Educating for Safety: 100% Compliance in Blood Transfusion to Safeguard Every Newborn and Child

Vinuthani Munusamy[1]*

[1]Clinical Survey Officer, Quality Services, KPJ Rawang Specialist Hospital, Rawang, Malaysia

ABSTRACT

Blood transfusion is life-saving but carries high risks, especially for newborns and children. Errors are classified as Non-Tolerable Incidents (NTIs). At KPJ Rawang Specialist Hospital, audits revealed compliance gaps below 100%. This study evaluated an educational program involving 100 nurses. Knowledge scores improved significantly (12.34 → 18.76, $p < 0.001$) and compliance increased from 10% to 100%, sustained through August 2025. No transfusion-related incidents were reported. Structured nurse education ensures safer transfusion practice and supports the WPSD 2025 theme: *Safe Care for Every Newborn and Every Child.*

INTRODUCTION

Newborns and children are highly vulnerable to transfusion errors. NTIs can cause serious harm. Audits revealed less than full compliance with protocols. This study evaluated whether structured education could improve nurses' knowledge and compliance, supporting the WPSD 2025 theme: *Safe Care for Every Newborn and Every Child.*

METHODS AND MATERIALS

A quasi-experimental pre–post study was conducted with 100 registered nurses. Knowledge was assessed via an online Questionnaire, and compliance was evaluated using a MOH-based checklist. The program included lectures, demonstrations, and interactive sessions led by nurse educators. Data were analyzed using paired t-tests, Wilcoxon signed-rank tests, and Chi-square tests.

RESULTS

Knowledge scores among the 100 nurses increased significantly from a pre-test mean of **12.34 (SD = 3.45)** to a post-test mean of **18.76 (SD = 1.92), $p < 0.001$**. Compliance increased from **10%** before the intervention to 100% after, **($\chi^2 = 46.00$, $p < 0.001$).** Monthly audits confirmed sustained **100% compliance** from May 2024 to August 2025. No transfusion-related incidents were reported , reinforcing the effectiveness of the checklist and education program.

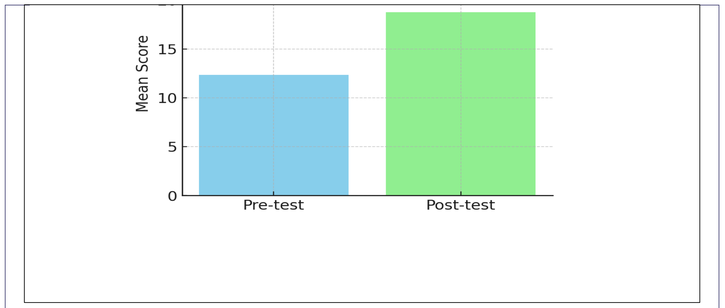


Figure 1: Pre- vs Post-intervention Knowledge Scores (n=100)

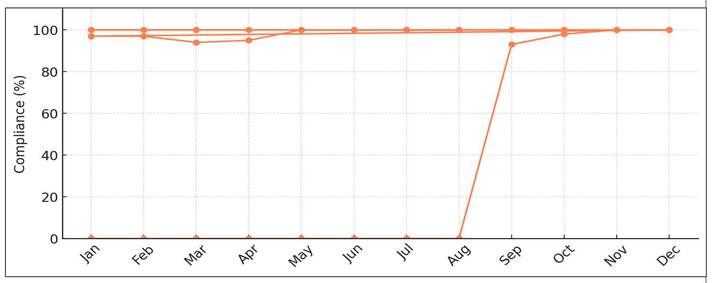


Figure 2: Compliance Trend (Monthly, 2023–2025)

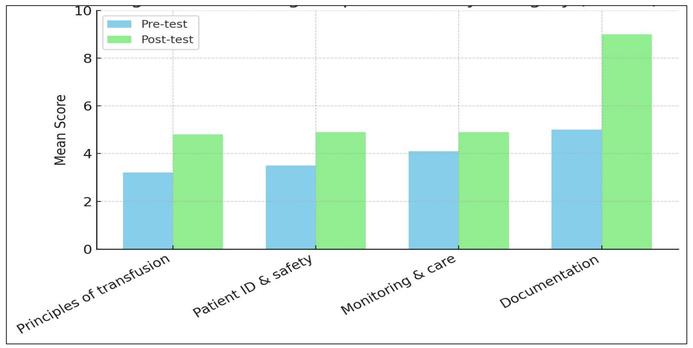


Figure 3: Knowledge Improvement by Category (n=100)

DISCUSSION

Education and checklists significantly improved transfusion practice. Sustained **100% compliance shows** effectiveness of structured training.

These results strengthen safety in pediatric and neonatal care, preventing NTIs and improving quality of care.

CONCLUSION

A structured educational program significantly improved nurses' knowledge and achieved 100% compliance in blood transfusion practice.

This initiative strengthens patient safety and ensures safe care for every newborn and every child

Continuous training is essential to sustain these gains.

Key Message:

100% compliance in blood transfusion safety achieved — protecting every newborn and every child.

REFERENCES

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Vinuthani A/P Munusamy
KPJ Rawang Specialists Hospital
Email:vinuthani123@gmail.com