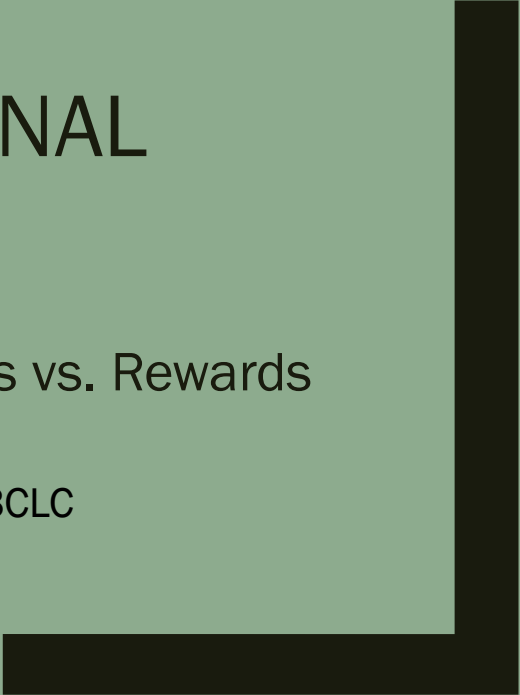


# NAVIGATING NUTRITIONAL CROSSROADS

Keto and Breastfeeding - Balancing Risks vs. Rewards

Grace Goodwin Dwyer, MS, MA, RD, LDN, IBCLC  
Jeremy D. Akers, PhD, RDN



# Disclosures

Grace: None to report

Jeremy: Funding for an unrelated project from Renaissance Periodization

# Learning Objectives

1. State the basic mechanisms of the ketogenic diet and describe how this diet can lead to lactation ketoacidosis
2. Recognize the risks of low carbohydrate/restrictive diets among lactating patients
3. Explain why a lactating patient may pursue a low-carbohydrate diet

# Your Experience

How often do your lactation patients/clients have questions about nutrition & diet?

1 = not often at all  $\leftrightarrow$  5 = very often

# Your Experience

How confident do you feel in recognizing when a lactating patient/client may be at nutritional risk?

1 = not confident at all  $\leftrightarrow$  5 = extremely confident

# Your Experience

Have you ever had a lactating patient/client who followed a keto or low carbohydrate diet?

Yes / No

# Background

What is the Ketogenic Diet?

How popular is it during lactation?

Lactation Ketoacidosis Case Studies

# What is a Ketogenic Diet?

- How do we define a Keto diet?
- What is the mechanism of action?
- What is Diabetic Ketoacidosis?
- How could breastfeeding lead to Lactation Ketoacidosis?



