Published in final edited form as:
Matern Child Health J. 2011 October ; 15(7): 1119–1126. doi:10.1007/s10995-010-0659-7.

Modifiable Predictors Associated with Having a Gestational Weight Gain Goal

Alison Tovar
John Hancock Research Center on Physical Activity, Nutrition and Obesity Prevention, Gerald J. and Dorothy R. Friedman School of Nutrition Science and Policy, Tufts University, 150 Harrison Ave., Room 243, Boston, MA 02111, USA

Lauren B. Guthrie
Obesity Prevention Program, Department of Population Medicine, Harvard Medical School and Harvard Pilgrim Health Care Institute, Boston, MA, USA Lauren_guthrie@harvardpilgrim.org

Deborah Platek
Division of Maternal-Fetal Medicine, Department of Obstetrics and Gynecology, University of North Carolina School of Medicine, Chapel Hill, NC, USA astuebe@med.unc.edu

Alison Stuebe
Division of Maternal-Fetal Medicine, Department of Obstetrics and Gynecology, Harvard Vanguard Medical Associates, Boston, MA, USA Deborah_platek@vmed.org

Sharon J. Herring
Center for Obesity Research and Education, Temple University School of Medicine, Philadelphia, PA, USA herris01@temple.edu

Emily Oken
Obesity Prevention Program, Department of Population Medicine, Harvard Medical School and Harvard Pilgrim Health Care Institute, Boston, MA, USA Emily.oken@harvardpilgrim.org

Abstract

The goal of this paper was to determine predictors of having a weight gain goal in early pregnancy. In 2008, we administered a 48-item survey to 249 pregnant women attending obstetric visits. We examined predictors of women having a goal concordant or discordant with 1990 Institute of Medicine (IOM) guidelines, vs. no goal, using binary and multinomial logistic regression. Of the 292 respondents, 116 (40%) had no gestational weight gain goal, 112 (39%) had a concordant goal and 61 (21%) had a goal discordant with IOM guidelines. Predictors of a guideline-concordant goal, vs. no goal, included sugar sweetened beverage consumption < vs. ≥ 1 serving per week (OR = 2.4, 95%CI: 1.1, 5.7), physical activity ≥ vs. <2.5 h per week (OR = 3.6, 95%CI: 1.7, 7.5), agreeing that `I tried to keep weight down not to look pregnant' (OR = 14.3, 95%CI: 1.4, 140.5). Other predictors only of having a discordant goal (vs. no goal) included agreeing that `as long as I am eating well, I don't care how much I gain' (OR = 0.3, 95%CI: 0.2, 0.8) and agreeing that `if I gain too much weight one month, I try to keep from gaining the next' (OR = 4.1, 95%CI: 1.6, 10.4). Women whose doctors recommended weight gains consistent with IOM guidelines were more likely to have a concordant goal (vs. no goal) (OR = 5.3, 95%CI: 1.5, 18.6). Engaging in healthy behaviors and having health providers offer IOM weight gain recommendations may increase the likelihood of having a concordant gestational weight gain goal, which, in turn, is predictive of actual weight gains that fall within IOM guidelines.

Alison.tovar@tufts.edu .

Keywords

Pregnancy; Weight gain goal; Behavioral and maternal characteristics

Introduction

Gestational weight gains outside Institute of Medicine (IOM) guidelines are associated with adverse maternal and infant outcomes [1]. Women who gain below the IOM recommendations are at higher risk for having preterm birth, small-for-gestational age and low birth weight infants, while women who gain above the recommendations are at higher risk for high birth weight and large-for-gestational age infants and development of overweight in adolescence and adulthood [1–5]. Identifying modifiable characteristics that are associated with achieving recommended weight gains during pregnancy may be a first step in developing interventions to promote appropriate weight gains.

