Does The Available Evidence Support Guidelines for Pre-Pregnancy Weight Loss? A Scoping Review

Victoria Lomax Kvitek

A thesis
submitted in partial fulfillment of the
requirements for the degree of

Master of Public Health

University of Washington
2025

Committee:

Paul A. Fishman
Clarence Spigner

Program Authorized to Offer Degree:

Public Health, Health Services

University of Washington

Abstract

Does The Available Evidence Support Guidelines for Pre-Pregnancy Weight Loss? A Scoping Review

Victoria Lomax Kvitek

Chair of the Supervisory Committee:
Paul A. Fishman
Health Systems and Population Health

While the risks of being pregnant and giving birth in a higher BMI class (> 24.9 kg/m2) are well documented, the ways to mitigate this risk are not. Current recommendations suggest entering pregnancy at a "healthy" or "normal" weight, conventionally defined as having a BMI between 18.5-24.9 kg/m2. However, it is unreasonable to expect women whose BMI is significantly above 24.9 kg/m2 to lose enough weight to enter the "normal" BMI range before they conceive. Moreover, in the United States, 40% of women of childbearing age have a BMI > 30 kg/m2. A set of standard recommendations is needed as to how much weight such women should lose before conceiving, whether they should attempt to lose weight in the early months of pregnancy if they conceive unexpectedly, and how they should attempt this weight loss to support a healthy pregnancy and birth. This review explores whether such recommendations can be made using the available evidence on pre-pregnancy weight loss and outcomes of the incident pregnancy. We focus on exposure to preconception weight loss and weight loss attempts (i.e. via dietary restriction), evaluating studies that examine maternal and fetal health outcomes in women who experienced pre-pregnancy weight loss and/or dieting. We conclude that the evidence does not consistently support recommendations that women with BMI > 24.9 kg/m2 lose weight before becoming pregnant to reduce their risk for complications. Rather, we draw on alternative

frameworks for care--including Health At Every Size (HAES), weight neutrality, and evidence concerning weight cycling and weight stigma--to advocate for a weight-neutral approach to pre-conception maternal health counseling.

Does The Available Evidence Support Guidelines for Pre-Pregnancy Weight Loss?: A Scoping Review

Victoria Lomax Kvitek, MPH Candidate

Introduction

Pregnancy and childbirth are among the most dangerous health events among women[1] of childbearing age in the United States (Collier & Molina, 2019). In 2022, there were approximately 22 maternal deaths per 100,000 live births in the U.S., nearly three times the average maternal mortality rate (MMR) among the world's wealthiest countries (Gunja et al., 2024). Women of color experience significantly greater MMR that is 3 – 4 times the rate for all American women (Collier & Molina, 2019). In 2023, the average U.S. MMR fell to 18.6, but was recorded at 50.3 maternal deaths per 100,000 live births among Black women (Hoyert, 2024). The MMR is also higher for women giving birth at age 40 and older--five times higher than the rate for women under 25 (Hoyert, 2024). Pregnancy and childbirth also contribute to increased lifetime morbidity, which includes a greater prevalence of diabetes, hypertension, auto-immune disorders and long-term pain and disability that result from traumatic birth injuries (McNestry et al., 2023; Singh et al., 2024; Vogel et al., 2024).

Research examining why pregnancy and childbirth pose such a great risk for American women has focused on the role that having a high BMI plays at conception. Although BMI is a poor measure of whether someone's weight indicates that they are at risk for adverse health events, it is a useful metric for denoting body size, and is typically available from clinical and administrative data and is therefore widely used in research (*AMA*, 2023; Flegal, 2023; Sommer

[1] We use the word "women" here and throughout this review to refer to people who become pregnancy and birth children. However, we acknowledge that people capable of pregnancy and childbirth and/or who were assigned female at birth may not all or always identify as "women".

et al., 2020). There is evidence that women who enter pregnancy in the "obese"[2] BMI category (i.e. with a BMI ≥ 30 kg/m², per the Institute of Medicine recommendations for weight gain during pregnancy (American College of Obstetricians and Gynecologists, 2013)) are at greater risk for adverse health outcomes during their pregnancy and childbirth (Matusiak et al., 2014). Adverse maternal health outcomes linked to pre-pregnancy obesity include gestational diabetes, hypertension, preeclampsia, thromboembolism, perinatal infection, and caesarean section. Adverse fetal outcomes include hypoglycemia, respiratory distress, macrosomia (also called large for gestational age or LGA), birth defects, greater rate of admission to neonatal intensive care, preterm birth, stillbirth, and neonatal mortality (Matusiak et al., 2014). In addition to pre-pregnancy BMI, the amount of weight a woman gains during pregnancy, i.e. her gestational weight gain (GWG), is seen to influence maternal and fetal health outcomes (Goldstein et al., 2017). For this reason, the Institute of Medicine (IOM) has released guidelines stating a healthy GWG range for each pre-pregnancy BMI category (Goldstein et al., 2017). The IOM GWG guidelines were most recently updated in 2009 (Goldstein et al., 2017). Before these guidelines were released, there was a wider range of medical and popular opinions about how much weight a woman should gain during her pregnancy (Shenassa et al., 2017). The 2009 IOM guidelines provide a "basis for practice" when assessing GWG and advising pregnant people on GWG (American College of Obstetricians and Gynecologists, 2013; Goldstein et al., 2017). GWG below the guidelines for a person's pre-pregnancy BMI category is associated with the birth of infants who are small for gestational age (SGA)(Goldstein et al., 2017). GWG in excess of the 2009 IOM guidelines is associated with LGA (infants born large for gestational age), pregnancy loss, gestational diabetes, hypertensive conditions (including pre-eclampsia), labor

[2] We recognize that the terms "overweight" and "obesity" are stigmatizing and refused by many people who occupy large bodies. These terms are used in this paper for consistency as they are the terms used in the literature reviewed.

complications, cesarian delivery, stillbirth, and maternal death (Forsum et al., 2013; Langley-Evans et al., 2022). The IOM recommends women who conceive with a BMI ≥ 30 kg/m² gain only 11-20 lbs. (5-9.1 kg) during pregnancy (American College of Obstetricians and Gynecologists, 2013).

