

Henry Ford Health

## Henry Ford Health Scholarly Commons

---

2024 Henry Ford Jackson Hospital Research  
Symposium

Henry Ford Jackson Hospital Research  
Symposium

---

4-16-2024

### **Adherence with American Academy of Pediatrics Guidelines for Neonatal Hyperbilirubinemia**

Vivien Phung

Kimberly Aiken

Follow this and additional works at: <https://scholarlycommons.henryford.com/hfjhrs2024>

---

**Background**

- Neonatal hyperbilirubinemia may require phototherapy.
- In August 2022, the American Academy of Pediatrics (AAP) updated the recommendations for management of hyperbilirubinemia which included:
  - Increasing the total bilirubin threshold to initiate phototherapy
  - Obtaining laboratory evaluation for hemolysis in neonates born to mothers with O+ blood type
  - Decreasing IV fluid therapy in stable neonates
  - Waiting 12-24 hours before obtaining a bilirubin level after phototherapy in low-risk neonates

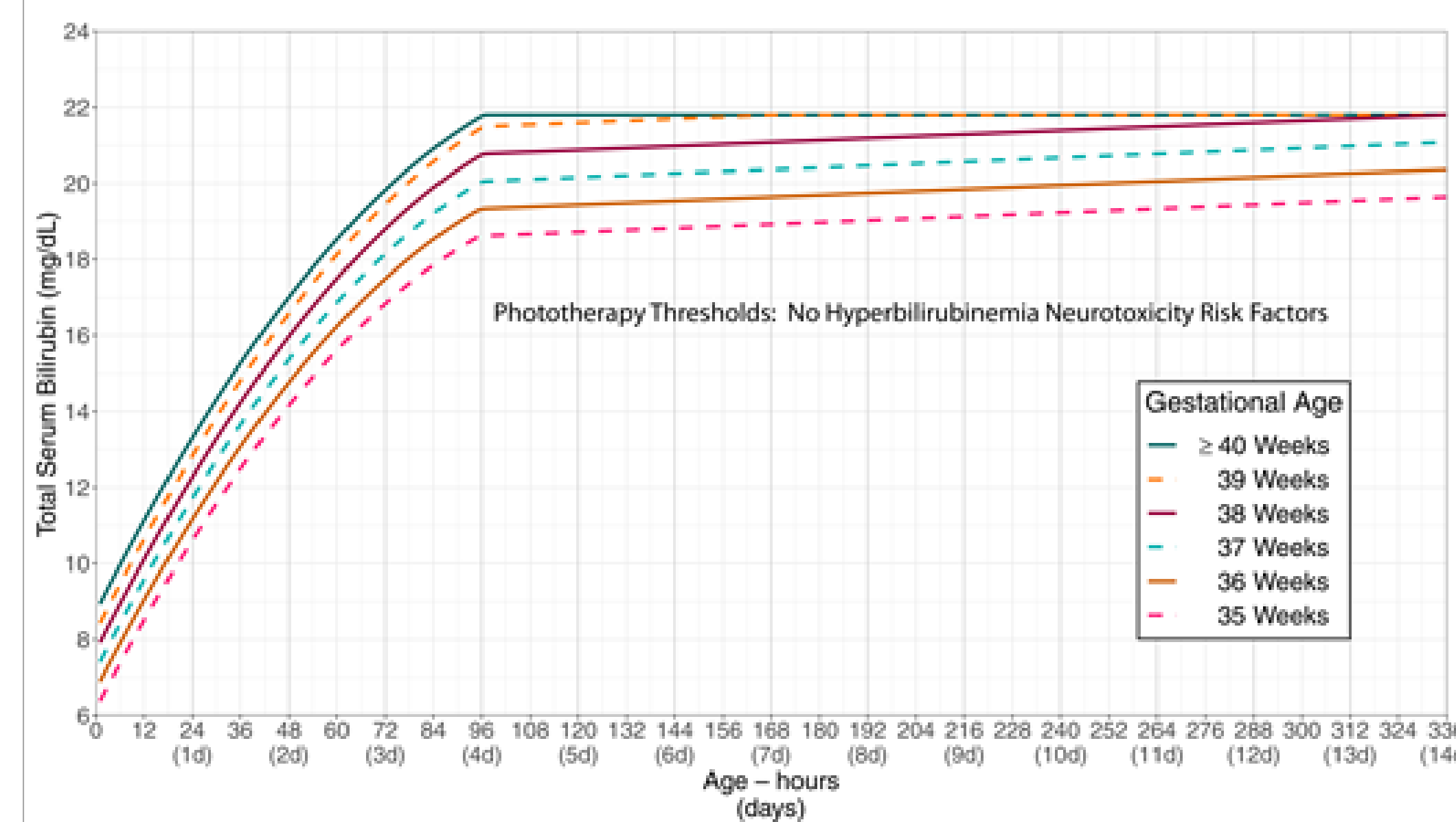
**Objectives**

**To investigate the impact of the AAP guidelines on the management of neonatal hyperbilirubinemia in our medical unit**

- Our goals include:
  - ✓ Decrease the proportion of neonates who receive unnecessary phototherapy to ≤10%
  - ✓ Keep the proportion of neonates who receive appropriate laboratory evaluation for hemolysis at 100%
  - ✓ Keep the proportion of stable neonates who receive IV fluids during phototherapy to ≤5%
  - ✓ Decrease the proportion of low-risk neonates without hemolysis who receive an early bilirubin level after phototherapy to ≤10%

