Obstetric health-care providers' perceptions of communicating gestational weight gain recommendations to overweight/obese pregnant women

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Summary

Background: Gestational weight gain (GWG) is a major risk factor of poor pregnancy outcomes. Obese pregnant women frequently report bias and discrimination when dealing with health-care providers (HCPs). Effective communication of GWG recommendations may impact risks. Study objectives were to identify perceptions of HCPs in communicating GWG recommendations and to identify potential gaps/opportunities that could be addressed in the development of appropriate materials/programmes.

Methods: A survey tool was created using the Theory of Planned Behaviour to capture HCPs' attitudes, behaviours and intentions, using four-point Likert questions. Surveys were distributed to obstetricians/gynaecologists, family physicians, obstetric residents/fellows, midwives, registered/public health nurses and registered dietitians.

Results: Results from 96 surveys show that HCPs agreed discussing GWG was important (100%), beneficial for patient-provider rapport (86%) and best practice (100%); however, most found it unpleasant (68%). Providers have confidence in their skills to provide nutrition advice (71%) and believe they have sufficient training (56%); yet, 31% acknowledged making derogatory comments and indicated that they could improve their communication of GWG (92%).

Conclusions: HCPs believe they are providing GWG recommendations in an effective and empathetic manner. While an underlying current of bias/discrimination remains, there is recognition of the importance of more training and access to appropriate tools.

Keywords: high-risk pregnancy, complications, diabetes

BACKGROUND

In 2006, the World Health Organization projected an increase to 2.3 billion overweight (body mass index [BMI] ≥ 25) and over 700 million obese adults (BMI ≥ 30) by 2015.¹ Data from the National Health and Nutrition Examination Survey showed that 54.5% of American women, ages 20–39, have a BMI ≥ 25 and 29% have a BMI ≥ 30 .² Canada was ranked third among G7 countries with 32.5% of the population overweight and 14.9% obese.³ Among Canadian women, 13.6% had a prepregnancy BMI greater than 30.⁴

Maternal prepregnancy BMI is highly associated with poor obstetrical outcomes including congenital anomalies, stillbirth, macrosomia, hypertensive disorders of pregnancy, gestational diabetes, operative delivery and complications from operative deliveries.⁵ Excessive gestational weight gain (GWG) compounds the poor outcome in these women.⁶ For women

with BMI >30 , gaining over 15 kg will increase the risk of gestational diabetes, hypertension, caesarean section and macrosomic infant compared with a GWG of less than 5 kg.⁷ GWG may also negatively impact long-term health outcomes for both the mother (i.e. hypertension, obesity and type 2 diabetes) and offspring (i.e. obesity).^{6,8,9}

Women who are overweight or obese prepregnancy tend to exceed recommended weight gain targets.^{10–12} GWG is one of the few modifiable risk factors for poor obstetrical outcomes and communicating a consistent message in an appropriate manner may directly reduce risks. Patients have reported being made to feel guilty for having a high prepregnancy BMI and suffering negative behaviour, inappropriate comments and lack of support, where concerns are dismissed as weight-related issues.^{13–15} Several studies found that most providers are pessimistic regarding an obese patient's ability to succeed with any significant weight loss.^{16,17} When obese patients face stigma in health care, they are less likely to make appointments or keep them, reducing the chance of adherence to recommendations.¹⁸

Some health-care providers (HCPs) avoid discussing weight and GWG targets, waiting for patients to broach the

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subject.^{19,20} Patients made aware of their weight/BMI by their physicians are more likely to have an increased desire to make positive changes to lowering their weight.²¹ Pregnant women who are told their prepregnancy weight/BMI gain less gestational weight than those pregnant women who did not know their prepregnancy weight.²²

The objectives of this study were to identify perceptions of HCPs in communicating GWG recommendations and identify potential gaps/opportunities that could be addressed in the development of appropriate materials or programmes.

METHODS

A 10 to 15-minute survey was developed to gather perceptions of obstetric HCPs using the concepts from the Theory of Planned Behaviour: intention, behaviour, attitudes, subjective norms and perceived behavioural control.²³ Participants' perceptions on GWG recommendations, nutrition counselling, exercise prescription, communication barriers and discriminatory behaviour were captured by 53 four-point Likert questions, four open-ended questions and demographic questions. Identifying word choice in reference to weight and potential risk to mother and infant was accomplished using a clinical vignette.

