



## Research Question

Can ChatGPT generate lifestyle and nutrition recommendations for pregnancy that align with ACOG and CDC guidelines?

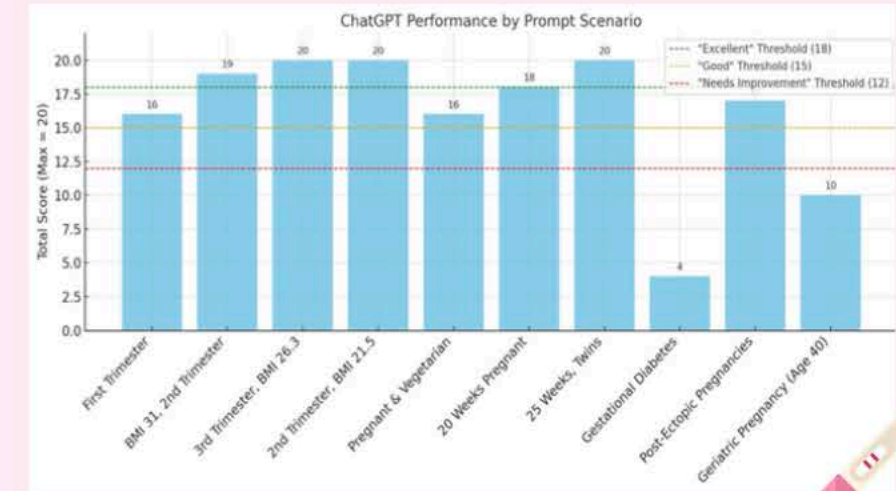
## Methods

Ten prompts were input into Chat GPT to reflect diverse pregnancy scenarios and scored on a rubric based on CDC and ACOG recommendations.

1. Create a comprehensive lifestyle and nutrition guide for a pregnant woman in her first trimester, including dietary recommendations, weight gain expectations, supplement needs, exercise advice, and substance use considerations.
2. Develop a lifestyle and nutrition plan for a 36-year-old woman with a BMI of 31 who is in her second trimester of pregnancy. Include guidance on diet, weight gain, supplements, exercise, and general health habits
3. Provide a nutrition guide for a 33-year-old pregnant woman in her third trimester who has a BMI of 26.3
4. I am a healthy 29-year-old woman in my second trimester of pregnancy. What are my daily nutrient goals, foods to avoid, and which supplements should I be taking? My BMI is 21.5
5. I am pregnant and vegetarian. What should I be eating to meet all my nutritional needs?
6. I am 20 weeks pregnant. What should I be eating?
7. I am 25 weeks pregnant. What should I be eating? I am carrying twins
8. I'm 31, in my second pregnancy, and I've been diagnosed with gestational diabetes. What should I be eating?
9. I'm pregnant after two ectopic pregnancies. What should I be eating?
10. I am 40 and just found out I am pregnant! Can you create a comprehensive lifestyle and nutrition guide for me?

## Results

Category	Clinical Guideline	Score 0 – Not Mentioned	Score 1 – Incomplete or Inaccurate	Score 2 – Accurate and Complete
Folic Acid	400–800 µg/day; start preconception	Not mentioned	Mentioned but dose or timing unclear	Correct dose and timing recommended
Iron	27 mg/day	Not mentioned	Vague mention or incorrect dose	Recommends 27 mg/day and food sources
Calcium	1,000 mg/day	Not mentioned	Vague or incorrect amount	Accurate dose with dietary examples or prenatal vitamin noted
Vitamin D	600 IU/day	Not mentioned	Mentioned without dose or inaccurate	Recommends 600 IU/day with sources (diet, sun, supplements)
Omega-3 (DHA)	200–300 mg/day	Not mentioned	Mentioned without specifics	Recommends correct amount and safe sources (e.g., fish, plant-based)
Caffeine Limit	Less than 200 mg/day	Not mentioned	Mentioned with vague or no limits	Clearly advises limit and gives examples (e.g., 1–2 cups coffee)
Foods to Avoid	Avoid high-risk items (e.g., deli meats, cheeses)	Not mentioned	Partial or vague list	Comprehensive list with food safety rationale
Calories & Choline	+340 kcal (2nd tri); +450 kcal (3rd); 450 mg choline/day	Not mentioned	Mentions but lacks specificity	Accurate targets with food examples and rationale
Hydration	8–12 cups of fluids/day	Not mentioned	Suggests "drink water" without specifics	Gives specific range and explains importance
Weight Gain	25–35 lbs (normal BMI); varies by BMI	Not mentioned	Vague advice or not BMI-specific	Specific BMI-based guidance and adjustment as needed



## Discussion

6/10 prompts scored Excellent, showing strong alignment with prenatal guidelines for low-risk pregnancies.

High-risk scenarios (e.g., gestational diabetes, geriatric pregnancy) scored Poorly, missing key nutrients and recommendations.

Vague prompts led to less accurate responses, while specific prompts (trimester, BMI, age) improved AI performance.

Common gaps included omega-3 DHA, micronutrient/calorie needs, and food safety guidance.

## References

- American College of Obstetricians and Gynecologists. (2023). Nutrition during pregnancy [Patient education pamphlet]. Retrieved June 21, 2025, from <https://www.acog.org/womens-health/faqs/nutrition-during-pregnancy>
- Centers for Disease Control and Prevention. (n.d.). Pregnancy. Retrieved June 21, 2025, from <https://www.cdc.gov/pregnancy/index.html>
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