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Patient and provider perceptions of weight gain, physical activity and nutrition counseling during pregnancy: a qualitative study

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Abstract

Objective—To investigate patient and provider perceptions of weight gain, physical activity, and nutrition counseling during prenatal care visits.

Methods—Individual qualitative interviews were conducted with 30 pregnant women between 20–30 weeks gestation (15 African American, 15 White) and 11 prenatal care providers (5 attending physicians, 5 residents, 1 nurse practitioner) in 2014.

Results—The majority of patients and providers reported receiving or giving advice on weight gain (87% and 100%, respectively), physical activity (87% and 91%), and nutrition (100% and 91%) during a prenatal visit. Discussion of counseling content was largely consistent between patients and providers. However, counseling was limited and not fully consistent with current weight gain, physical activity, or dietary guidelines during pregnancy. Most patients viewed provider advice positively, but some wanted more detailed information. Providers discussed many barriers to lifestyle counseling, including: lack of time, inadequate training, concern about the sensitivity of the topic, lower education or income level of the patient, cultural differences, and lack of patient interest.

Conclusions—Providers discussed weight gain, physical activity, and nutrition during prenatal care visits and patients accurately recalled this advice. However, counseling was limited and not fully consistent with guidelines. Future studies are needed to develop and evaluate the efficacy of

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interventions to help providers overcome perceived barriers and more effectively counsel women on weight and healthy lifestyles during pregnancy.

Introduction

In the United States, the majority of women of childbearing age are overweight or obese (Flegal et al., 2012), and up to 50% of women exceed the Institute of Medicine (IOM) gestational weight gain guidelines (National Research Council and Institute of Medicine, 2007; Park et al., 2011). High pre-pregnancy body mass index (BMI) and excessive gestational weight gain are associated with numerous adverse health outcomes, including an increased risk of preeclampsia, gestational diabetes, cesarean delivery, macrosomia, and overweight or obesity in the mother (Guelinckx et al., 2008; Hernandez, 2012; Nehring et al., 2011). Growing evidence also suggests that excessive gestational weight gain may increase the risk of future overweight and obesity in the offspring (Lau et al., 2014).

Pregnancy has been defined as a “teachable moment,” where women may be more receptive to making health lifestyle changes for the sake of their baby (Phelan, 2010). Pregnancy is therefore an opportune time for intervention, especially given women’s regular and frequent contact with the health care system. The American Congress of Obstetricians and Gynecologists (ACOG) recommends that health care providers counsel women on the benefits of appropriate weight gain, physical activity, and nutrition, with emphasis placed on the need to limit excessive weight gain to achieve optimal pregnancy outcomes (2013). The implication of these recommendations is that providers are well positioned to play an important role in helping women achieve appropriate weight gain in pregnancy.

However, little is known about patient-provider communication on weight gain, physical activity, or nutrition in the prenatal care setting. Limited evidence suggests that provider counseling on these topics is inadequate during pregnancy. While the majority of providers report counseling patients on pregnancy weight gain (Moore Simas et al., 2013; Power et al., 2006), approximately 30–50% of women report no weight gain advice from a health care provider during pregnancy (Ferrari & Siega-Riz, 2013; McDonald et al., 2011; Phelan et al., 2011; Stotland et al., 2005), indicating a discrepancy in perceptions. Qualitative research suggests providers do not view counseling on pregnancy weight gain as a high priority and many believe their counseling has little impact on women’s actual habits (Chang et al., 2013; Stotland et al., 2010). Women report receiving little or no provider advice on physical activity during pregnancy, and dietary advice is reported as overwhelming and confusing (Duthie et al., 2013; Ferrari et al., 2013; McDonald et al., 2011; Stengel et al., 2012). Given that physical activity and diet play an essential role in appropriate weight gain and promoting positive maternal and fetal health, it is important to examine patient and provider perceptions of counseling across all three topics.

