

# Supporting Perinatal Health in Individuals with Obesity: Integrative and Naturopathic Perspectives



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## ABSTRACT

Obesity in the perinatal period represents a growing public health concern with significant implications for short- and long-term maternal and fetal outcomes. This review summarizes the current recommendations related to perinatal obesity, exploring evidence-informed strategies for prevention and management from the preconception to the postpartum period.

In the preconception period, this review addresses weight management, lifestyle counselling, targeted supplementation, and behaviour strategies through motivational interviewing. During pregnancy, strategies to support optimal gestational weight gain, evidence-based supplementation to mitigate risks of complications such as preeclampsia and gestational diabetes, and lifestyle interventions aimed at reducing obesity-related pregnancy risks are reviewed. Lastly, in the postpartum period, this review examines the impact of maternal obesity on early recovery, breastfeeding initiation, and mental health, as well as the long-term risks of postpartum weight retention and strategies to support sustainable, values-aligned lifestyle changes.

Future directions should prioritize interdisciplinary collaboration, including obstetrics, primary care, nutrition, behavioural health, and community-based support systems. Research is also needed to refine diagnostic criteria, evaluate the long-term effects of prenatal interventions, and ensure equitable care for populations disproportionately affected by obesity and its sequelae.

**Key Words** Perinatal health, obesity, naturopathic medicine, preconception, pregnancy, postpartum, gestational diabetes, preeclampsia

## INTRODUCTION

Obesity in the perinatal period represents a growing public health concern with significant implications for maternal and fetal outcomes. The rising prevalence of obesity among individuals of reproductive age has paralleled increases in pregnancy-related complications, including gestational diabetes mellitus (GDM), hypertensive disorders, Caesarean delivery, and postpartum weight retention.<sup>1</sup> Infants born to individuals with obesity are also at elevated risk for macrosomia, preterm birth, and long-term metabolic dysregulation.<sup>2</sup>

Despite the well-established risks, clinical management of obesity during pregnancy and the postpartum period remains challenging. Current guidelines emphasize early risk stratification, individualized nutrition and lifestyle counselling, and close metabolic monitoring, but implementation is often inconsistent. There is also a need for clearer consensus on effective dietary

interventions, safe supplementation, and postpartum weight management strategies that support maternal health.

This review aims to synthesize current evidence on the multifaceted risks associated with perinatal obesity and to explore practical, evidence-informed strategies for prevention and management. It addresses preconception and prenatal considerations, including optimal weight gain targets and the role of micronutrient supplementation. Additionally, postpartum strategies for reducing long-term metabolic risk and promoting sustainable weight loss in individuals with obesity are discussed. Emphasis is placed on individualized, non-stigmatizing care that integrates nutrition, physical activity, and behavioural health.

By reviewing the current literature and identifying gaps in care, this paper seeks to support a more integrative, prevention-oriented approach to perinatal care for individuals with obesity—one that promotes lifelong cardiometabolic health for both parent and child.

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## PRECONCEPTION GUIDANCE

Obesity among reproductive-aged women is a pressing issue for health systems in Canada and the United States. Nearly 40% of women enter pregnancy with overweight or obesity, conditions linked with increased risks of infertility, GDM, hypertensive disorders, preterm birth, and stillbirth.<sup>3</sup> The metabolic dysfunction associated with obesity can also lead to changes in placental function and vascular formation in the fetus.<sup>4</sup> A study reviewing preconception health knowledge among women planning a pregnancy found that 51% had poor knowledge of the risks associated with obesity in pregnancy, and that 31% misperceived their own body weight, which was more likely among overweight women (71%) than those with obesity (10%).<sup>5</sup>

Preconception care offers a unique window to reduce these risks and improve pregnancy outcomes through comprehensive, individualized interventions. Canadian and American guidelines, particularly from the Society of Obstetricians and Gynaecologists of Canada (SOGC) and the American College of Obstetricians and Gynecologists (ACOG), endorse integrated strategies that include weight optimization, lifestyle counselling, nutritional supplementation, and behavioural support.

### Risk Assessment: BMI Classification and Limitations

Body mass index (BMI) remains the standard tool for obesity classification. According to the World Health Organization (WHO) and adopted by both SOGC and ACOG:

- Class I Obesity: BMI 30–34.9 kg/m<sup>2</sup>
- Class II Obesity: BMI 35–39.9 kg/m<sup>2</sup>
- Class III Obesity (Severe or Morbid Obesity): BMI ≥40 kg/m<sup>2</sup>

While BMI is practical for population-level risk stratification, it does not distinguish between fat and lean body mass or account for weight distribution. Waist circumference may offer additional insight into metabolic risk, particularly central adiposity, which is strongly associated with insulin resistance and cardiovascular disease. Clinical assessment may integrate both BMI and waist circumference to monitor patient progress and track change over time (Table 1).

