

A multi-center prospective cohort implementation study of an obstetric ultrasound blind sweep protocol training program for ultrasound-naïve operators

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Background

- Obstetric ultrasound is a limited resource in areas of high maternal mortality (rural regions, low/middle income regions)
- Common causes of maternal mortality (postpartum hemorrhage, obstructed labor, unsafe abortion) and neonatal mortality (congenital anomalies, birth injuries) can be mitigated with prenatal ultrasound

Objectives

- Assess the implementation of a training program for a blind sweep obstetric (OB) ultrasound (US) protocol in individuals without prior ultrasound training.

Methods

- Longitudinal prospective multi-center cohort study
- Inclusion criteria: no prior ultrasound training or experience
- Training: standardized 4 hour in-person OB US program
- Primary outcomes
 - Trainee competence: critical action checklist
 - Trainee confidence: self-assessment survey
- Secondary outcomes
 - Trends of competence and confidence over time

Demographics

- N = 14
- 90% female, 10% male
- 60% undergraduate, 40% post-graduate students

Preliminary Data

- Immediately after training program:
 - High observed competence (median score 2, IQR 2-2, n=14/14)
 - High observed confidence (91.67% with score ≥ 3 , median 3.7, IQR 3.58 - 4.45, n=12/14)
- After 4-week inactive period (n = 2/14):
 - Maintenance of competence (mean 89.3%)
 - 50% reported ongoing confidence

Conclusion

- High competence and confidence after one blind sweep training session
- Slight decrease in competence, larger decrease in confidence indicating potential for repeat training sessions
- Data informs an ultimate 'train the trainer' model