The known associations of adverse pregnancy outcomes with both high pre-pregnancy BMI and GWG in excess of the 2009 IOM guidelines have led to a practice of advising women with high BMI (> 24.9 kg/m²) to lose weight before becoming pregnant (Matusiak et al., 2014). While the risks of being pregnant and giving birth in a higher BMI class (> 24.9) are well documented (Langley-Evans et al., 2022), the ways to mitigate this risk are not (Matusiak et al., 2014). Current recommendations suggest entering pregnancy at a "healthy" or "normal" weight (Matusiak et al., 2014), conventionally defined as a BMI between 18.5-24.9 kg/m² (American College of Obstetricians and Gynecologists, 2013). However, it is unreasonable to expect many women whose BMI is significantly above 24.9 kg/m² to lose enough weight to enter the "normal" BMI range before they conceive. 40% of American women of reproductive age have a BMI ≥ 30 kg/m² (Bradford et al., 2025; Wang et al., 2023). Moreover, more than half of American women enter pregnancy with overweight or obesity, i.e. with BMI ≥ 25 kg/m² (Wang et al., 2023). Given the disconnect between current recommendations and rates of high body weight among American women of reproductive age, a set of standard recommendations is needed as to how much weight such women should lose before conceiving, whether they should attempt to lose weight in the early months of pregnancy if they conceive unexpectedly, and how they should attempt this weight loss to support a healthy pregnancy and birth. This review explores whether such recommendations can be made using the available evidence on pre-pregnancy weight loss and outcomes of the incident pregnancy. We focus on the question of preconception weight loss, evaluating studies that examine maternal and fetal health outcomes following exposure to pre-pregnancy changes to diet and exercise that resulted in weight loss and/or unsuccessful weight loss attempts. These changes are termed lifestyle or behavioral modifications. In this paper, attempted and successful weight loss that results from these modifications is referred to as behavioral weight loss to distinguish it from weight loss attempted or achieved via medication or surgery.

Although data about pre-conception weight loss achieved through surgery and/or medications is available, this review focused on weight loss accomplished through behavioral changes because--despite the existence of pharmaceutical and surgical weight loss therapies--the behavioral approach to weight loss remains the first line "treatment" for overweight/obesity (Gete Palacios et al., 2025; Hoek et al., 2022). In general, diet and exercise-related behavior change does not require contact with medical specialties, and access does not depend on whether an individual has medical insurance. However, there are still costs associated with diet and exercise change: in general, food that is more nutritious and less energy-dense is more expensive and requires more time to prepare than foods that are less nutritious and calorically dense (Williams et al., 2024). Nutritious foods can also be harder to access depending on where a person lives and their access to transportation (Williams et al., 2024). Issues of time and the built environment can also impede a person's access to exercise or healthy movement (Williams et al., 2024). These barriers to accessing lifestyle modifications that underpin behavioral weight loss are structural and systemic (Williams et al., 2024). These structural barriers can impede weight loss in the same way access to insurance and care providers inhibit weight loss via pharmaceutical and surgical means. That said, behavioral weight loss has fewer risks associated with it than bariatric surgery or weight loss medications (Gete Palacios et al., 2025; Hoek et al., 2022).

To better understand the role that pre-pregnancy weight loss has in maternal and fetal health, we conducted a scoping review to determine the evidence regarding the relationship that pre-pregnancy weight loss achieved through behavior modification, specifically diet and

exercise, has on maternal and fetal outcomes. Our goal is to support the development of guidelines that health care providers may use to support their patients' health and reduce the adverse consequences of pregnancy and childbirth.

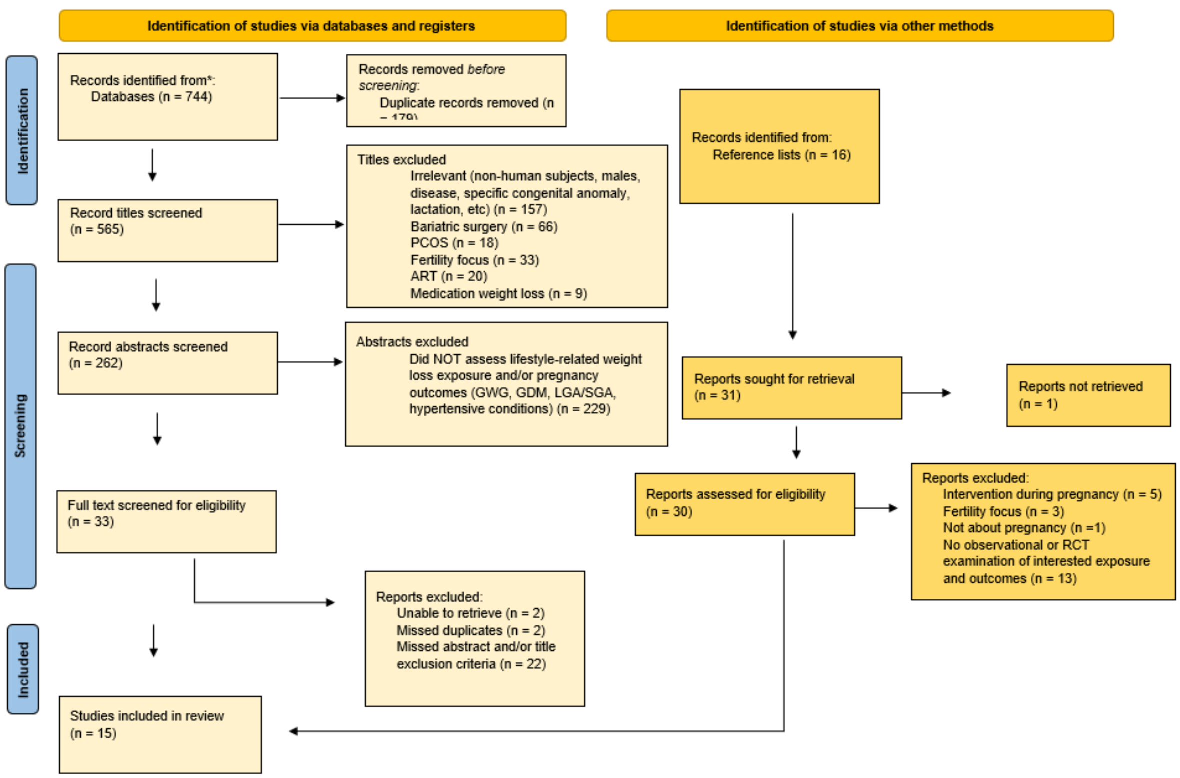

Figure 1: PRISMA flow diagram depicting study identification and inclusion

Methods

We conducted a scoping review of the literature using the search terms and combinations "conception", "weight loss", and "preg*"; (prepregnancy AND weight control) AND (GWG

AND dieting) (pregnancy AND dieting) (prepregnancy AND weight loss AND GWG); (prepregnancy AND weight management) using the Web of Science and PubMed databases. The search was restricted to articles published in English between 2009 (the year the IOM guidelines for GWG were updated) and April 2025 (when the search was conducted). We restricted our search to articles from 2009 and later as the current IOM guidelines with standard recommendation for how much weight a woman should gain during pregnancy were published in that year (American College of Obstetricians and Gynecologists, 2013). Reference lists of identified opinion pieces, clinical guidelines, and reviews were searched for additional relevant research articles.

Following PRISMA guidelines (Page et al., 2021) we first removed any duplicate records and screened titles for relevance and excluded studies 1) not relevant to the research question (i.e. studies about men, non-human pregnancy, breast milk, rare diseases, genetic conditions, postpartum weight loss), 2) primarily concerned with fertility (e.g. time-to-pregnancy and live birth rates), 3) examining pregnancy in women with disease diagnoses (i.e. PCOS, diabetes (type 1 or 2), and HIV), 3) using animal models, 4) examining surgical weight loss, 5) examining pharmaceutical weight loss (including GLP-1 receptor agonists, phentermine, phentermine-topiramate, and orlistat), and 6) examining assisted reproductive therapies (ARTs), including in vitro fertilization (IVF).