**TABLE 1** Waist circumference values by BMI for Caucasian women and high-risk waist circumference range (80–95 cm), depending on ethnicity, above which individuals face increased cardiometabolic risk.

	BMI category (kg/m <sup>2</sup> )	Waist Circumference in Women (cm)
<b>Normal weight</b>	18.5–24.9	≥ 80
<b>Overweight</b>	25–29.9	≥ 90
<b>Obese I</b>	30–34.9	≥ 105
<b>Obese II and III</b>	≥ 35	≥ 115

BMI = body mass index;

Ross R, Neeland IJ, Yamashita S, et al. Waist circumference as a vital sign in clinical practice: a consensus statement from the IAS and ICCR Working Group on Visceral Obesity. *Nat Rev Endocrinol.* 2020;16(3):177-189. <https://doi.org/10.1038/s41574-019-0310-7>

## Weight Management and Risk Reduction

Weight loss before conception has notable benefits for women with obesity. A 5% to 10% reduction in pre-pregnancy weight improves insulin sensitivity, restores ovulation, enhances fertility, and significantly lowers the risks of pregnancy complications, such as preeclampsia and Caesarean delivery.<sup>3</sup> Weight management approaches should include dietary modification, increased physical activity, and behaviour change strategies. According to SOGC guidelines, even small weight reductions prior to pregnancy can improve perinatal outcomes and reduce the incidence of large-for-gestational-age (LGA) infants.<sup>7</sup>

### Diet and Physical Activity Counselling

Evidence-supported nutrition interventions, such as the Mediterranean or DASH diets, offer substantial benefits in the preconception phase. These diets emphasize high intake of fruits, vegetables, whole grains, legumes, and healthy fats, while reducing red meat and refined sugars. They also emphasize a reduction in packaged and processed foods, which are often high in sugar or sodium, and can lead to overconsumption or take the place of more nutritional options. A low-glycemic index dietary pattern has also been linked with improved glucose control and ovulatory function.<sup>8</sup>

Physical activity is equally critical. ACOG and SOGC recommend at least 150 minutes per week of moderate-intensity aerobic exercise. These include brisk walking, swimming, or cycling. Regular physical activity reduces GDM risk, enhances insulin sensitivity, and improves cardiovascular function. Combining dietary and exercise interventions can reduce gestational weight gain and improve the likelihood of live birth in women with prior infertility.<sup>3</sup>

### Evidence-Based Supplementation

Both ACOG and Health Canada recommend targeted supplementation for women with obesity planning pregnancy. Key nutrients include:

**Folic acid:** Women with obesity should take a minimum of 400 mcg and up to 5 mg of folic acid daily, beginning at least 3 months preconception, due to a higher risk of neural tube defects and altered folate metabolism.<sup>7,9</sup>

**Vitamin D:** Obesity is associated with lower serum 25(OH)D levels, and deficiency increases risks of GDM, preeclampsia, and small-for-gestational-age (SGA) infants. Supplementation with 1,000–2,000 IU/day is safe and effective in achieving sufficiency.<sup>10</sup>

**Iron:** Screening for iron deficiency is essential due to increased physiological demands during pregnancy and the high prevalence of dietary insufficiency. Women with low ferritin (<30 ng/mL) should receive iron supplementation to prevent anemia and ensure adequate stores for pregnancy.

**Myo-inositol:** Supplementation with 2 g twice daily has shown promise in reducing GDM incidence and improving metabolic

health in women with obesity or polycystic ovarian syndrome (PCOS).<sup>11</sup> A 2022 meta-analysis supports its role in improving insulin sensitivity and ovulatory function without significant adverse effects.<sup>3</sup>

### Screening and Laboratory Testing

Routine preconception screening should include complete blood count (CBC), ferritin, thyroid-stimulating hormone (TSH), HbA1c, fasting glucose or insulin, 25(OH)D levels, lipid profile, renal function (including proteinuria and serum creatinine), liver function tests, sexually transmitted infection (STI) screening, and assessment of rubella and varicella immunity.<sup>7</sup> Additional screening may include polysomnography to assess for obstructive sleep apnea, which has been associated with increased risk of preeclampsia (odds ratio [OR] 2.5), eclampsia (OR 5.4), cardiomyopathy (OR 9.0), and gestational diabetes (OR 1.9).<sup>12</sup> This enables early identification and treatment of subclinical deficiencies and chronic disease, which can influence conception and pregnancy outcomes.

