



REAL FOOD *for* PREGNANCY

The science and wisdom
of optimal prenatal
nutrition

Lily Nichols RDN, CDE

Bestselling Author of *Real Food for Gestational Diabetes*

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Real Food for Pregnancy

Advance Praise for **Real Food for Pregnancy**

“Real Food For Pregnancy should find its way into every medical school and prenatal clinic. Lily Nichols’ first book, *Real Food for Gestational Diabetes*, is a staple in my teaching here at West Virginia University and has shifted how many in our department view nutrition. Her second book is encyclopedic; it’s amazingly well-referenced and more in-depth than many textbooks. If mothers embrace Lily’s advice, the next generation will hopefully suffer less obesity and diabetes.”

—Mark Cucuzzella, MD, FAAFP, Professor at West Virginia University School of Medicine

“Finally, a book about nutrition in pregnancy that won’t put you to sleep, and might, in fact, make your mouth water! No sign of the ‘Pregnancy Police’ here, as Lily brings together a straight-talking combination of ‘sauce and science.’ As a midwife, this book will be on my must-read list for every pregnant person I know.”

—Tracy Donegan, Midwife & Founder of GentleBirth

“Real Food for Pregnancy should be considered essential reading for any woman who is currently pregnant or planning conception in the near future. I have not found a similar text with the breadth and depth of discussion on prenatal nutrition. What sets *Real Food for Pregnancy* apart is how it logically explains the current scientific evidence that is disrupting modern nutrition science and pushing conventional dogma into a new direction. Lily Nichols’ meticulously cited text provides not only a quick read but also plenty of details and references for those who wish to dig further. This book may very well serve as the tipping point leading to a sea change in nutrition science and medical care. I will be recommending it to my patients within my busy high-risk obstetrics practice.”

—Amit Bhavsar, MD, Board certified Obstetrician-Gynecologist practicing outside of Austin, TX

“Lily Nichols has written a must-read for any woman or health professional interested in prenatal nutrition. During my first pregnancy I felt like I spent hours upon hours trying to research all of the information that is summed up beautifully in *Real Food for Pregnancy*. Lily questions conventional wisdom and offers new and practical, science-based recommendations to support optimal health for both mom and baby. I hope this book will inspire change in current prenatal nutrition guidelines.”

—Shannon Weston, MPH, RD, LD, CDE, Houston, TX

“*Real Food for Pregnancy* is replacing my Prenatal/Maternal Nutrition textbook. The information meets every pregnant woman’s needs and provides evidence-based “real food” solutions.”

—Rochelle Anzaldo, RD for an OB clinic in Bakersfield, California

“Lily Nichols is like the Michael Pollan of prenatal nutrition. *Real Food for Pregnancy* is an enlightening and informative read that focuses on the quality of food rather than calories. Having worked with Lily, it’s refreshing to hear from a dietitian I trust, who values research, truth, and real world application.”

—Brittany Maughan, RD, Knoxville, TN

“As a practicing CNM (midwife) for almost 30 years, I am thrilled to have found Lily’s writing and expertise. *Real Food for Pregnancy* is one that we’ll keep in stock at our clinic and will teach from during our early pregnancy classes. I really enjoyed the descriptions of the vitamins and minerals and how to get them from food. In my experience, too many people believe that prenatal vitamins will solve all of their problems or will guarantee the health of the baby.”

—Cheryl Heitkamp, APRN, CNM, President of Willow Midwives in Minneapolis, MN

“I was recently pregnant for the first time (I unfortunately had a miscarriage) and this is exactly the book I had been searching for. *Real Food for Pregnancy* was a difficult book for me to read, in the best possible way. As a longtime vegetarian, it made me confront many of my food choices and preferences head on and acknowledge that they are not even close to optimal for pregnancy. Despite my internal conflict, I walked away from reading this book feeling incredibly empowered. While reading it I wrote down many questions, only to find that Lily devoted an entire chapter to answering my

exact question later in the book. Lily provides all the tools pregnant women need to start optimizing their diets immediately. She lays out the science and interprets it into a series of actionable items that each woman can choose to do or not to do, depending on her specific needs.”

—Anna Gajewski, MPH, Research Coordinator, Managua, Nicaragua

“*Real Food for Pregnancy* covers a lot of ground. From debunking some of the way-too-common misconceptions about dietary fat, to the importance of micronutrients and where to find them in real food, to lab testing, to the eye-opening section on toxins, there is so much information packed into this book. I especially liked the discussion of food aversions and cravings; it’s a curse for so many women, and I love how Lily encourages healthy choices and also some leeway at the same time. There is so much “lazy information” given out to save on time and costs of educating women; this book offers more detailed and proactive guidance than you’ll find anywhere else. I want to give a copy to every single OBGYN office I see.”

