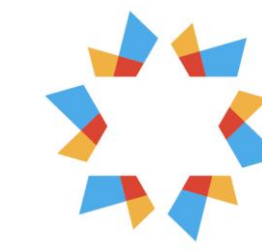


Impact of Postpartum Hemorrhage on Early Recovery After Vaginal Delivery

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Background & Hypothesis

Postpartum Hemorrhage

- Leading cause of maternal morbidity with incidence rising: 2.7% → 4.3% in US¹
- Associated with **physical, psychological and functional sequelae for patient**
- PPH research has NOT focused on patient-reported recovery
- Obstetric Quality of Recovery-10(Obs-QoR-10) is a validated multi-dimensional tool for patient's reported postpartum recovery

Study Aim

Compare Obs-QoR-10 score after vaginal delivery in patients **with PPH vs matched controls**

Hypothesis

Recovery score will be lower in patients with PPH compared to those without

Study Design & Methods

Design:

- Prospective **1:1 matched** case-control study of vaginal delivery under **neuraxial anesthesia**
- Matched for **age, parity & gestational age**

Study Group:

- Quantitative Blood loss (QBL) ≥ 1000 mL
- Transfusion / ICU / Major intervention

Control Group:

- QBL < 500 mL
- No transfusion or escalation of care

Sample Size:

- **N = 68** (34 cases & 34 controls)

Outcomes

- Primary: **Obs-QoR-10** at **24-72h^{2,3}**
- Secondary: Individual recovery domains and clinical variables related to severity and management of PPH