### Motivational Interviewing and Behavioural Change

Emerging research supports the use of motivational interviewing (MI) as an effective strategy in facilitating preconception behaviour change. In a 2024 randomized controlled trial, women receiving up to 10 MI-based health coaching sessions reported high satisfaction, improved confidence, and significant lifestyle improvements.<sup>13</sup> The collaborative, non-judgmental approach of MI aligns well with preconception counselling, helping patients identify goals, build self-efficacy, and overcome barriers. One retrospective study looked at MI as a weight loss tool prior to fertility treatment, noting a statistical difference for the MI group compared with controls (9.3 kg loss vs 7.3 kg,  $p = 0.01$ ).<sup>14</sup> Other studies have shown that pairing evidence-based weight management strategies with MI can lead to meaningful reductions in gestational weight gain and promote long-term health behaviour maintenance.<sup>8</sup> Motivational interviewing further enhances patient engagement, offering a sustainable model for behaviour change in this high-risk population.

Effective preconception care for women with obesity requires a holistic, evidence-informed approach that incorporates Canadian and American clinical guidelines. By combining individualized weight loss plans, dietary and physical activity guidance, targeted

supplementation, and behavioural support, clinicians can significantly reduce the risk of adverse maternal and fetal outcomes.

## PREGNANCY GUIDANCE

A pregnant person’s BMI can affect their experience with perinatal care. Although many individuals with obesity seek guidance on nutrition and weight gain during pregnancy, they are often met with judgment and biased treatment based on their weight.<sup>15</sup>

A 2024 study demonstrated that pregnant people with a BMI over 30 encountered increased weight stigma, mistreatment, and disrespect by obstetric care providers.<sup>15</sup> Care providers can provide compassionate care by understanding that a person’s ability, opportunity, and motivation to engage in healthy behaviours is impacted by social determinants of health. These include education, employment, early childhood development, food insecurity, housing, income, and stress.<sup>16</sup> While many pregnancies affected by obesity can have successful outcomes, maternal weight in pregnancy does carry a risk for both adverse pregnancy and adverse fetal outcomes (Table 2).<sup>17</sup>

In 2009, the Institute of Medicine (IOM) outlined the recommended gestational weight gain in a singleton pregnancy, based on a person’s pre-pregnancy BMI (Table 3).<sup>18,19</sup> Gestational weight gain is defined as the amount of weight gained during pregnancy and is calculated between the weight reported at the first prenatal visit and the last visit before birth.<sup>19</sup> It is important to note that weight gain during pregnancy is responsible for a number of

**TABLE 2** Adverse outcomes associated with obese pregnant women

Adverse Pregnancy Outcomes	Adverse Fetal/Infant Outcomes
Early pregnancy loss	Congenital malformations
Gestational diabetes mellitus	Macrosomia
Hypertensive disorders and preeclampsia	Shoulder dystocia
Anesthesia complication	Fetal asphyxia
Caesarean birth	Stillbirth
Intrapartum hemorrhage	Obesity
Thrombotic disease	Metabolic syndrome
Depression	Cardiovascular disease
	Cognitive disorders

Poniedziałek-Czajkowska E, Mierzyński R, Leszczyńska-Gorzelak B. Preeclampsia and obesity—the preventive role of exercise. *Int J Environ Res Public Heal*. 2023;20(2):1267. <https://doi.org/10.3390/ijerph20021267>

**TABLE 3** IOM gestational weight gain recommendations

Pre-pregnancy weight category	Body Mass Index (kg/m <sup>2</sup> )	Recommended range of total weight gain (kg)	Recommended rate of weight gain (kg) per week in the second and third trimester, mean (range), kg/wk
Underweight	<18.5	12.7–18.1	0.45 (0.45–0.59)
Normal weight	18.5–24.9	11.3–15.9	0.45 (0.36–0.45)
Overweight	25–29.9	6.8–11.3	0.27 (0.23–0.32)
Obese (Class I)	30–34.9	5–9.1	0.23 (0.18–0.27)
Obese (Class II)	35–39.9		
Obese (Class III)	≥40		

IOM = Institute of Medicine; Dalfra’ MG, Burlina S, Lapolla A. Weight gain during pregnancy: a narrative review on the recent evidences. *Diabetes Res Clin Pract*. 2022;188:109913. <https://doi.org/10.1016/j.diabres.2022.109913>

factors: fat stores, increased blood volume, increased extravascular fluid volume, uterine enlargement, breast enlargement, amniotic fluid, placenta, and fetus.<sup>19</sup>

