

Is Mandatory Nursing Education Effective?

Analysis of pharmacist-led medication safety sessions



Background

Medication safety initiatives play a key part of wider quality and safety improvement programmes within public hospitals. One initiative is the incorporation of medication safety into nurse mandatory education (NME). All levels of nursing staff at Concord Repatriation General Hospital (CRGH), a major teaching hospital in metropolitan Sydney, are required to attend one of the fortnightly NME sessions held during the year. In 2018, the pharmacy department at CRGH collaborated with a Centre for Education and Workforce Development (CEWD) nurse educator to create a unique, interactive NME session to improve information uptake and retention.

Aim

To evaluate the effectiveness of pharmacist-led, interactive nursing education on medication safety by assessing level of knowledge at baseline, immediately post-intervention and 3 months later.

Method

Clinical scenario videos (see Fig. 1) were developed in-house by nursing and pharmacy staff. These videos were added to a 1 hour PowerPoint™ presentation delivered by pharmacists to nurses at each NME session between May and December 2018. Clinical scenarios were designed to prompt discussion over three themes:

- Switching from intravenous (IV) to oral medications
- Medication storage
- Venous thromboembolism (VTE) prophylaxis

Figure 1. Scene from VTE prophylaxis video



A knowledge survey was designed in a collaborative effort between pharmacy and nursing staff. The questions were challenging and designed to meet educational objectives. The survey was validated by the first two groups of NME participants to ensure correct understanding of questions.

Figure 2. Refrigeration storage question in NME survey

Survey questions

Which is a requirement for ALL refrigerated medications?

- Log tag available in the fridge for downloading
- Resetting the fridge temperature after each recording
- Stop using medications from the fridge if the temperature has been at 10°C for 10 minutes
- Keeping vaccines in a separate fridge to other refrigerated medications (Select 1 only)

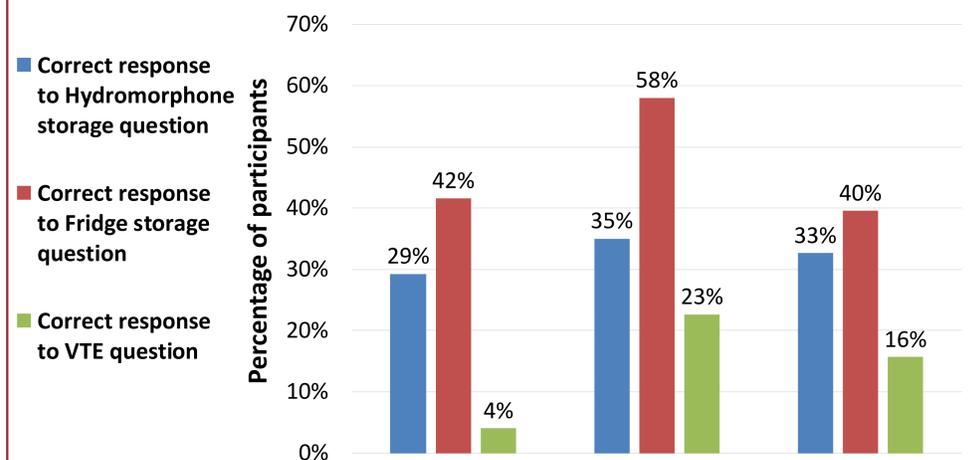
The survey (see Fig. 2) was administered at 3 time points:

- Pre-session (baseline): paper or online (email sent 2 weeks prior)
- Post-session: completed on paper straight after session
- 90-day post-session: online (email sent, open for 2 weeks)

The percentage of correct attempts for each multiple-choice question were compared between these time points.

Results

Figure 3. Participants with correct multiple choice responses



	Pre	Post	90 day
Correct response to Hydromorphone storage question	90/307 29%	101/288 35%	16/49 33%
Correct response to Fridge storage question	129/310 42%	166/286 58%	19/48 40%
Correct response to VTE question	13/319 4%	66/291 23%	8/51 16%

Out of 480 nurses who attended NME, 421 provided consent for participation in the study. The percentage of participants who attempted and correctly answered multiple choice questions related to hydromorphone storage, refrigeration and contraindications to VTE prophylaxis increased from 29% to 35%, 42% to 58% and 4% to 23%, respectively, immediately post-intervention from baseline (see Fig. 3). At 90-days post-intervention, percentage of correct attempts declined to 33%, 40% and 16%, respectively, but remained stable or slightly increased compared to baseline. Participants reported the session to be highly relevant to practice and at a suitable level of complexity.

Discussion

There was an overall improvement in the knowledge of all nursing staff gained immediately after attending one of the NME sessions, but a minimal improvement in knowledge retention at 3 months. There were low completion rates for the 90-day survey which makes interpretation of the success of this intervention difficult. There were some limitations to this study including that follow up surveys were only available online. Different pharmacist facilitators may have affected presentation quality and consistency. Future improvements will focus on validating the survey tool as the majority of participants were not able to correctly answer questions even immediately after the session. Statistical analysis of pre and post-intervention responses would be valuable. Measuring clinical outcomes through analysis of Incident Information Management System (IIMs) data could be useful to determine the effectiveness of our project. There is potential to enhance design of the education session for following years based on this experience.

Conclusion

An interactive, pharmacist-led, education session can improve nurse medication safety knowledge. This is an intervention which could be implemented in facilities elsewhere. Our results indicate that education is effective in the short term however further research is required to find out how to increase knowledge gain and to see our impact on real-world practice.

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