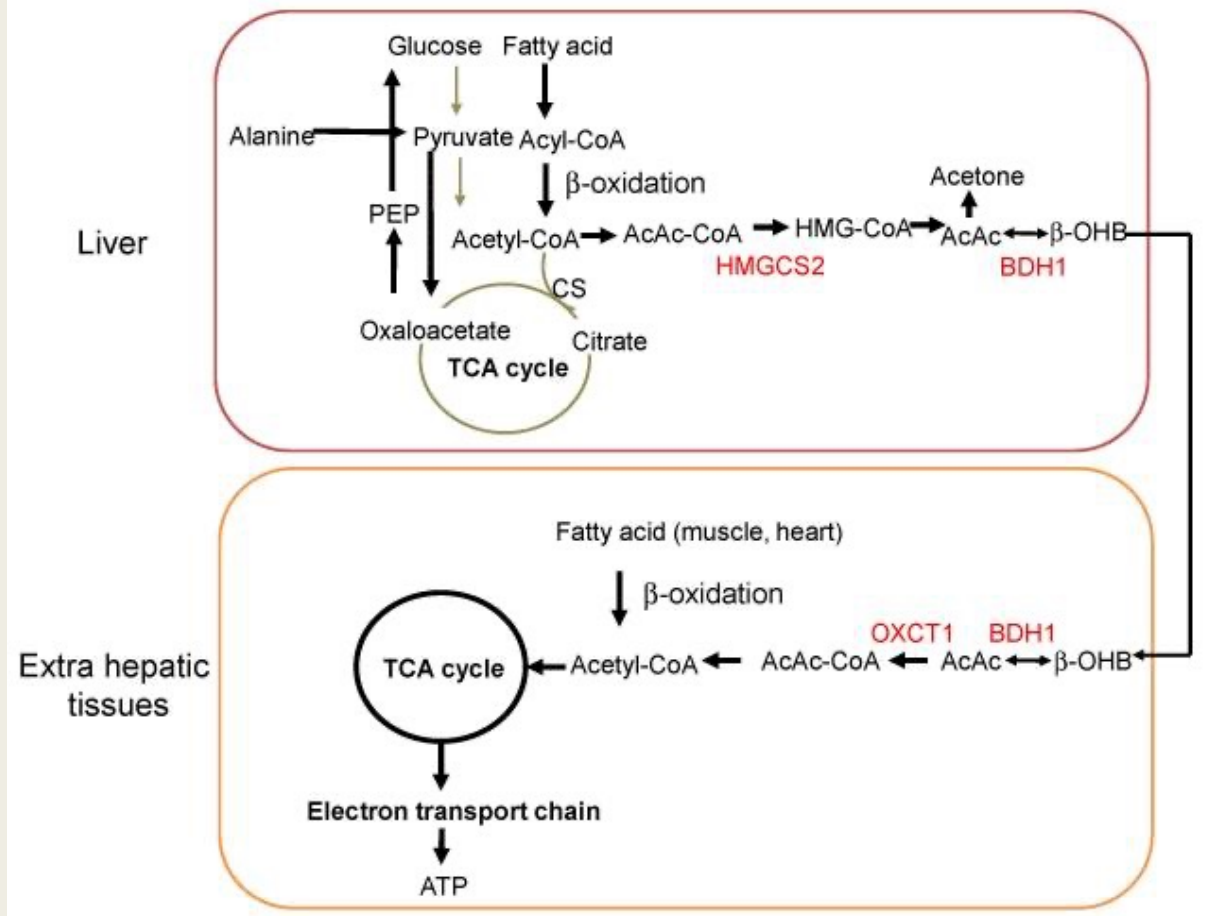


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# What is a Ketogenic Diet?

- How do we define a Keto diet?
- What is the mechanism of action?
- What is Diabetic Ketoacidosis?
- How could breastfeeding lead to Lactation Ketoacidosis?

# What does 50 g of carb look like?

2 slices of bread = 30 g carbs  
2 Tbsp of jelly = 26 g carbs  
= 56 g total carbs

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Research Service. FoodData Central, 2023.  
[fdc.nal.usda.gov](https://fdc.nal.usda.gov).



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# What are carbohydrate needs during lactation?

Recommended Daily Allowance (RDA)	Carbohydrates (g/day)
Women (not pregnant, not lactating)	130
Pregnancy	175
Lactation	210

# How popular are low carb diets during lactation?

Facebook Group	Membership (approx.)
<a href="#"><u>Low-Carb/Keto Pregnancy &amp; Breastfeeding Support Group</u></a>	41,000
<a href="#"><u>Keto/Low-carb Better Pregnancy and Breastfeeding Support</u></a>	21,000
<a href="#"><u>Keto and Breastfeeding Support Group - Postpartum Weight Loss and Support</u></a>	15,000
<a href="#"><u>Low and no carb keto WOMEN ONLY ttc pregnancy breastfeeding and beyond</u></a>	3,600
<a href="#"><u>Low carb/Keto diet for pregnant and breastfeeding moms-judgment free!!</u></a>	3,500

# Lactation Ketoacidosis: The Case Studies

- 23 published cases since 1982
  - 14 = ketogenic or low carb diet
  - 7 = reduced overall food intake

# What does lactation ketoacidosis look like?

## Signs

- High anion gap
- Ketones in blood or urine

## Symptoms

- Nausea/vomiting
- Malaise
- Abdominal pain
- Dyspnea
- Headache
- Palpitation

## Precipitating Factors

- Illness (e.g., gastroenteritis, infection)
- Other causes for reduced intake (e.g., stress, GERD, etc).