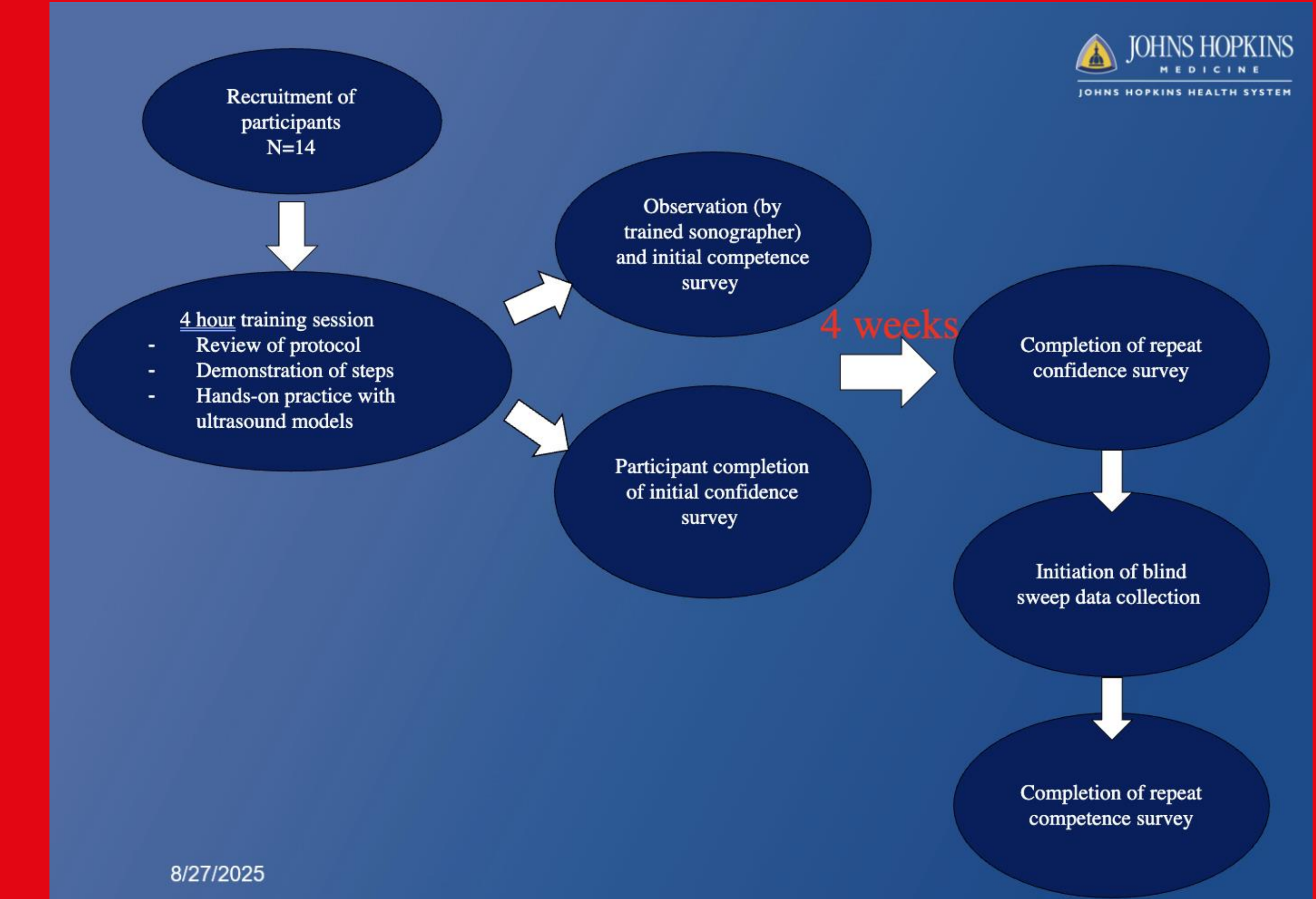


Figure 1. Training description and study timeline

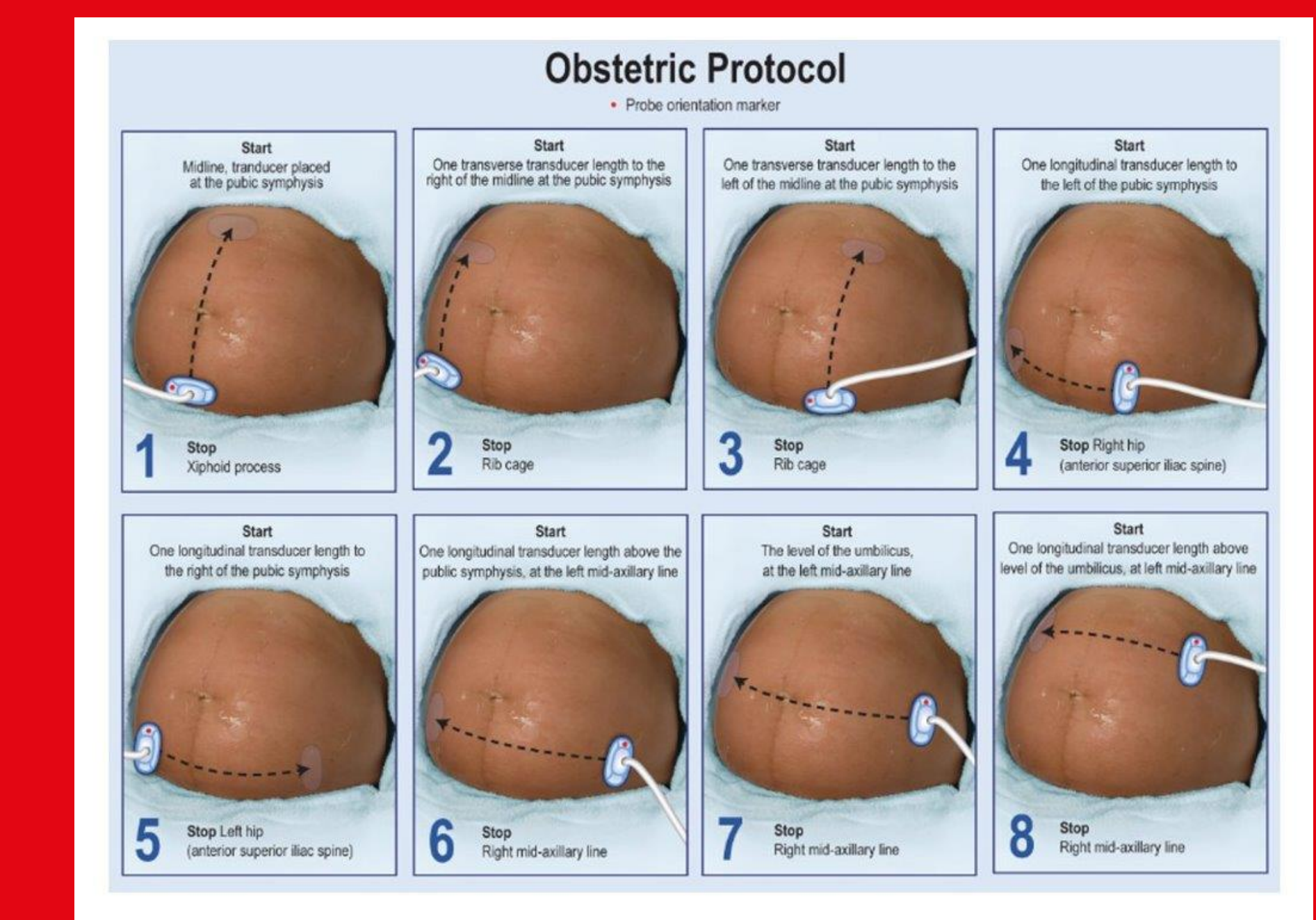