We screened the remaining abstracts for inclusion criteria: behavioral weight loss (exposure) and maternal and fetal outcomes including GWG, hypertensive conditions (preeclampsia), gestational diabetes mellitus, and birth weight (LGA and SGA). Articles selected for full text review discussed the exposure (behavioral weight loss, i.e. weight loss achieved via diet and exercise changes) and at least one maternal and/or fetal outcome of interest. Remaining full-text articles were reviewed for final inclusion/exclusion. Reference lists of included articles were hand-searched to identify additional studies possibly meeting inclusion criteria; final inclusion/exclusion of these additional articles was confirmed via full-text review.

Data extracted from included articles comprised study design, years, population/subject characteristics, measured exposures and outcomes, follow-up period and attrition, methods used to assess weight changes, covariates/confounders assessed/adjusted for, study results, article conclusions, and study quality and limitations.

Table 1 Details from included studies examining pre-pregnancy weight loss

GDM = gestational diabetes mellitus; GWG = gestational weight gain; HTN-P = hypertensive disorders of pregnancy; LGA = infant large for gestational age; SGA = small for gestational age; VLED = Very Low Energy Diet; SDI = standard dietary intervention; WL = weight loss

Reference	Study Design	Years	Participants (N)	Exposures	Outcomes	Follow-up; Attrition	Quality
Nagpal et al., 2022	Review	1999-2020	*62 studies*	Pre- or inter-pregnancy weight change	34 perinatal health outcomes	Varied	Majority of included studies analyzed interpregnancy weight change (gain or loss), not pre-pregnancy WL. Majority of available results concerned weight gain exposure. High interstudy heterogeneity.
Forsum et al., 2013	Review	2000-2011	6675	BMI change between	GDM, LGA	9mo; none	Reviewed papers concerning

Reference	Study Design	Years	Participants (N)	Exposures	Outcomes	Follow-up; Attrition	Quality
				pregnancies			weight change between pregnancies, not WL before a pregnancy. N = 2. No evidence-based strategies to inform suggested dietary interventions for WL before pregnancy.
Wing et al., 2023	Review	2018-2022	381	Lifestyle intervention for preconception WL	GWG, GDM	varied	Inconsistent intervention exposure length before pregnancy. Inconsistent intervention intensity. Power concerns.
Phelan et al., 2023	RCT	2017-2022	199	16-week WL intervention vs. educational control	Incl. pre-pregnancy weight change, GDM, GWG, HTN-P, birth trauma, LGA, SGA	≤3yrs + 9mo; 0.5%	Underpowered study (conception rate 50% lower than expected),

Reference	Study Design	Years	Participants (N)	Exposures	Outcomes	Follow-up; Attrition	Quality
Price et al., 2021	RCT	2014-2019	164	VLED vs SDI	composite of obesity-related maternal and neonatal outcomes	60wks; 21.3 %	small cohort, low retention, low power.
LeBlanc et al., 2021	PRCT	2015-2019	169	Behavioral WL Intervention vs usual care	Total GWG, GWG IOM category, GDM, HTN-P. fetal outcomes	6mo + ≤18mo; 0.6%	low power, low sociodemographic diversity
Ritchie et al., 2023	Quasi-experimental	2013-2019	58	≥ 4 weeks in NDPP	BMI change, HbA1C change, GWG, GDM, infant outcomes	≥4wks + 9mo; 33%	Diverse study population. 33% attrition. NDPP has low participation and high attrition across USA. Small, localized study. Lack of data on pregnancy intention. High ectopic pregnancy rate.
Matusiak et al., 2020	Cohort	2012-2014	73	Weight changes 6mo pre-pregnancy	GWG, GDM, infant body composition	4 days after delivery	Some followed WL program into early pregnancy; only included healthy infants requiring no

Reference	Study Design	Years	Participants (N)	Exposures	Outcomes	Follow-up; Attrition	Quality
							special care; small cohort size
Laraia et al., 2013	Cohort	2011-2005	1041	Food insecurity and dietary restraint 1yr pre-pregnancy	Total GWG, IOM GWG category	Up to 40 weeks	Self-reported pre-pregnancy weight, food insecurity, and dietary restraint. Unable to measure dietary restraint in terms of calories eaten. Did not measure dietary restraint during pregnancy.
Lecorguillé et al., 2019	Cohort	2011	16,395	Weight changes 1yr pre-pregnancy	GWG	24mo; 0.3%	Large cohort size; self-reported weight data, no data on the dietary methods used for WL
Piccinini-Vallis et al., 2021	Cohort	2019	190	Weight cycling/WL attempts 6mo pre-pregnancy	GWG	≤9mo; 0.5%	Recall bias (weight history taken retrospectively), follow-up period not clearly reported, small overall sample size, small

Reference	Study Design	Years	Participants (N)	Exposures	Outcomes	Follow-up; Attrition	Quality
							sample of women in each BMI category, may have received extra-study weight counseling
Heery et al., 2016	Cohort	2011-2012	799	Pre-pregnancy dietary restraint	Total GWG, IOM GWG category	≤40wks; NA	Self-reported pre-pregnancy body weight
Yu et al., 2024a (AOFOG)	Cross-sectional	2003-2018	236	WL 1yr pre-pregnancy	Maternal metabolic biomarkers	n/a	Small sample, low power. WL methods, GWG, parity, and timing of tests not included. Self-reported data. >10% missing data. Lipid-level findings contradict other studies.
Yu et al., 2024b (Midwifery)	Cross-sectional	2012-2015	51,399	Dieting 1yr pre-pregnancy	IOM GWG category, GDM, infant outcomes	n/a	Large effect size in the relationship of prepregnancy dieting and excessive GWG. No data on specific dieting behaviors. Actual WL

Reference	Study Design	Years	Participants (N)	Exposures	Outcomes	Follow-up; Attrition	Quality
							data (lbs, kgs, and/or % change) not analyzed.
Nagpal et al., 2020	Cross-sectional	2008-2012	100	pre-pregnancy WL attempts, pre-pregnancy weight fluctuation, NELIP intervention adherence	Excessive GWG (IOM category)	16-20wks; NA	Self-reported weight and dieting history, convenience sampling; cross-sectional design means direction/causation cannot be inferred.

