Widespread misconceptions about pregnancy for women living with obesity

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Misconceptions about pregnant women who have obesity exist in the media and scientific literature. These misconceptions might negatively influence research quality and the delivery of health care. In 2014, Chaput and colleagues[1] published a commentary discussing widespread misconceptions about obesity. In this article, we aim to build on their work with a discussion of misconceptions surrounding obesity during pregnancy, with a focus on gestational weight gain (GWG), using insights gained through consultations with physicians and researchers. Our objective is to challenge health care providers and researchers to rethink how we should care for and support women who have obesity during their pregnancy.

Misconceptions

During pregnancy, women living with obesity are less active and eat a poorer-quality diet compared with their counterparts of "normal" weight. In research on nutrition and exercise levels among nonpregnant populations, evidence is lacking of significant differences between individuals with a normal-weight body mass index (BMI) and those with an obese BMI. Similarly, there is a lack of high-quality epidemiologic evidence of significant differences in the levels of prepregnancy and prenatal nutrition and exercise between women with a BMI classified as normal weight and those with a BMI classified as obese. Studies that have compared preconception or prenatal nutrition and exercise behaviour based on prepregnancy BMI have been inconclusive, with some studies suggesting that women with a normal-weight BMI are more likely to lead a "healthy" lifestyle than are women with obesity,[2,3] while others showed no difference.[4-6] Nutrition and exercise have generally been considered as the "big 2" causal and predictive factors of obesity.[1] Although one's diet and exercise patterns might contribute to obesity and GWG, we are becoming more aware that an interplay of environmental, psychosocial, and biological factors, many beyond the control of the individual, is also involved.[7] The prevalent simplistic notions regarding the causes of obesity (too much food, not enough exercise) and possible solutions (eat less, move more) propagate a popular misconception that obesity is solely the result of a personal choice to be inactive and have a poor diet. This misconception further increases biases and body weight stereotypes in health care and social settings.[8]

Pregnant women with obesity exceed GWG recommendations because they do not exercise enough and have a poor diet. The "big 2" are often touted as the cause of excessive GWG. Epidemiologic data have shown that pregnant women with obesity are more likely to have GWG in excess of the 2009 Institute of Medicine recommendations.[9] Despite this finding, there is a paucity of research that provides evidence-based GWG management strategies. Women with obesity tend to gain less weight than their normal-weight counterparts during pregnancy, which might be owing to a narrow range of recommended weight gain (recommended weight gain based on BMI: 11.5 to 16.0 kg for normal-weight women versus 7.0 to 11.5 kg for overweight and 5.0 to 9.0 kg for obese women).[10] Consider this: a woman with a prepregnancy BMI of 29.8 kg/m^2 would meet GWG guidelines if she gained 11.0 kg, whereas a woman with a prepregnancy BMI of 0.2 kg/m^2 more who gained the same amount would have exceeded guidelines by 2.0 kg. Therefore, it might be incorrect to assume that the classification of excessive GWG directly represents nonadherence to healthy lifestyle behaviour, such as prenatal exercise, when the classification might reflect other factors, such as the recommended cutoffs. Although we cannot deny the health benefits associated with appropriate GWG, physical activity, and nutrition during pregnancy,[11,12] it is presumptuous to causally attribute excessive GWG to prenatal dietary intake and physical activity energy expenditure patterns alone. It is plausible that other lifestyle factors could be influencing nutrition and exercise behaviour and also related to excessive GWG (eg, sleep, stress levels, cost and accessibility of food).

We need adequate and balanced attention to physiological, psychological, and societal influences that might better explain why some women gain more weight than recommended during pregnancy. For instance, maternal fat mass in pregnant women with obesity can be mobilized to meet the energy demand produced by pregnancy and the growing fetus, a fact that contradicts public health guidelines that encourage all women to increase their caloric intake in the second and third trimesters.[13,14] Additionally, research has shown a strong genetic component to factors influencing energy balance, yet limited information exists on how genes might predispose women to excessive GWG and obstetric complications.[15] From a psychological perspective, for women who have had obesity their entire adult lives, pregnancy might be the first time they have been expected to gain

weight.[16] It is unknown whether prepregnancy body and food preoccupation, repeated cycles of weight loss and gain, eating disorders, and reduced self-esteem influence excessive GWG.[17] Given the known health benefits of gaining weight within GWG guidelines, further research to explore other potential causal factors for exceeding guidelines is warranted.