—Katie Miller, RDN, Gilbert, AZ

As a dietitian specializing in pregnancy and gestational diabetes, I consider *Real Food for Pregnancy* (along with Lily’s previous book, *Real Food for Gestational Diabetes*), my go-to resource for research-backed nutrition information. I’ve had my doubts about the standard nutrition recommendations for pregnancy, but never had the time (nor patience) to dig through the research to the depth that I’d like. Not only did Lily do all the work for me (and you), she did it in a way that is easy to read and understand by anyone. Being in the field, I thought I had a pretty solid understanding of prenatal nutrition, but reading this book was a humbling experience. This is an extremely comprehensive book that I would highly recommend to healthcare providers, as well as ALL women, regardless of their stage of pregnancy (including those who are just in the planning stage). I have full trust in all of Lily’s work and I am so glad she is sharing even more of her wisdom and expertise with us in this book. I’m already looking forward to reading it again.”

—Katrina Yoder, RD, CDE, San Luis Obispo, CA

“I have read numerous books on nutrition and *Real Food for Pregnancy* is simply incredible. I always tell my patients that I don’t practice out of popular books. Lily Nichols’ book seems to fit in a different category as it is really of textbook quality; it could be called an easy reading version of an encyclopedia of nutrition. Lily is meticulously thorough in combining current scientific understanding with the wisdom of the past. Nutritional demands are undoubtedly most intense during pregnancy, and *Real Food for Pregnancy* offers crucial insight into the importance of eating a nutrient dense diet during this time.”

—John Madany, MD, Dillon, MT

“This amazing book is long overdue. As a midwife, I am relieved to finally be able to recommend a one-stop resource for proactive nutritional guidance. It’s reader-friendly and well-organized with loads of information, but at the same time not overwhelming. The information is based on solid research but also from the experience of a professional with a long history of success working with expectant and postpartum mothers. Lily Nichols’ common sense approach is both accessible and effective. *Real Food for Pregnancy is great* for expecting parents and professionals alike, who wish to get up-to-date on the best ways to minimize complications and use nutrition for the best pregnancy outcomes.”

—Elke Saunders, CPM, Anchorage, Alaska

“I highly recommend *Real Food for Pregnancy* and will be making it “required reading” for all future mothers in my nutrition practice.”

—Diana Rodgers, RD, LDN, NTP, Author of *The Homegrown Paleo Cookbook*

REAL FOOD
for

PREGNANCY

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Foreword

The book you're holding in your hands is powerful. The way you nourish yourself during pregnancy quite literally shapes your baby's health, and not just in early infancy, but for the rest of his or her life. The foods you eat, the supplements you take, the way you move your body, the toxins you are exposed to (or not), and the way you handle stress, can leave a direct—and *lasting*—mark on your baby's DNA, and thus his or her risk for health problems later in life.

Lily and I live in very different regions of the United States. When a friend of mine moved to my area, she was literally warned by her pediatrician about the higher risk of obesity that comes with living in the South. While this may seem extreme, the rising rates of chronic disease, especially in children, point to the truth in that warning.

As a nutrition professor, I teach courses specifically on maternal and child nutrition. My goal is to use current prenatal nutrition guidelines and scientific literature to guide students' understanding of the complex nature of this field. I take the responsibility of shaping the minds of future dietitians very seriously. Ultimately, they will be the ones guiding the food choices of countless individuals, including pregnant women, throughout their careers.

There is often a gap between new research and public policy—sometimes a very wide gap—and my goal is to help bridge the two for my students. After learning about Lily and her expertise in the nutritional management of gestational diabetes, I started using her book, *Real Food for Gestational Diabetes*, as required reading in my courses. It taught my students about a common pregnancy complication, yes, but more importantly, it helped them think critically about many other aspects of prenatal nutrition that have gone unchallenged for decades.

I trust Lily because her practice stems from her academics, research, and clinical work. Moreover, she doesn't accept nutrition policies at face value before rigorously researching all sides. In *Real Food for Pregnancy*, she examines the latest research, putting into question many tenets that are central to conventional prenatal nutrition guidelines.