The amount of weight a woman plans to gain during pregnancy may be more easily modifiable than other identified predictors of gestational weight gain such as pre-pregnancy weight, race/ethnicity, parity and age. In a study by Cogswell et al. of a nationally representative sample of 2,237 women, those who had a weight gain goal greater than recommended were six times more likely to have an actual weight gain that was excessive according to IOM guidelines, compared to those who had a goal within the recommended range [6]. The few studies examining predictors of having a weight gain goal have generally focused on socio-demographic characteristics. Among 1,198 women of diverse race/ethnicity in California, Stotland et al. found that pre-pregnancy body mass index (BMI) was the strongest predictor of having a weight gain goal outside the IOM guidelines [7]. Other factors that were associated with having a weight gain goal were Latina race/ethnicity, and low educational status. Lack of provider advice, or provider advice to gain above or below the guidelines, were also associated with having a goal.

Little information is available regarding other potentially modifiable predictors of having a weight gain goal during pregnancy. The purpose of this paper was to determine modifiable predictors of women who have a weight gain goal at the beginning of pregnancy.

Methods

From April to July 2008, clinical staff distributed 48-item questionnaires to women in the waiting rooms of obstetric clinics at five practices of Harvard Vanguard Medical Associates, a multispecialty group practice in eastern Massachusetts. Women were eligible to participate if they were 18 years or older, were currently pregnant, and had not previously filled out the questionnaire. Willing participants provided written informed consent. We also requested contact information to obtain additional consent from women willing to give us access to their electronic medical records. Of the 292 respondents, 165 agreed to further contact, and 99 subsequently provided written consent to access their medical records. The Harvard Pilgrim Health Care Human Subjects Committee approved the study protocol.

Our primary outcome was the presence of a gestational weight gain goal. We determined this outcome based on participants' response to the question “When you first realized you were pregnant, did you have an idea in mind of how much weight you planned to gain during your pregnancy?” Women who responded that they did have a goal were then asked, “About how much weight did you plan to gain?” We categorized women's reported goals as concordant or discordant with 1990 Institute of Medicine gestational weight gain guidelines [8]. These guidelines recommended gains of 28–40 lb for underweight women, 25–35 lb for

normal weight women, 15–25 lb for overweight women and at least 15 lb for obese women. Because these guidelines did not include an upper limit for women with pre-pregnancy BMI more than 29, we used 25 lb as the upper limit for these women, as has been done elsewhere [5].

We considered a number of medical, socio-demographic, behavioral and attitudinal factors, all self-reported on the questionnaire, as potential risk factors of having a gestational weight gain goal. Medical factors included parity and pre-pregnancy BMI, which we calculated from self-reported pre-pregnancy weight and height. Socio-demographic factors included annual household income, age, education and race/ethnicity. Behavioral risk factors included diet over the past month, namely intake of fruits and vegetables, sugar sweetened beverages and fast food; number of hours per week spent engaged in light/moderate or vigorous physical activity during the 12 months prior to their pregnancy; and weight loss in the year prior to pregnancy. We assessed these behaviors using validated questions that have been used in other prenatal cohort studies [9]. Attitudinal factors included responses to the questions outlined in Table 1 answered on a 4 point Likert scale, which we adapted from a Pregnancy and Weight Gain Attitude Scale [10].

Among the 99 women who provided additional consent for access to their medical record, we calculated actual gestational weight gain by subtracting self-reported pre-pregnancy weight from the last clinical weight recorded prior to delivery. We categorized gain as inadequate, adequate, or excessive, according to 1990 IOM guidelines.

Data Analysis

We conducted all analyses using SAS version 9.0 (SAS Institute, Cary, NC). We first examined maternal characteristics according to the presence of and appropriateness of the woman's gestational weight gain goal. We used one-way analysis of variance to compare means for continuous variables, and χ^2 to examine differences in categorical variables.

We next examined associations of maternal characteristics with the outcome using logistic regression. We first used a forward purposeful selection model building approach to identify all predictors statistically significant on bivariate analysis (likelihood ratio test P value ≤ 0.05) of having any goal vs. not having a weight gain goal. Lastly, we fit a multinomial logistic regression model with the three level outcome: no goal, goal discordant with IOM guidelines, and goal concordant with IOM guidelines. We included predictors identified in the binary logistic regression models to obtain multivariate odds ratios (ORs) and 95% CIs.

