

**Reducing medication errors by engaging nurses in medication
safety research**

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CERTIFICATE OF ORIGINAL AUTHORSHIP

I, Albara Alomari declare that this thesis, is submitted in fulfilment of the requirements for the award of PhD in nursing, in the Faculty of health at the University of Technology Sydney. This thesis is wholly my own work unless otherwise reference or acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis. This document has not been submitted for qualifications at any other academic institution. This research is supported by the Australian Government Research Training Program.

Signature:

Date

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ABSTRACT

Medication administration errors are a problematic issue in Australia and worldwide, despite previous attempts to reduce medication errors. Most interventions to date focus on isolated, discrete elements and fail to involve nurses in developing solutions. Medication errors in children are of particular concern because they are more susceptible to harm than adults.

This research aimed to recruit nurses to participate in an Action Research Team (ART) to develop, implement and evaluate interventions to reduce medication errors in paediatric patients.

The action research methodology was used over three phases of the study. Phase One aimed to build an overall picture of medication practice in the participating ward. The results of practice observation, medication policy audits, the Safety Attitudes Questionnaire (SAQ), the incident data and focus groups showed that the medication error rate on the ward was higher than the average error rate across the hospital. The contributing factors for these results included busy-ness of the ward, lack of resources and small size of the physical environment, lack of feedback from management, impractical medication policy, and the nurse's perception of medication errors.

Phase Two aimed to develop and implement targeted interventions in the participating ward. The multi-disciplinary research team recruited six clinical nurses to be part of this phase (ART nurses). Five interventions were developed and implemented, moving the medication administration time two hours earlier in the evening shift, introducing medication trollies, updating the medication policy, implementing Safety and Quality meetings (S&Q) and modifying the patient admission forms. Data from the ART meeting minutes and semi-structured interviews with ART nurses were collected to explore the influence of the nurse's participation in this research. The results indicated that ART nurses changed from being stressed and worried about understanding research, to becoming more confident and enthusiastic about what the research could achieve.

The effectiveness of the interventions was evaluated in Phase Three with Phase One data repeated. Additionally, eight semi-structured interviews with the ward nurses were undertaken to explore their perception of the interventions and their experience during the research journey.

Nurses were able to contribute to the research when they were provided with the opportunity and support, which enabled them to take ownership of the research and the subsequent changes they led. The results indicated a noteworthy reduction in the medication administration errors by 57.4% and an increased parent/carer engagement in medication administration at the bedside.