Why does this matter to you? Well, if you've done any reading on prenatal nutrition thus far, you've probably found conflicting advice on topics such as: which foods to avoid, how much protein, fat, or carbohydrate you need, and which supplements to take. As Lily masterfully unpacks in the coming chapters, a lot of the advice you've been given is well-meaning, but frankly, outdated or not evidenced-based. In this book, you'll get clear answers on what to eat and why, with research to back up every recommendation. Drawing from traditional diets and cultural food practices, you'll also learn the history of nourishing foods for pregnancy.

This book goes way beyond food, however, covering a wide range of topics including: exercise during pregnancy, common complaints (how to naturally manage nausea, constipation, high blood pressure, etc.), specific lab tests to guide your food and lifestyle choices, how and why to avoid common toxins while pregnant, and a whole section on postpartum recovery. Several controversial topics get a much-needed review, such as screening methods for gestational diabetes (including alternatives to the glucola), the safety of ketosis and low-carbohydrate diets, how diet quality affects the nutrient-density of breast milk, the latest research on alcohol consumption in pregnancy, and much more.

This thoroughly researched book is likely to become a coveted resource for dietetics educators, students, and healthcare providers. More importantly, though, its readability and practicality will make it a valuable reference manual for pregnant women. Real food and healthy lifestyle choices support your body in the midst of one of life's most beautiful mysteries—where cells build organs that grow organ systems that develop into a human body—giving us the next generation. In many faiths, including my own, this is truly holy ground.

Depending on your familiarity with real food, some of the advice in this book may take time to wrap your mind around. If embracing full-fat dairy products (like grass-fed butter), eating eggs *with the yolks*, or making bone broth from scratch seems out-of-the-box for you, I would encourage you to try one new practice at a time. The meal plans and recipes, along with the mindful eating suggestions, will help you find your sweet spot. This way of eating can be both delicious and sustainable.

As you'll see firsthand in the pages ahead, *Real Food for Pregnancy* also infuses joy into eating during pregnancy. By putting into perspective the warnings about food poisoning, you'll learn that you can *safely* enjoy many conventionally forbidden foods, like fish and sunny-side-up eggs (provided you take a few food safety precautions). By debunking myths surrounding salt and fat, you'll actually *enjoy* the food you're eating, while helping to stave off pregnancy complications (believe it or not). Finally, you'll learn that you

can relax more around food. Obsessive portion control and calorie counting are *not* on the menu; instead, mindful eating takes its place. Simply put, you have permission to eat delicious food and in quantities that leave you full and satisfied. The nutrition habits that Lily will guide you in developing during your pregnancy will be a gift that you give to your baby, your family, and yourself both now and for years to come.

Melissa Powell, MEd, RDN
University of Tennessee at Chattanooga
December 2017

Introduction

“Maternal nutrition plays a critical role in fetal growth and development.”

- Dr. Guoyao Wu, Texas A&M University

The message that a mother’s nutrient intake during pregnancy affects the development of her baby is well accepted across multiple nutrition philosophies and among traditional cultures. Even if this is the first nutrition book you’ve ever picked up, I’m sure you agree as well.

You might be wondering why I bothered to write a book about prenatal nutrition if everyone agrees on this basic principle. Well, outside of a few select nutrients, there’s actually more disagreement than there is consensus on this subject. Digging into the details of conventional prenatal nutrition guidelines—and comparing them to both scientific research and the wisdom from ancestral diets of traditional cultures—uncovers many discrepancies, which is why I’ve written this book.

Before I go any further, allow me to define a few terms that I will reference frequently. Conventional nutrition refers to dietary advice based on the U.S. government’s nutrition policies. These dietary guidelines formed the basis of the notorious food pyramid. Although the food pyramid was officially replaced with a plate, the overall message has remained virtually unchanged for decades: eat less meat, limit saturated fat, and eat more grains. Ancestral diets and those of traditional cultures refer to the dietary practices of people who lived several hundred years ago and beyond (although there are still some isolated populations that live this way). Since this was before the advent of mass-produced food and industrialization, the focus was on real food, obtained locally and eaten in its natural, unprocessed form. I will use the terms ancestral diets, ancestral nutrition, foods from traditional cultures, and real food interchangeably.

Although both conventional nutrition and traditional cultures have their similarities—for one, they generally tend to emphasize the importance of fresh produce—they most certainly have their differences. Conventional prenatal guidelines discourage the consumption of fatty meat and organ meats, suggest limiting seafood intake (no more than 12 oz per week, they

say), direct you to choose only low-fat dairy products, and contend that you need a high intake of carbohydrates (45-65% of calories) to ensure the health of your baby.

