

Preoperative oral carbohydrate-containing fluid versus plain water in elective cesarean deliveries

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OBJECTIVE

- Patients posted for elective surgery are allowed to take clear fluids up to 2 hrs before surgery.
- Recent guidelines including Enhanced recovery after surgery (ERAS) guidelines for caesarean section promote oral intake of fluids and carbohydrates in the pre-operative period till 2 hours before surgery as a weak recommendation with low-quality evidence.
- With this clinical trial, we wanted to study if the addition of carbohydrates to preoperative oral fluids offers any advantage in terms of preoperative well-being, intraoperative factors and post-operative recovery.

DESIGN

- **Study Design:** Randomized, Placebo-Controlled, Single Centre Clinical Trial (CTRI/2021/11/038230)
- **Duration of Study:** One year
- **Study Population:** Parturient women admitted for elective caesarean section under subarachnoid block.

INCLUSION CRITERIA

- 1) Age 18-45 years
- 2) Full-term pregnancy (≥ 37 weeks of gestation)
- 3) Singleton gestation
- 4) American Society of Anesthesiology physical class I or II

EXCLUSION CRITERIA:

- 1) Pre-gestational or gestational diabetes
- 2) Incomplete gestational diabetes screening
- 3) History of steroid administration within 7 days prior to planned delivery
- 4) Current opioid use

METHODS

- 100 participants were randomized into two groups of 50 participants each using computer generated randomization sequence. Allocation Concealment done using opaque sealed envelopes.
- **Carbohydrate Group (CHO):** Received 400 ml of water mixed with 50 g of glucose orally 2-4 hrs before surgery
- **Water Group (PW):** Received 400 ml of water 2-4 hrs before surgery
- **OUTCOME MEASURES:**

Pre-operative

- Blood Sugar
- VAS score
 - Thirst
 - Hunger
 - Anxiety
 - Fatigue
 - Nausea

Intra-operative

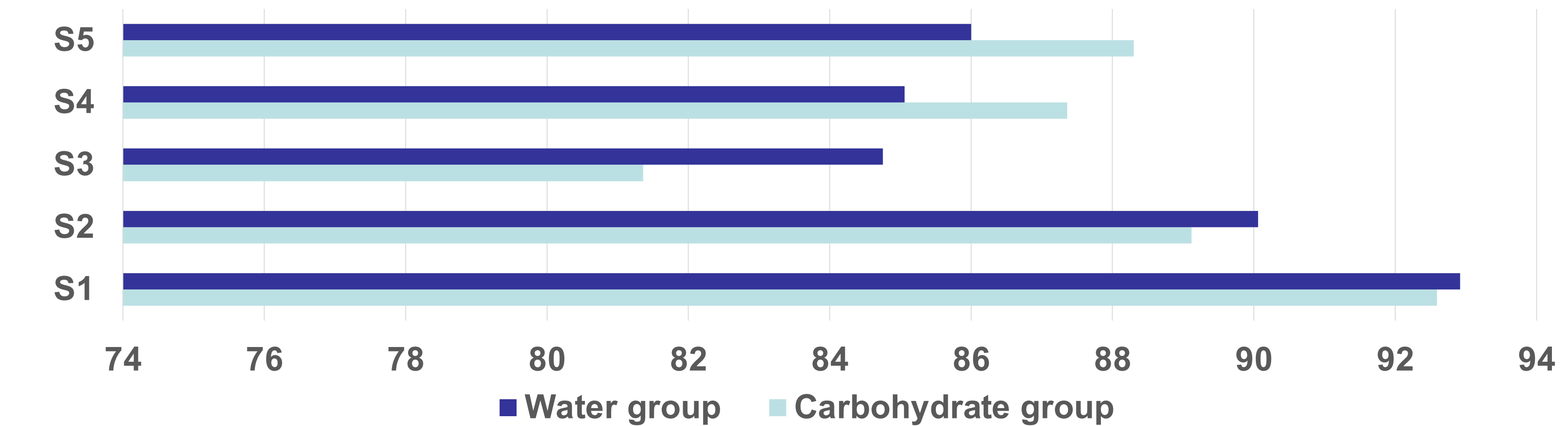
- Hypotension
- Dose of Phenylephrine used (if required)
- Nausea
- Vomiting
- Cord Blood sugar