Table 2 Results and conclusions from included studies examining pre-pregnancy weight loss

GDM = gestational diabetes mellitus; GWG = gestational weight gain; HTN-P = hypertensive disorders of pregnancy; LGA = infant large for gestational age; SGA = small for gestational age; VLED = Very Low Energy Diet; SDI = standard dietary intervention; WL = weight loss

Reference	Results	Conclusions
Nagpal et al. 2022	No significant difference in gestational hypertension or preeclampsia odds ratio (OR) for weight loss vs weight stable groups. Interpregnancy weight loss in women with BMI ≥ 25 kg/m² reduced risk for GDM, hypertensive disorders, and cesarean delivery. Interpregnancy weight loss associated with some increased risk for SGA and	Recommendations for an amount of weight women considering pregnancy should lose/not lose in a given timeframe cannot be confirmed due to limited data on preconception weight loss, high heterogeneity, and variable methods of measuring pre-pregnancy weight loss. Recommendations should instead concern establishing a stable

Reference	Results	Conclusions
	preterm delivery across BMI categories.	preconception and interpregnancy weight via improved health behaviors.
Forsum et al. 2013	1 of 2 studies showed positive effects of prepregnany weight loss on GDM (the other showed no effect); 1 study showed positive effect of prepregnancy weight loss on LGA birth rate	No studies on the impact of prepregnancy diet-based weight loss interventions. Calls for such studies. Papers reviewed suggest prepregnancy weight loss has a protective effect in obese women.
Wing et al. 2022	None of the 3-lifestyle preconception weight loss RCTs reviewed found beneficial effects on GWG or GDM: following weight loss one study saw more GWG and two saw no difference in GWG compared to weight stable women.	It is premature to issue blanket recommendations for preconception weight loss in women with overweight/obesity.
Phelan et al. 2023	The 16-week intervention increased pre-conception weight loss but did not significantly decrease GDM recurrence relative to the educational control group. In both groups, pre-pregnancy weight loss significantly reduced recurrence of GDM: for every 1 kg lost before pregnancy, GDM recurrence was reduced by 24%; ≥5% weight loss before conception reduced the odds of GDM recurrence by 82%; a shift down in BMI category reduced GDM recurrence by 97%. Greater weight regain from end of study to conception was correlated with increased odds of GDM recurrence. No significant difference in GWG between intervention and controls. Intervention group showed improved diastolic blood pressure, no significant change in systolic blood pressure.	Significant prepregnancy weight loss can be achieved, but existing evidence is insufficient to support assertions that this weight loss will reduce risk of GDM / increase chance of healthy pregnancy in obese women.
Price et al. 2021	The VLED group had significantly fewer adverse pregnancy outcomes than the SDI group, including non-significant trend towards reduced GDM incidence in group with higher	Fewer adverse maternal and neonatal outcomes observed in this pre-pregnancy weight loss study than in similar others, may be due to inclusion of a weight maintenance phase

Reference	Results	Conclusions
	weight loss (VLED). However, VLED group showed higher rate of gestational hypertension/preeclampsia than the SDI group. No difference in rate of cesarean section.	separating end of weight loss intervention from conception
LeBlanc et al. 2021	Intervention group lost more weight pre-pregnancy and experienced more GWG in second trimester, third trimester, and overall than the control group. There was no significant difference in rate of excessive GWG between intervention and controls. Lower rate of GDM in the intervention arm, no difference in rate of hypertensive conditions, cesarean delivery, or adverse neonatal outcomes	Intentional pre-pregnancy weight loss did not impact adherence to 2009 IOM GWG guidelines. It did result in increased GWG compared to women not attempting pre-pregnancy weight loss via the tested lifestyle intervention.
Ritchie et al. 2023	NDPP participants reduced their BMI before conception (ave. 3% bodyweight lost), had a lower frequency of obesity at conception, and were less likely to develop GDM in early pregnancy compared to the usual care group. Excepting pre-term birth all measured outcomes favored the NDPP group, but there were no other statistically significant differences between NDPP vs standard care group. No significant difference in GWG between intervention and control group.	The NDPP lifestyle intervention may protect infants from exposure to GDM/hyperglycemia in early gestation, when this exposure is most harmful. NDPP is a low-cost program resulting in modest weight loss, high adherence, and significant protective effects (on GWG, GDM, LGA, and SGA) compared to more aggressive lifestyle interventions.
Matusiak et al. 2020	Overweight and obese women more likely to attempt weight loss 6 months before pregnancy. No significant difference in GWG, mode of delivery, or birth weight between the weight loss and weight maintenance (WL and WM) groups. Infant body fat % higher in babies of overweight/obese WL mothers than normal weight WM mothers. Weight loss attempts are associated with higher infant	Pre-pregnancy weight loss attempts did not explain variations in GWG, infant size, or overall infant body fat %. Maternal weight loss was associated with higher infant abdominal circumference--suggests maternal WL may cause infant visceral adiposity.

Reference	Results	Conclusions
	abdominal circumference, independent of other maternal characteristics.	
Laraia et al. 2013	Food insecurity and dietary restraint are not significantly associated. Significant interaction between food insecurity, dietary restraint, and gestational weight gain: significantly higher total GWG and IOM category (excessive GWG) among women with high dietary restraint and high food insecurity than among women with high dietary restraint and low food insecurity, or with low dietary restraint and high food insecurity.	Exposure to both food insecurity and high dietary restraint have a synergistic relationship with regard to excessive GWG. Self-reported dietary restraint and/or emotional eating may be best predictors of weight gain during stressful events including pregnancy.
Lecourguillé et al. 2019	For preconception BMI $\geq$ 25 kg/m², prepregnancy weight loss associated with increased GWG (~2.8 kg); weight loss inversely associated with birth weight, mediated by increased GWG. Mediating effect of GWG increased for women who lost weight by dieting in the year before pregnancy.	GWG may offset the expected effect of weight loss before conception on fetal growth in overweight and obese women. Call for increased monitoring of GWG in women who lost weight/dieted in the year before pregnancy
Piccininni-Vallis et al. 2020	Women with prepregnancy BMI $\geq$ 30 kg/m² experienced more prepregnancy weight cycling than women with lower BMI. Women who made weight loss attempts before pregnancy and women with prepregnancy BMI of 25-30 kg/m² were more likely to experience excessive GWG.	Interventions supporting preconception weight loss should be careful to avoid inciting weight cycling (i.e. rapid weight loss followed by rapid weight gain) in the 6 months before pregnancy
Heery et al. 2016	Greater worry about pregnancy weight gain and a history of dieting were associated with higher total GWG and increased odds of excessive GWG. Increased post-conception food intake did not mediate the relationship between pre-pregnancy dietary restraint and excessive GWG. Increased food intake partly accounted	Women who report prepregnancy dietary restraint/dieting/weight cycling may continue to engage in periods of disinhibited overeating during pregnancy, causing increased GWG compared to non-restrained eaters