		 Worst Imaginable  Moderate  None										
		10	9	8	7	6	5	4	3	2	1	0
1	Pain											

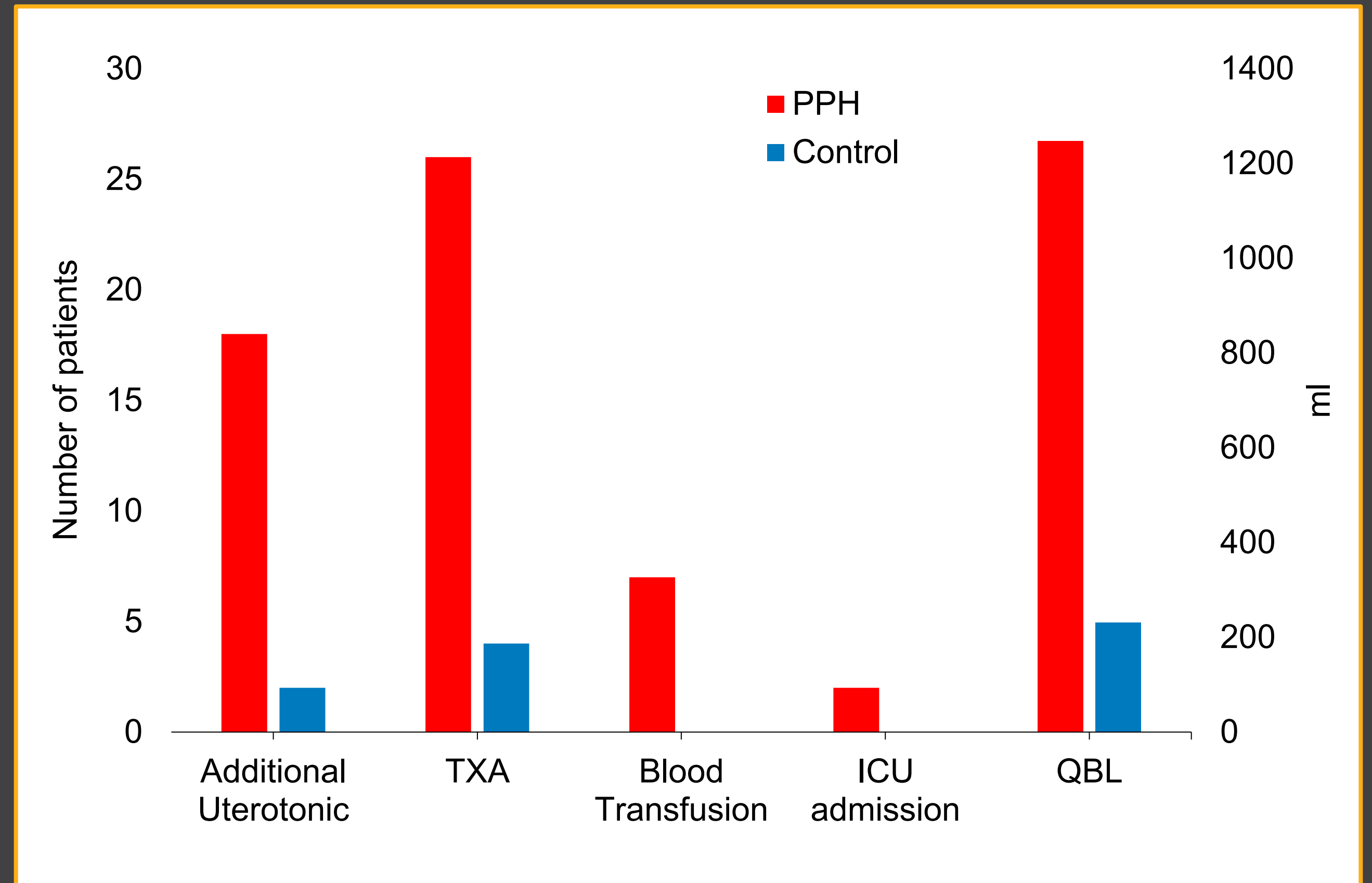
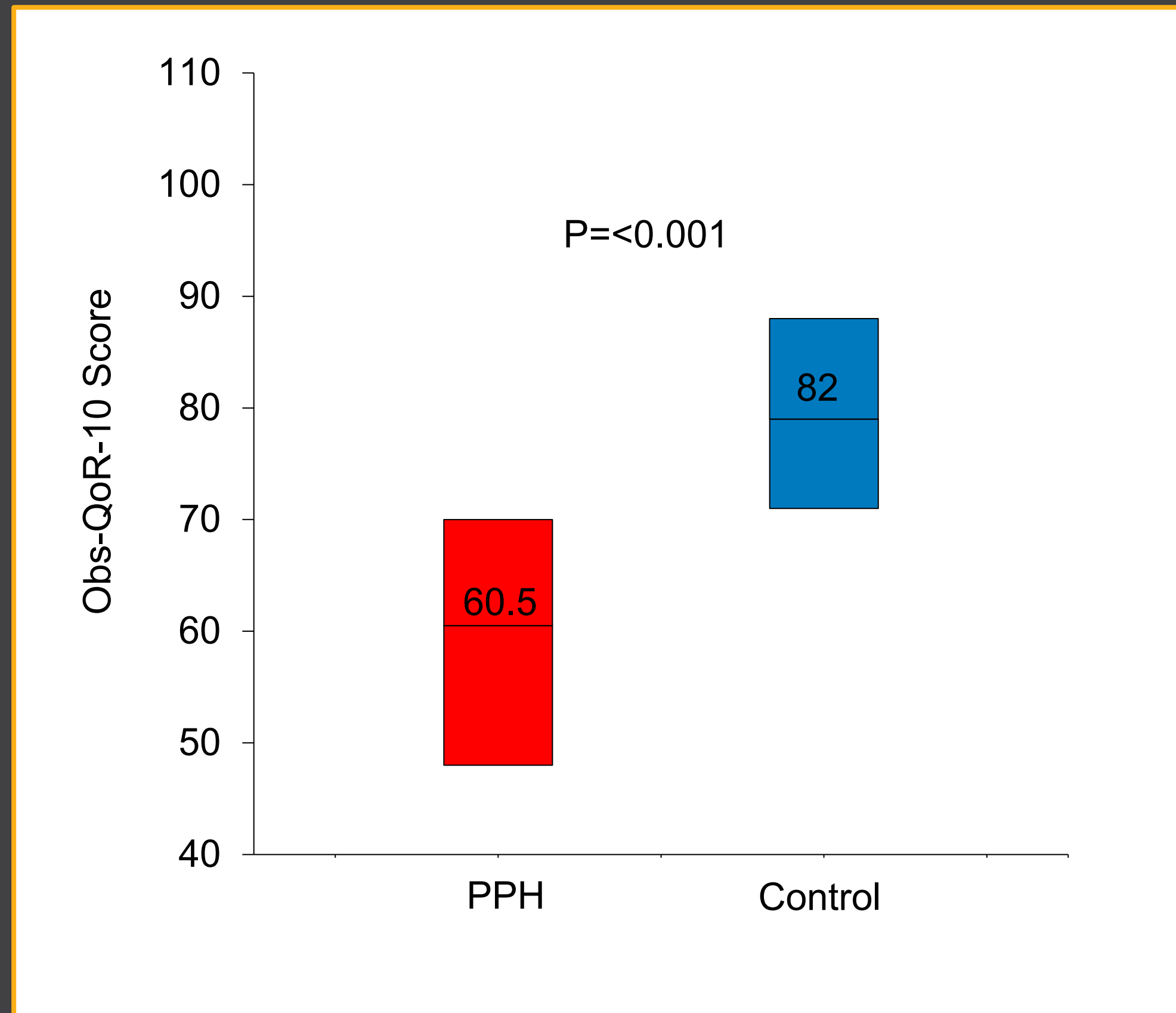
Results

Study Population

- **n = 68** (34 PPH / 34 matched controls)
- Baseline demographics well balanced due to matching

Secondary Outcomes

- Significant differences were observed across all individual Obs-QoR-10 domains, except for shivering



Conclusion & Clinical Implications

Key Findings

- PPH is associated with a clinically meaningful reduction in early recovery
 - **20 point reduction in Obs-QoR-10** compared with matched controls
- Impairment spans multiple functional and psychological domains

Interpretation

- Vaginal delivery typically follows a **rapid recovery trajectory**
- **PPH** represents a major deviation from this expectation

➔ Leading to **disproportionate impact** on patient recovery

Key Considerations

- Not matched for assisted or unassisted delivery (forceps only in PPH group)
- PPH cohort reflects more severe hemorrhage spectrum
- Residual confounding may influence effect size

Take home message

PPH is a recovery-altering complication, particularly in vaginal delivery where impairment is least expected.

References

1. Gianna P et al. Am. J. Emerg. Med 2026
2. Morales JF et al. *Anesth Analg.* 2024
3. Sultan P et al. J Clin Anesth. 2020