Research indicates a high prevalence of gestational weight gain exceeding IOM recommendations, potentially due to factors such as reduced physical activity and suboptimal dietary intake.<sup>20</sup> The SOGC suggests that many women with obesity are unaware of the risks associated with excessive gestational weight gain due to insufficient counselling from healthcare providers.<sup>21</sup>

The IOM guidelines have been subject to ongoing debate, with some experts arguing that the recommended gestational weight gain for individuals with overweight and obesity is too high. Additionally, the guidelines do not differentiate weight gain targets among obesity classes.<sup>9</sup> Furthermore, due to variations in body composition across racial groups, the World Health Organization has considered using alternative obesity classification criteria for Asian women.<sup>22</sup>

## REDUCING THE RISK OF NOTABLE ADVERSE PREGNANCY OUTCOMES ASSOCIATED WITH OBESITY

Obesity is a known risk factor for common adverse pregnancy outcomes outlined in Table 2, such as preeclampsia and gestational diabetes. Naturopathic doctors are well positioned to provide early education on these conditions and counsel on preventive strategies, particularly given that many pregnant individuals do not engage with a primary obstetric care provider until the second trimester.

### Preeclampsia

Preeclampsia, affecting approximately 1.6% to 2.6% of pregnancies in Canada,<sup>23</sup> is a hypertensive disorder of pregnancy that most often arises in healthy, nulliparous women with no obvious risk factors.<sup>24</sup> However, the risk of preeclampsia is nearly threefold higher among individuals with obesity.<sup>17</sup>

Common strategies to reduce preeclampsia risk include:

**Aspirin:** Low-dose aspirin reduces the risk of preeclampsia in moderate- to high-risk individuals, with a 53% relative risk reduction (95% confidence interval [CI], 0.35–0.66) when started between 12 and 16 weeks' gestation.<sup>25</sup> ACOG recommends 81–162 mg daily at bedtime until 36 weeks for those with one high-risk or two or more moderate-risk factors (see Table 4).<sup>24</sup>

**Calcium:** Oral supplementation of at least 500 mg is recommended for individuals with low dietary calcium intake (less than 900 mg per day) to help prevent preeclampsia.<sup>26</sup> A recent meta-analysis found that when calcium supplementation is combined with low-dose aspirin, the risk of developing preeclampsia is reduced by a factor of 0.20 (95% CI 0.10–0.37).<sup>27</sup>

**Vitamin D:** According to SOGC guidelines, additional vitamin D supplementation beyond Health Canada's recommended intake is not advised for the prevention of preeclampsia.<sup>26</sup> However, a 2023 study suggests that vitamin D supplementation may reduce the risk of preeclampsia by up to 50%.<sup>28</sup> Additionally, WHO recommends vitamin D supplementation prior to pregnancy for individuals with vitamin D deficiency to help prevent preeclampsia.<sup>29</sup>

### Gestational Diabetes

Gestational diabetes is one of the most common pregnancy complications, affecting about 10% of pregnancies in Canada.<sup>30</sup> Obesity is considered a strong predictor in the development of gestational diabetes.<sup>31</sup>

According to SOGC guidelines, individuals with obesity and additional risk factors, such as maternal age over 35, a family history of diabetes, previous gestational diabetes, or a history of delivering a macrosomic infant, may be offered either the 1-hour 50-g oral glucose challenge test or the diagnostic 75-g oral glucose tolerance test during the first half of pregnancy. If initial screening is negative, repeat testing is recommended between 24 and 28 weeks of gestation.<sup>32</sup>

Common strategies to reduce the risk of GDM include:

**Vitamin D:** Although evidence is of low quality, a Cochrane review found that vitamin D supplementation initiated before 25 weeks' gestation reduced the risk of GDM by 49% (relative risk [RR] 0.51).<sup>33</sup> Doses varied across studies, and baseline vitamin D status was often not reported. Nonetheless, this may represent an opportunity for naturopathic doctors to assess vitamin D status early in pregnancy.