Reference	Results	Conclusions
	for the positive relationship between pregnancy weight gain/body change worries and total weight gain at delivery.	
Yu et al. 2024 (AOFOG)	4.6% mean weight loss from baseline. Greater prepregnancy weight loss associated with reduced prenatal lipid levels and increased diastolic blood pressure. No significant association with systolic blood pressure or insulin resistance.	Reduced maternal lipid levels following prepregnancy weight loss is promising, as high prenatal lipid levels, i.e. obesity-induced hyperlipidemia, increase infant risk for macrosomia and LGA. Elevated diastolic blood pressure following weight loss is concerning.
Yu et al. 2024 (Midwifery)	Prepregnancy dieters had higher odds of excessive GWG (vs adequate), GDM, and LGA; lower odds of SGA. There was no significant difference in odds of low birthweight, macrosomia, or preterm birth for dieters vs non-dieters.	In women with obesity/overweight, prepregnancy dieting increased risk for GDM, excessive GWG, and LGA infants. The positive association between dieting and LGA infants was mediated by excessive GWG.
Nagpal et al. 2020	Excessive GWG associated with weight loss attempts in the year before pregnancy. Women with excessive GWG who attempted pre-pregnancy weight loss lost more weight, attempted weight loss more frequently, and had more dietary change related weight loss attempts than women with non-excessive GWG. No significant difference in pre-pregnancy weight fluctuations between excessive vs non-excessive GWG groups. Higher NELIP adherence in women with non-excessive GWG.	Unintended consequence of rapid weight loss prior to pregnancy may be rapid weight regain once pregnancy is achieved, resulting in excessive GWG. Adherence to lifestyle recommendations before and during pregnancy may prevent excess weight gain.
	GDM = gestational diabetes mellitus; GWG = gestational weight gain; HTN-P = hypertensive disorders of pregnancy; LGA = infant large for	VLED = Very Low Energy Diet; SDI = standard dietary intervention; WL = weight loss

Reference	Results	Conclusions
	gestational age; SGA = small for gestational age;	

Results

Description of Included Studies

The search of PubMed and Web of Science returned 744 records which included 179 duplicates, leaving 565. Following a title review of these papers, 303 were excluded and after reviewing abstracts for the remaining 262 papers abstracts were screened, 229 were excluded. Of the 33 articles for which a full-text review was conducted 26 were excluded.

The 33 full-text reviews included a review of reference lists, and 31 additional papers were identified from 16 reference lists. One of the 31 identified reports could not be retrieved. Full texts of the 30 retrievable reports were assessed for eligibility, and 22 were excluded, resulting in a total of 15 articles included for synthesis. [2]

Weight Change Assessment Methods

All 15 studies assessed weight change and/or attempted weight change before pregnancy. Three used a literature review design, 3 used a randomized control or pragmatic randomized clinical trial design, 1 used a quasi-experimental observational study design, 3 used retrospective cohort study designs, 2 used prospective cohort study designs, and 3 used a cross-sectional study design. Time periods for data collection range from 1999 to 2022, with 47% including data from 2019-2022, and 93% including data from 2009 or later. All papers analyzed data after the release of the 2009 IOM guidelines and take these guidelines into account. Four studies examined exposure to maternal weight changes within a year before conception, and 2 studies looked at weight changes within six months before conception. Two studies examined weight and BMI changes between two pregnancies. Five studies examined pre-pregnancy dietary restraint and weight-related concerns, and 6 studies compared the effects of two or more dietary interventions on pre-pregnancy weight change. One study looked at household food insecurity in the year before pregnancy.

Eight studies used self-reported weight values collected via interview or questionnaire to assess weight changes. Seven studies used body size and weight data from the EHR (electronic health record) or other medical records to assess pre-pregnancy and gestational weight changes. Three studies collected body size and weight data in-person using digital scales, 1 study asked participants to weigh themselves at home using a digital scale and report those values for analysis, and 1 study obtained gestational weight change data from birth certificates.

Total Gestational Weight Gain (GWG)

Ten studies assessed total GWG in women who experienced weight changes before pregnancy. Two assessed total GWG following pre-pregnancy weight loss due to dieting, 2 others due to dietary restraint, 6 due to a formal lifestyle intervention, and 7 due to unspecified weight loss or weight loss attempts. One of these studies was a literature review, 2 were randomized controlled trials (RCTs), 1 was a quasi-experimental study, 5 were cohort studies, and 1 was a cross-sectional study. Five studies saw no relationship between pre-pregnancy weight loss and total GWG. No studies observed that increased pre-pregnancy weight loss was associated with decreased weight gain during pregnancy. Two studies observed that increased weight loss before pregnancy was correlated with increased weight gain during pregnancy. Three studies observed that women with increased pre-pregnancy dietary restriction, dieting, and/or weight loss attempts experienced higher weight gain during pregnancy than women who did not diet, restrict, or attempt weight loss before becoming pregnant.

Excessive Gestational Weight Gain (IOM 2009 Guidelines)

Six studies assessed excessive GWG in women who experienced weight changes before pregnancy. One assessed excessive GWG following pre-pregnancy weight loss due to dieting, 2 due to dietary restraint, 1 due to a formal lifestyle intervention, and 2 due to unspecified weight loss or weight loss attempts. One study was a pragmatic randomized clinical trial, 3 were cohort studies, and 2 were cross-sectional studies. One study saw no relationship between pre-pregnancy weight loss and excessive GWG. No studies found that increased pre-pregnancy weight loss was correlated with a lower risk of excessive weight gain during pregnancy. Five studies observed that women with increased pre-pregnancy dietary restriction, dieting, and/or weight loss attempts were more likely to gain excessive weight during pregnancy than were women who did not diet, restrict, or attempt weight loss before becoming pregnant.

Gestational Diabetes Mellitus (GDM)

Seven studies assessed GDM in women who experienced weight changes before pregnancy. Four of these studies assessed GDM following pre-pregnancy weight loss due to a formal lifestyle intervention, and 2 due to unspecified weight loss or weight loss attempts. Three of these studies were literature reviews, 3 were randomized controlled trials (RCTs), and 1 was a quasi-experimental study. Two studies saw no relationship between pre-pregnancy weight loss and GDM; however, after stratifying results by BMI category, in one of these papers women with BMI ≥ 25 kg/m^2 were seen to have a lower risk of GDM if they lost weight before pregnancy. Six other studies also observed that women who lost more weight before pregnancy had a lower risk of developing GDM. One study observed that greater weight regain from end of study to conception was correlated with an increased risk of developing GDM.

Gestational Hypertensive Conditions

Five total studies assessed gestational hypertensive conditions (including preeclampsia)—abbreviated HTN-P—in women who experienced weight changes before pregnancy. Three studies assessed HTN-P following pre-pregnancy weight loss due to a formal lifestyle intervention, and two examined HTN-P following weight loss due to unspecified weight loss or weight loss attempts. One of these studies was a literature review, 3 were randomized controlled trials (RCTs), and 1 was a cross-sectional study. Two studies saw no relationship between pre-pregnancy weight loss and HTN-P. However, after stratifying results by BMI category, in one of these papers interpregnancy weight loss in women with BMI ≥ 25 kg/m² was associated with reduced risk for HTN-P in the subsequent pregnancy. One study observed that increased pre-pregnancy weight loss was correlated with a higher risk of HTN-P. One study observed that pre-pregnancy weight loss was associated with reduced prenatal diastolic blood pressure, but observed no change in prenatal systolic blood pressure following pre-pregnancy weight loss. One study observed that increased pre-pregnancy weight loss was correlated with increased prenatal diastolic blood pressure, but saw no change in prenatal systolic blood pressure.