The purpose of this study was to describe the perceptions of pregnant women and health care providers regarding their discussions about weight gain, physical activity, and nutrition during prenatal visits. Specifically, we aimed to assess: patient and provider descriptions of counseling content on weight gain, physical activity, and nutrition; patient and provider attitudes toward counseling; perceived barriers and facilitators to provider counseling; and

provider familiarity and perceptions of the IOM gestational weight gain guidelines and the ACOG counseling guidelines.

Materials and Methods

A total of 30 patients and 11 providers were recruited from two obstetrics and gynecology (Ob/Gyn) clinics in Columbia, South Carolina to take part in one-on-one qualitative interviews. Patients were recruited using flyers posted in the clinics and via in-person recruitment during a prenatal visit. Eligibility criteria for patients include: African American or White women, 20–30 weeks gestation, singleton pregnancy, pre-pregnancy BMI of 18.5–45.0 kg/m^2, 18–44 years old, and initiated prenatal care ≤ 16 weeks gestation. Five African American and five White women were recruited who were normal weight, overweight, and obese to ensure that the sample was demographically representative of the general state name population. Prenatal care providers were recruited from the same two clinics through e-mail and via in-person recruitment. Providers were eligible to participate if they were seeing prenatal patients at the time of recruitment. A total of 22 providers (attending physicians, nurse practitioners, and residents) were invited to participate; 12 providers expressed interest, and 11 interviews were successfully scheduled and completed.

One study investigator (KW) conducted all interviews from June-August, 2014 using two semi-structured interview guides, one for patients and one for providers. A team of researchers with expertise in maternal and child health, psychology, and exercise science reviewed the interview guides. Sample questions are located in Table 1. All participants completed a brief survey to assess basic demographic measures. Providers were asked to complete surveys prior to the interview to assess their familiarity with the IOM and ACOG guidelines before these were explicitly discussed in the interviews. Specifically, providers were asked ‘Are you familiar with the 2009 Institute of Medicine gestational weight gain guidelines?’ and ‘Are you familiar with the 2014 ACOG Committee Opinion Report, Weight Gain During Pregnancy, which discusses counseling recommendations for weight gain, nutrition, and exercise during prenatal visits?’ (yes/no response options for both). The IOM weight gain guidelines are located in Table 2 (Institute of Medicine and National Research Council, 2009). Interviews were audio-recorded and transcribed verbatim. Participants were compensated $30 for their participation. The local Institutional Review Boards approved all study protocols.

Transcripts were examined for patterned responses within the data and key, overarching themes using a content analysis approach. Content analysis is a systematic research method used to make inferences about written, verbal or visual data in order to describe and quantify a phenomenon (Downe-Wamboldt, 1992). First, a deductive content analysis approach was used to create overarching categories for coding based on the behaviors of interest (weight gain, physical activity, or nutrition). After this first pass of coding was complete, subcategories were created within the existing framework using the inductive analysis approach of open coding (Elo & Kyngas, 2007; Strauss & Corbin, 1998).

To increase validity, the first author (KW) and one other person independently read and coded two patient and two provider transcripts, then met to compare and discuss similarities

and differences in definitions of codes. After reaching consensus on each code's definition and meaning, two composite code lists were developed, one for patients and one for providers. Each code list was organized to form an initial codebook draft. The patient and provider codebooks were entered separately into NVivo 10 for computer assisted qualitative data management. To promote consistency, one person (KW) coded the manuscripts and a second person reviewed the codes to verify they were correctly applied. The number of patients and providers who reported receiving or giving advice on each topic is presented to better compare and contrast patient and provider descriptions of counseling content.

Results

Participant characteristics

Patient characteristics can be found in Table 3. A total of 30 patients were interviewed (15 African American, 15 White) with equal representation across pre-pregnancy BMI categories (10 normal weight, 10 overweight, 10 obese). There were no race differences in participant characteristics. Patient interviews averaged 38.5 ± 8.8 minutes (range 28.0–65.0). Provider characteristics are located in Table 4. A total of five residents, five attending physicians, and one nurse practitioner were interviewed (N=11, 7 female, 4 male). Because only one nurse practitioner was included, this individual was grouped with attending physicians when providing quotations to protect anonymity. Provider interviews averaged 25.4 ± 5.8 minutes (range 18.0–35.0).

