

2015

# Assessing barriers to meeting weight gain goals in obese pregnant women

Margo Seybolt  
UVM

Follow this and additional works at: <https://scholarworks.uvm.edu/fmclerk>



Part of the [Medical Education Commons](#), and the [Primary Care Commons](#)

---

## Recommended Citation

Seybolt, Margo, "Assessing barriers to meeting weight gain goals in obese pregnant women" (2015). *Family Medicine Clerkship Student Projects*. 95.

<https://scholarworks.uvm.edu/fmclerk/95>

This Book is brought to you for free and open access by the Larner College of Medicine at ScholarWorks @ UVM. It has been accepted for inclusion in Family Medicine Clerkship Student Projects by an authorized administrator of ScholarWorks @ UVM. For more information, please contact [donna.omalley@uvm.edu](mailto:donna.omalley@uvm.edu).

# Assessing Barriers to Meeting Weight Gain Goals in Obese Pregnant Women

Margo Seybolt

EMMC Family Medicine

September, 2015

Robert Pritham, MD

# Problem Identification

- Over 1/3 of women in the US are obese (BMI > 30)
- Target weight gain during pregnancy is determined by BMI

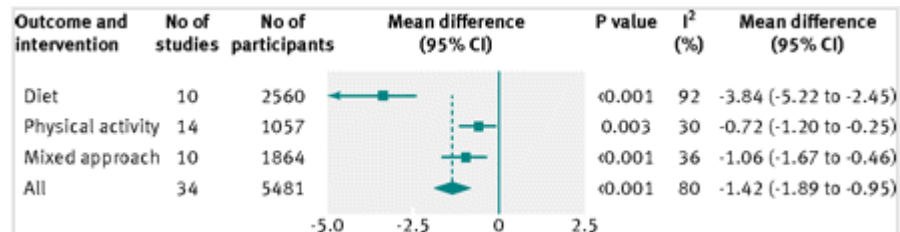
Prepregnancy Weight Category	Body Mass Index*	Recommended Range of Total Weight (lb)	Recommended Rates of Weight Gain† in the Second and Third Trimesters (lb) (Mean Range [lb/wk])
Underweight	Less than 18.5	28-40	1 (1-1.3)
Normal Weight	18.5-24.9	25-35	1 (0.8-1)
Overweight	25-29.9	15-25	0.6 (0.5-0.7)
Obese (includes all classes)	30 and greater	11-20	0.5 (0.4-0.6)

- Maternal obesity and excessive gestational weight gain are associated with increased risks of:
  - Gestational hypertension
  - Preeclampsia
  - Gestational diabetes mellitus
  - Caesarian section delivery
  - Large for gestational age infant
  - Postpartum weight retention
  - Metabolic syndrome
  - Childhood obesity
  - Complications following delivery

# Problem Identification (cont.)

- There are currently no evidence-based guidelines related to weight management for obese pregnant women
- In several studies, only ~20% of overweight and obese women who did not receive interventions met their weight gain goals, while ~30-50% in the intervention group met their goals
- Studies found gestational weight gain for control groups was 3-7kg greater than in intervention groups
- Effective Interventions included:

- Dietary intervention (DASH diet) – food logs, nutrition education and counseling
- Increased physical activity – encourage 30+ minutes of moderate physical activity per day, pedometer, physical activity logs



- Group-based interventions – 1-2 individual counseling sessions followed by 60-90 minute group sessions weekly

# Community burden and costs

- Maine's obesity rate is 28.2%, a 10% increase since 2000
- The counties served by EMMC family medicine have some of the highest burden of overweight and obesity
- Cost:
  - One retrospective study found that on average, cost of hospital prenatal care was 5x greater and duration of stay was longer (~4 days) in overweight and obese mothers (BMI >30) compared to healthy weight women (BMI<30)

# Community Perspectives

- Name withheld – EMMC faculty
  - Barriers:
    - Cultural normalcy of obesity and poor diet
    - Finding a way to encourage patients to actually attend nutritional counseling and change their diet and exercise habits
  - Possible solutions that may help include revisiting weight gain at every OB check, group visits, better patient education materials
- Name withheld – EMMC faculty
  - Barriers:
    - Limited access to and ability to afford healthy foods
    - Cultural normalcy and using treats as a reward/splurge
    - Education about risks of excess weight gain and myths of 'eating for two'
  - Solutions that have helped are being specific about dietary needs and food groups
  - Possible solutions for the future include a patient education pamphlet

# Intervention and Methodology

- Collected data about gestational weight gain and pregnancy outcomes in 42 Pregnant women with BMI's >35 who were seen at EMMC family medicine clinic since 2012
  - Measures examined included: weight gain, nutritional counseling, documentation of weight gain goal, gestational diabetes mellitus, pregnancy induced hypertension/pre-eclampsia, gestation duration, delivery type (vaginal vs. caesarean), birth weight, APGARs, and pregnancy/delivery complications
- Performed a literature review of interventions to limit GWG in overweight and obese pregnant women and their effects on maternal and fetal health