Results

Of the 292 women who responded to the questionnaire, 116 (40%) had no gestational weight gain goal, 112 (39%) had a goal concordant with IOM guidelines and 61 (21%) had a goal discordant with guidelines. Seventy-six women (30%) had an annual household income of less than $70,000 per year, 130 (46%) had never given birth before, 177 (62%) were between the ages of 25 and 35, 190 (65%) were white and 106 (36%) were overweight or obese (BMI ≥ 25 kg/m^2) (Table 2). Almost half of the women reported actively trying to lose weight the year prior to getting pregnant, 90% agreed that obesity is an important problem in society, and 35% were satisfied with their weight prior to pregnancy. Most (95%) reported trusting the weight gain advice they received from their doctor (Table 2).

The final variables included in the logistic regression models were: income, race, agreeing with `if I gain too much weight one month, I try to keep from gaining the next', `as long as I am eating well, I don't care how much I gain' and `I tried to keep my weight down to not look pregnant', sugar sweetened beverage consumption, and moderate physical activity.

Notably, age, pre-pregnancy BMI, parity, weight satisfaction, weight loss efforts before pregnancy, and intake of fast food or fruits and vegetables, were not independent predictors of having a weight gain goal. Women who had an annual household income of greater than $100,000 per year were more likely to have a gestational weight gain goal (OR = 2.8, 95%CI: 1.3, 5.9) compared with women with lower income, and women who were non-white were less likely to have a gestational weight gain goal (OR = 0.3, 95%CI: 0.2, 0.6) compared with white women (Table 3).

We then used multinomial logistic regression to examine associations of these predictors with the three level outcome: no gestational weight gain goal, goal discordant with IOM guidelines and goal concordant with IOM guidelines (Table 3). Many factors were similarly associated with an increased likelihood of having either a concordant or discordant goal, including higher income, white race/ethnicity, less sugar sweetened beverage consumption, and more physical activity (Table 3). However, responses to two questions were associated with having a discordant, but not concordant goal and for one question was associated with a having a concordant but not discordant goal. Women who agreed that `as long as I am eating well, I don't care how much I gain' were 70% less likely to have a discordant gestational weight gain goal vs. no weight gain goal (OR = 0.3, 95%CI: 0.2, 0.8). Also, women who agreed that they `if I gain too much weight one month, I try to keep from gaining the next' were 4 times more likely to have a discordant gestational weight gain goal (OR = 4.1, 95%CI: 1.6, 10.4) and those who agreed with `tried to keep weight down to not look pregnant' were 14 times more likely to have a concordant gestational weight gain goal compared to having no goal (OR = 14.3, 95%CI: 1.4, 140.5).

Only 111 (40%) women reported having received a weight gain recommendation from their doctor. Among these 111 women, those who received a weight gain recommendation from their doctor that was consistent with IOM guidelines were 5 times more likely to have a concordant goal, compared to those that did not have a goal (OR = 5.3, 95%CI: 1.5, 18.6) after adjusting for gestational age, race and income. Similarly, of the 199 women who saw a midwife, those who received a gestational weight gain recommendation from their midwife consistent with IOM guidelines (49%) were more likely to have a concordant weight gain goal (OR = 18.9, 95%CI: 2.0, 176.9).

Among the subset of 99 women who provided consent for access to their medical record, 48 (49%) had a concordant goal, 26 (26%) had a discordant goal and 25 (25%) had no goal. Of those who had a concordant goal, 22 (46%) had an actual gestational weight gain within the IOM guidelines, 18 (37%) excessive gain and 8 (17%) inadequate gain. For those with a discordant goal, 9 (35%) gained within the IOM guidelines, 14 (50%) excessive and 4 (15%) inadequate. For women who did not have a gestational weight gain goal, 6 (24%) had adequate gain, 14 (56%) excessive, and 5 (20%) inadequate. In unadjusted analysis, compared with women who had no weight gain goal, women who had a concordant goal were 65% less likely to have excessive weight gain (OR = 0.35, 95%CI: 0.1, 1.1) although confidence intervals included a null effect in this small subset. Results were similar in analysis adjusted for race and income (OR = 0.42, 95%CI: 0.1, 1.4).