Patient Perceptions of Weight Gain Counseling

As seen in Table 5, the majority of women said their doctor discussed weight gain with them during pregnancy (n=26). However, of those who reported provider counseling, nearly half stated they were not given specific weight gain recommendations (n=12). One patient said her doctor talked with her about weight gain "*a little bit, she just mentioned that I would be gaining some weight but it was completely normal. She didn't really say how much I should gain*" (*African American, age 20*).

Of the 26 women who reported provider advice on pregnancy weight gain, 18 viewed the advice positively, six viewed the advice negatively, and two were neutral. For example, those with positive perceptions of provider advice stated they were highly motivated to follow the advice (n=16), that it was good advice (n=15), and that the advice fit in with their existing goals (n=10). However, women who held negative perceptions of provider counseling on weight gain said the advice was not helpful, they wanted more information, and two women who had exceeded weight gain recommendations said it was impossible advice to follow.

Provider Perceptions of Weight Gain Counseling

All providers said they spoke with their patients about pregnancy weight gain, and the majority stated their recommendations depended on the patient's pre-pregnancy BMI (n=10). Six providers reported the amount of weight gain they recommend for their patients, and of these, two reported discussing weight gain only with overweight and obese patients. Even after prompting, five providers did not quantify their weight gain recommendations;

although they did say they use the guidelines. No providers discussed recommendations consistent with IOM guidelines for all pre-pregnancy BMI ranges. For example, five providers discussed weight gain recommendations for normal weight women: three were within the IOM guidelines (i.e. 25–35 pounds); two were below guidelines, recommending a weight gain of 11–20 pounds and 15–25 pounds.

Perceived advantages of weight gain counseling were that it would lead patients to develop better health habits (n=5), cause women to carry these habits forward into the postpartum period (n=4), and prevent future health complications (n=4). However, providers also discussed how weight gain counseling might offend the patient (n=8). "*I do think it sometimes can step on people's toes because it can be a sensitive subject…they may feel like you're singling them out when really you're just trying to make sure they have a healthy life for themselves and for their baby*" (*resident*). Lack of time and competing priorities were also commonly discussed barriers to weight gain counseling (n=5). For example, "*A lot of times we have patients that have comorbidities…those are the things that get addressed. When you try to put someone in a certain time slot and figure out the most important things to talk about, weight gain can get pushed down the list*" (*resident*). Three providers also stated it was difficult to counsel women with lower education levels. The primary factor that facilitated counseling was having a patient who expressed interest and asked questions (n=3).

Patient Perceptions of Physical Activity Counseling

The majority of women reported provider advice on physical activity during pregnancy (n=26). Of those who reported advice, more than half said their doctor discussed the health benefits of physical activity or exercise (n=15). Women also reported provider recommendations to walk, swim, or perform yoga during pregnancy (n=14). After prompting, four reported provider advice on exercise frequency, and three women reported advice on exercise duration and intensity. While providers were largely encouraging of women to be active during their pregnancy, few women reported receiving recommendations consistent with current guidelines (i.e. 150 minutes of moderate to vigorous intensity activity per week or 30 minutes of moderate activity, 5 days per week) (American College of Obstetricians and Gynecologists, 2002; U.S. Department of Health and Human Services, 2008).

Most women who reported provider counseling on physical activity had positive perceptions of the advice (n=22). Most women said they were motivated to follow their doctor's recommendations (n=18), and that it was good advice (n=16). Three women said they wanted more information from their provider on physical activity. Approximately 30% of participants who reported counseling stated that the advice from their provider changed their physical activity habits (n=7). For example, "*I've actually started walking more since then…with the doctor saying exercise a little bit more frequently…it's kind of given me the extra little push I needed to stay fit during pregnancy*" (*White, age 21*).

