ADDRESSING INTERRUPTIONS DURING MEDICATION ADMINISTRATION IN HEALTHCARE

A Study on Improving Safety, Efficiency, and Patient Care

Name

Course

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Date

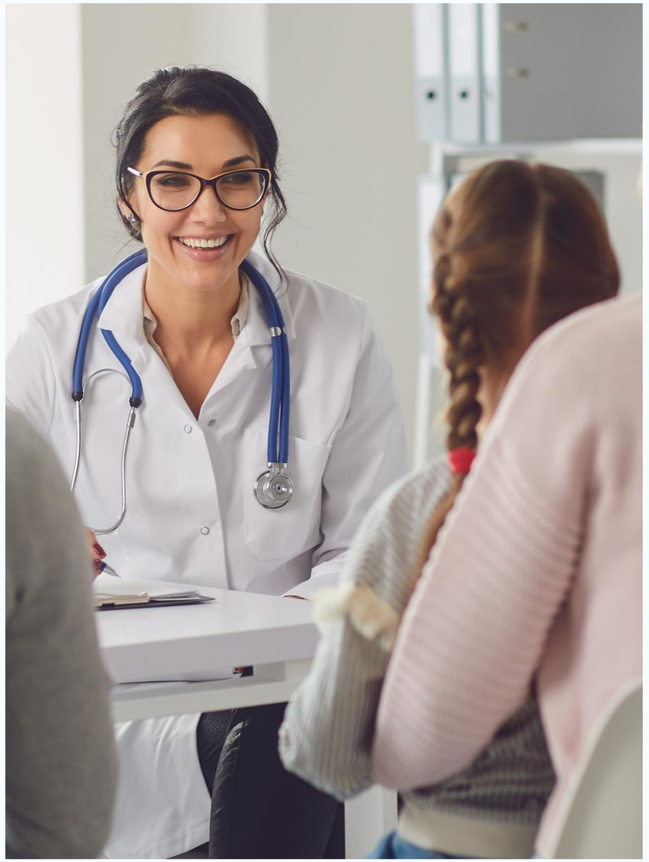
INTRODUCTION

Topic Overview:

- The safety issue addressed in this presentation is interruptions during medication administration in healthcare.
- Interruptions lead to medication errors, impacting patient safety, care efficiency, and nurse productivity.

Purpose of the Presentation:

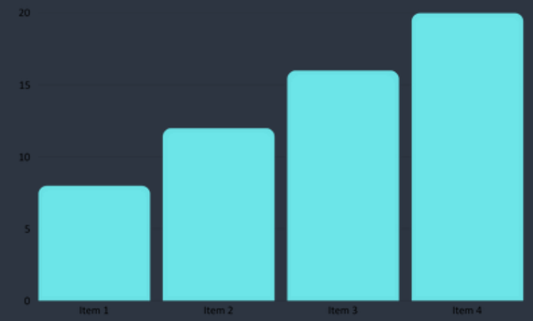
- To discuss the scope of the issue, its consequences, and propose a study to reduce interruptions and improve healthcare outcomes.



DEFINITION OF INTERRUPTIONS IN HEALTHCARE

- Any distraction or disruption during the medication administration process.
- External interruption include phone calls, alarms, new patient needs.
- Internal interruption include multitasking, conversations.
- Interruptions cause cognitive overload, resulting in a higher likelihood of medication errors.

SCOPE OF THE PROBLEM



Key Statistics:

- 68% of errors during medication administration were reported (Henry et al., 2025).
- The rate of incidence of medication errors were 135.19% for administration and 44.39% for prescription (Ouedraogo et al., 2025).

TYPES OF INTERRUPTIONS

EXTERNAL

- Phone calls, alarms, family visits, emergency calls.

INTERNAL

- Staff conversations, personal distractions, multitasking.
- Each interruption increases the likelihood of an error during the medication process.

What Is Known About Interruptions?

Impact on Medication Errors:

- Researches consistently shows that interruptions increase the chance of medication errors.

Examples:

- Wrong drug administration due to diverted attention.
- Missed doses or incorrect calculations.

