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REDUCING COGNITIVE LOAD AND IMPROVING DRUG SAFETY IN OBSTETRIC THEATRES THROUGH VISUAL DRUG TRAY SEGREGATION

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Red tray: Emergency Drugs

Yellow tray: Local Anaesthetics

Blue tray: General Anaesthetic Drugs

INTRODUCTION

Obstetric theatres are high-acuity, time-critical environments. Work often occurs, out of hours, with minimal staffing and often has tired staff who have not had set breaks. There is increased risk of medication error, particularly when medications are being used in an emergency. Research shows that human factors have a large part to play in improving patient safety[1-4]. We noticed that drugs for induction of general anaesthesia and emergency cardiovascular drugs were stored together in one tray.

AIM

To improve medication safety by introducing colour-coded drug trays to reduce cognitive load and enable rapid, accurate drug identification.

METHODS

We reviewed existing drug storage practices and designed the following system.

Yellow tray → Local anaesthetic (LA)
Red tray → Emergency drugs
Blue tray → General anaesthetic (GA) drugs

QUESTIONNAIRE RESULTS

93% → Improved patient safety
86% → Reduced cognitive load
86% → Supported implementation

Support for separating GA drugs
Preference for high-visibility colours
"Make it hard to do the wrong thing"
Value of laminated contents lists

The findings were consistent with evidence that system design influences error rates [3,4].

DISCUSSION

Once the intervention was adopted into clinical practice, it was noticed that some of the new practices did not meet the CQC standards of medicines safety and therefore some adaptations had to be made. We were able to maintain clearly labelled, colour-coded trays which improve visual discrimination and reduce reliance on memory in emergencies. The yellow trays in particular add an additional visual safety measure for regional anasesthesia drugs.

CONCLUSION

We introduced a simple, low-cost human factors intervention using colour-coded trays which improves visual discrimination and reduces cognitive burden.
This approach has the potential to enhance medication safety in high-risk obstetric environments, particularly during out-of-hours emergencies.

REFERENCES

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This project was registered with our trust Obstetric Audit Team.