# Lactation Ketoacidosis: The Case Studies

- 23 published cases since 1982
  - A “precipitating factor” is often present, along with the low-carb diet
  - Treatment
    - IV dextrose with improvement in ~24 hours
  - Impact on lactation
    - “Temporary” breastfeeding cessation vs. no cessation
  - Impact on infants/children
    - None identified



# Our Research:

Experiences Eating Low-Carb  
while Breastfeeding



Methodology



Themes & Key  
Takeaways for  
Practitioners

Original Study

# Experiences of Women Following a Low-Carbohydrate Diet While Breastfeeding

Dwyer, Grace Goodwin, MS, MA, RDN, IBCLC | Akers, Lisa H., PhD, RDN, IBCLC, RLC, FAND |

Akers, Jeremy, PhD, RDN

Clinical Lactation Vol 14 Issue 2, May 2023, DOI: 10.1891/CL-2022-0015



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# Methodology & Participants

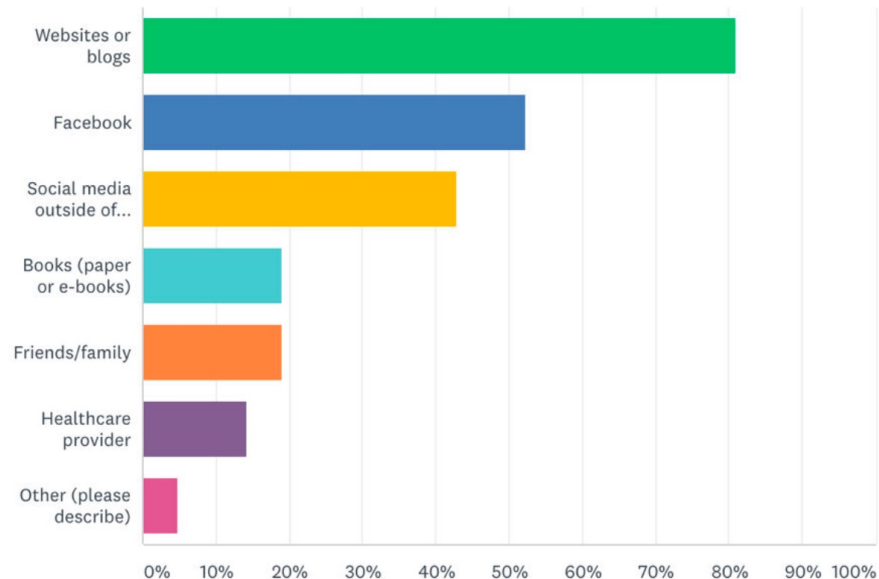
- Design
  - Exploratory qualitative study
  - Online survey + follow-up phone interviews
- Analysis
  - Emergent thematic analysis with 2 coders
- Inclusion Criteria
  - Currently breastfeeding and/or providing expressed human milk to (an) infant(s) and/or child(ren)  
**and**
  - Following a “low-carb diet” or “ketogenic diet”
- Participants
  - 21 respondents of varied work status, education backgrounds, and WIC status
  - 18 self-identified as following a “ketogenic” diet (50 g carb/day or fewer)

# Theme 1: Thorough Research Efforts

“They have tons of research on their group page from a bunch of different sources ... and so a lot of my potassium stuff comes from them: how to supplement, what form to use, and what formula to use”

What sources do you typically use to find information about following a low-carbohydrate diet?

Answered: 21 Skipped: 0



# Theme 1: Thorough Research Efforts

## Practical Takeaways:

- Parents are **trying hard to find information** to eat better & feel healthier
- For ketogenic diet during lactation, very little information came from interactions with healthcare providers
- Websites & social media were the go-to on this topic

## Theme 2: They Came for Weight Loss, but Stayed for Other Benefits

“[Keto] helps with mom brain for sure!”

“It really helps with migraines I get postpartum when my cycle came back”

“I love feeling free from being food-dependent every few hours”

“My energy level is amazing. I don't crave bad stuff. Sleeping better. Digestive health is better. My milk is fatter.”

“[Keto has] improved my energy, emotions, relationship with food, increased my nutrient intake, and simplified my life!”

