

Effects of Group Prenatal Care Participation on Weight Gain during Pregnancy



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INTRODUCTION

Group Prenatal Care (GPC) is a model of health care delivery that utilizes three components: health care assessment, education and support. All elements are provided in a group atmosphere facilitated by a credentialed healthcare provider.

According to the Centers for Disease Control and Prevention (www.cdc.gov), more than one third of US adults are obese and rates of excessive weight gain during pregnancy have been on the increase. Excessive weight gain during pregnancy can be associated with adverse short-term and long-term health disparities for mother and infant. In 2009, guidelines recommending appropriate weight gain during pregnancy were established by the Institute of Medicine (IOM)[†].

Certified Nurse-Midwives at this not-for-profit, Magnet community hospital decided to re-introduce Group care as a viable option for prenatal care in the newly established Maternity Services clinic. The GPC pilot program began in the summer of 2012.

PURPOSE

This study sought to determine if participation in Group Prenatal Care improves compliance with weight gain during pregnancy as recommended by the IOM guidelines.

METHODS

STUDY DESIGN

- Retrospective, quasi-experimental study
- IRB approved, written informed consent obtained
- Inclusion criteria
 - Non-English primary language
 - Pregnant with similar due dates
 - Care received at Maternity Services Clinic
- Exclusion criteria
 - Non-Hispanic ethnicity
 - Multiple gestation pregnancy

SAMPLE

- N=20

DATA ANALYSIS

- Descriptive statistics
 - Mean, standard deviation, percentages
- Inferential statistics
 - Two-tailed Student t-test assuming unequal variance
 - Chi-squared test of a contingency table
 - Statistical significance determined at $p \leq .05$

2009 IOM WEIGHT GAIN RECOMMENDATIONS[†]

BMI Category	BMI Range	Weight Gain Range (lbs)
Underweight	<18.5	28 - 40
Normal weight	18.5 - 24.9	25 - 35
Over weight	25.0 - 29.9	15 - 25
Obese	≥ 30.0	11 - 20

[†]Institute of Medicine. Weight gain during pregnancy: reexamining the guidelines. 2009. Available at: <http://www.iom.edu/~media/Files/Report%20Files/2009/Weight-Gain-During-Pregnancy-Reexamining-the-Guidelines/Report%20Brief%20-%20Weight%20Gain%20During%20Pregnancy.pdf>. Accessed October 18, 2013.

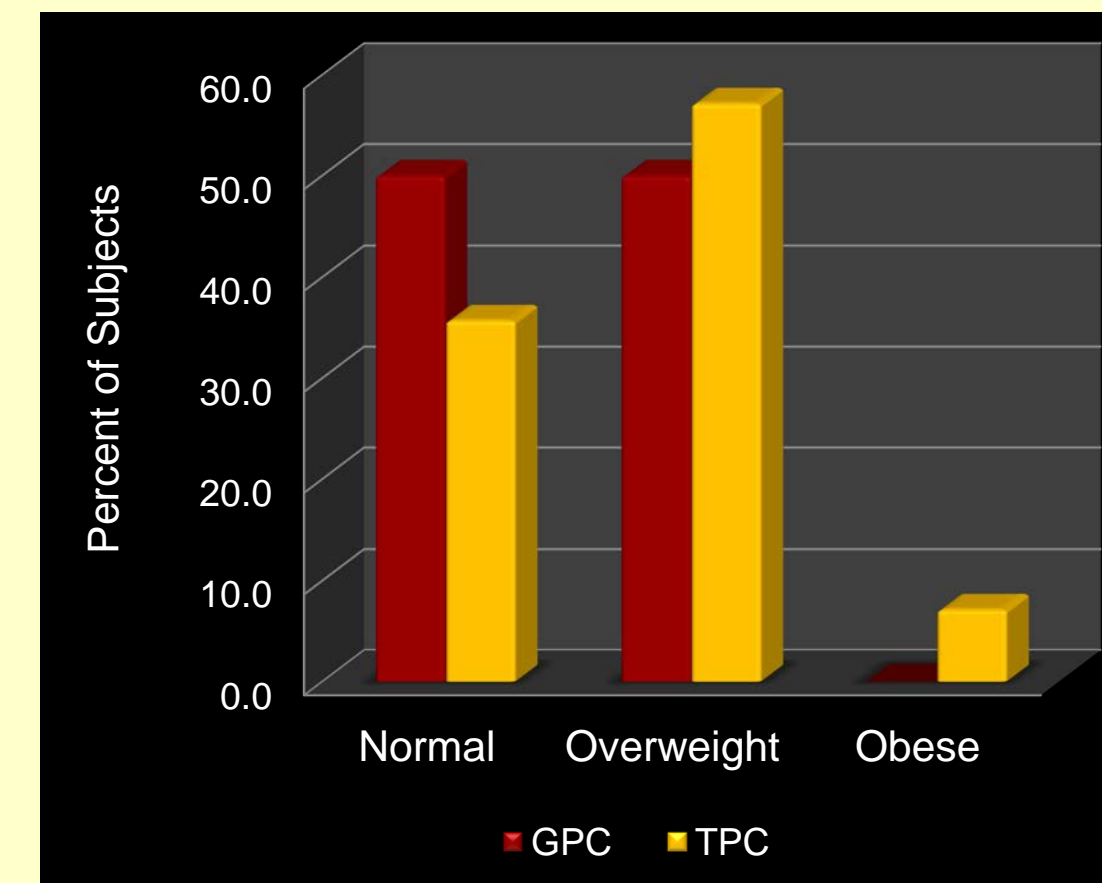
GPC vs. TPC DEMOGRAPHIC COMPARISON

Characteristic	GPC n=6	TPC n=14	Statistic	P value
Age (yrs)			$t = 3.576$.002 [†]
Mean	21.7	30.8		
SD	4.0	7.4		
Range	18 - 29	18 - 42		
Parity (n)			$\chi^2 = 8.97$.029 [†]
0	5	2		
1-2	1	8		
3-4	0	2		
≥ 5	0	2		
Delivery Method (n)			$\chi^2 = .06$.81
Vaginal	5	11		
Cesarean	1	3		
Gestational Age (wks)			$t = .40$.696
Mean	39.8	39.55		
SD	1.28	1.24		
Range	37.6 - 41.3	37 - 41.6		