The survey was made available in both paper and online formats (through Survey Monkey). The completed survey was piloted by four HCPs (a registered dietitian, registered nurse and two physicians), prior to receiving ethical approval from The Ottawa Hospital Research Ethics Board (OHREB) and the Ottawa Public Health Research Ethics Board (OPHREB).

The subjects in this study were obstetric HCPs practising in the Champlain region, including obstetricians, family physicians, midwives, registered nurses, registered dietitians, obstetrics residents/fellows and public health nurses. HCPs who did not provide care to pregnant women, who did not practice in the Champlain region or who participated in our pilot survey were excluded from this study.

Regional providers identified through a regional stakeholder's meeting, Department of Obstetrics/Gynecology rounds distribution list and the membership list of the Champlain Maternal Newborn Regional Program (CMNRP) were sent email invitations with the online survey link. Links to the online survey were sent to several associations, societies and listservs that provided information to obstetric HCPs.

The survey link was sent to approximately 292 potential participants. Paper surveys were distributed opportunistically and made available at various hospital meetings within the Champlain region.

A survey was considered completed if the participant indicated their professional designation as this was a primary independent variable used to categorize the data for statistical analysis.

Data analysis was completed using Statistical Analysis Software (SAS Inc, Cary, North Carolina, USA. Version 9.1 for Windows.). Content analysis was used to analyse the responses to the open-ended survey questions. Descriptive statistics were used to determine the frequency of results and central tendencies. Comparisons between professional groups were done using Fisher's exact test. The level of significance was set at $\alpha = 0.05$. The Likert items were grouped into two categories: strongly agree/agree were reported as agreed and strongly disagree/disagree were reported as disagreed.

Table 1 Demographic characteristics of participants (represented in percentages)

	OB n = 28	GP n = 18	MW n = 14	RN n = 29	RD n = 7
Age (years)					
20–29	26		14	3	57
30–39	37	24	7	21	14
40–49	22	41	29	21	29
50+	15	35	50	55	
Sex					
Male	33	28			
Female	67	72	100	100	100
Body mass index					
<18.5				3	
18.5–24.9	50	56	57	41	100
25–29.9	43	22	29	28	
≥30	7	22	7	17	
Secret			7	10	
Years since grad					
0–5	48	11	21	7	43
6–10	15	11	14	10	29
11–15	7	11	14	7	
16–20	15	17	7	7	14
21+	15	50	43	69	14

OB, obstetrician and obstetric residents/fellows; GP, family physician; MW, midwife; RN, registered and public health nurse; RD, registered dietitian

RESULTS

Eight paper and 88 online surveys were completed, in either English or French, giving a response rate of approximately 33%.

The demographic characteristics of the HCP participants are represented in Table 1. The professional designations in this survey are obstetricians (including obstetric residents and fellows), family physicians, midwives, nurses (including registered nurses and public health nurses) and registered dietitians.

Attitudes

Providers' attitudes regarding advising GWG recommendations to obese pregnant women are represented in Table 2. Providers agreed discussing GWG was important (100%), beneficial for patient-provider rapport (86%) and best practice (100%); however, most found it unpleasant (68%) and were split in their attitudes regarding comfort (54% agree/46% disagree) and convenience (55% agree/44% disagree). There were no statistically significant differences between professional groups.

Nutrition

Over 97% of providers indicated that they wanted to discuss nutrition and nutritional guidelines with overweight/obese pregnant women. The majority of respondents, 87%, agreed that they usually provide nutritional counselling to help overweight/obese patients achieve GWG targets. Approximately half (56%) of providers agreed that they had sufficient training to provide nutrition counselling and 71% are confident in their skills to provide sound nutritional advice. There were

Table 2 Health-care providers' attitudes to communicating gestational weight gain recommendations (represented in percentages)

	SA	A	D	SD	N/A
Important	84	16	0	0	0
Beneficial to rapport	15	68	10	3	4
Best practice	64	35	0	1	0
Pleasant (for me)	3	26	6	1	9
Comfortable (for me)	8	44	44	1	2
Convenient (for me)	15	39	41	2	3
Rewarding (for me)	14	45	32	1	8

SA, strongly agree; A, agree; D, disagree; SD, strongly disagree; N/A, not applicable

significant differences across the various professional groups. Most family physicians (83%), half of midwives (50%) and obstetricians (58%) disagreed that they usually provided written nutrition information to help patients achieve their GWG target, whereas 90% of nurses and 86% of dietitians agreed ($P < 0.001$).