**Myo-inositol:** Supplementation with 4 g of myo-inositol in the first trimester may reduce the risk of GDM; however, evidence remains limited in individuals with obesity.<sup>34</sup> Naturopathic

**TABLE 4** Guidance of aspirin prophylaxis to reduce preeclampsia risk

High Risk Factors (≥1)	Moderate Risk Factors (≥2)
History of preeclampsia	No birth history
Multifetal gestation	Obesity
Chronic hypertension	Family history of preeclampsia
Diabetes mellitus I or II	Socioeconomic factors
Chronic kidney disease	Age >35 years
Autoimmune disorder (e.g., systemic lupus erythematosus, antiphospholipid syndrome)	Personal history factors (e.g., low birth weight or small for gestational age, previous adverse pregnancy outcome, more than 10-year pregnancy interval)

Croke L. Gestational hypertension and preeclampsia: a practice bulletin from ACOG. *Am Fam Physician*. 2019;100(10):649-650.

doctors may consider evaluating other GDM risk factors to determine whether this low-risk intervention is appropriate.

**Probiotics:** Supplementation with multistrain probiotics before 20 weeks' gestation has been shown to lower the risk of GDM by 33% (RR 0.67) in individuals with or without obesity.<sup>35</sup>

## MANAGEMENT OF OBESITY IN PREGNANCY

Achieving an optimal weight prior to conception is ideal.<sup>36</sup> Nevertheless, primary weight management strategies during pregnancy focus on dietary modification, physical activity, and behavioural interventions.<sup>9</sup> Given that nearly 60% of pregnancies are planned, there is a significant opportunity to implement lifestyle changes, particularly in diet and exercise, to support maternal health and reduce the risk of adverse maternal and fetal outcomes.<sup>1</sup>

### Minimizing Weight Gain

SOGC guidelines recommend calculating BMI at the initial prenatal visit and limiting gestational weight gain to 5–9 kg in individuals with obesity.<sup>21</sup> In addition, ACOG advises using BMI to guide individualized dietary and physical activity recommendations during pregnancy.<sup>9</sup>

Discussion of weight and gestational weight gain should begin at the first prenatal visit. Motivational interviewing techniques are recommended, including obtaining permission to discuss sensitive topics (e.g., weight gain), screening for a history of eating disorders, and asking open-ended questions when appropriate. Examples include: “What are your thoughts about weight gain during pregnancy?” or, in subsequent pregnancies, “Can you describe what weight gain was like in your last pregnancy?”<sup>8</sup> Responses can inform a supportive and collaborative approach to optimizing gestational weight gain.

Weight loss during pregnancy is not recommended, as inadequate gestational weight gain may increase the risk of fetal growth restriction.<sup>20</sup> A 2015 systematic review found that individuals with obesity who lost weight during pregnancy were more likely to deliver infants who were SGA.<sup>37</sup>

### Diet

During pregnancy, most individuals fall short on recommended intakes of vegetables, fruits, whole grains, dairy, and seafood, while exceeding limits for sodium, saturated fat, and added sugars.<sup>38</sup> The International Federation of Gynecology and Obstetrics (FIGO) Nutrition Checklist (Table 5) can help naturopathic doctors assess and guide dietary intake.<sup>38</sup> Notably, adherence to a Mediterranean-style diet during pregnancy is linked to a 22% lower risk of preeclampsia (OR 0.78), especially among Black women, and a 36% reduced risk of gestational diabetes.<sup>39,40</sup>

### Exercise

Exercise is recommended for all pregnant women, as there are improved outcomes and healthier gestational weight gain in those who engage in regular physical activity.<sup>20</sup> Despite the benefits, obese women cite lack of knowledge about appropriate exercise,

conflicting advice, lack of access to correct information, support, and advice on exercise during pregnancy from their obstetrical care providers as barriers to exercise.<sup>39</sup> This is a critical opportunity for naturopathic doctors to provide guidance and lower these barriers.

Exercise recommendations for women in pregnancy are:

1. All women without a contraindication (see Table 6) should be physically active throughout pregnancy. Pregnant people with absolute contraindications are limited to their regular activities of daily living and nothing more strenuous. Those with relative contraindications, however, are encouraged to discuss the advantages and disadvantages of moderate-intensity physical activity with their care provider.<sup>42</sup>
2. At least 150 minutes of moderate-intensity physical activity should be accumulated each week, over a minimum of 3 days.
3. A variety of aerobic and resistance training should be incorporated to achieve greater benefits.<sup>42</sup>

Suitable exercises for people with obesity include brisk walking, stationary cycling, swimming, and aqua aerobics, as they may provide less strain on muscle and ligaments. In addition, regular monitoring of exercise is encouraged, as well as using heart rate monitoring to ensure that the appropriate intensity is achieved.