Provider Perceptions of Physical Activity Counseling

All but one provider reported counseling women on physical activity during pregnancy, with more than half recommending continuation of pre-pregnancy activities (n=6). Providers also reported specific types of exercise they recommend during pregnancy, including walking and swimming (n=6). Five providers reported regularly discussing duration and intensity recommendations with patients. Providers also said they discussed what activities to avoid during pregnancy, such as contact sports (n=4), and described the benefits of physical activity (n=3).

The most commonly cited advantage of physical activity counseling was that it could help patients develop better health habits (n=6). Providers also stated that physical activity counseling might help women gain an appropriate amount of weight during pregnancy (n=4). Other advantages of counseling were that it could improve women's health, quality of life, reduce the risk of health complications, and offers reassurance that exercise is safe during pregnancy. The primary disadvantage of physical activity counseling was that it may offend the patient (n=5). A frequently discussed barrier to physical activity counseling was lack of patient interest (n=4). "*I have some patients that will flat tell you the only place they're walking to is from the TV set to the refrigerator or to the car*" (*attending physician*). Lack of time was also discussed as a barrier to physical activity counseling (n=3), as well as the socioeconomic status of the patient (n=3). For example, "*A lot of them don't really have the time or money to formally exercise*" (*attending physician*). Patient interest was discussed as an enabler of physical activity counseling (n=5).

Patient Perceptions of Nutrition Counseling

All women reported provider counseling on nutrition during a prenatal care visit. Women commonly stated their provider encouraged them to increase consumption of fruits and vegetables (n=17), follow a diet consistent with the Food Pyramid or MyPlate (n=14), consume plenty of water (n=10), and eat less fried foods (n=7) and sugar (n=6). Eight women also discussed how their providers talked about foods to avoid during pregnancy, such as fish high in mercury.

The majority of women viewed provider advice on nutrition positively (n=29), and said they were motivated to follow the advice (n=26). One woman reported feeling dissatisfied with her provider's advice on nutrition because she didn't receive adequate information. The majority of women reported that provider advice on nutrition changed their eating habits (n=24). For example, one participant said "*my eating habits were really awful before they started telling me about it. Then I just made a 360 change on eating better. I really do eat much better than what I did before*" (*African American, age 27*). Women most commonly said they began eating more fruits and vegetables (n=11) and less junk food (n=8) as a result of provider counseling.

Provider Perceptions of Nutrition Counseling

All but one provider reported counseling women on nutrition during pregnancy. Providers primarily counseled women on foods to increase and foods to limit or avoid. For example, providers reported encouraging women to increase their consumption of fruits and

vegetables (n=8) and lean meats (n=3) while decreasing their intake of fast food or processed foods (n=4). Six providers stated their counseling was limited, with three specifically discussing how nutrition counseling is only done at the first prenatal visit. For example, "*Nutrition is one of those first visit types of discussions. You talk about things you shouldn't eat, things you can't eat. You talk about appropriate fish intake. We talk about the importance of prenatal vitamins and folic acid. We talk about grains, fruits, and vegetables…the importance of limiting high-fat diets. But again, unfortunately, that's normally a one-time deal*" (*attending physician*).

The most commonly discussed advantage of dietary counseling was that it caused patients to change their dietary habits (n=5). Two providers also discussed how counseling could increase patient awareness of healthy eating, and that it might lead to positive changes for the family. For example, "*if you teach them healthy eating for themselves, hopefully they will teach that to their children*" (*resident*). Providers discussed the high cost of healthy foods (n=7), cultural differences (n=5), and lack of time (n=4) as barriers to nutrition counseling. More specifically, providers said it was difficult to counsel lower income women on the importance of eating more fruits and vegetables knowing the patient may not be able to afford those types of foods. Patient interest was cited as the primary factor that enabled provider counseling (n=4).