Even though 61% believed that their advice provided to overweight/obese pregnant women would not be followed, 98% of respondents disagreed that providing advice on nutrition or lifestyle behaviour was a waste of their time.

Exercise

When asked about exercise, 89% of providers agreed that they usually provided exercise counselling and 61% believe that they have enough training to provide exercise recommendations to overweight/obese pregnant women. However, 71% disagreed that they usually provide written material on exercise to their patients. Most midwives (71%), obstetricians (79%), family physicians (89%) and dietitians (100%) did not usually provide obese pregnant women with written information on exercise recommendations while 59% of nurses usually did ($P = 0.005$).

Bias towards obese patients

Of all respondents, 11% agreed that they made insensitive comments to obese pregnant women during pregnancy and 31% agreed that they made derogatory comments about obese pregnant women to colleagues. There were significant differences between groups with 46% of obstetricians, 39% of family physicians, 36% of midwives and no dietitians agreeing that they had made derogatory comments to colleagues ($P = 0.02$).

Overall, 66% of respondents agree that more derogatory comments about obese pregnant women are being made by HCPs in comparison with non-obese pregnant women. There were significant differences between professional groups with 80% of obstetricians, 69% of family physicians, 92% of midwives, 52% of nurses and 14% of dietitians agreeing ($P = 0.002$).

Most providers (82%) agreed that their office environment could accommodate obese pregnant women; however, 12% agreed that they weighed obese pregnant women in a public area.

Overall respondents agreed that they have made negative assumptions regarding a patient's character or intelligence based on their weight/BMI.

Table 3 Response to word choice by health-care providers (represented in percentages)

	OB <i>n</i> = 28	GP <i>n</i> = 18	MW <i>n</i> = 14	RN <i>n</i> = 29	RD <i>n</i> = 7	Total
Because of your weight*	50	35	29	24	29	35
Because you are obese*	4				14	2
Because of your high BMI*	4	24	50	38	29	26
Because you are overweight*	14	12		3	14	8
Because you are fat*						0
Because you are carrying extra weight*	25	29	14	17		20
You will not discuss weight			7			1
Not applicable				14		4
Other	4			3	14	3

OB, obstetrician and obstetric residents/fellows ($n = 28$); GP, family physician ($n = 18$); MW, midwife ($n = 14$); RN, registered and public health nurse ($n = 29$); RD, registered dietitian ($n = 7$)

*You and your baby may be at risk for...

Providers disagreed (97%), most strongly, that they avoid discussing GWG recommendations and risks with obese pregnant women to avoid offending them. When asked if they were less likely to discuss GWG recommendations to overweight/obese pregnant women compared with underweight pregnant women, 90% of providers disagreed. However, the majority of providers (92%) agreed that they could improve the way they communicate GWG and obstetric risk with obese pregnant women.

Word choice

To determine what language is commonly used to initiate a conversation on GWG, respondents were presented with a specific clinical scenario and a series of phrases where only the keyword, or phrase, was changed. The results are represented in Table 3. While the term 'weight' was the overall top choice, midwives and nurses preferred 'high BMI' and family physicians chose the phrase 'carrying extra weight' as their most common option ($P = 0.01$). Providers indicated that weight, high BMI and carrying extra weight were the three top word/phrase choices most commonly used when discussing weight with patients.

Open-ended questions

Providers indicated the need for training, handouts and access to experts to improve their ability to counsel obese women. The most frequent themes are outlined in Table 4.

CONCLUSION

In this exploratory study, we found that HCPs had an overall positive view of discussing GWG recommendations with their obese pregnant patients including that providing information on GWG was important, useful, effective and a discussion that they intended to have with all patients. On the whole,

Table 4 Responses to open-ended questions regarding health-care provider needs (represented in percentages)

	OB	GP	MW	RN	RD	Total
Training	23	15	22	35	5	33
Handouts/patient literature	30	33	18	18	2	29
Access to experts	60	15	10	15		10
Guidelines	38	38		12	12	4
Consistency	40	20	20	20		3

OB, obstetrician and obstetric residents/fellows; GP, family physician; MW, midwife; RN, registered and public health nurse; RD, registered dietitian
Based on 196 total responses to four questions

there were few significant differences in the responses based on professional designation. There was evidence of bias towards obese women with two-thirds of respondents identifying that more derogatory comments are being made by HCPs about obese women.