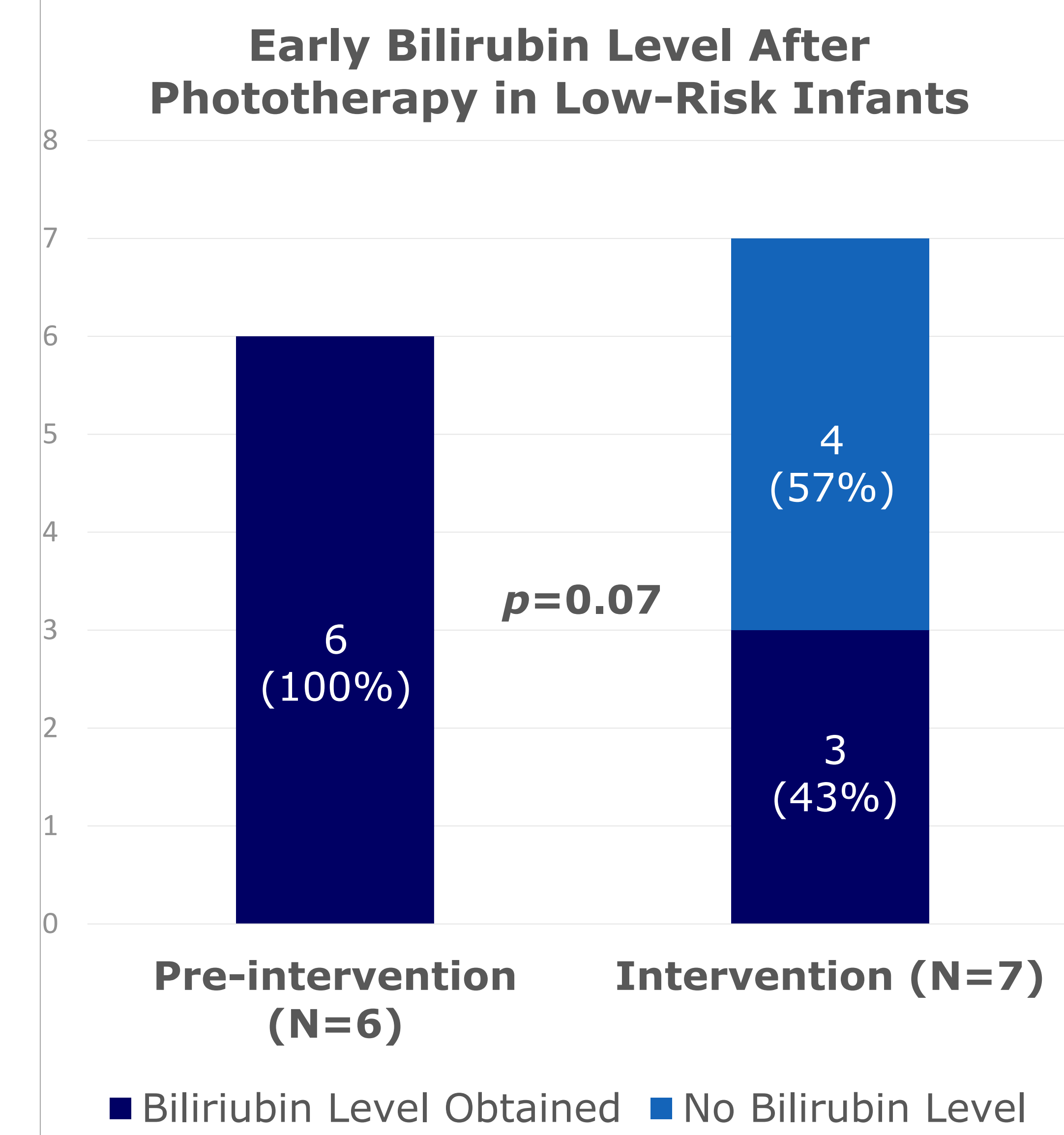