In stark contrast, traditional cultures consumed animals “nose-to-tail,” prized the fattiest cuts of meat, went out of their way to obtain seafood (even in landlocked areas), never skimmed the fat off of their milk (if they were a milk-drinking community in the first place), and did not consume anywhere near the level of carbohydrates currently recommended. Plus, refined carbohydrates—like white flour and white sugar—didn’t even exist until the last century or two. Conventional prenatal nutrition guidelines only specify making “half of your grains whole.” Flip that around and what they’re essentially saying is that it’s perfectly acceptable to eat half of your grains in the form of refined cereal and white bread.

So who’s right: conventional nutrition or traditional cultures? As I started to meticulously pick apart the scientific literature, I came to surprising, and rather disappointing, conclusions. As a dietitian, I would expect better from our public policies.

In short, current research finds that the nutrients most commonly lacking in a prenatal diet—like vitamins A, B12, B6, zinc, iron, DHA, iodine and choline—are found in the very foods you’re told to limit by conventional prenatal nutrition guidelines. Plus, the more carbohydrates you eat—especially refined carbohydrates—the fewer micronutrients your diet contains (meaning vitamins and minerals), and the higher your chances of developing pregnancy complications.

Though some may shrug their shoulders and think “Well, that’s why a prenatal vitamin is recommended,” I’m sorry to say that most prenatal vitamins contain nowhere near the levels of nutrients required to ensure a healthy pregnancy and many lack key nutrients entirely (such as iodine and choline). In addition, some prenatsals contain poorly utilized forms of nutrients (like folic acid instead of L-methylfolate). A high-quality prenatal vitamin can serve as an insurance policy of sorts, but there really is no replacement for a nutrient-dense diet of real food.

Although I’ve always had an interest in prenatal nutrition, I didn’t come to fully appreciate its importance until I witnessed the effects of suboptimal nutrition on pregnancy outcomes firsthand. It was working both clinically and at the public policy level on gestational diabetes, the type of diabetes that either first develops or is first recognized during pregnancy, that really piqued my interest. Upwards of 18% of pregnant women face this diagnosis, and when not well managed, it can leave a lasting impact on their children’s

health. In fact, babies born to women with gestational diabetes face a 6-fold higher risk of developing type 2 diabetes by the time they are 13 years old.¹ Between 2001 and 2009, there was a more than 30% increase in the prevalence of type 2 diabetes among children, and the rates are only projected to increase.² These statistics are frightening and highlight just how important a mother's nutrition and blood sugar levels are to her baby. The epidemic of childhood diabetes and obesity we're currently witnessing is not only due to poor food choices or inactivity during childhood, but also to inadequate nutrition and metabolic problems they have been exposed to *in utero*.

The striking difference between conventional prenatal nutrition and a real food or ancestral approach was made especially clear in my clinical gestational diabetes work. It was in this role that I was able to put conventional nutrition advice to the test alongside my "real food approach" and see how it impacted both blood sugar levels and pregnancy outcomes.

The results were nothing short of astounding. Using my real food approach, we were able to cut in *half* the number of women who required insulin or medication to manage their blood sugar. We also had excellent outcomes: healthier moms who didn't struggle with hunger or excessive weight gain; who had far lower rates of preeclampsia; and who had healthy babies who were born at a normal weight and with normal blood sugar levels. It was amazing to witness the impact that real food had on pregnancy outcomes. It wasn't effective just because my approach was lower in carbohydrates, but because it contained exponentially higher levels of nutrients than the conventional gestational diabetes diet.

I was encouraged to write my first book, *Real Food for Gestational Diabetes*, to get the message out to other moms, dietitians, and healthcare providers, and within a few months, it became (and remains, at the time of writing this) the bestselling gestational diabetes book on the market. I'm heartened to regularly receive messages from mothers, even those who have had gestational diabetes in previous pregnancies, who share stories of their smooth pregnancies and healthy babies as a result of their efforts in following my approach.

I started getting asked to write a book on general prenatal nutrition shortly after the release of my first book. Midwives and doctors who had seen the positive impact on gestational diabetes wanted to have a resource for their non-diabetic clients. They also wanted my take (or really, a summary of the research) on other topics related to pregnancy, like supplements, exposure to toxins, the validity of typical "foods to avoid" lists and more.

Initially, I resisted, figuring there were already plenty of books on the market on this topic. But, I've come to find there really *aren't*—at least none with the level of evidence-based information that we so desperately need in order to finally shift the most outdated prenatal nutrition advice. Most of what I've come across either shares conventional guidelines or offers their personal opinion, without citing sources for their information, nor studies to back their claims.

