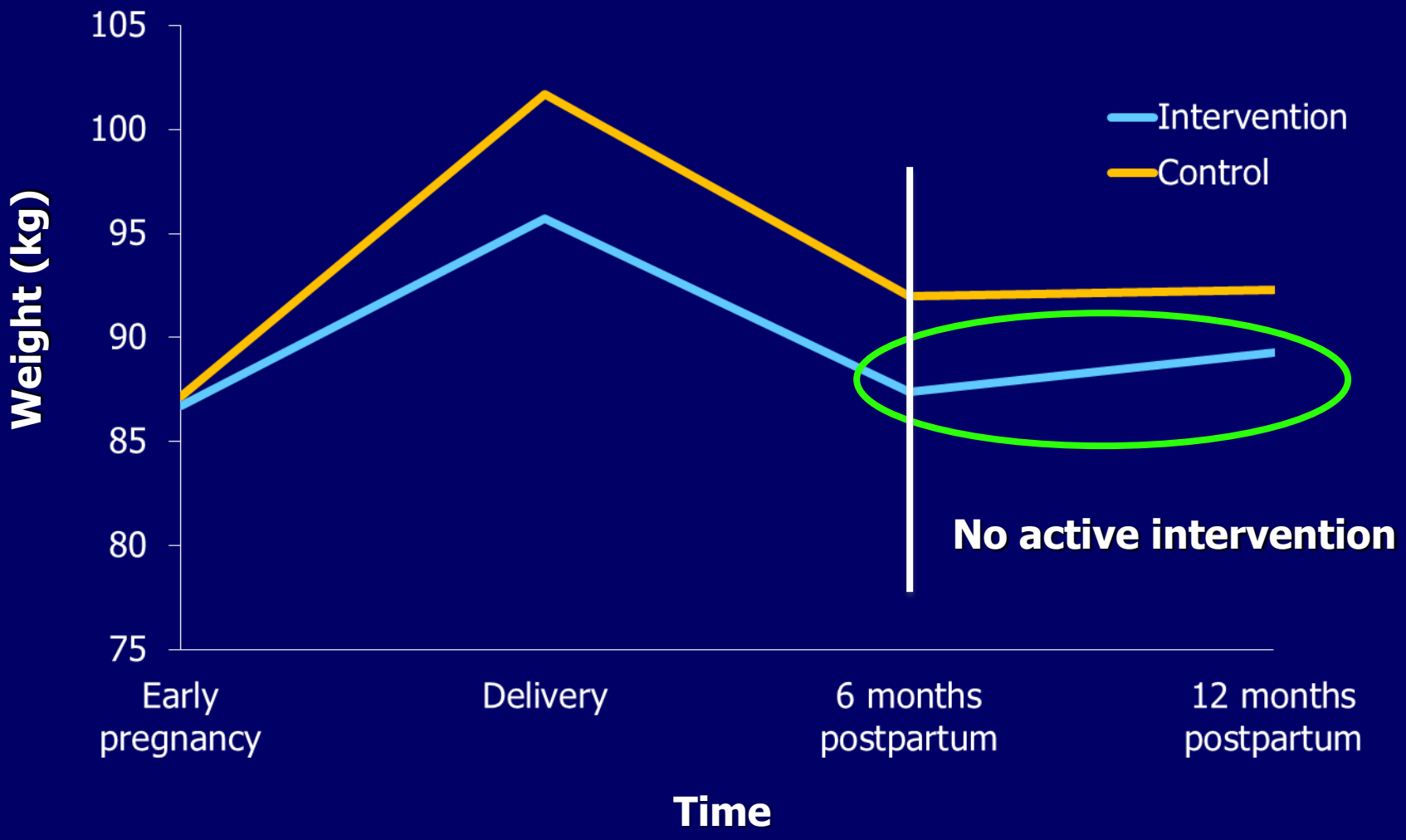
[a]p = 0.029.
[b]Treatment effect was reduced when gestational weight gain was entered into the model. Adjusted OR and 95% CI before gestational weight gain category entered: 3.9 [1.2, 12.9]; after gestational weight gain category entered: 3.2 [0.9, 11.1].