Provider Knowledge and Perceptions of IOM & ACOG Guidelines

Four of the providers said they were not familiar with the IOM weight gain guidelines before taking part in this study. After being shown the guidelines, the majority stated they used similar recommendations in their practice (n=10), although many stated they recommended less weight gain for overweight or obese women (n=7). "*I think they're pretty much what I do. For my obese women, I will tell them it is okay if they don't gain any weight, specifically if they have Class III obesity*" (*attending physician*).

The majority of providers were familiar with ACOG counseling recommendations (n=9). All providers responded positively after viewing these recommendations and the majority stated it was important to counsel women on weight gain and related topics. However, every provider stated that their medical training did not prepare them to counsel women on these topics. "*I don't think that in the curriculum of everything it's probably as stressed as some other things are. And I definitely think for women who are obese…we don't get very much training in how to counsel them*" (*attending physician*). All providers said it would be helpful to receive further training on these topics.

Discussion

There are three major findings in this study. First, the majority of women and providers reported some counseling on weight gain, physical activity, and nutrition during prenatal visits, and discussion of counseling content was similar. However, counseling was limited in detail and not fully consistent with guidelines. Second, providers agreed it was important to counsel women on weight gain and related topics, and women generally responded positively to provider advice. Third, providers discussed many barriers to counseling and

would benefit from additional training on how to effectively counsel patients on weight-related topics.

Related to the issue of counseling being limited in detail, less than half of women reported provider advice to gain a specific amount or range of weight and nearly 40% of providers stated they were not familiar with the IOM weight gain guidelines. Taken together, these findings indicate some providers may not be counseling women appropriately on pregnancy weight gain. Consistent with our findings, a qualitative study conducted by Stengel and colleagues found that few women reported receiving specific pregnancy weight gain advice from their doctor (2012). Furthermore, a study of Ob/Gyn and Family Medicine residents found that approximately 60% of providers were unfamiliar with the 2009 IOM weight gain guidelines (Moore Simas et al., 2013). If we are to increase the percentage of women with appropriate weight gain, it is imperative that providers are knowledgeable about the IOM guidelines and discuss these guidelines with their patients. Future research is needed to develop appropriate resources to assist providers in giving consistent weight gain advice to their patients. For example, programs could be incorporated into the existing medical record system to provide tailored weight gain recommendations for the provider to discuss with the patient.

While provider advice on pregnancy weight gain may lack specificity or may not be in agreement with the IOM guidelines, the majority of women viewed the advice they received positively. Duthie and colleagues also reported that women generally felt happy about conversations with their health care providers on pregnancy weight gain (2013). However, some women in our study were dissatisfied with the advice received because they wanted more specific information and guidance on how to manage their weight gain. Given the amount of information providers must discuss during a patient visit, tools to facilitate comprehensive weight gain counseling could prove useful, such as electronic prompts or standardized checklists.

An additional key finding was that report of physical activity and nutrition counseling was largely consistent between women and providers. Duthie et al. found greater inconsistencies between patient and provider reports of physical activity and nutrition counseling, with providers reporting discussion of these topics with all patients while patients reported receiving minimal to no advice (2013). In our study it appears that the advice patients receive is understood and recalled. However, few patients or providers in our study reported receiving or giving specific recommendations on intensity, frequency, or duration of activity. While it is promising that some physical activity counseling is occurring in the prenatal setting, it is important that providers offer women advice that is consistent with guidelines. Similarly, when discussing nutrition, providers acknowledged their counseling was limited and usually only occurred at the first prenatal visit. However, despite limited counseling, 80% of women discussed how the advice they received from their provider changed their dietary habits. This finding is promising as it indicates that even brief counseling may have an impact on pregnant women’s health behaviors.

With respect to the third major finding of this study, providers identified both unifying and unique barriers to counseling on weight gain, physical activity, and nutrition. Consistent

with existing research, lack of time was cited as a barrier to counseling across topics (Hebert et al., 2012; Ruelaz et al., 2007; Yarnall et al., 2003). Providers were also worried that weight gain and physical activity counseling might offend patients. Concern about the sensitivity of the topic has been previously cited as a barrier to weight gain counseling in the prenatal care setting (Stotland et al., 2010). However, no women reported feeling offended by provider advice in our study, and some wanted more information on these topics.

