

Improving Maternal Outcomes After Cesarean Section Through Oral Carbohydrate Supplementation

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Problem

Problem: Traditional pre-cesarean guidelines instruct women to fast after midnight. Maternal fasting can cause thirst, hunger, dehydration, hypoglycemia, delayed recovery, anxiety, and poor satisfaction.

- 40% of women experience thirst and hunger at project site

Evidence-based literature: Enhanced recovery after cesarean (ERAC) and the American College of Obstetricians and Gynecologists (ACOG) recommend **maternal consumption of an oral carbohydrate beverage two hours prior to a scheduled cesarean section to:**

- **Improve maternal insulin resistance**
- **Decrease postpartum bleeding**
- **Alleviate postoperative maternal thirst and hunger**
- **Improve early breastfeeding and maternal satisfaction**

Purpose of Project & Goals

Purpose:

- To implement and evaluate compliance with preoperative oral carbohydrate beverages (i.e. Gatorade or Powerade) for women undergoing a scheduled cesarean.

Goals:

- 100% of women undergoing cesarean section will be provided preoperative instructions by their obstetrician (OB) to drink an oral carbohydrate beverage two hours prior to their procedure.
- 100% of women undergoing cesarean section will drink 8-10 ounces of oral carbohydrate beverage two hours prior to the procedure.

Methods

Setting: 224 bed rural community hospital.

Population: Women over the age of 18 scheduled for a cesarean section.

Intervention:

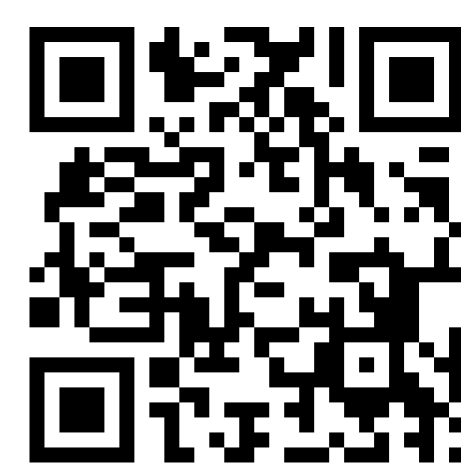
- Each OB office educated eligible participants preoperatively on volume and time of oral carbohydrate beverage intake.
- Gatorade or Powerade was provided to each patient by the OB office.

Strategies:

- Education sessions for anesthesia providers, OBs, and labor and delivery (L&D) staff about project objectives and workflow changes.
- Created a patient information reference with instructions and benefit.
- Frequent communication and reminders with stakeholders and staff.