Cesarean Delivery

Four studies assessed risk for cesarean delivery among women who experienced weight changes before pregnancy. Two of these studies assessed risk for cesarean delivery following pre-pregnancy weight loss due to a formal lifestyle intervention, and 2 due to unspecified weight loss or weight loss attempts. One of these studies was a literature review, 2 were randomized controlled trials (RCTs), and 1 was a cohort study. Two studies saw no relationship between pre-pregnancy weight loss and risk for cesarean delivery. One study saw that more weight lost before pregnancy was correlated with a lower risk for cesarean delivery in women with a pre-pregnancy BMI ≥ 25 kg/m².

Neonatal Infant Outcomes: LGA, SGA, Low Birthweight, Macrosomia, Preterm Birth, Body Composition

Eight studies assessed neonatal outcomes in women who experienced weight changes before pregnancy. One assessed risk for adverse neonatal outcomes following pre-pregnancy weight loss due to dieting, 4 due to a formal lifestyle intervention, and 3 due to unspecified weight loss or weight loss attempts. Two of these studies were literature reviews, 3 were randomized controlled trials (RCTs), 1 was a quasi-experimental study, 1 was a cohort study, and 1 was a cross-sectional study. Four studies found no correlation between pre-pregnancy weight loss and risk of adverse neonatal outcomes. One study found no significant difference in birthweight of infants born to mothers with pre-pregnancy weight loss versus weight maintenance but showed that pre-pregnancy weight loss attempts were associated with higher infant abdominal circumference regardless of weight. One study found that pre-pregnancy dieters had a higher risk of delivering LGA infants and a lower risk of delivering SGA infants than women who did not report dieting before pregnancy. In a different study, pre-pregnancy weight loss was correlated with lower risk for LGA and higher risk for SGA and preterm delivery. One study found a lower rate of LGA in infants born to women in its Very Low Energy Diet (VLED) arm than in infants born to women subject to Standard Dietary Intervention (SDI).

Recommendations

Two studies recommended careful monitoring of GWG in women who lost weight before becoming pregnant, e.g. prescribing and monitoring adherence to a diet and exercise program throughout pregnancy (Nagpal et al. 2020, Lecorguillé et al. 2019). One study recommended prescribing modest lifestyle changes and/or weight loss in women with BMI ≥ 25 kg/m² and diabetes risk before pregnancy; the modest program they tested showed increase adherence and protective maternal/neonatal effects compared to more aggressive pre-pregnancy lifestyle interventions (Ritchie et al. 2023). Similarly, another study recommended separating the end of any weight loss intervention from the onset of pregnancy by a weight maintenance phase; a weight maintenance phase may mitigate the adverse maternal and neonatal outcomes correlated with pre-pregnancy weight loss (Price et al. 2021). Three studies called for current recommendations for pre-pregnancy weight loss be retracted, stating that "existing evidence is insufficient to support assertions that pre-pregnancy weight loss will reduce the risk of GDM and/or increase the chance of healthy pregnancy in obese women"(Phelan et al. 2023), and therefore "it is premature to issue blanket recommendations for preconception weight loss in women with overweight or obesity" (Wing et al. 2023). One of these studies recommended that pre-pregnancy guidelines for this population instead concern establishing a stable preconception weight by improving health behaviors (Nagpal et al. 2022).

Discussion

Overall, the studies reviewed produced inconclusive evidence as to the impacts of pre-pregnancy weight loss on maternal and neonatal health outcomes (Table 1). Several studies remarked on the small number of rigorous publications on this topic, and called for increased investigation into the costs and benefits of preconception weight loss for maternal and infant health outcomes (Forsum et al., 2013; Phelan et al., 2023; Wing et al., 2023). Notably, none of the reviewed studies tested outcomes in women who changed BMI class before pregnancy, i.e. lost enough weight to shift from the "obese" ($\geq$30 kg/m²) to the "overweight" (25-29.9 kg/m²) BMI category, or from the "overweight" to the "normal" (18.5-24.9 kg/m²) category. Rather, studies on this topic tested pregnancy outcomes associated with more or less pre-pregnancy weight loss, and/or with changing versus stable pre-pregnancy weight history (Table 1). This may be because few people are able to lose enough weight to change BMI category. For this reason, and because of the inconclusive evidence surrounding minor-to-moderate pre-pregnancy weight loss, the reviewed 2022 study by Nagpal et al. recommends that pre-pregnancy guidelines for the overweight/obese childbearing population instead concern establishing a stable preconception weight supported by improved health behaviors (Nagpal et al. 2022). This recommendation is based on their systematic review and meta-analysis of 62 observational studies, which found no consistent associations between pre- or inter-pregnancy weight loss and improved maternal or neonatal outcomes (T. Nagpal et al., 2022).

We agree with this recommendation for several reasons. From an advocacy perspective, this recommendation aligns with the Health At Every Size (HAES) Framework of Ca*re* (Bacon & Aphramor, 2011). HAES rejects the practice of looking at body weight in isolation as a health indicator or health-related outcome(Ulian et al., 2018). Instead, HAES promotes the consideration of more complex and comprehensive health-related indicators and outcomes, including self-esteem, conscious eating behavior, sustainable physical activity level, blood pressure and cardiovascular health, lipid profile, diet quality, quality of life, body-image perception, and psychological health (Ulian et al., 2018). From influential HAES pioneer Linda Bacon and radical dietitian Lucy Aphramor:

> "A growing trans-disciplinary movement called Health at Every Size (HAES) shifts the focus from weight management to health promotion. The primary intent of HAES is to support improved health behaviors for people of all sized without using weight as a mediator; weight loss may or may not be a size effect"(Bacon & Aphramor, 2011).

HAES-oriented studies propose that much if not all of the morbidity and mortality commonly associated with excess weight can be better attributed to weight cycling than to overweight or obesity itself, since weight cycling is correlated with increased inflammation, hypertension, insulin resistance, dyslipidemia, poorer cardiovascular outcomes, and increased overall mortality risk (Bacon & Aphramor, 2011). Such studies also posit that since fitness, activity, nutrient intake, weight cycling, and socioeconomic status all play a role in determining risk of many chronic diseases and of weight gain, it is likely that these factors increase disease risk independent of weight gain or high weight (Bacon & Aphramor, 2011). This suggestion is supported by studies that controlled for these factors and found that the increased risk of disease in people with excess adiposity disappeared or was significantly reduced (Bacon & Aphramor, 2011).