Post-operative (Day 1 Post-op)

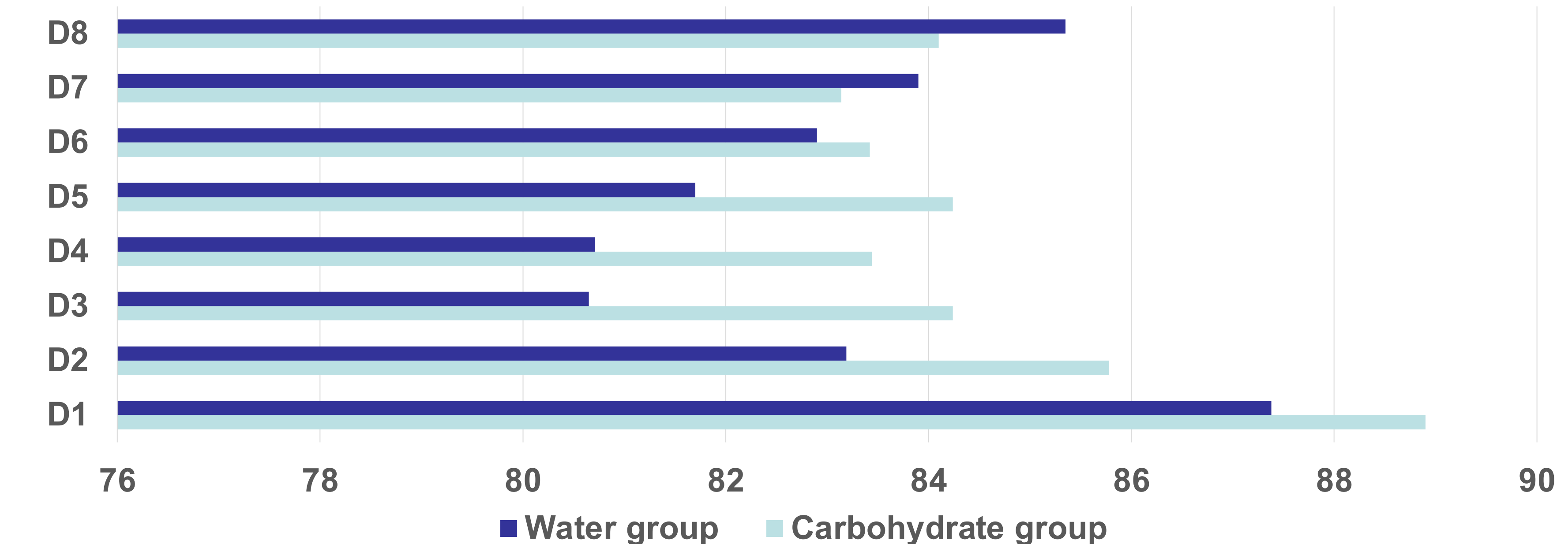
- Blood Sugar
- QoR-40 (quality of recovery from anesthesia)

RESULTS

- Preoperative VAS scores for hunger, thirst, anxiety, nausea and fatigue were similar in both groups.
- The occurrence of hypotension ($p=0.688$) and phenylephrine use ($p=0.39$) was similar in both groups.
- Recovery from anaesthesia, measured by QoR-40 (178.5 ± 2.76 in the CHO group versus 178.52 ± 3.62 in PW group) was comparable in both groups ($p=0.92$).
- Cord blood sugar levels ($p=0.24$), and preoperative and postoperative blood sugar levels were not significantly different in the groups ($p=0.28$, $p=0.81$).



Comparison of Mean Arterial Pressure (mmHg) in both groups at 1 minute interval (After spinal anesthesia till delivery of baby)



Comparison of intraoperative Mean Arterial Pressure (mmHg) after delivery of baby at 5 minutes interval

CONCLUSION

This study did not find any significant advantage of adding carbohydrates to oral preoperative fluids in women undergoing elective cesarean delivery under Subarachnoid block.