Although the SOGC guidelines for obesity in pregnancy recommend that previously sedentary pregnant people should begin exercise early in the second trimester, research demonstrates that to reduce the risk of developing gestational hypertensive disorders, such as preeclampsia, physical activity should begin in the first trimester of pregnancy.<sup>43</sup> In addition, the risk of developing gestational diabetes is reduced by 13% when 150 minutes of physical activity during the week are achieved in the first trimester.<sup>44</sup>

## POSTPARTUM GUIDANCE

The postpartum period represents an underemphasized phase in the continuum of perinatal care, particularly for individuals

**TABLE 5** Sample of FIGO's nutrition checklist for pre-pregnant/early pregnant women

Diet Quality	
Do you eat meat or chicken 2–3 times per week?	Yes or no
Do you regularly eat more than 2–3 portions of fruit or vegetables per day?	Yes or no
Do you eat fish at least 1 or 2 times per week?	Yes or no
Do you consume dairy products (e.g. milk, cheese, yogurt) daily?	Yes or no
Do you eat whole grain carbohydrate foods (brown bread, brown pasta, brown rice or other) at least once a day?	Yes or no
Do you consume packaged snacks, cakes, pastries or sugar-sweetened drinks less than 5 times a week?	Yes or no

Hart TL, Petersen KS, Kris-Etherton PM. Nutrition recommendations for a healthy pregnancy and lactation in women with overweight and obesity—strategies for weight loss before and after pregnancy. *Fertil Steril.* 2022;118(3):434-446. <https://doi.org/10.1016/j.fertnstert.2022.07.027>.

**TABLE 6** Absolute and relative contraindications to exercise in pregnancy

Absolute Contraindications	Relative Contraindications
<ul style="list-style-type: none"> <li>• Ruptured membranes</li> <li>• Premature labour</li> <li>• Unexplained persistent vaginal bleeding</li> <li>• Placenta previa after 28 weeks' gestation</li> <li>• Preeclampsia</li> <li>• Incompetent cervix</li> <li>• Intrauterine growth restriction</li> <li>• High-order multiple pregnancy (e.g., triplets)</li> <li>• Uncontrolled type 1 diabetes</li> <li>• Uncontrolled hypertension</li> <li>• Uncontrolled thyroid disease</li> <li>• Other serious cardiovascular, respiratory, or systemic disorder</li> </ul>	<ul style="list-style-type: none"> <li>• Recurrent pregnancy loss</li> <li>• Gestational hypertension</li> <li>• A history of spontaneous preterm birth</li> <li>• Mild/moderate cardiovascular or respiratory disease</li> <li>• Symptomatic anemia</li> <li>• Malnutrition</li> <li>• Eating disorder</li> <li>• Twin pregnancy after the 28th week</li> <li>• Other significant medical conditions</li> </ul>

Mottola MF, Davenport MH, Ruchat SM, et al. 2019 Canadian guideline for physical activity throughout pregnancy. *Br J Sports Med.* 2018;52(21):1339. <https://doi.org/10.1136/bjsports-2018-100056>

affected by overweight or obesity. While prenatal care receives concentrated attention, support tends to diminish after delivery, despite evidence that the postpartum window is essential for shaping long-term maternal health outcomes. Obesity compounds the challenges of recovery, increasing the risk of surgical complications, delayed wound healing, cardiometabolic conditions, and mental health disorders.<sup>48-50</sup> Many individuals retain excess weight after childbirth, and this persistent weight retention is a known risk factor for developing type 2 diabetes and cardiovascular disease later in life.<sup>48-51</sup> Yet most postpartum care models remain generalized and reactive, rather than responsive to the specific needs of this high-risk population. Reframing the postpartum period as a strategic opportunity for prevention, recovery, and health optimization, rather than focusing narrowly on weight loss, may offer a more impactful approach to maternal care.

### The Unseen Burden: How Obesity Affects Postpartum Recovery

Postpartum recovery varies significantly between individuals, but those with obesity often face additional complexities within standard care models. A higher BMI is associated not only with an increased risk of pregnancy-related complications but also with delayed healing and a more complex postpartum recovery.<sup>52</sup> Obesity is an independent risk factor for both elective and emergency Caesarean delivery and is linked to prolonged labour, anesthesia-related complications, extended hospitalization, and higher rates of postpartum hemorrhage and infection.<sup>21,52</sup>

Beyond wound healing, individuals with a higher BMI are more likely to report persistent low back and pelvic pain, fatigue, and reduced mobility, which can impact infant bonding, breastfeeding, and maternal mental health.<sup>50</sup> Establishing breastfeeding can also be more difficult, especially in cases involving early maternal-infant separation, such as Caesarean delivery.<sup>55</sup> These individuals are less likely to initiate breastfeeding and commonly experience delayed lactogenesis.<sup>55</sup>

These physical and emotional stressors are frequently compounded by weight-related stigma in postpartum care settings, contributing to reduced follow-up and fewer opportunities for support.