The last straw was when a colleague came to me with several questions about prenatal nutrition based on what she had read in the *Academy of Nutrition and Dietetics*' policy paper on pregnancy nutrition entitled "Nutrition and Lifestyle for a Healthy Pregnancy Outcome." In case you're not familiar, the *Academy of Nutrition and Dietetics* (formerly known as the *American Dietetic Association*) is the professional organization that governs the practice of registered dietitians and influences nutrition public policies in the United States. My jaw nearly dropped to the floor as I read through this policy paper. While I didn't disagree with *everything*, there were some obvious oversights and it was clear that *now* was time for me to write this book.

Among the most disappointing things in this document was the sample meal plan. It was the epitome of prenatal nutrition gone wrong. Breakfast was nearly devoid of protein and fat (only oatmeal, strawberries and *low-fat* milk). The quantity of carbohydrates was through the roof (over 300 grams). And there was absolutely nothing satisfying about the afternoon snack of crackers and carrots. There was no red meat, no eggs (unless you count the tiny amount in *low-fat* mayonnaise), and certainly no organ meats. Just about the only thing I was relieved to see was salmon served at dinner, though it was accompanied by plain steamed broccoli, white rice, and *more* low-fat milk (and there was no mention of the importance of choosing wild-caught vs. farm-raised salmon). This was the polar opposite of a sample meal plan I might share with a client. I was hungry just reading it.

I couldn't fathom, given all that I know about the food sources of tricky nutrients, like choline and vitamin A, how this diet could ever meet a pregnant woman's needs. I decided to compare a nutrient analysis of their sample meal plan to one of my own.

The results confirmed my suspicions. Each meal plan had equivalent calories, but the nutrient-density was a different story. Of the micronutrients I analyzed, my meal plan came out on top for 19 of them. Specifically, my meal plan had approximately triple the quantities of vitamin B12, double the quantities of vitamins A and E, 55% more zinc, 37% more iron, and nearly 70% more choline. It was also higher in brain-boosting omega-3 fats and had a more favorable ratio of omega-3 to omega-6 fats. It was particularly worrying to see

that the *Academy of Nutrition and Dietetics*' meal plan had very little preformed vitamin A, known as retinol, since animal fats were extremely limited.

Needless to say, I respectfully disagree with the conventional prenatal nutrition guidelines and I cannot, in good conscience, recommend their sample meal plan to pregnant women. Depriving a mother's growing baby of key nutrients needed for things like brain development goes against the "first, do no harm" principle that's central to ethical medical care across the globe. It often takes decades for research to make it into practice—and for old policies to be significantly reformed—so it's not surprising that we have found ourselves in this situation. But, we can do better.

Real Food for Pregnancy Sample Meal Plan	Conventional Nutrition Sample Meal Plan
<p>Breakfast: Crustless spinach quiche Pork breakfast sausages (pasture-raised) Banana</p> <p>Morning Snack: Apple + almond butter</p> <p>Lunch: Homemade chicken & vegetable soup Lentils (mixed into soup) Arugula salad Lemon-herb dressing Parmesan cheese</p> <p>Afternoon snack: Sardines packed in olive oil Brown rice crackers</p> <p>Dinner: Grass-fed beef meatloaf Roasted Brussels sprouts Roasted red potatoes</p> <p>Evening Snack: Greek yogurt (full-fat) + vanilla extract Chia seeds</p> <p>Dessert: Raspberries + homemade whipped cream</p>	<p>Breakfast: Oatmeal Low-fat milk Strawberries</p> <p>Morning Snack: Trail mix (almonds + mixed dried fruit)</p> <p>Lunch: Turkey sandwich (whole wheat bread, turkey, light mayonnaise) Salad (lettuce, tomato, kidney bean salad, French dressing) Banana Low-fat milk</p> <p>Afternoon snack: Carrot slices Whole wheat crackers</p> <p>Dinner: Coleslaw (cabbage, pineapple, light mayonnaise) Grilled salmon (w/ oil) Broccoli stalks, steamed White rice Low-fat milk</p> <p>Evening snack: Air-popped popcorn</p> <p>Dessert: Frozen vanilla yogurt, low fat</p>

My goal with *Real Food for Pregnancy* is to not only take prenatal nutrition advice out of the dark ages, but to give you an easy-to-follow guide for making the best food and lifestyle choices during pregnancy. At the time I

began writing, my son was less than a year old, so it was easy for me to think back to all the questions I had during pregnancy and address them head-on.

