

# Clinic and Community-Based Intervention Programs: Impact on Gestational Weight Gain

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# Introduction

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- 33 to 44% of US women gain within the IOM recommendations;
  - Excessive gestational weight gain is more common than inadequate gain in the US (~40% vs. ~20%);
  - Generally speaking, women's gestational weight gains tend to follow recommendations of health care providers.
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# Introduction

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- There is a small literature describing intervention studies aimed at preventing excessive gestational weight gain in clinical settings.
  - n Described in "Achieving a Healthy Weight Gain during Pregnancy," Annual Review of Nutrition 2008, 28:17.1-17.13.
  - n <http://arjournals.annualreviews.org/eprint/eSm2SstnQQk4V4cd8QUF/full/10.1146/annurev.nutr.28.061807.155322>
- One community-based intervention study that was unsuccessful in achieving outcome (Gray-Donald et al, 2000.)

# Studies Reviewed for Annual Review Article

<b>First Author</b>	<b>Design</b>	<b>Pop/Sample</b>
<i>Polly et al.</i> 2002	RCT	Low-Inc, Urb US B&W, Nor &Ovwt
<i>Olson et al.</i> 2004	Prosp. Cohort, Historical Control	US Rural, White Normal & Ovwt
<i>Kinnunen et al.</i> 2007	Selected Control & Interv. Clinics	Finnish Primi- parous Women
<i>Claesson et al.</i> 2008	Prosp. Case-Ctrl; Selected Cities	Swedish Obese Healthy Women
<i>Wolff et al.</i> 2008	RCT	Danish Obese Nonsmoking, Nondiabetic

# Polley et al., 2002--US Low Income Urban Women (African Am. & White)

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## Intervention

- Stepped-care behavioral intervention;
- Education about weight gain, eating, and exercise;
- Individual graphs for weight gain.

## Wt Outcome (% w/ Excessive Gain)

- Normal BMI
  - n Control=58%
  - n Intervention=33%

} <.05
- Overweight BMI
  - n Control=32%
  - n Intervention=59%

} 0.09

# Olson et al., 2004—US Rural Women, All Incomes, Primarily White

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## Intervention

- Monitoring gwg by care providers;
- By mail newsletters with return postcards for goal setting;
- Health check book for self-monitoring of gwg.

## Wt Outcome (% w/ Excessive Gain)

- Low Inc. Normal BMI
    - n Control=45%
    - n Intervention=29%

} <.05
  - Low Inc. Ovwt. BMI
    - n Control=72%
    - n Intervention=44%

} <.05
  - No Effect in Higher Income Women
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# Recap of Polly and Olson

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- Significant effect of intervention in low-income normal BMI women in both studies (urban and rural; African American and White);
  - Significant effect in overweight low-income women only in the rural area.
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# Kinnunen *et al.*, 2007—Finnish, Primips (~75% Normal BMI)

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## **Intervention**

- Individual counseling on:
  - n Weight Gain
  - n Physical Activity – 1 primary and 4 booster sessions
  - n Diet – 1 primary and 3 boosters

## **Wt Outcome (% w/ Excessive Gain)**

- No Sign. Effect
  - n Control=30%
  - n Intervention=46%
- Significant difference in diet in expected direction

# Claesson et al., 2008—Swedish Obese Healthy Women

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## Intervention

- Patient education
  - n Weekly 30 minute motivational interviews offered to women
- Aqua aerobic classes once or twice per week

## Wt Outcome (% w/ < 7 kg Gain)

- Control=20.5%
- Intervention=35.7%
  - n p=0.003

# Wolff et al., 2008—Danish Obese Nonsmoking, Nondiabetic Women

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## Intervention

- Patient education
  - n 10 one-hour consultations with a dietitian to achieve energy restriction per Danish macronutrient guidelines

## Wt Outcome (Mean GWG)

- Control=13.3 kg
- Intervention=6.6 kg
  - n p=0.002
- Significant difference in energy intake in expected direction
  - n p=0.001

# Recap of Scandinavian Studies

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- In both normal and obese women, diet appears changeable and may be the mediator of an intervention effect;
  - With “intensive” interventions, limiting gestational weight gain in obese women is achievable with no perceptible untoward effects on infant outcomes.
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# Look to the Future

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In *JADA* (vol.104, no.7, 2004),  
Cartwright states, "The resolution of  
this issue [excessive postpartum  
weight retention] will likely require  
multilevel interventions" (p.1108).

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# What Women Want

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- Include physical activity and facilitate social interaction; cover diet with self-help type approaches; lack of childcare is barrier to participation and change.  
n Østbye et al., *Military Medicine* 168 (4):320, 2003.
- Postpartum women want self-care (exercise, diet, and dealing with fatigue) and baby care (recognizing illnesses, schedule, crying) information.  
n Moran et al., *Birth* 24 (1):27, 1997.

# What Women Want

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- 55% of postpartum women in WIC at action stage for weight loss but fewer (<30%) in action stage for weight management behaviors.

n Krummel et al., *JADA* 104(7): 1102, 2004.

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[www.human.cornell.edu/che/DNS/hsp](http://www.human.cornell.edu/che/DNS/hsp)

# Project Objectives

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1. Develop environmental interventions through a community-based partnership;
2. Document implementation of environmental interventions by partnership members & the communities' capacity to address obesity prevention through environ. interventions;
3. Evaluate their impact on weight gain in pregnancy, postpartum weight retention, and infant growth.

# Questions and Discussion

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