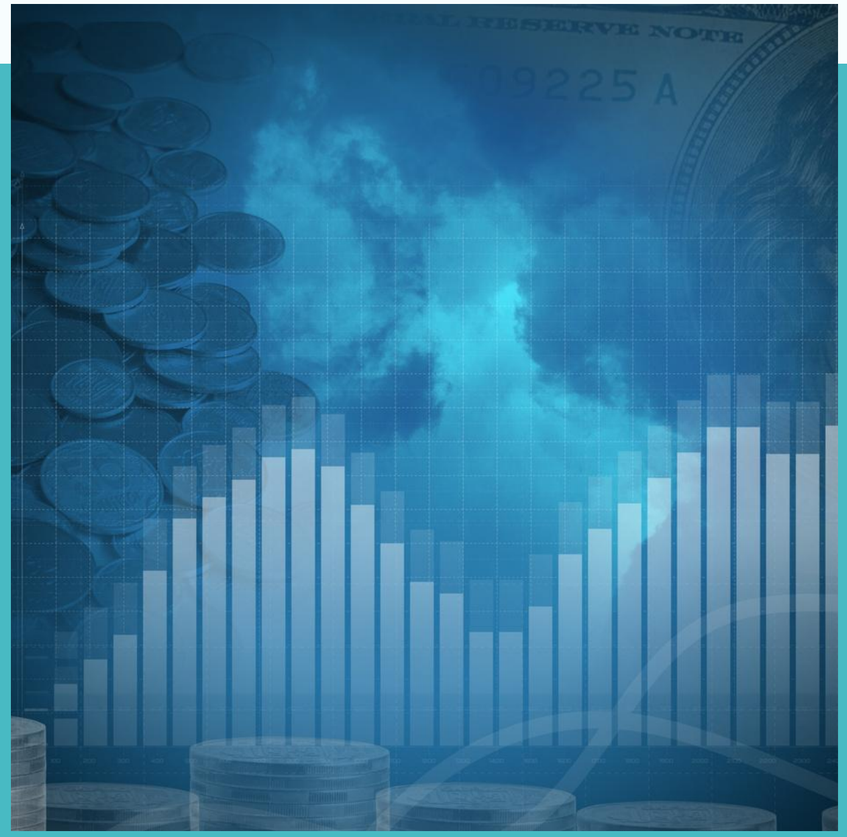
Consequences for Patient Safety

- Incorrect dosage, wrong medications, delayed treatments, and patient harm.
- Adverse outcomes such as allergic reactions, infections, or drug interactions.

Example:

- A missed dose of antibiotics in the ICU leading to an infection.

FINANCIAL AND SYSTEMIC IMPACT



- Extended hospital stays, emergency treatments, legal fees, and malpractice costs.
- Increased hospital costs, longer stays, additional procedures for rectifying errors.
- Reduced efficiency in care delivery, disruption of hospital workflow.

IMPORTANCE OF ADDRESSING INTERRUPTIONS

- Reducing interruptions directly impacts patient safety, improving outcomes.
- Decreased errors lead to cost savings for the healthcare system.
- Reducing interruptions boosts nurse efficiency, improving job satisfaction.

Team Involved in Studying the Issue

- Nurses; report and document interruptions, their causes, and effects on medication administration.
- Physicians; observe how interruptions affect decision-making and patient outcomes.
- Pharmacists; assess medication safety and potential for errors in medication administration processes.
- Patient Safety Officers; lead efforts in monitoring safety trends and designing safety interventions.
- Healthcare Administrators; implement and evaluate organizational changes, allocate resources for intervention.

Understanding the Team’s Role

- Nurses act as the front-line team for identifying and managing interruptions during medication administration.
- Physicians collaborate with nurses to reduce distractions and enhance medication safety.
- Pharmacists provide insight into drug interactions and propose improvements in medication practices.
- Patient Safety Officers collect and analyze data on medication errors to identify trends and implement solutions.
- Healthcare Administrators ensure that resources are allocated for reducing interruptions and improving safety protocols.

PROBLEM STUDY DESIGN

Objective:

To reduce interruptions during medication administration and assess the impact on medication errors and patient outcomes.

Research Question:

How can structured interventions reduce interruptions and medication errors?

Hypothesis:

Reducing interruptions will lead to fewer medication errors and improve patient safety.

STUDY DESIGN AND METHODOLOGY

- Randomized controlled trial (RCT) to test the effectiveness of interventions.
- Nurses will follow routine practices with no structured interruption reduction protocol.
- Nurses will implement protocols such as "no-interruption zones" and scheduled quiet times.
- Medication error rates, patient safety outcomes, nurse satisfaction.

INTERVENTION DESIGN

- The goal is to minimize interruption during medication administration by implementing specific interventions.