Real Food for Pregnancy	Conventional Nutrition	Nutrient Comparison
Total calories 2,329	Total calories 2,302	Nutrients Higher in Real Food for Pregnancy
Macronutrients Carbohydrate: 156 g 26% Fiber: 41 g Protein: 140 g 24% Fat: 134 g 51%	Macronutrients Carbohydrate: 319 g 54% Fiber: 43 g Protein: 109 g 19% Fat: 72 g 28%	
Essential Fatty Acids Omega-3s: 3.3 g Omega-3-to-6 ratio: 3.2:1	Essential Fatty Acids Omega-3s: 2.9 g Omega-3-to-6 ratio: 4.3:1	Omega-3: 114%
Vitamins Vitamin A: 13,935 mcg Retinol: 2,492 mcg Vitamin C: 194 mg Vitamin D: 18 mcg Vitamin E: 18 mg Vitamin B1: 1.5 mg Vitamin B2: 3.1 mg Vitamin B3: 32 mg Vitamin B6: 3.0 mg Vitamin B12: 23 mcg Folate: 609 mcg Choline: 633 mg	Vitamins Vitamin A: 6,753 mcg Retinol: 83 mcg Vitamin C: 171 mg Vitamin D: 16 mcg Vitamin E: 9.3 mg Vitamin B1: 1.5 mg Vitamin B2: 2.0 mg Vitamin B3: 25 mg Vitamin B6: 2.6 mg Vitamin B12: 8.1 mcg Folate: 518 mcg Choline: 374 mg	Vitamins Vitamin A: 206% Retinol: 3002% Vitamin C: 113% Vitamin D: 112% Vitamin E: 193% Vitamin B2: 155% Vitamin B3: 128% Vitamin B-6: 115% Vitamin B-12: 284% Folate: 118% Choline: 169%
Minerals Calcium: 1,462 mg Copper: 4,700 mcg Iron: 20.5 mg Magnesium: 482 mg Potassium: 4,522 mg Selenium: 131 mcg Zinc: 17 mg	Minerals Calcium: 1,394 mg Copper: 1,200 mcg Iron: 15 mg Magnesium: 433 mg Potassium: 4,027 mg Selenium: 126 mcg Zinc: 11 mg	Minerals Calcium: 105% Copper: 392% Iron: 137% Magnesium: 111% Potassium: 112% Selenium: 104% Zinc: 155%

If you knew that eating the right foods *now* could prevent your baby from developing diabetes or struggling with obesity or having chronic skin rashes later in life, would you eat differently? Most women answer with an enthusiastic “*Yes!*” as they want nothing but the best for their children. In my practice, pregnant women are the most motivated clients I encounter.

Sadly, if you follow conventional prenatal nutrition advice, you’re almost guaranteed to be eating a *nutrient-deficient* diet, not a *nutrient-dense* one.

It doesn't have to be that way. I questioned the status quo, so you don't have to question yourself when making food and lifestyle choices during pregnancy. This book is the missing prenatal nutrition education that proactive pregnant women and their healthcare providers have been searching for to no avail. I will break down the complicated science to give you the most evidence-based guide on prenatal nutrition available. Every chapter is meticulously cited, so much so that my husband jokes that I have written a textbook. I wouldn't go that far, but as a self-confessed nutrition nerd, I want you to know that I'm not "making this stuff up." I believe every woman should have access to the most accurate information available, whether or not she's a researcher or a nutritionist. Multiple chapters have over 100 citations apiece, so you can go back to the medical journals, if you're so inclined, and read the primary research yourself.

With pregnancy, there are no guarantees, but there are things you can do to ensure it is as easy as possible, and that your baby gets everything he or she needs to develop optimally. The primary focus of this book is nutrition, however, there are also chapters on related topics such as prenatal exercise, chemicals and toxins to limit, stress management, and how to navigate the postpartum phase and breastfeeding. In other words, I cover a lot more than food.

This book is geared towards women who are already pregnant; however, because your health *pre*-pregnancy impacts your health *during* pregnancy, this advice is equally appropriate if you are trying to conceive. There's no wrong time to embrace real food and optimize your health; it simply becomes exponentially more important when you're creating and growing a new life.

Chapter 1:

Why You Should Have a Real Food Pregnancy

“Whilst good nutrition is important at all life stages, it is increasingly recognised that the nutritional environment and individual experiences before birth and in early infancy is of particular importance for their later metabolic health, and that exposure to an inappropriate nutritional supply during critical windows of development can predispose an individual to obesity and type 2 diabetes later in life. By extension, the diet consumed by pregnant and breastfeeding women is a key determinant of metabolic health.”