All providers stated their education did not prepare them to counsel patients on weight control, physical activity, or nutrition. Insufficient training has previously been cited as a barrier to weight gain counseling in the prenatal setting (Stotland et al., 2010) and in general settings (Hebert et al., 2012). A 2010 survey of nutrition education in U.S. medical schools found that nutrition is covered unevenly and inadequately through all levels of medical training (Adams et al., 2010). Given the high prevalence of obesity and excessive pregnancy weight gain, there is a clear need for enhanced medical education and training on weight management, physical activity, and nutrition.

While further education and training for providers is important, there are many other barriers beyond lack of training that prevent providers from counseling patients on lifestyle behaviors. All providers discussed time constraints as a barrier to counseling, and many also noted it was difficult to counsel patients with lower education or income levels or those from different cultural backgrounds. Given these real world challenges, it may be necessary to look at other potential solutions such as referral systems and models of integrated care.

A major strength of this study is the use of qualitative methods to examine patient and provider perceptions, which provide data that could not be captured through a quantitative survey. Assessment of both patient and provider perceptions adds to the literature as existing studies have commonly only assessed the views of patients or providers, not both. While this study contributes novel findings to the literature, several limitations must be noted. We recruited from two clinics in Columbia, SC, therefore the findings have limited generalizability. We did not directly match patients with providers; however, at these clinics women see multiple providers, therefore direct matching may not have been practical. It is possible that patients and providers who took part in this study were more interested in weight gain and related topics. Finally, all information was self-reported and therefore subject to recall and social desirability bias.

Conclusions

This study described the discussions of patients and providers on weight gain, physical activity, and nutrition in the prenatal care setting. The majority of patients and providers reported counseling on these topics and discussion of counseling content were similar. Most patients viewed provider advice on weight gain and related behaviors positively, and many women reported modifying their behaviors based on the advice received. However, this study also revealed that advice across topics was often limited. Providers discussed many barriers to lifestyle counseling, but also expressed an interest in further training to learn how to counsel women effectively.

Implications for Practice and/or Policy

In light of the obesity epidemic and high prevalence of women with excessive pregnancy weight gain, providers should be better equipped to discuss weight gain, physical activity, and nutrition. Given that women generally viewed provider counseling positively and many reported making recommended changes, our findings provide support for the potential role of the provider in delivering interventions to help women adopt healthier lifestyle habits and achieve appropriate weight gain in pregnancy. However, further education and training is necessary to increase the percentage of providers who counsel patients on these topics. Future research is needed to determine the efficacy of different intervention approaches to increase the percentage of women who are counseled accurately and effectively on weight gain, physical activity, and nutrition during pregnancy.

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Table 1

Sample Interview Questions from the Patient and Provider Interview Guides

Topic	Patient Interview Guide	Provider Interview Guide
Weight Gain	What has your health care provider told you about weight gain during pregnancy?	What is your philosophy about discussing pregnancy weight gain with your patients?
	What do you think about the advice your provider gave you on pregnancy weight gain?	What weight gain recommendations do you give?
		Describe factors or situations that make it harder to talk to women about pregnancy weight gain.
Physical Activity	What has your health care provider told you about exercise or physical activity during pregnancy?	What is your philosophy about discussing exercise or physical activity with your pregnant patients?
	What do you think about the advice your provider gave you on exercise?	What exercise recommendations do you give?
		Describe factors or situations that make it harder to talk to patients about exercise during pregnancy.
Nutrition	What has your health care provider told you about nutrition during pregnancy?	What is your philosophy about discussing nutrition with your pregnant patients?
	What do you think about the advice your provider gave you on nutrition?	What nutrition recommendations do you give?
		Describe factors or situations that make it harder to talk to pregnant patients about nutrition.
Multiple Behaviors	What do you think about your provider discussing weight gain, exercise, or healthy eating with you during prenatal visits?	How did your medical training prepare or not prepare you to counsel women on weight gain, exercise, or nutrition during pregnancy?