“The food binges stopped. I felt satisfied after meals and found I was no longer preoccupied with food or the next meal”

# Theme 2: They Came for Weight Loss, but Stayed for Other Benefits

## Practical Takeaways:

- Benefits of increased satiety
- Whole-body health - including having more energy, fewer cravings, increased mental clarity - was important to respondents
- Lactation professionals must be aware that clients may maintain low carb diets for reasons beyond weight loss

# Theme 3: The Dangers of Undereating

“[Supply decreases] only if I drop below 1,600 calories a day. I tried 1,200 calories a day for about a week and noticed I just wasn’t producing enough. I now stick to 1,600 calories a day and have been doing amazing with milk production!”

“I see a supply dip if I eat under 1,800 calories [sic] per day, regardless of carb intake.”

“I’m a big convert that we should not go below 2,500 calories, especially when breastfeeding!”



# Theme 3: The Dangers of Undereating

“[My kids] were needing a lot of my attention and I did not eat nearly enough. I was probably consuming 400 or 500 calories for a few days in a row. Just surviving with sick kids. But, breastfeeding a lot more because when kids are sick, they tend to do that and not eat as much solid foods.

My baby was over 6 months, but he was not eating many solid foods because of his sickness.

So, I **actually got lactation ketoacidosis** or metabolic acidosis. I went into starvation and had to be hospitalized. It was terrible.”

“With lactation ketoacidosis, in most cases there’s another stressor. And in other cases that I’ve seen...**no, most other ones are just like me.** Like, you’re not eating much at all, and that’s a problem.”

# Theme 3: The Dangers of Undereating

## Practical Takeaways:

- Clinicians who work with lactating families should understand:
  - 1) that **under-eating** (insufficient calories or periods of fasting) negatively impacted breastfeeding
  - 2) how to recognize the signs & symptoms of **lactation ketoacidosis**

## Theme 4: “Listen to Your Body”

“With breastfeeding, we’re trying to feed another being, so don’t be so strict on macros. Just go off how you feel.”

”If you can stay lower [carb], instead of giving up that ketogenic lifestyle totally just because you feel you can’t, just add in a few more carbs and try to stay as low carb as you can.”

“Add in more carbs if that’s what your body is telling you that you need. Don’t be afraid to do that and hopefully that will help you to where you don’t give up and think you can’t do a low carb diet while breastfeeding. You probably can. Your body just needs a few more carbs than what everyone says is the norm.”

## Theme 4: “Listen to Your Body”

“I just listen to my body. So if I’m hungry in the morning, I’ll eat. But if I’m not hungry until 11 A.M., then I won’t eat until 11 A.M. It doesn’t affect my supply at all, if I just listen to my body.”

“As long as I get my calories and protein my milk supply has been fine.”

“The diet decreased my supply, but if I upped my calories and water, I was OK.”

“[Milk supply] decreased for the first 3 or 4 days. So, I nursed and pumped extra and made sure to get 50 g of carbs in. Supply came back and I have not struggled since.”

# Theme 4: “Listen to Your Body”

## Practical Takeaways:

- Liberalizing carbohydrates and calories was necessary for maintaining milk production
- If clients *do* choose to pursue a restrictive diet, they may benefit from approaching the process with an “intuitive eating” or trial-and-error mindset

# Final Takeaways

A reminder of how Lactation Ketoacidosis presents:

## Signs

- High anion gap
- Ketones in blood or urine

## Symptoms

- Nausea/vomiting
- Malaise
- Abdominal pain
- Dyspnea
- Headache
- Palpitation

## Precipitating Factors

- Illness (e.g., gastroenteritis)
- Other causes for reduced intake (e.g., stress, busy schedule, sick child)

# Final Takeaways

- Respondents used mostly social media and websites to inform their low-carb/keto dieting
- Perceived benefits extended beyond weight loss (energy levels, increased satiety)
- Increasing calories and liberalizing carbohydrate intake above typical keto thresholds was important for maintaining adequate milk production
- Trial and error (“listen to your body”) was instrumental for respondents
- Refer to RDs/RDNs (Registered Dietitians) as needed

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THANK YOU!



QUESTIONS?