Half of HCPs responded that they had sufficient training to provide nutritional counselling and were confident in their skills to provide sound nutritional advice. Over half also believed that they had sufficient training to provide exercise recommendations to overweight/obese pregnant women. However, from the responses to the open-ended questions, providers indicated that appropriate training through a variety of methods would fulfil an identified need. The results from the survey questions are in contradiction to the literature, which found that lack of training, skills, competency and self-efficacy have been identified as barriers for HCPs to communicating GWG recommendations.²⁰ While providers may believe they have enough training, it may not be suited for a specific population such as overweight/obese pregnant women and is not indicative of their comfort level in having a discussion regarding GWG.

Our results indicated that less than half of HCPs surveyed usually provided written literature regarding nutrition or exercise guidelines to their patients; yet the need for patient literature was indicated as one of the top three needs by respondents. This may point to a potential lack of patient literature on nutrition and exercise recommendations or, the available handouts are not appropriate for overweight/obese pregnant women. However, the results indicated that nurses and registered dietitians typically provided handouts, suggesting that certain professions may be more likely to provide patients with written material or have greater access to such information due to their specific facility set-up or practices.

Bias or discrimination towards overweight/obese patients was captured by asking about the HCPs' own behaviour, the behaviour of colleagues and the environment in which they practice (i.e. weighing patients in a public area). Although only 11% acknowledged making derogatory comments themselves to women, approximately two-thirds agreed HCPs have made derogatory comments to each other. This acceptance of discrimination in conversations between HCPs is concerning. Biased attitudes faced by obese patients may create barriers to appropriate health care. Studies have demonstrated that once obese patients face stigma in health care, most frequently from physicians and nurses, they are less likely to make appointments or keep them.^{16,19} There are no data that derogatory comments will improve motivation for lifestyle changes.

While some studies have demonstrated that providing patients with their BMI had a positive impact on lifestyle

changes, the directness of that communication was not addressed or analysed with regard to the results.²² However, patients have indicated that receiving positive support and encouragement created an overall positive experience during pregnancy and delivery.¹⁴

Respondents expressed a desire for consistency in practice methods among HCPs. The literature has shown that some HCPs are not providing GWG recommendations or are providing incorrect weight gain targets.^{20,21} Our results found that not all HCPs agree with regard to providing specific GWG targets. Whether they do not believe in providing that information or whether there is another reason is not clear, but lack of time was only indicated as a consideration with obstetricians.

Strengths and limitations

Several organizations and individuals supported this research project; however, our sample size and response rate remained low. For this reason, our data were analysed based on the different HCP groups rather than demographics such as BMI, age, sex or years since graduation; however, with a significantly larger sample size, this could be an area for future research, potentially providing a meaningful correlation between HCPs' demographics and perceptions.

Despite protecting respondent confidentiality, HCPs may have answered questions based on social acceptability rather than their own practices, beliefs or college recommendations. In an attempt to reduce this occurrence, several questions were developed to identify potential areas of discrimination. This survey was only on self-perception and did not test knowledge. Although all respondents acknowledged the Institute of Medicine (IOM) Guidelines and believed that they should be followed, the survey did not assess the specific information HCPs were communicating to patients. Previous studies have indicated that some patients may have received incorrect GWG guidelines;^{20,21} therefore, this could be a potentially important area for future research.

Some professions may be more self-aware or reflective in their practice; however, this could not be validated.

It is also possible that there was a preferential completion of the survey by HCPs who routinely discuss GWG recommendations or believe that conversation is essential to reducing potential obstetrical risks. Due to this potential bias, we may not be getting information that truly reflects the wide-ranging intentions, beliefs, social norms, perceived control and attitudes of the diverse health-care field.

While HCPs surveyed believe they are providing GWG recommendations in an effective and empathetic manner, an underlying current of bias and discrimination still remains.

Identifying the barriers and needs of HCPs for providing effective communication on GWG recommendations is only the first step. The tone or manner of communication, with regard to weight and BMI, and its impact on patient action or reaction is another important potential area of future research.

DECLARATIONS

Competing interests: None that impact this study.

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Ethical approval: The ethics committee of The Ottawa Hospital Research Ethics Board (protocol #2011058-01H) and

The Ottawa Public Health Research Ethics Board (protocol #159-11) approved this study.

Contributorship: EK and PBG conceived the study. BG, EK, PBG, FM and KM were involved in protocol and survey development, and gaining ethical approval. BG, EK and PBG were involved in patient recruitment and writing the first draft. TZ compiled and provided data analysis. All authors reviewed and edited the manuscript and approved the final version.

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