Figure 2. Blind sweep obstetric ultrasound protocol

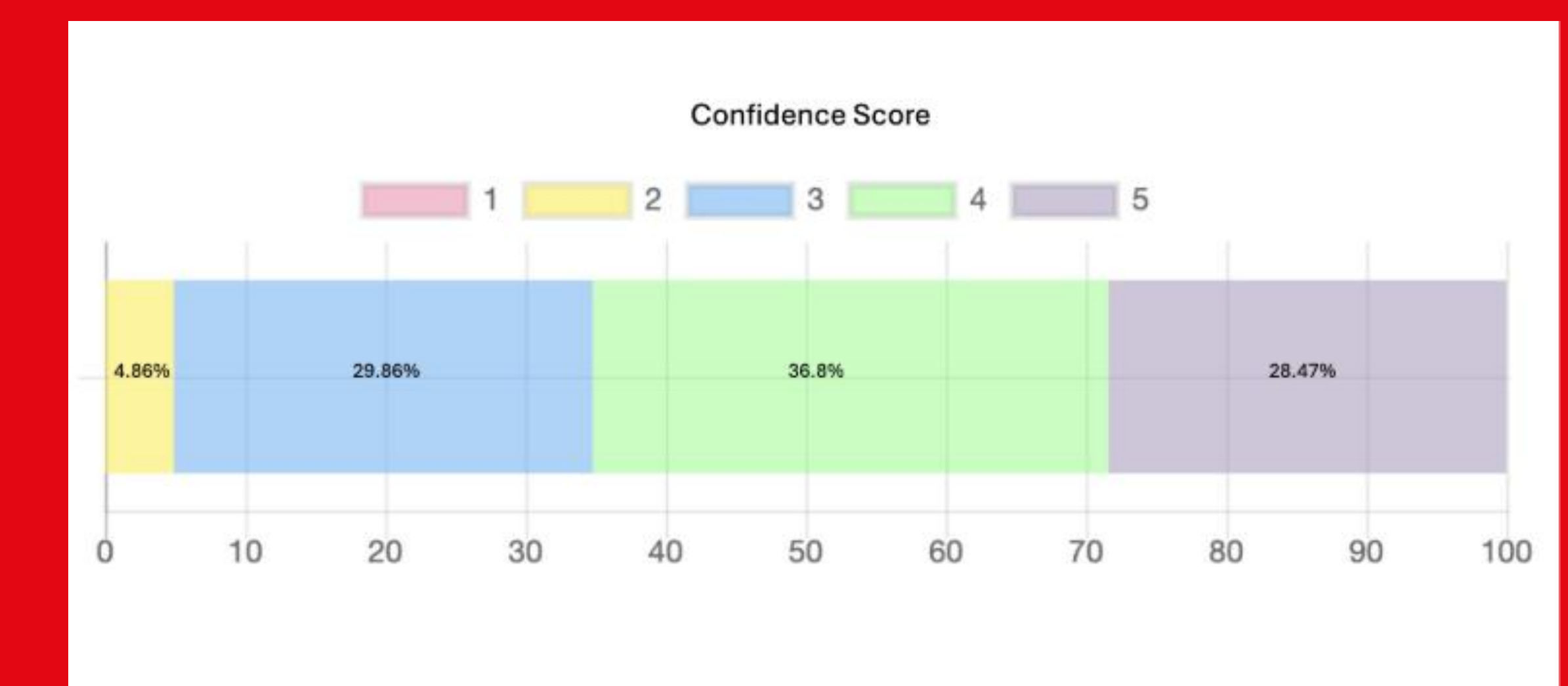


Figure 3: Trainee confidence distribution