- Dr. Beverly Muhlhausler, University of Adelaide

There’s something miraculous about pregnancy. The fact that we have the power to literally *grow a new human* is still mind-boggling to me. When I was pregnant, I remember being keenly aware that all sorts of complex processes (both known and unknown in the scientific literature) were going on inside my body every second of every day. And I didn’t even need to consciously think about it; my body just *knew* what it was doing. It knew to create five fingers on each hand, where to place fingernails, where to grow hair, where the heart went, where each and every blood vessel should go, and on and on.

Sometimes this line of thinking—the idea that your body will take care of all the needs of fetal development without your input—is extrapolated to mean that you have *no* control over the trajectory of your pregnancy or the future health of your baby. Your body will just “do what it’s gonna do” and all you can do is hope you were dealt a good hand of cards and pass along good genes.

But that’s only partly true.

Allow me to share a quick metaphor. Anyone who has ever had a garden understands that when you plant a tomato seed, you can expect a tomato plant to grow (not a pea vine or a broccoli plant). The seed has the blueprints, and even if you’re not a very good gardener, that seed will grow given the

bare essentials: some soil, water, and light. However, what separates a novice from a master gardener is their attention to optimal conditions. They have learned that amending the soil with nutrient-dense and microbe-rich compost will provide the plant with more of the raw materials for growth. They understand that there's a sweet spot in the amount of water and light that helps a tomato plant not just survive, but *thrive*. Ultimately, they know that with a little TLC, they will have a healthier plant with vibrant green leaves and plentiful, delicious tomatoes.

This same line of thinking applies to pregnancy. Simply put, humans are wired to reproduce successfully. Even when conditions aren't optimal, your body will do everything in its power to follow the blueprints and carry your precious baby to term. If that weren't the case, there would be no way we'd have so many humans on the planet despite all sorts of common interferences, like malnutrition and toxin exposure. The problem is that chronic diseases are on the rise, especially among children, and a number of researchers have linked the development of things like heart disease, hormonal imbalance, diabetes, and obesity to exposures in utero. Unfortunately, it takes decades for this type of research to make it into clinical practice and public policies. That's why you have to *really* search to connect the dots—and that's exactly what I did while writing this book

Don't get me wrong, there are a lot of things in pregnancy that are out of your control (your genetics, your age, your family history of disease, just to name a few). But, the things that *are* within your control—your diet, exercise, sleep habits, the way you handle stress, your exposure to toxins, and more—can have significant effects on your pregnancy and may leave a permanent imprint on your baby's health. It's called “fetal programming,” a decades old hypothesis (now well-studied and well-accepted in scientific research) which proposes that inadequate nutrition during pregnancy can impair the development of your baby and lead to lifelong metabolic changes that increase the risk of diseases, like heart disease, diabetes, high blood pressure, and the risk of obesity.¹

Though most of us view our genetics as a solid blueprint, researchers have found that genes can be turned on or off by certain exposures in utero, such as levels of nutrients, a mom's blood sugar and insulin levels, exercise habits, stress hormones, toxins, and much more. That means that even if you think you have “bad genes,” you have the ability to minimize the impact of these on your baby with optimal nutrition and informed lifestyle choices. On the flipside, even if you have “good genes,” they could be turned off to some degree if your diet and lifestyle aren't healthy.

When it comes to *your* experience of pregnancy, you have the power to lower your chances of developing gestational diabetes, preeclampsia, delivering prematurely, becoming anemic, and gaining too much or too little weight during your pregnancy, all by the way you live your life. How empowering is that?

Ask any pregnant woman and she'll tell you the most important thing to her is to have a healthy baby and an easy pregnancy, so NOW is the time to do everything in your power to "stack the deck" in your favor.

Why Real Food?

When I first ventured into the world of prenatal nutrition, I was shocked by how little is actually known about fetal development. Researchers are still piecing together what exactly is happening and when. Believe it or not, we're still uncovering which nutrients are needed, in what amounts, and at which stage in pregnancy. Even the recommended dietary allowances (RDAs), which tell you how much of each nutrient you require on a daily basis, are best guesses.² Until we have better information (and perhaps we never will), we need another plan.