Discussion

In this study of 292 pregnant women in Massachusetts, women who had negative attitudes towards weight gain were more likely to have a discordant gestational weight gain goal. However, women who reported a healthier diet and who engaged in physical activity were more likely to have a gestational weight gain goal that was concordant with guidelines. Women whose doctor or midwife recommended weight gains consistent with IOM recommendations were more likely to have a concordant gestational weight gain goal

compared to those whose providers recommended gains inconsistent with recommendations. In the subset of women with data on actual gain, women who had a weight gain goal concordant with guidelines were less likely to have excessive gestational weight gain, although these findings were of marginal significance. These findings suggest that receiving weight gain recommendations from a health care provider that are consistent with guidelines, and engaging in healthy behaviors may increase the likelihood of having a concordant gestational weight gain goal, which, in turn, is predictive of actual weight gains that fall within IOM guidelines.

Women with lower income and of racially and ethnically diverse backgrounds were less likely to have a gestational weight gain goal. These results are similar to Stotland's finding that women who were Latina or had less education were more likely to have a discordant goal [7]. In other studies, women of lower socioeconomic status and of ethnically diverse backgrounds are at higher risk for postpartum weight retention [11] and for overweight and obesity [12]. Therefore our findings that these women are also at risk for not having a gestational weight gain goal seems reasonable. We did not find pre-pregnancy BMI to be a strong predictor of having a gestational weight gain goal, perhaps because some women mis-reported their pre-pregnancy weight, because BMI and goal setting are each independent predictors of weight gain.

We found that women's attitudes related to weight gain were associated with their weight gain goals. Few studies have looked at the relationship between weight-related attitudes and pregnancy weight gain. Women with negative attitudes about weight gain, or a history of dieting, may gain in excess because they experience disinhibited restraint during pregnancy [13, 14]. The women in our study who experienced these negative attitudes were more likely to have a discordant gestational weight gain goal, which may put them at risk for gaining in excess during pregnancy.

Finally we found that women who reported healthier dietary and physical activity patterns were more likely to have a concordant gestational weight gain goal. Although to our knowledge this finding has not been reported in the literature, others have found that women who have healthier diets and who engage in physical activity are more likely to have gestational weight gains within the recommended ranges [9, 16]. These women may also share a general concern for health which results in increased attention to health guidelines.

In intervention studies, other authors have found that having a weight gain goal is an important part of achieving appropriate gestational weight gain. For example, one study found that that having a weight gain goal may make a woman more involved and active in her own management to prevent excessive weight gain [17]. Similarly, interventions that address goal setting as well as nutrition and physical activity have been successful in preventing excessive weight gain during pregnancy [18, 19]. In particular, we found that women who receive a recommendation from a provider that is consistent with IOM guidelines are more likely to have a concordant gestational weight gain goal. Goal setting is a key component of behavior change theories [20].

Our findings must be interpreted in the context of the study design. Our participants were a convenience sample of mostly white well-educated women, which may limit our ability to generalize to other populations. We were not able to obtain consents to collect medical record information on all women; therefore our sample size may have limited our ability to detect significant associations between gestational weight gain goals and actual weight gain.

Given that many women do not gain within recommended ranges, it is important to identify modifiable characteristics associated with achieving appropriate recommended weight gains. Helping women set a weight gain goal should be a key component of future ante- and

prenatal interventions. Additionally, clinicians should educate all women about recommended gains, especially vulnerable populations and women who demonstrate negative attitudes towards gestational weight gain.