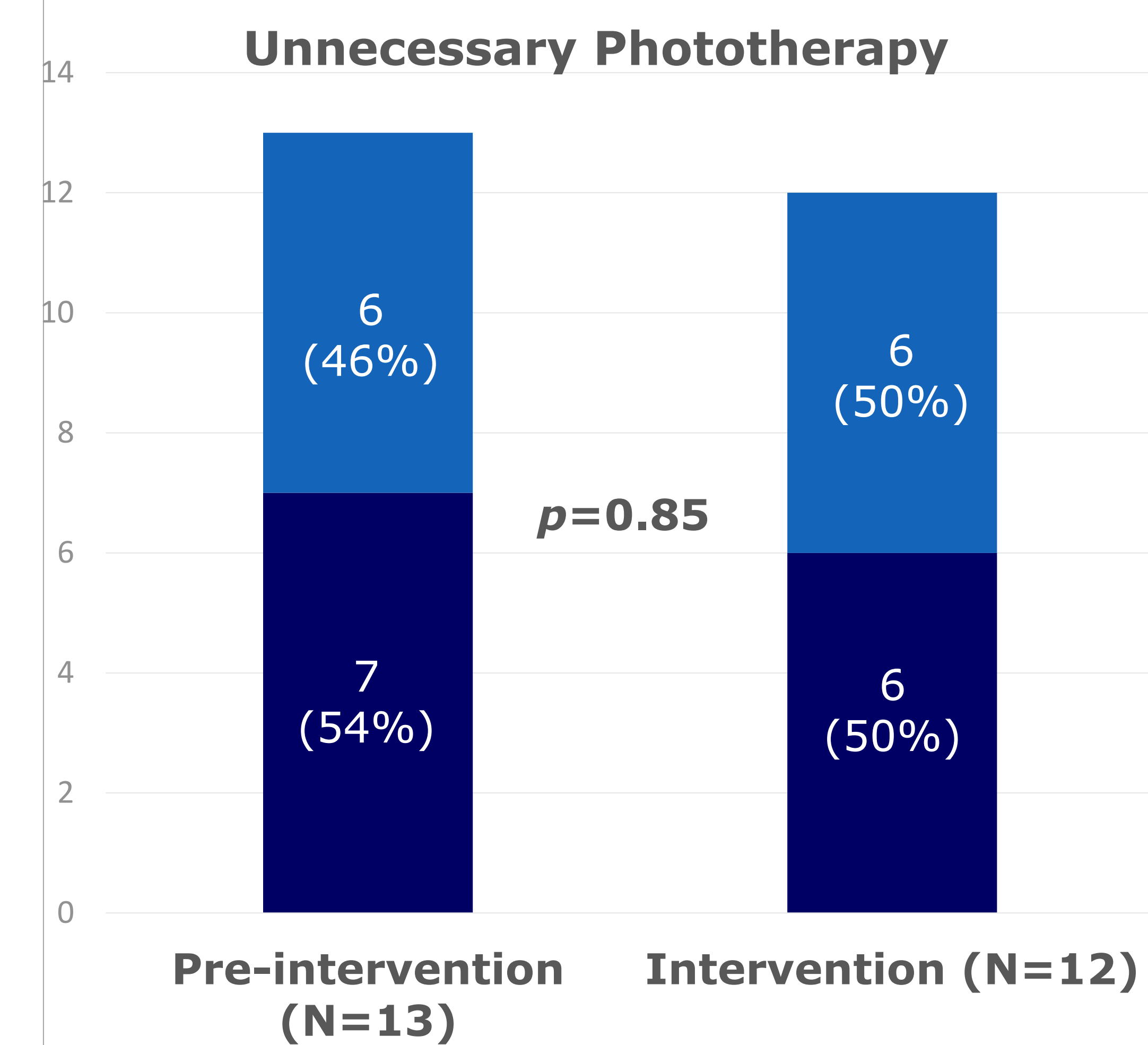
**Materials & Methods**