A successful GWG program for women living with obesity is measured by meeting GWG guidelines. Randomized controlled trials designed to prevent excessive GWG have often defined program success as having a statistically significant difference that favours the intervention over the control group in the proportion of excessive GWG.[18] The GWG ranges recommended by the Institute of Medicine were developed to balance the risks and associated acute and long-term health benefits for mothers and children. Overall prevention of excessive GWG has been shown to reduce the future risk of obesity; however, there might be additional relevant measures of program success that should also be considered and recognized.[19] As with programs for nonpregnant populations, these programs might be successful if the goals were to be centred around improving behaviour rather than on meeting weight cutoffs.[18] Advice related to weight management during pregnancy should not take a one-size-fits-all approach. Health care providers and researchers should aim to understand the patient's history with obesity and provide opportunities to counsel behaviour that might, ultimately, assist with weight management. Care providers should consider using a clinical framework or approach, such as Obesity Canada's 5As of Healthy Pregnancy Weight Gain (ask, assess, advise, agree, and assist),[20] a tool that has been shown to help in assessing patients' readiness to discuss weight management during pregnancy.[21] In addition, clinical guidelines for management of obesity during pregnancy, including the management of GWG, should be consulted.[22]

Instead of merely defining success as a dichotomous outcome of appropriate or excessive GWG, physicians should use their clinical judgment at an individual patient level and aim to share decision making about weight management goals with their patients. For some women, the main goal might be to feel better, have more energy, join a prenatal physical activity class, improve their sleep habits, or learn about healthy recipes. Some women might consider achieving their behaviour change goals as a measure of success. For others, the definition of success might be based on positive birth outcomes.

Pregnant women living with obesity are not interested in nutrition and exercise. Women with obesity report feeling more judged due to their weight during their pregnancy than ever before.[23] They perceive that any pregnancy-related concern is automatically attributed to lifestyle habits they are assumed to have.[24] Stereotypes associated with obesity (eg, being lazy) are amplified during pregnancy and extended to "not caring about the baby."[25] Women living with obesity want to have a healthy pregnancy[24] and to experience nonjudgmental support from health care providers.[23,26] In fact, women who have obesity report wanting information about healthy lifestyle behaviour strategies.[23,26] Researchers and health care providers should not assume intentions and behaviour, and instead should evaluate and support pregnant women at the individual level.

Obesity will affect the success rate of fertility treatments. This misconception certainly goes beyond the academic walls and is debated at public, political, and philosophical levels. There is some evidence that women living with obesity might have alterations in the hypothalamic-pituitary-ovarian axis, which can cause menstrual dysfunction, leading to infertility.[27] Countries such as Australia and New Zealand[28] and the United States[29] have established BMI eligibility thresholds for in vitro fertilization (IVF). The Canadian Fertility and Andrology Society does not support this imposition; however, some medical doctors do support the idea that BMI thresholds should be considered as an eligibility criterion for IVF in Canada.[30] Brown argues that the decision to deny IVF to women living with obesity on the basis that the treatment will not work is unjustified.[31] According to her analysis, the decision is instead based on insufficient information related to cost and effectiveness, which are not significantly different for women with a BMI classified as obese than for those with a BMI classified as normal.[31]

Additionally, Tremellen and colleagues demonstrated in their 2017 analysis that live birth rates in women with a BMI greater than 35.0 kg/m^2 were not clinically lower than in women within normal weight ranges (26.3% vs 31.4%, respectively).[32] Finally, previous research has also shown that obesity-related health status indicators, including blood pressure, health history, and functional assessment, are stronger predictors of fertility treatment success than BMI.[33] "When you're told you're too fat to get pregnant," a feature article published in *The New York Times Magazine* in 2019, drew attention to the substantial adverse effects on patient-physician communication and patient mental health that can result when physicians assume that fertility treatments for their patients who have obesity will fail.[34]

Conclusion

Misconceptions associated with obesity during pregnancy can hurt the delivery of lifestyle interventions, prenatal health care, and a woman's pregnancy experience. Most of these misconceptions are due to the stigmatizing view that obesity—and, by extension, excessive

GWG—is the result of an individual's independent lifestyle decisions. A patient-centred approach to managing obesity in preconception and pregnancy is required in both research and health care.

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Competing interests
None declared

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This article has been peer reviewed.
Can Fam Physician 2021;67:85-7. DOI: 10.46747/cfp.670285

Cet article se trouve aussi en français à la **page 92**.