References

1. Viswanathan M, Siega-Riz AM, Moos MK, Deierlein A, Mumford S, Knaack J, Thieda P, Lux LJ, Lohr KN. Outcomes of maternal weight gain. Evidence Report Technology Assess (Full Rep). 2008:1–223.
2. Siega-Riz AM, Evenson KR, Dole N. Pregnancy-related weight gain—A link to obesity? Nutrition Reviews. 2004; 62:S105–S111. [PubMed: 15387475]
3. Gunderson EP, Abrams B. Epidemiology of gestational weight gain and body weight changes after pregnancy. Epidemiologic Reviews. 1999; 21:261–275. [PubMed: 10682262]
4. Oken E, Rifas-Shiman SL, Field AE, Frazier AL, Gillman AL. Maternal gestational weight gain and offspring weight in adolescence. Obstetrics and Gynecology. 2008; 112:999–1006. [PubMed: 18978098]
5. Oken E, Taveras EM, Kleinman KP, Rich-Edwards JW, Gillman MW. Gestational weight gain and child adiposity at age 3 years. American Journal of Obstetrics and Gynecology. 2007; 196(322):e321–e328.
6. Cogswell ME, Scanlon KS, Fein SB, Schieve LA. Medically advised, mother's personal target, and actual weight gain during pregnancy. Obstetrics and Gynecology. 1999; 94:616–622. [PubMed: 10511369]
7. Stotland NE, Haas JS, Brawarsky P, Jackson RA, Fuentes-Afflick E, Escobar GJ. Body mass index, provider advice, and target gestational weight gain. Obstetrics and Gynecology. 2005; 105:633–638. [PubMed: 15738036]
8. IOM: Weight gain: Nutrition during pregnancy. Book Weight gain: Nutrition during pregnancy. Part 1. City: 1990. Part 1
9. Stuebe AM, Oken E, Gillman MW. Associations of diet and physical activity during pregnancy with risk for excessive gestational weight gain. American Journal of Obstetrics and Gynecology. 2009; 201(58):e51–e58.
10. Palmer JL, Jennings GE, Massey L. Development of an assessment form: Attitude toward weight gain during pregnancy. Journal of the American Dietetic Association. 1985; 85:946–949. [PubMed: 4019986]
11. Parker JD, Abrams B. Differences in postpartum weight retention between black and white mothers. Obstetrics and Gynecology. 1993; 81:768–774. [PubMed: 8469470]
12. Ogden CL, Carroll MD, Curtin LR, McDowell MA, Tabak CJ, Flegal KM. Prevalence of overweight and obesity in the United States, 1999–2004. JAMA. 2006; 295:1549–1555. [PubMed: 16595758]
13. Conway R, Reddy S, Davies J. Dietary restraint and weight gain during pregnancy. European Journal of Clinical Nutrition. 1999; 53:849–853. [PubMed: 10556996]
14. Fairburn CG, Welch SL. The impact of pregnancy on eating habits and attitudes to shape and weight. International Journal of Eating Disorders. 1990; 9:153–160.
15. Dipietro JA, Millet S, Costigan KA, Gurewitsch E, Caulfield LE. Psychosocial influences on weight gain attitudes and behaviors during pregnancy. Journal of the American Dietetic Association. 2003; 103:1314–1319. [PubMed: 14520249]
16. Althuizen E, van Poppel MN, Seidell JC, van Mechelen W. Correlates of absolute and excessive weight gain during pregnancy. Journal of Womens Health (Larchmt). 2009; 18:1559–1566.
17. Claesson IM, Sydsjo G, Brynhildsen J, Cedergren M, Jeppsson A, Nystrom F, et al. Weight gain restriction for obese pregnant women: A case-control intervention study. BJOG. 2008; 115:44–50. [PubMed: 17970795]
18. Olson CM, Strawderman MS, Reed RG. Efficacy of an intervention to prevent excessive gestational weight gain. American Journal of Obstetrics and Gynecology. 2004; 191:530–536. [PubMed: 15343232]

19. Polley BA, Wing RR, Sims CJ. Randomized controlled trial to prevent excessive weight gain in pregnant women. International Journal of Obesity and Related Metabolic Disorders. 2002; 26:1494–1502. [PubMed: 12439652]

20. Locke EA, Latham GP. Building a practically useful theory of goal setting and task motivation. A 35-year odyssey. American Psychologist. 2002; 57:705–717. [PubMed: 12237980]