Despite the substantial demands of postpartum recovery, care is often limited to a single 6-week visit, which inadequately addresses the complexities of healing, pain, mental health, and metabolic risk. This narrow window of care overlooks a critical opportunity to ensure continuity, screen for complications, and support individualized recovery plans. Integrative approaches that emphasize whole-person care, trauma-informed communication, and proactive support can help bridge the gaps and reframe postpartum recovery as an essential phase to affect long-term health outcomes.

### Postpartum Weight Retention: What We Miss When We Focus on the Scale

Postpartum weight retention remains one of the most persistent challenges following pregnancy. Approximately 75% of individuals do not return to their pre-pregnancy weight within the first year, with an average retention of 4 to 5 kg.<sup>51</sup> This risk is even greater among those with obesity, particularly when excessive gestational weight gain occurs, a pattern observed in 35% to 50% of pregnancies.<sup>21,48</sup> Individuals who gain  $\geq 20$  kg during pregnancy are significantly more likely to retain weight postpartum compared with those who remain within recommended guidelines.<sup>21</sup> For individuals with elevated BMI or cardiometabolic risk, even modest postpartum weight reduction may contribute to the prevention of diabetes and cardiovascular disease.<sup>51</sup>

While the long-term risks of postpartum weight retention are well-documented, the way weight in clinical care settings is discussed can have equally lasting effects. Individuals with higher BMI report negative experiences with a provider, citing language that feels insensitive, or overly focused on risk without context.<sup>52</sup> This approach can cause emotional distress and damage the therapeutic relationship. While sharing risk information is important, patients have expressed that it can feel overwhelming or stigmatizing when not paired with empathy, support, or actionable solutions.<sup>52</sup> Patients emphasize the importance of having their diet and activity preferences considered and receiving not just warnings, but collaborative plans developed in partnership with their care team.<sup>52</sup>

Rather than centering care around weight loss alone, focus should be shifted to energy, function, metabolic health, and long-term disease prevention. Weight-inclusive frameworks, such as intuitive eating and mindful movement, offer more sustainable and compassionate alternatives.<sup>52</sup> Naturopathic strategies such as blood sugar regulation, anti-inflammatory nutrition, stress reduction, and individualized care planning align well with this philosophy. Reframing postpartum recovery around whole-person wellness, rather than just a return to baseline weight, is an effective and empowering approach.

### Metabolic and Cardiovascular Risk: A Critical Window

Between 50% and 60% of individuals with obesity gain more than the recommended gestational weight, increasing the likelihood of complications such as gestational hypertension, preeclampsia, and gestational diabetes.<sup>21</sup> Many also enter pregnancy with

pre-existing conditions such as chronic hypertension or diabetes, factors that significantly raise the risk of severe maternal morbidity and long-term cardiovascular disease.<sup>53</sup>

Nearly one in three women will experience a cardiovascular event within 20 years of delivery, with risks especially elevated among those with pre-existing heart disease or adverse pregnancy outcomes.<sup>54</sup> Obesity further compounds these risks, particularly when postpartum weight retention is present.<sup>55</sup> These cumulative effects reflect broader cardiometabolic shifts initiated during pregnancy. Inflammatory activity, insulin resistance, and lipid alterations can persist postpartum, impacting blood pressure regulation, vascular health, and endothelial function.<sup>56</sup>

The risk for venous thromboembolism also rises significantly in the postpartum period, with the highest incidence occurring in the first 6 weeks. Individuals with obesity who have undergone a recent Caesarean birth are at even greater risk. While routine prophylaxis may not be indicated for everyone, early mobilization, adequate hydration, and the use of compression devices should be considered for those at higher risk.<sup>21</sup>

Despite these risks, postpartum care rarely includes cardiometabolic follow-up. Many individuals are not screened until symptoms arise, often years or even decades later.<sup>57</sup> One-third of those with hypertensive disorders of pregnancy develop chronic hypertension within 10 years.<sup>57</sup> Earlier identification of risk and implementation of preventive care beginning in the postpartum period could significantly improve long-term maternal health outcomes.

### Mental Health and the Mind-Body Disconnect

Mental and metabolic health are deeply interconnected, yet mental health is often overlooked in postpartum care and lifestyle interventions. Individuals with pre-pregnancy obesity, excessive gestational weight gain, or postpartum weight retention are at higher risk for depressive and anxiety symptoms during pregnancy and the postpartum period.<sup>21</sup> This is a bi-directional relationship where depression and anxiety can hinder efforts to make lifestyle changes, and additional challenges such as stigma, sleep disturbances, emotional eating, and body image concerns can further compromise mental well-being.