[†]Significant at CI=95%

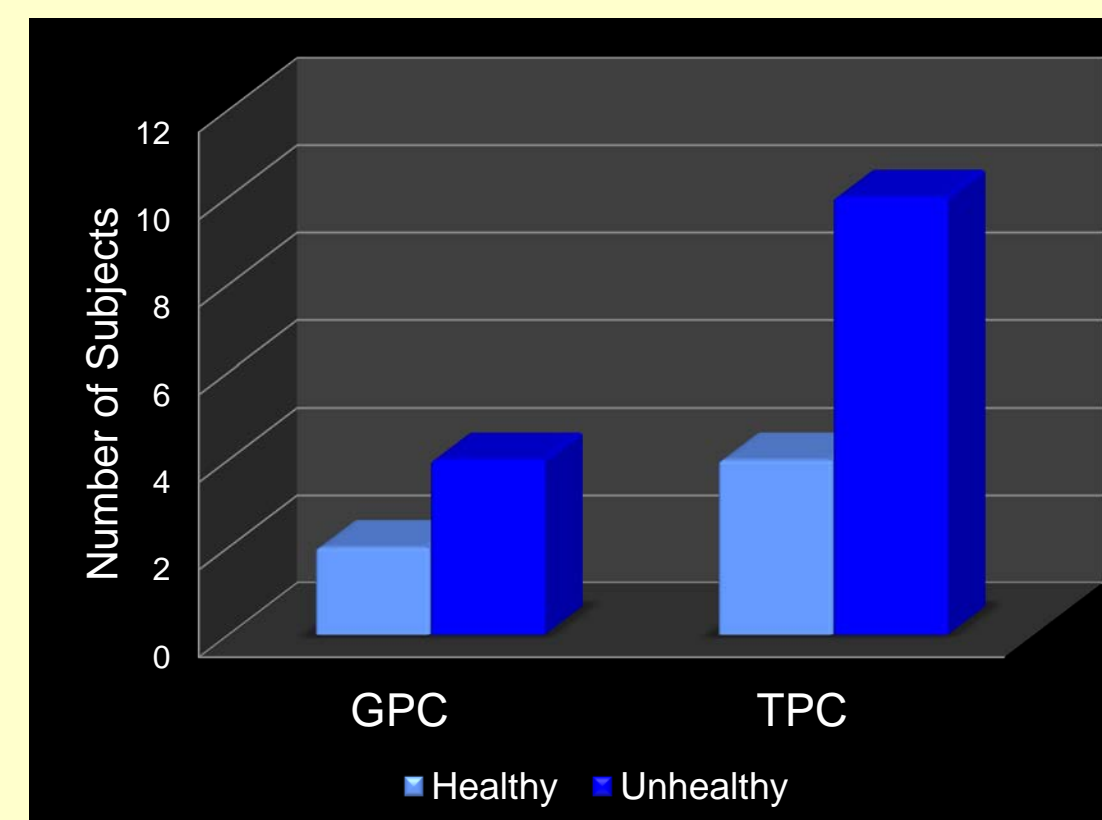
- With regard to age, the control group was 9.1 mean years older than the experimental group
- 83% of GPC subjects were pregnant for the first time
- Most subjects (16/20) delivered vaginally
- Difference in gestational age between groups at the time of delivery was only 1.75 mean days

BMI CATEGORY SUBJECT DISTRIBUTION



- At the beginning of pregnancy, majority of subjects (12/20) were either overweight or obese
- 14.3% more GPC subjects started their pregnancies in the normal BMI category compared to their TPC counterparts

HEALTHY vs. NON-HEALTHY WEIGHT GAIN



- 70% of all subjects gained more weight than the IOM guidelines recommend
- More GPC subjects (33.7%) had healthy weight gain than their TPC counterparts (28.6%)

SUMMARY

CONCLUSIONS

This pilot study is thought to be the first of its kind. The author is not aware of any studies comparing weight gain during pregnancy between Group Prenatal Care and Traditional Prenatal Care clients. Although the sample size was very limited, the following conclusions can be drawn.

- Group Prenatal Care offers
 - More time with health care provider
 - More educational opportunities than TPC and
 - Healthy snacks (lead by example)
- Similar weight gain totals observed in GPC and TPC subjects

STUDY LIMITATIONS

- Small sample size
- Variation between age and parity of subject groups

STUDY STRENGTHS

- Use of a single Certified Nurse-Midwife as the facilitator for the GPC sessions
- Care rendered in the same prenatal office for both control and experimental subjects

IMPLICATIONS

- Greater healthy weight gain seen in GPC subjects may suggest Group Prenatal Care can be beneficial in maintaining healthy weight gain during pregnancy
- Need for further investigation of weight gain compliance per IOM guidelines, utilizing sufficient sample sizes

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