Weight change postpartum

	Usual care	Intervention
At or below early pregnancy weight at 6 months postpartum[a,b]	9/31 (29%)	16/28 (57%)
At or below early pregnancy weight at **12 months** postpartum[c]	11/29 (**38%**)	11/28 (**39%**)

[a]p = 0.029.
[b]Treatment effect was reduced when gestational weight gain was entered into the model. Adjusted OR and 95% CI before gestational weight gain category entered: 3.9 [1.2, 12.9]; after gestational weight gain category entered: 3.2 [0.9, 11.1].
[c]p = 0.916.

Weight change postpartum



Intervention engagement

- 70% responded to at least 50% of monitoring text prompts
  - Greater text response, greater 6 month postpartum weight loss
- Mean coach calls completed per participant = 8 (expected calls = 14)
  - However, greater call frequency was not associated with returning to early pregnancy weight

Acceptability

- 87% reported that the skills they learned in the program were extremely useful (at least an 8 on a 10-point scale)
- 91% found the text messages and 87% found the coach calls extremely useful

Strengths

- Objective measures and length of follow-up
- High rates of participant adherence, minimal attrition
- Among the first to leverage digital health platforms for successful weight control during and after pregnancy

Limitations

- Not adequately powered to assure no group differences in 12 month outcomes
- Lack of biologic and anthropometric measures to assess impact on metabolism or body composition
- Unable to determine which component attributed to the high degree of efficacy observed at 6 months postpartum

Conclusions

- Our findings show efficacy of a behavioral intervention implemented during ***and*** after pregnancy for increasing the proportion of obese African American women who returned to their early pregnancy weights by 6 months postpartum

- Data from 12 months postpartum, however, showed the intervention no longer had an effect, suggesting that longer postpartum support may be needed to sustain weight loss

Binder documents

More Water, Less Juice!

Healthy4Baby Goal: Drink no more than 1 cup (8 ounces) each day of beverages with sugar like juice, soda, lemonade, or sweet tea.

Why should sugary drinks be limited?

- Drinks like fruit drinks, juice and soda are loaded with sugar. They contain hundreds of calories and little to no nutrition for you.
- Sugary drinks can cause cavities, too much weight gain, and put you at risk for diabetes.
- Your baby wants to do everything you do. Model healthy drink choices to keep your family healthy!

Even just one 8 oz. serving of 100% Juicy Juice has as much sugar as 1 candy bar!

So, how can you get started?

The healthiest beverage you can drink is water,
but here are some other healthy drink options:

- **Water:** Tap, bottled, sparkling, seltzer
- **Flavor your own water**: Try adding a slice or squirt of lemon, lime or orange to a tall glass of ice water. Or sprinkle in Wyler's Light or Crystal Light to add calorie-free flavor!
- **Diet drinks**: These are also an option of you are craving something sweet to drink!
- **Add some water to 100% juice**: By adding cold water to an 8 oz. glass of juice you can reduce calories and still have more to drink!

Extra Tip: Stock your refrigerator with healthy drinks! Having water, lowfat milk, & sugar-free drinks on-hand will help you make healthy choices at any time of the day!

Extra Tip: Make it portable! Use a water bottle to make drinking water easy wherever you go!

Healthy4Baby
Growing a healthy baby starts with you!

Just because it's clear doesn't mean it's healthy!

Even though some sports drinks, sodas and juice look clear, it doesn't mean they are calorie-free!

Lots of clear drinks, like Ginger Ale, Clear Fruit, and Vitamin Water, are loaded with sugar!

How can you tell if your drink has too much sugar?

Read the Label!

- **Look for drinks that have less than 5 grams of sugar per serving.**
- 0 grams of sugar is best!
- Pay attention to serving size! The amount of sugar on the label is for 1 cup, but there may be more than 1 cup in the container.

Look!
This drink has too much sugar! Make a healthier choice, like water!

Nutrition Facts
Per 1 cup (250 g)

Amount	% Daily Value
Calories 100	
Fat 0 g	**0 %**
Saturated 0 g + Trans 0 g	**0 %**
Cholesterol 0 mg	
Sodium 3 mg	**0 %**
Carbohydrate 26 g	**8 %**
Fibre 1 g	**4 %**
Sugars 23 g	
Protein 2 g	
Vitamin A 20 %	Vitamin C 170 %
Calcium 2 %	Iron 2 %

More Water, Less Juice!

Healthy4Baby
Growing a healthy baby starts with you!