Table 2

2009 Institute of Medicine Recommendations for Total and Rate of Weight Gain during Pregnancy, by Pre-pregnancy BMI

Pre-pregnancy BMI	BMI, kg/m^2	Total Weight Gain Range in lbs	Rates of Weight Gain[a] 2nd and 3rd Trimester Mean (Range) in lbs/week
Underweight	<18.5	28–40	1 (1–1.3)
Normal weight	18.5–24.9	25–35	1 (0.8–1)
Overweight	25.0–29.9	15–25	0.6 (0.5–0.7)
Obese (includes all classes)	≥30	11–20	0.5 (0.4–0.6)

[a] Calculations assume a 1.1–4.4 lbs weight gain in the first trimester.

Table 3

Patient Characteristics (N=30)

Characteristic	N	%
Age, years		
< 21	5	16.7
21–25	8	26.7
26–30	9	30.0
> 30	8	26.7
Marital Status		
Single	20	66.7
Married/member of unmarried couple	9	30.0
Divorced	1	3.3
Education		
< HS graduate	5	16.7
HS graduate or GED	10	33.3
Some college	10	33.3
College graduate	5	16.7
Employment Status		
Employed	14	46.7
Unemployed	16	53.3
Annual household income		
< $15,000	15	50.0
$15,000–$24,999	5	16.7
$25,000–$49,999	4	13.3
> $50,000	6	20.0
Parity		
0	17	56.7
1	6	20.0
≥ 2	7	23.3
Pre-pregnancy BMI Category		
Normal weight	10	33.3
Overweight	10	33.3
Obese	10	33.3
Smoking		
Before pregnancy	15	50.0
During pregnancy	7	23.3

Table 4

Provider Characteristics (N=11)

Characteristic	N	%
Occupation		
Attending physician	5	45.5
Nurse practitioner	1	9.1
Resident	5	45.5
Age, years		
< 30	4	36.4
30–40	3	27.3
> 40	4	36.4
Years Practicing Medicine		
< 3 years	5	45.5
3–10 years	1	9.1
10–20 years	2	18.2
> 20 years	3	27.3
Race		
White	10	90.0
Other	1	9.1
Gender		
Female	7	63.6
Male	4	36.4
BMI Category		
Normal weight	6	54.6
Overweight	1	9.1
Obese	4	36.4
Currently smokes	0	0.0
Familiar with IOM Gestational Weight Gain Guidelines		
Yes	7	63.6
No	4	36.4
Familiar with ACOG Counseling Guidelines		
Yes	9	81.8
No	2	18.2

Table 5

Patient and Provider Perceptions of Weight Gain, Physical Activity, and Nutrition Counseling

Topics in Prenatal Counseling	Patients N = 30		Providers N = 11	
	N	%	N	%
Weight Gain Discussed	26	87	11	100
Specific Recommendations	14	47	6	55
Physical Activity Discussed	26	87	10	91
Benefits of exercise	15	50	3	27
Type of exercise	14	47	6	55
Continue regular activities	5	17	6	55
Frequency, duration, intensity	4	13	5	46
Activities to avoid	3	10	4	36
Nutrition Discussed	30	100	10	91
Fruits and vegetables	17	57	8	73
Food pyramid or MyPlate	14	47	2	18
Increase water consumption	10	33	2	18
Foods to avoid	8	27	2	18
Limit fried foods	7	23	--	--
Limit sugar	6	20	--	--
Lean Meats	5	17	3	27
Calorie recommendations	4	13	--	--
Portion control	3	10	3	27
Whole grains	3	10	3	27
Limit fast food/processed foods	--	--	4	36
Limit sugar-sweetened beverages	--	--	3	27