- We included neonates ≥35 weeks gestational age under 14 days of age who were admitted to our pediatric unit or Special Care Nursery from February 2022 to January 2024 with a primary ICD-10 billing code for phototherapy procedure.
- Data from February 2022 to January 2023 served as 1 year of baseline data prior to adherence to the updated AAP recommendations.
- Our interventions included attending national quality improvement webinars, distributing handouts in our unit, and installing a smart phrase in the electronic medical record.
- We performed descriptive analysis to investigate adherence to the guidelines in the intervention period.



*Phototherapy thresholds by gestational age and age in hours per 2022 AAP recommendations.*

**Results**



**Conclusions**

- The AAP guidelines for neonatal hyperbilirubinemia did not decrease the use of unnecessary phototherapy or evaluation with early bilirubin levels after phototherapy in low-risk neonates to our goal.
- All neonates continued to receive appropriate investigation for hemolysis and avoid IV fluid therapy.
- Quality initiatives are required to evaluate clinical factors for initiating unnecessary phototherapy and obtaining unnecessary bilirubin level after phototherapy in low-risk infants.

**References**

1. Kemper AR, Newman TB, Slaughter JL, et al. Clinical Practice Guideline Revision: Management of Hyperbilirubinemia in the Newborn Infant 35 or More Weeks of Gestation. *Pediatrics*. 2022;150(3):e2022058859.
2. Vats K, Watchko JF. Coordinating Care Across the Perinatal Continuum in Hemolytic Disease of the Fetus and Newborn: The Timely Handoff of a Positive Maternal Anti-Erythrocyte Antibody Screen. *J Pediatr*. 2019; 214:212-216.

**Acknowledgements**

- We thank Pearl Chang, MD and Sloane Magee of the AAP Value in Inpatient Pediatrics Network for their assistance and providing resources for our interventions.
- We acknowledge Andrew Shieh, MD for assisting with statistical analysis.
- We appreciate our colleagues in the Department of Pediatrics for participating in this project, modifying their practices, and improving inpatient care.

**Contact Information:**

vphung1@hfhs.org; kaiken1@hfhs.org