Individuals with a pre-pregnancy BMI  $\geq 30$  kg/m<sup>2</sup> or a history of anxiety or depression are more likely to experience depressive or anxiety symptoms in subsequent pregnancies, especially when compounded by poor sleep.<sup>58</sup> Those sleeping less than 6 hours per night report lower resilience, higher stress, and increased anxiety.<sup>58</sup> This highlights the need for routine screening, using a tool such as the Edinburgh Postnatal Depression Score (EPDS), and early support.

Naturopathic and integrative strategies, including cognitive behavioural therapy, nutrition, exercise, and sleep hygiene, can play a vital role in reducing symptoms and supporting recovery. Supporting mental health is foundational, not optional, in comprehensive postpartum care.

### What Works: Translating Evidence into Postpartum Care

Lifestyle changes can improve postpartum health outcomes, but real-life barriers, such as financial strain, lack of childcare,

fatigue, and cultural expectations, often limit access to support. Traditional approaches fall short when they fail to consider these realities.

Emerging research highlights adaptable models that prioritize flexibility and community. Virtual interventions, such as Facebook-based or app-delivered group programs, have proven both feasible and acceptable for time-constrained parents.<sup>59</sup> Community-based group programs have also shown benefits, improving weight outcomes, well-being, and participant satisfaction by aligning with individual needs and preferences.<sup>60</sup>

This is where integrative care excels, offering personalized, relationship-based support that goes beyond weight or calories. Through motivational interviewing, behavioural coaching, and holistic strategies, practitioners can help patients make sustainable changes aligned with their values. Effective postpartum care must be flexible, culturally sensitive, and grounded in trust.

### Looking Ahead: Postpartum as the Start of Preconception Care

Postpartum care does not end at 6 weeks; it extends into the months and years that follow, especially for those planning future pregnancies. The interpregnancy interval is a key window to reduce modifiable risk factors, optimize metabolic health, and prevent complications in the next pregnancy. When weight, blood sugar, and lifestyle are addressed during this time, outcomes improve significantly for both parent and baby.

Both the SOGC and ACOG highlight that even modest weight loss between pregnancies can reduce maternal and fetal risks, including GDM, Caesarean birth, stillbirth, and LGA infants.<sup>9,21</sup> A weight loss of over 2 BMI units is linked to a 40% lower risk of having a LGA infant, without increasing the risk of SGA, unless weight loss exceeds 8 BMI units.<sup>21</sup> Clinicians are advised to offer behavioural counselling on diet and physical activity, as combined interventions are more effective than exercise alone.<sup>9</sup>

Improving postpartum outcomes requires reimagining care as a year-long, multidisciplinary effort. Obesity-related complications persist beyond 6 weeks and intersect with mental health, metabolic risk, and care gaps. A collaborative model including naturopathic doctors, dietitians, mental health professionals, midwives, and obstetricians can deliver proactive, whole-person care. Shifting from reactive to preventive care reduces cardiometabolic risk, builds emotional resilience, and addresses weight stigma through culturally responsive, relationship-based support.

### CONCLUSION

Obesity during the perinatal period significantly influences the trajectory of maternal and child health, increasing the risk of metabolic, obstetric, and neonatal complications. While the evidence clearly supports early and sustained intervention, clinical strategies remain underutilized and often fragmented across disciplines. Addressing obesity in pregnancy requires more than weight-based metrics; it involves comprehensive assessment of metabolic status, dietary quality, nutrient adequacy, physical activity, and psychosocial support.

This review highlights key areas for intervention, including the role of targeted laboratory testing, evidence-informed dietary strategies, safe supplementation of key nutrients, and personalized physical activity programs adapted for the perinatal period. The postpartum period is a crucial, yet often neglected, opportunity to support weight management, prevent type 2 diabetes, and address cardiovascular risk, while also supporting lactation and maternal recovery.

Future directions should prioritize interdisciplinary collaboration, including obstetrics, primary care, nutrition, behavioural health, and community-based support systems. Research is also needed to refine diagnostic criteria, evaluate the long-term effects of prenatal interventions, and ensure equitable care for populations disproportionately affected by obesity and its sequelae.

Ultimately, shifting the narrative around perinatal obesity from one of risk to one of opportunity may help improve outcomes. By engaging individuals with obesity in informed, respectful, and integrated care before, during, and after pregnancy, clinicians can play a pivotal role in breaking intergenerational cycles of metabolic disease and promoting lasting health for families.

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