Table 1

Survey questions and response categories

	Response categories
Diet questions	<1×/week, 1×/week, 2–4×/week, Nearly daily or daily, ≥2×/day
Sugar sweetened beverage consumption in past month	<1 serving (8 oz.) per week vs. other categories
Fruit consumption in past month	≥Twice per day vs. other categories
Vegetable consumption in the past month	≥Twice per day vs. other categories
Fast food consumption	Response categories: Never, 1–3×/past month, 1–2×/week, 3–4×/week, 5–6×/week, >7×/week
	Dichotomized as never vs. other categories
Physical activity questions	Total hours
Moderate physical activity	<2.5 h/week vs. ≥2.5 h/week
Vigorous physical activity	≤1.5 h/week vs. > 1.5 h/week
Attitudinal questions	4 point Likert scale response categories: strongly disagree, disagree, agree, strongly agree
Obesity is an important health problem for society	Dichotomized as strongly agree and agree vs. strongly disagree and disagree
Obesity is an important health problem for women during pregnancy	Dichotomized as strongly agree and agree vs. strongly disagree and disagree
A mother's weight before pregnancy can affect the health of her pregnancy	Dichotomized as strongly agree and agree vs. strongly disagree and disagree
I worry that I may get fat during this pregnancy	Dichotomized as strongly agree and agree vs. strongly disagree and disagree
As long as I am eating a well balanced diet, I don't care how much I gain	Dichotomized as strongly agree and agree vs. strongly disagree and disagree
I tried to keep my weight down so I didn't look pregnant earlier on	Dichotomized as strongly agree and agree vs. strongly disagree and disagree
Other questions	
Just prior to your current pregnancy, how satisfied were you with your weight?	Very dissatisfied, somewhat dissatisfied, neither, somewhat satisfied, very satisfied
	Dichotomized as somewhat satisfied/very satisfied vs. other categories
Trusting gestational weight gain advice from doctor/midwife	Do not trust at all, trust a little, trust a lot
	Dichotomized as trust a lot vs. other categories

Table 2

Characteristics and attitudes of 292 pregnant women in Massachusetts, according to gestational weight gain (GWG) goal concordance with current Institute of Medicine (IOM)

Variable	N	%	No GWG goal (%)	Goal discordant with IOM (%)	Goal concordant with IOM (%)
Annual household income					
<$70,000	76	30.3	40.2	22.7	26.9
$70,000–$100,000	58	23.1	27.8	20.8	17.3
>$100,000	117	46.6	32.0	56.4	55.8
P-trend			<0.001	0.01	0.24
Education					
Some high school/high school graduate	23	8.1	12.3	6.9	1.9
Some college/college/graduate	261	91.9	87.7	93.1	98.2
P-value			0.05	0.45	0.05
Parity					
0	130	45.6	43.9	47.0	46.3
1	108	37.9	36.0	37.6	42.6
≥2	47	16.5	20.2	15.4	11.1
P-trend			0.37	0.50	0.45
Race/Ethnicity					
White	190	65.1	50.0	71.4	87.0
Non-white	102	34.9	50.0	28.6	13.0
P-value			<0.01	0.06	<0.01
Pre-pregnancy BMI (kg/m^2)					
<18.5	12	4.2	2.6	4.2	7.4
18.5–24.9	172	59.7	58.3	57.1	68.5
25–29.9	68	23.6	27.0	24.4	14.8
≥30	36	12.5	12.2	14.3	9.3
P-trend			0.57	0.55	0.03
Actively tried to lose weight the year before getting pregnant					
Yes	142	49.3	41.4	55.1	53.7
P-value			0.03	0.09	0.46
Obesity is an important health problem for women during pregnancy					

Variable	N	%	No GWG goal (%)	Goal discordant with IOM (%)	Goal concordant with IOM (%)
Strongly agree/agree	274	97.8	89.2	85.0	93.6
P-value			0.68	0.13	0.11
Obesity is an important health problem in society	iety				
Strongly agree/agree	251	90.3	96.4	98.3	98.2
P-value			0.23	1.00	0.57
Satisfied with weight prior to pregnancy	99	34.2	35.3	32.8	35.2
P-value			0.72	0.68	0.86
Trust advice from your doctor					
Trust a lot	269	95.0	94.7	94.9	96.2
P-value			0.84	0.90	0.69
Weight before pregnancy can affect health of her pregnancy					
Strongly agree/agree	261	93.2	86.8	96.7	97.3
P-value			<0.01	0.20	0.03
Weight before pregnancy can affect long-term health of child					
Strongly agree/agree	220	78.6	70.4	80.0	85.2
P-value			<0.01	0.70	0.03
Worry that might get fat during pregnancy					
Strongly agree/agree	168	60.2	53.5	73.3	61.10
P-value			0.06	0.02	0.8
As long as I am eating well, I don't care how much I gain					
Strongly agree/agree	167	59.4	68.4	50.8	55.1
P-value			0.01	0.12	0.25
If I gain too much weight one month, I try to keep from gaining the next month					
Strongly agree/agree	62	22.2	25.3	40.0	19.3
P-value			0.13	<0.01	0.2
Tried to keep weight down to not look pregnant					
Strongly agree/agree	21	7.5	4.4	9.8	10.1
P-value			0.1	0.49	0.24
Past month fast food consumption					
Never	92	32.1	70.2	66.4	66.0
P-value			0.50	0.63	0.74