A weight-neutral[3] approach to pre-pregnancy care is also supported by research on the impacts of weight stigma in pregnant populations. An integrative review of the literature on this topic revealed a correlation between experiences of weight bias in the perinatal period and several adverse perinatal outcomes: gestational diabetes (GDM), excessive gestational weight gain (GWG), increased postpartum weight retention, maladaptive dieting, emotional eating,

[3] "Weight neutral" or "weight neutrality" refers to shifting the focus of clinical care and health promotion interventions from body weight to objective measures of health: e.g. blood pressure, blood sugar levels, cholesterol, etc. (Frediani & Hodgson, n.d.).

lower breastfeeding rates, body dissatisfaction, postpartum depressive symptoms, and perceived stress (Bradford et al., 2025).

It is hopeful and telling that the scientific evidence regarding pre-pregnancy weight loss aligns with liberatory frameworks like HAES, weight neutrality, and anti-stigma approaches to care. Evidence from these bodies of work bolsters our recommendation that guidelines for pre-pregnancy weight loss should be replaced by weight-neutral nutrition and physical activity recommendations to support health before a woman enters the marathon that is pregnancy. She should enter this ordeal well-nourished, with the tools to maintain and increase her fortitude over the ensuing 9-10 months, leading up to the culminating physical ordeal that is labor and childbirth.

Conclusion

40% of American women of reproductive age have a BMI ≥ 30 kg/m², and more than half of American women enter pregnancy with overweight or obesity (i.e. BMI ≥ 25 kg/m²) (Bradford et al., 2025; Wang et al., 2023). Women in these higher weight categories are often advised to lose weight before conceiving. However, findings from studies identified in this review are generally inconclusive as to the benefits of pre-pregnancy weight loss in women with higher BMI. Future research should examine how much pre-pregnancy weight loss is correlated with improved maternal and infant health outcomes. Research is also needed to determine which methods of weight loss are associated with improved health outcomes for mother and baby. Continued efforts are needed to produce evidence-based guidelines for women entering pregnancy in large bodies.

References

AMA: Use of BMI alone is an imperfect clinical measure. (2023, June 14). American Medical Association. https://www.ama-assn.org/delivering-care/public-health/ama-use-bmi-alone-imperfect-clinical-measure

American College of Obstetricians and Gynecologists. (2013). ACOG Committee opinion no. 548: Weight gain during pregnancy. *Obstetrics and Gynecology*, *121*(1), 210–212. https://doi.org/10.1097/01.aog.0000425668.87506.4c

Bacon, L., & Aphramor, L. (2011). *Weight Science: Evaluating the Evidence for a Paradigm Shift*.

Bradford, H. M., Puhl, R. M., Phillippi, J. C., Dietrich, M. S., & Neal, J. L. (2025). Weight Bias in the Perinatal Period: An Integrative Review. *Birth*, *52*(2), 189–206. https://doi.org/10.1111/birt.12870

Collier, A. Y., & Molina, R. L. (2019). Maternal Mortality in the United States: Updates on Trends, Causes, and Solutions. *NeoReviews*, *20*(10), e561–e574. https://doi.org/10.1542/neo.20-10-e561

Flegal, K. M. (2023). Use and Misuse of BMI Categories. *AMA Journal of Ethics*, *25*(7), E550-558. https://doi.org/10.1001/amajethics.2023.550

Forsum, E., Brantsæter, A. L., Olafsdottir, A.-S., Olsen, S. F., & Thorsdottir, I. (2013). Weight loss before conception: A systematic literature review. *Food & Nutrition Research*, *57*. https://doi.org/10.3402/fnr.v57i0.20522

Frediani, J. F., & Hodgson, N. (n.d.). *What Does it Mean to be Weight Neutral? | SBM*. Society of Behavioral Medicine. Retrieved June 2, 2025, from https://www.sbm.org/healthy-living/what-does-it-mean-to-be-weight-neutral

Gete Palacios, P. C., Moscona-Nissan, A., Saucedo, R., & Ferreira-Hermosillo, A. (2025). Impact on Metabolism Generated by Surgical and Pharmacological Interventions for Weight Loss in Women with Infertility. *Metabolites*, *15*(4), 260. https://doi.org/10.3390/metabo15040260

Goldstein, R. F., Abell, S. K., Ranasinha, S., Misso, M., Boyle, J. A., Black, M. H., Li, N., Hu, G., Corrado, F., Rode, L., Kim, Y. J., Haugen, M., Song, W. O., Kim, M. H., Bogaerts, A., Devlieger, R., Chung, J. H., & Teede, H. J. (2017). Association of Gestational Weight Gain With Maternal and Infant Outcomes: A Systematic Review and Meta-analysis. *JAMA*, *317*(21), 2207. https://doi.org/10.1001/jama.2017.3635

Gunja, M. Z., Gumas, E. D., Masitha, R., & Zephyrin, L. C. (2024, June 4). *Insights into the U.S. Maternal Mortality Crisis: An International Comparison*. https://doi.org/10.26099/cthn-st75

Heery, E., Wall, P. G., Kelleher, C. C., & McAuliffe, F. M. (2016). Effects of dietary restraint and weight gain attitudes on gestational weight gain. *Appetite*, *107*, 501–510. https://doi.org/10.1016/j.appet.2016.08.103

Hoek, A., Wang, Z., van Oers, A., Groen, H., & Cantineau, A. (2022). Effects of preconception weight loss after lifestyle intervention on fertility outcomes and pregnancy complications. *FERTILITY AND STERILITY*, *118*(3), 456–462. https://doi.org/10.1016/j.fertnstert.2022.07.020

Hoyert, D. L. (2024). *Health E-stat: Maternal mortality rates in the United States, 2022*. National Center for Health Statistics (U.S.). https://doi.org/10.15620/cdc/152992

Langley-Evans, S. C., Pearce, J., & Ellis, S. (2022). Overweight, obesity and excessive weight gain in pregnancy as risk factors for adverse pregnancy outcomes: A narrative review.

Journal of Human Nutrition and Dietetics, *35*(2), 250–264. https://doi.org/10.1111/jhn.12999

Laraia, B., Epel, E., & Siega-Riz, A. M. (2013). Food insecurity with past experience of restrained eating is a recipe for increased gestational weight gain. *Appetite*, *65*, 178–184. https://doi.org/10.1016/j.appet.2013.01.018

LeBlanc, E. S., Smith, N. X., Vesco, K. K., Paul, I. M., & Stevens, V. J. (2021). Weight loss prior to pregnancy and subsequent gestational weight gain: Prepare, a randomized clinical trial. *American Journal of Obstetrics and Gynecology*, *224*(1), 99.e1-99.e14. https://doi.org/10.1016/j.ajog.2020.07.027

Lecorguillé, M., Jacota, M., De Lauzon-Guillain, B., Forhan, A., Cheminat, M., Charles, M.-A., & Heude, B. (2019). An association between maternal weight change in the year before pregnancy and infant birth weight: ELFE, a French national birth cohort study. *PLOS Medicine*, *16*(8), e1002871. https://doi.org/10.1371/journal.pmed.1002871

Matusiak, K., Barrett, H. L., Callaway, L. K., & Nitert, M. D. (2014). Periconception weight loss: Common sense for mothers, but what about for babies? *Journal of Obesity*, *2014*, 204295. https://doi.org/10.1155/2014/204295