One option is to look at the diets of traditional cultures who have long histories of having healthy babies and to learn from them. The work of Dr. Weston Price, a dentist and nutrition researcher from the early 1900s, found that traditional cultures prized certain nutrient-dense foods during the preconception and prenatal period.³ Dr. Price traveled the globe and investigated the dietary practices of numerous cultures, the nutrient-density of their foods, and their overall health. The groups studied included the Swiss, Gaelics, Eskimos, Malay tribes, Maori of New Zealand, Native Americans in Canada and the U.S., tribes in Eastern and Central Africa, Pacific Islanders (Polynesians and Melanesians), Australian Aborigines, South Americans of the Amazon basin, and ancient civilizations and their descendants in Peru. He found remarkable differences in the nutrient content of traditional foods compared to imported foods.

He also found that the health of these populations was a direct reflection of what they ate, noting that people who followed their ancestral diet remained disease-free and had robustly healthy children. In contrast, relatives who incorporated modern foods into their diet suffered more health problems, as did their children. Tooth decay, narrow palate, crooked teeth, deformities (like club feet and neural tube defects), poor immune health (higher rates of infectious diseases, like tuberculosis), psychological problems, and numerous other health problems were more prevalent in children of people who ate more "foods of modern commerce," like sugar and refined grains, and less of their traditional foods. What struck me most about his work was that the

negative consequences of a bad diet affected more than just their children, but also their *children's* children.

Dr. Price's observations have been replicated in animal studies and it's now more widely accepted that exposure to positive influences like a nutrient-dense diet and exercise have beneficial effects on pregnancy outcomes, while exposure to toxins, stress, and processed foods have the opposite effect.^{4,5,6,7,8} There's currently a whole field of research devoted to the study of what's called "epigenetics," or how your genes (or your children's genes) are affected by your lifestyle choices and other exposures.⁹

It was from reading Price's research (and learning which foods were most prized in these cultures) that I began to question what I had been previously taught about prenatal nutrition in my conventional dietetics training. How could a low-fat diet be acceptable if it means the richest food sources of vitamin A, choline, iron, and zinc are limited? Traditional cultures did the exact opposite. Conventional nutrition heavily advocates for fortified foods in pregnancy—like cereal fortified with folic acid and iron—while frequently ignoring foods that are naturally good sources of those same nutrients. In fact, consumption of certain nutrient-dense foods, like liver and full-fat dairy, are commonly discouraged. How did traditional cultures ensure they had healthy pregnancies when fortified foods didn't exist?

Modern nutrition research tends to isolate and study single nutrients instead of whole foods, resulting in a lot of attention given to prenatal vitamins or individual supplements. That approach—often called "nutritionism"—has never made much sense to me. Why not, instead, take the information we've learned from modern science and apply it to real food?

In other words, let's figure out which foods are naturally rich sources of the most important nutrients for fetal development instead of swallowing a bunch of pills. **After all, nutrients work synergistically. Nature is not stupid. And a supplement is rarely superior to what's available in real, whole foods.**

That's why my real food approach is to reverse engineer the perfect prenatal diet. We can take what we've learned from single-nutrient studies and combine it with what we know from traditional cultures.

The result? We have the best of both modern nutrition science and ancestral wisdom to help you "grow a healthy baby." In the coming chapters, you'll learn which foods, nutrients, and lifestyle habits to embrace *and why*—and which ones to avoid—so you can be assured that you're doing everything within your power to have a healthy pregnancy. Like I said before, let's "stack the deck" in your favor.

This is just the beginning.

To read the remaining 300+ pages,
you can purchase your copy of
Real Food for Pregnancy
on Amazon.

“No one has dissected the research on prenatal nutrition—and done so in the context of ancestral diets—to the depth that Lily Nichols has in *Real Food for Pregnancy*. If you want an evidence-based rebuttal to the outdated prenatal nutrition guidelines, look no further.”

—Robb Wolf, 2x NYT Bestselling Author, *Wired to Eat* & *The Paleo Solution*

About the Author



Lily Nichols is a Registered Dietitian/Nutritionist, Certified Diabetes Educator, researcher, and author with a passion for evidence-based prenatal nutrition. Drawing from the current scientific literature and the wisdom of traditional cultures, her work is known for being research-focused, thorough, and sensible. Her bestselling book, *Real Food for Gestational Diabetes* (and online course of the same name), presents a revolutionary nutrient-dense, lower carb approach for managing gestational diabetes. Her work has not only helped tens of thousands of women manage their gestational diabetes (most without the need for blood sugar-lowering medication), but has also influenced nutrition policies internationally. Lily's clinical expertise and extensive background in prenatal nutrition have made her a highly sought after consultant and speaker in the field. When she's not writing and researching, you can find Lily hiking, gardening, cooking, and eating real food with her husband and son.

To learn more, visit www.LilyNicholsRDN.com