Matern Child Health J. Author manuscript; available in PMC 2011 October 7.

Variable	N	%	No GWG goal (%)	Goal discordant with IOM (%)	Goal concordant with IOM (%)
Past month sugar sweetened beverage consumption					
<1×/week	53	19.3	12.0	23.5	24.5
≥1×/week	224	80.9	88.0	76.5	75.5
P-trend			0.02	0.12	0.27
Past month fruit consumption					
≤1 once per week	177	61.5	29.8	42.0	48.2
P-value			0.01	0.30	0.10
Past month vegetable consumption					
≤1 once per day	200	69.4	73.7	68.9	63.0
P-value			0.20	0.86	0.25
Moderate physical activity					
<2.5 h/week	206	70.6	78.5	55.6	68.9
≥2.5 h/week	86	29.5	21.6	44.4	31.1
P-trend			0.01	<0.01	0.6
Vigorous physical activity					
≤1.5 h/week	161	55.1	65.5	55.6	43.7
>1.5 h/week	131	44.9	34.5	44.4	56.3
P-trend			<0.01	0.90	<0.01

*Sample size varies due to missing data

Table 3

Predictors of having a gestational weight gain goal and having a goal discordant or concordant with Institute of Medicine guidelines, compared to no goal, using multinomial logistic regression

Variable	Having a weight gain goal			Discordant with IOM			Concordant with IOM		
	%	OR	95%CI	%	OR	95%CI	%	OR	95%CI
Income									
<$70,000	40	Referent	–	23	Referent	–	27	Referent	–
$70,000–$100,000	28	1.5	0.7, 3.4	21	1.2	0.4,3.8	17	1.6	0.6,3.8
>$100,000	32	2.8	1.3, 5.9	56	2.5	1.0,6.8	56	2.7	1.2,6.1
Race/Ethnicity									
White	50	Referent	–	71	Referent	–	87	Referent	–
Non-white	50	0.3	0.2,0.60	29	0.3	0.1,0.7	13	0.4	0.2, 0.7
As long as I am eating well, I don't care how much I gain									
Strongly disagree/disagree	32	Referent	–	49	Referent	–	45	Referent	–
Strongly agree/agree	68	0.5	0.3,0.9	51	0.3	0.2,0.8	55	0.5	0.3,1.1
If I gain too much weight one month, I try to keep from gaining the next									
Strongly disagree/disagree	75	Referent	–	60	Referent	–	81	Referent	–
Strongly agree/agree	25	1.6	0.7,3.5	40	4.1	1.6,10.4	19	1.0	0.4,2.4
Tried to keep weight down to not look pregnant									
Strongly disagree/disagree	96	Referent	–	90	Referent	–	90	Referent	–
Strongly agree/agree	4	10.2	1.1,95.2	10	4.6	0.4,56.2	10	14.3	1.4,140.5
Past month sugar sweetened beverage consumption									
<1 serving per week	52	2.4	1.1,5.5	23	2.2	0.8, 6.3	25	2.4	1.1,5.7
≥1 serving per week	88	Referent		77	Referent	–	75	Referent	–
Moderate physical activity									
<2.5 h/week	78	Referent		56	Referent	–	69	Referent	–
≥2.5 h/week	22	3.2	1.6,6.4	44	1.9	0.8,4.9	31	3.6	1.7,7.5