Medication Administration Safety in Medical and Surgical Units of the Gauteng Province

Alwiena J. Blignaut, PhD, MCur, BCur, RN
Department of Health Sciences, School of Nursing Science, North West University, Potchefstroom, South Africa

Siedine K. Coetzee, PhD, MCur, BCur, RN, RM, RCN, RPN, RNE
School of Nursing Science, North West University, Potchefstroom, South Africa

Hester C. Klopper, PhD, MBA, RN, RM, FANSA, FAAN
Forum for University Nursing Deans in South Africa, Pretoria, South Africa
Background

Medication administration errors represent one of the major concerns in patient safety (Speroni et al., 2013:1538; Kim & Bates, 2013:590). Research on medication administration error and safety have mostly been done in developed countries which reveal an average adverse event rate of about 10% (Bates, 2010:174; Institute of Medicine, 2007:110).

In the UK, medication errors account for approximately 20% of deaths due to adverse events in hospitals (Leufer & Cleary-Holdforth, 2013:1874). The Australian Council for Safety and Quality in Healthcare (2002:1) reports 22% of medication errors to have moderate or significant consequences, whilst a further 37% had minor consequences.

The design of many previous studies are flawed because it depended on individuals reporting on their own mistakes, which they are often unaware of (Kim & Bates, 2013:591).

Less data is available from nations with developing economies, though incidence of error in these settings tends to be higher (Bates, 2010:174).

In South Africa no current statistics are available regarding incidence of medication administration errors, though 105 of 629 professional nurse misconduct cases between 2003 and 2008 were related to medication administration (South African Nursing Council [SANC], 2013:1).
Aim

To determine the incidence and types of medication administration errors and medication-administration-error-related deviations from safe practice in medical and surgical units of public hospitals in the Gauteng Province.
Method

- Sample
  - Public hospitals
  - Medical and surgical care
Method continued...

• Data collection
  – Direct observation
• Data analysis
  – Frequencies
  – P values (t-tests)
  – Effect sizes (Cramer’s V and correlations)
  – Odds ratios
Results

- 43% Omitted
- 41% Wrong-time
- 12% Wrong-dose
- 2% Wrong-medication
- 2% Wrong-route
- 1% Wrong-patient

296 errors
315 observations
94% error incidence
Results continued...

1824 deviations
315 observations
6 per patient
A statistical significant correlation with medium effect was determined between interruptions and wrong dose errors (OR = -2.56; p <0.05).

Patient acuity was practically and statistically correlated with wrong route errors (OR = 10.55; p <0.05).
Conclusions

- Medication administration errors are prevalent in public hospitals of South Africa.
- Interruptions lower the risk of wrong-dose errors.
- Patient acuity exacerbates the risk of wrong-route errors.
- Patient identification and asepsis protocols are not followed.
References