Matusiak, K., Barrett, H. L., Lust, K., Callaway, L. K., & Dekker Nitert, M. (2020). Self-reported periconception weight loss attempts do not alter infant body composition. *Nutrition (Burbank, Los Angeles County, Calif.)*, *77*, 110781. https://doi.org/10.1016/j.nut.2020.110781

McNestry, C., Killeen, S. L., Crowley, R. K., & McAuliffe, F. M. (2023). Pregnancy complications and later life women's health. *Acta Obstetricia et Gynecologica Scandinavica*, *102*(5), 523–531. https://doi.org/10.1111/aogs.14523

Nagpal, T. S., Prapavessis, H., Campbell, C. G., De Vrijer, B., Giroux, I., & Mottola, M. F. (2020). Are pre-pregnancy weight fluctuations and adherence to prenatal nutrition and exercise recommendations related to excessive gestational weight gain? *Journal of Behavioral Medicine*, *43*(6), 1047–1055. https://doi.org/10.1007/s10865-020-00156-z

Nagpal, T., Souza, S., Moffat, M., Hayes, L., Nuyts, T., Liu, R., Bogaerts, A., Dervis, S., Piccinini-Vallis, H., Adamo, K., & Heslehurst, N. (2022). Does prepregnancy weight change have an effect on subsequent pregnancy health outcomes? A systematic review and meta-analysis. *OBESITY REVIEWS*, *23*(1). https://doi.org/10.1111/obr.13324

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., … Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *Systematic Reviews*, *10*(1), 89. https://doi.org/10.1186/s13643-021-01626-4

Phelan, S., Jelalian, E., Coustan, D., Caughey, A., Castorino, K., Hagobian, T., Muñoz-Christian, K., Schaffner, A., Shields, L., Heaney, C., McHugh, A., & Wing, R. (2023). Randomized controlled trial of prepregnancy lifestyle intervention to reduce recurrence of gestational diabetes mellitus. *AMERICAN JOURNAL OF OBSTETRICS AND GYNECOLOGY*, *229*(2). https://doi.org/10.1016/j.ajog.2023.01.037

Piccinini-Vallis, H., Woolcott, C., Miller, L., Snelgrove-Clarke, E., & Cahill, S. (2021). The Relationship Between Pre-Pregnancy Attempts to Lose Weight and Gestational Weight Gain: An Exploratory Primary Care Prospective Cohort Study. *Journal of Obstetrics and Gynaecology Canada*, *43*(3), 337-343.e1. https://doi.org/10.1016/j.jogc.2020.09.023

Price, S. A. L., Sumithran, P., Nankervis, A. J., Permezel, M., Prendergast, L. A., & Proietto, J. (2021). Impact of preconception weight loss on fasting glucose and pregnancy outcomes in women with obesity: A randomized trial. *Obesity*, *29*(9), 1445–1457. https://doi.org/10.1002/oby.23200

Ritchie, N. D., Sauder, K. A., & Kostiuk, M. (2023). Reducing Maternal Obesity and Diabetes Risks Prior to Conception with the National Diabetes Prevention Program. *Maternal and Child Health Journal*, *27*(7), 1133–1139. https://doi.org/10.1007/s10995-023-03624-5

Shenassa, E. D., Kinsey, C., Moser Jones, M., & Fahey, J. (2017). Gestational Weight Gain: Historical Evolution of a Contested Health Outcome. *Obstetrical & Gynecological Survey*, *72*(7), 445–453. https://doi.org/10.1097/OGX.0000000000000459

Singh, M., Fayaz, F. F. A., Wang, J., Wambua, S., Subramanian, A., Reynolds, J. A., Nirantharakumar, K., Crowe, F., & on behalf of MuM-PreDiCT. (2024). Pregnancy complications and autoimmune diseases in women: Systematic review and meta-analysis. *BMC Medicine*, *22*(1), 339. https://doi.org/10.1186/s12916-024-03550-5

Sommer, I., Teufer, B., Szelag, M., Nussbaumer-Streit, B., Titscher, V., Klerings, I., & Gartlehner, G. (2020). The performance of anthropometric tools to determine obesity: A systematic review and meta-analysis. *Scientific Reports*, *10*(1), 12699. https://doi.org/10.1038/s41598-020-69498-7

Ulian, M. D., Aburad, L., da Silva Oliveira, M. S., Poppe, A. C. M., Sabatini, F., Perez, I., Gualano, B., Benatti, F. B., Pinto, A. J., Roble, O. J., Vessoni, A., de Morais Sato, P., Unsain, R. F., & Baeza Scagliusi, F. (2018). Effects of health at every size® interventions on health-related outcomes of people with overweight and obesity: A systematic review. *Obesity Reviews*, *19*(12), 1659–1666. https://doi.org/10.1111/obr.12749

Vogel, J. P., Jung, J., Lavin, T., Simpson, G., Kluwgant, D., Abalos, E., Diaz, V., Downe, S., Filippi, V., Gallos, I., Galadanci, H., Katageri, G., Homer, C. S. E., Hofmeyr, G. J., Liabsuetrakul, T., Morhason-Bello, I. O., Osoti, A., Souza, J. P., Thakar, R., … Oladapo, O. T. (2024). Neglected medium-term and long-term consequences of labour and childbirth: A systematic analysis of the burden, recommended practices, and a way forward. *The Lancet Global Health*, *12*(2), e317–e330. https://doi.org/10.1016/S2214-109X(23)00454-0

Wang, S., Rexrode, K. M., Florio, A. A., Rich-Edwards, J. W., & Chavarro, J. E. (2023). Maternal Mortality in the United States: Trends and Opportunities for Prevention. *Annual Review of Medicine*, *74*, 199–216. https://doi.org/10.1146/annurev-med-042921-123851

Williams, M. S., McKinney, S. J., & Cheskin, L. J. (2024). Social and Structural Determinants of Health and Social Injustices Contributing to Obesity Disparities. *Current Obesity Reports*, *13*(3), 617–625. https://doi.org/10.1007/s13679-024-00578-9

Wing, R. R., Caughey, A. B., & Phelan, S. (2023). Preconception weight loss to improve pregnancy outcomes: Does the evidence justify national recommendations? *Obesity*, *31*(3), 594–596. https://doi.org/10.1002/oby.23665

Yu, Y., Ma, Q., & Groth, S. (2024a). Prepregnancy weight loss and maternal metabolic and inflammatory biomarkers during pregnancy: An analysis of National Health and Nutrition Examination Survey. *Journal of Obstetrics and Gynaecology Research*, *50*(5), 809–820. https://doi.org/10.1111/jog.15904

Yu, Y., Ma, Q., & Groth, S. W. (2024b). Prepregnancy dieting and obstetrical and neonatal outcomes: Findings from a national surveillance project in the United States. *Midwifery*, *132*, 103972. https://doi.org/10.1016/j.midw.2024.103972