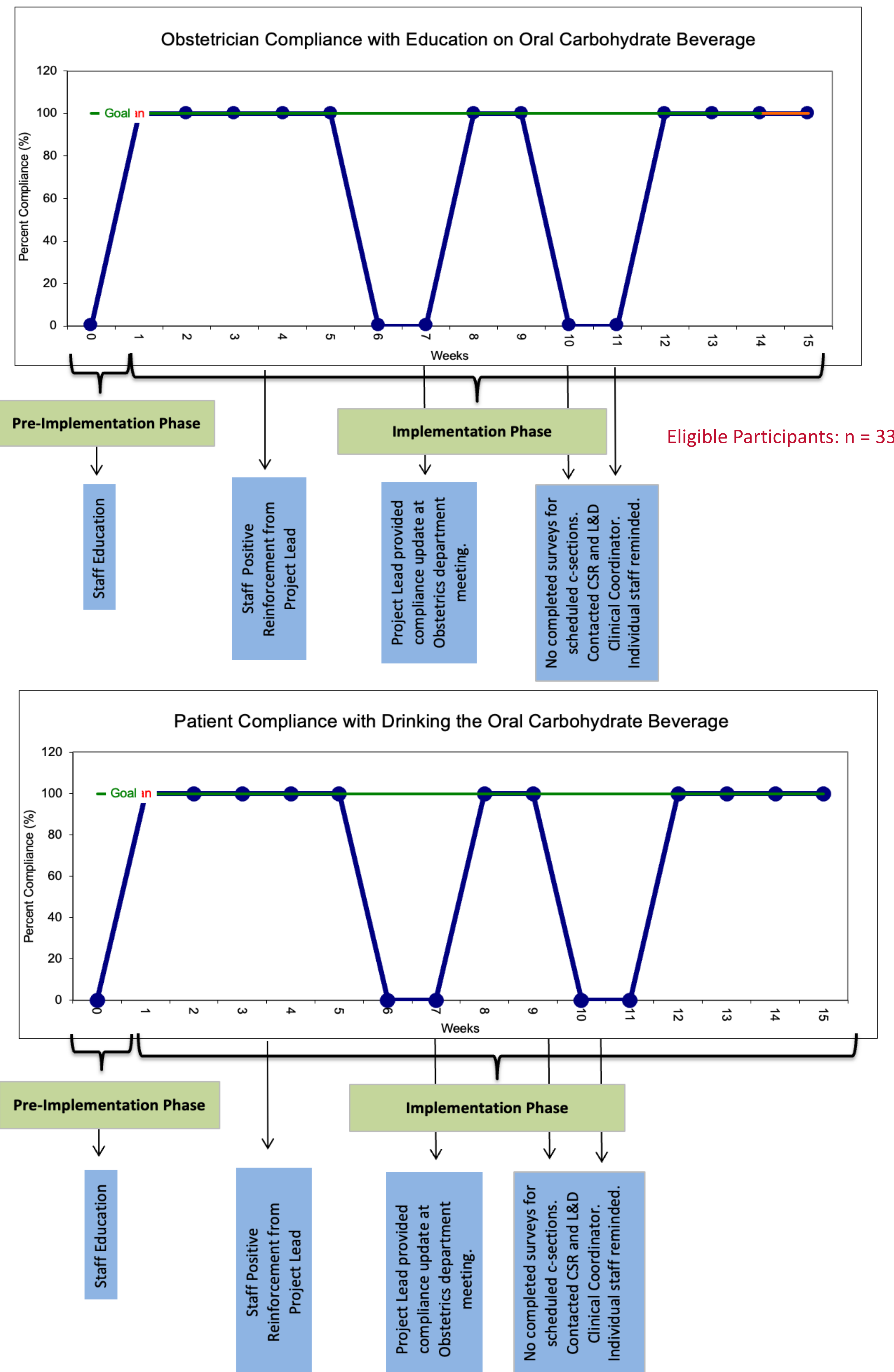
Measures:

- Anesthesia providers documented (1) if eligible patients received preoperative education on carbohydrate beverages from their OB and (2) if the patient consumed the beverage as instructed.
- Number of completed surveys was referenced against total number of scheduled cesarean sections per week.
- Data from the survey was uploaded and analyzed weekly into Research Electronic Data Capture (REDCap).



Patient Information
Reference

Results



33 cesarean sections occurred over 15-week period

- 25 completed surveys
 - 22 surveys yielded 100% compliance
 - 3 surveys yielded 0% compliance

Of data collected, **88% compliance** with OB preoperative education on oral carbohydrate beverages and **88% compliance** patient compliance with consumption.

Discussion

- Goals were met for Weeks 1-6, 8-9, and 13-15.
- Incomplete data for Weeks 10 and 11.
- **Patient compliance mirrored OB education compliance.**
- **Patients were 100% compliant with beverage consumption when OBs were 100% compliant with education.**
- Frequent reminders improved OB education compliance.
- Documented benefits (i.e. decreased maternal hunger, early breast feeding, etc.) were not directly assessed but are supported by the evidence.

Limitations:

- 8 missing or incomplete surveys despite multiple attempts by Project Lead to obtain.

Conclusions

Implications for Practice: Pre-cesarean oral carbohydrate beverages are safe, accessible, and improve patient outcomes with minimal workflow changes for healthcare staff.

Sustainability: Early and strong buy-in and support from key stakeholders within OB and L&D leadership.

Spread: Preoperative oral carbohydrate beverages are part of enhanced recovery after surgery (ERAS) protocols and can be easily implemented for other surgical services.

Return on Investment:

- No increased hospital cost if patient supplies their own carbohydrate beverage going forward. Minimal cost if OB office continues to supply beverages.
- Research supports improved maternal outcomes and satisfaction.

Next Steps:

- Include documentation of carbohydrate beverage consumption into electronic health record (EHR).
- Amend OB office budgets for continued supply of Gatorade or Powerade for patients.

References



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