# Results – EMMC data

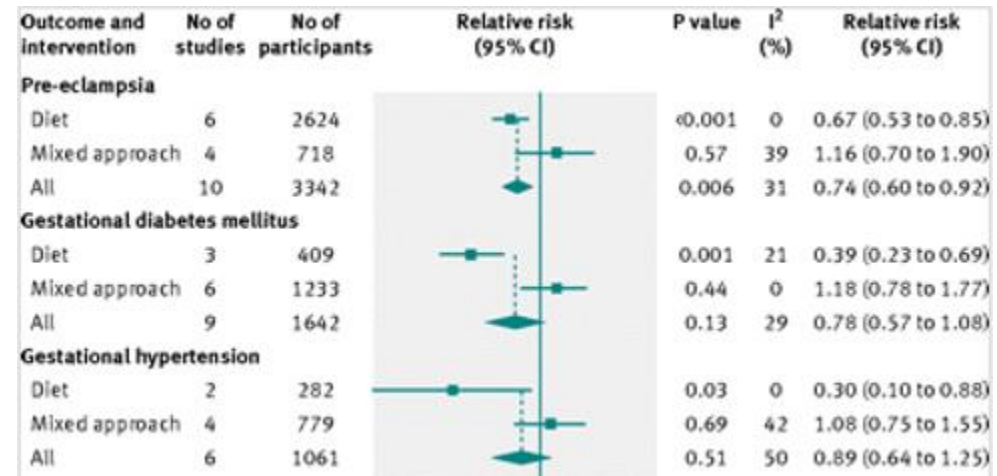
- Total term and late term (39-42 weeks gestational age) meeting weight goal (<15 lb gain): 14.3%
- Total referred to nutritional counseling: 55%
  - Only ½ of those patients actually attending counseling and only ¼ of the patients who attended counseling met their weight goal (7% of the total study population)
- Gestational Diabetes Mellitus prevalence: 16.7%
  - Vs ~7% in the general pregnant population
- Prevalence of pregnancy induced hypertension (PIH) and pre-eclampsia: 19%
  - Vs 4-10% in the general US pregnant population
- Delivery:
  - 43% were Induced (vaginal delivery)
  - 32% had Caesarean sections
    - Vs. 20.7% for pregnant women with a BMI <30
  - 24% were spontaneous vaginal deliveries
- Birth outcomes:
  - Prevalence of Large for Gestational age (LGA)/macrosomia: 19%
    - Vs 9% in the general pregnant population



# Results – Interventions

- Dietary and group interventions were the most effective and were associated with

- Significantly reduced risk of pre-eclampsia, gestational diabetes shoulder dystocia, and LGA infants
- Increased percentage of women who returned to their pregravid weights



- Obese women may be placed on a healthy, well-balanced, monitored nutritional program during pregnancy without adverse perinatal outcomes

- Effectiveness
  - Data about the obese pregnant patient population at EMMC was gathered
  - Possible strategies to improve the rate of patients meeting their weight gain goal, and thus decreasing risk for complications, were identified
  - A patient information pamphlet was created
- Limitations
  - Analysis and data gathering was limited by the electronic medical record system
  - Documentation of counseling and interventions were inconsistent
  - Limited time for data analysis as well as for creating an intervention

# Future Project recommendations

- Continue further data analysis of EMMC patients
- Disperse education pamphlet to patients with their prenatal information packet
- Educate physicians as to strategies to help their patients limit weight gain and encourage them to discuss weight gain goals at every OB visit
- Design a pilot program for group-based weight management in obese pregnant women at EMMC

# Bibliography

- NICE guidelines. 'Weight management before, during, and after pregnancy.' July 2010.
- Phelan, S. et al. Randomized trial of a behavioral intervention to prevent excessive gestational weight gain: the Fit for Delivery Study. [Am J Clin Nutr.](#) 2011 Apr;93(4):772-9.
- Thangaratinam, S. et al. Effects of Interventions in pregnancy on maternal weight and obstetric outcomes. *BMJ*, may 2012, 344.
- Vesco, K. et al. Efficacy of a group-based dietary intervention for limiting gestational weight gain among obese women: a randomized trial. *Obesity (Silver Spring)*, 2014 Sep: 22(9).
- Wolff, S. Randomized trial of the effects of dietary counseling on GWG and glucose metabolism in obese pregnant women. [Int J Obes \(Lond\).](#) 2008 Mar;32(3):495-501.
- LiP (lifestyle in pregnancy) study: RCT of lifestyle intervention in 360 obese pregnant women
- Claesson, I-M et al. Weight gain restriction for obese pregnant women: a case-control intervention study. *BJOG*: January 2008, 115(1).
- Galtier-Dereure, Boegner, and Bringer. Obesity and pregnancy: complications and cost. *American Journal of Clinical nutrition*; 71(5).
- Roberts, C. et al. Population-based trends in pregnancy hypertension and pre-eclampsia: an international comparative study. *BMJ open* 2011, 1(1).
- Oken E, Kleiman KP, Rich-Edwards J, Gillman MW. A nearly continuous measure of birth weight for gestational age using a United States national reference. *BMC Pediatr* 2003;3:6.
- Obesity in pregnancy. Committee Opinion No. 549. American College of Obstetricians and Gynecologists. *Obstet Gynecol* 2013:121;213–7.