Key Components of the Intervention

Environmental Design:

- Designate medication rounds as “no-interruption zones”.

Communication Protocols:

- Establish structured communication channels and minimize unnecessary interactions.

Technology Support:

- Use electronic reminders only for critical medication administration events.

INTERVENTION STRATEGY: ENVIRONMENTAL CHANGES

- Areas dedicated to medication preparation and administration where no external disruptions are allowed.
- Scheduled times for administering medications, ensuring minimal disruption.
- A designated "quiet hour" where nurses are not expected to respond to non-urgent requests during medication administration.

INTERVENTION STRATEGY: TECHNOLOGY SUPPORT

- Use systems that provide real-time reminders without distracting the nurse during critical tasks.
- Set alarms for critical situations only, avoiding unnecessary distractions from non-urgent matters.

INTERVENTION STRATEGY: STAFF TRAINING

- Educate staff about the risks of interruptions and the importance of focused medication administration.
- Continuous education sessions to reinforce the importance of minimizing distractions.
- Teach nurses and other staff how to communicate effectively without interrupting medication rounds.

EXPECTED OUTCOMES

- A measurable decrease in medication errors due to fewer distractions.
- Enhanced patient safety, reduced adverse drug reactions, and quicker recovery times.
- Nurses report lower levels of stress and feel more confident in their ability to safely administer medications.

DATA COLLECTION AND OUTCOME MEASURES

Primary Outcome:

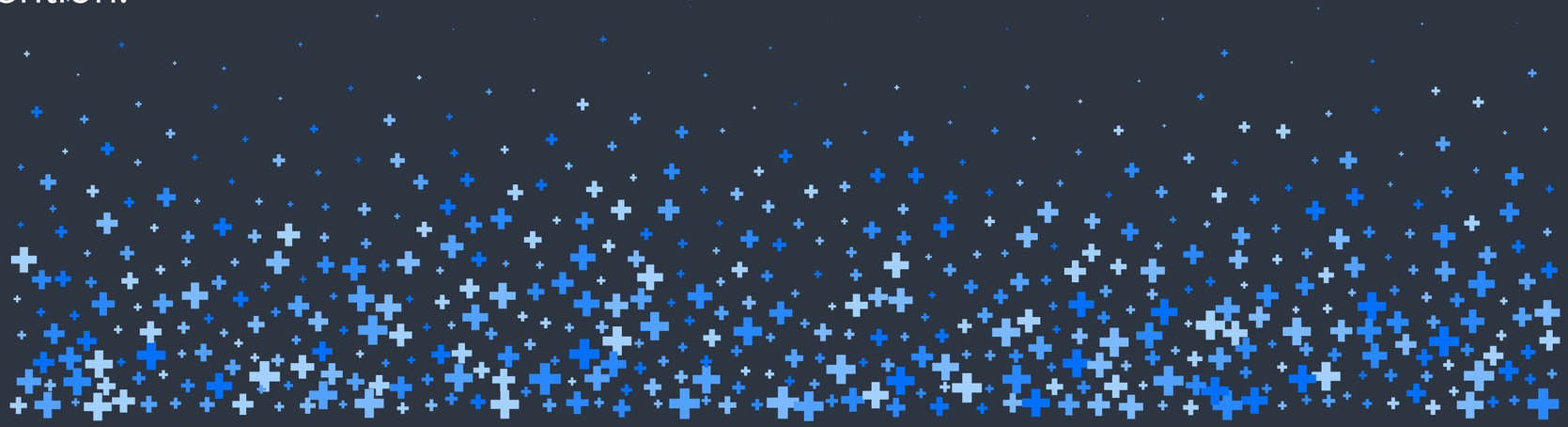
- Medication Error Rates: Recorded and analyzed for both the intervention and control groups.

Secondary Outcome:

- Patient Outcomes: Measure adverse events, hospital readmissions, and recovery times.

Tertiary Outcome:

- Nurse Feedback: Conduct surveys to assess perceived stress levels and efficiency before and after the intervention.



EVALUATION PLAN

Pre- and Post-Intervention Data:

- Compare error rates and outcomes before and after the intervention is implemented.

Ongoing Monitoring:

- Conduct regular audits during the intervention to assess its success and gather continuous feedback.

Statistical Analysis:

- Use paired t-tests or ANOVA to analyze the differences between the control and intervention groups.

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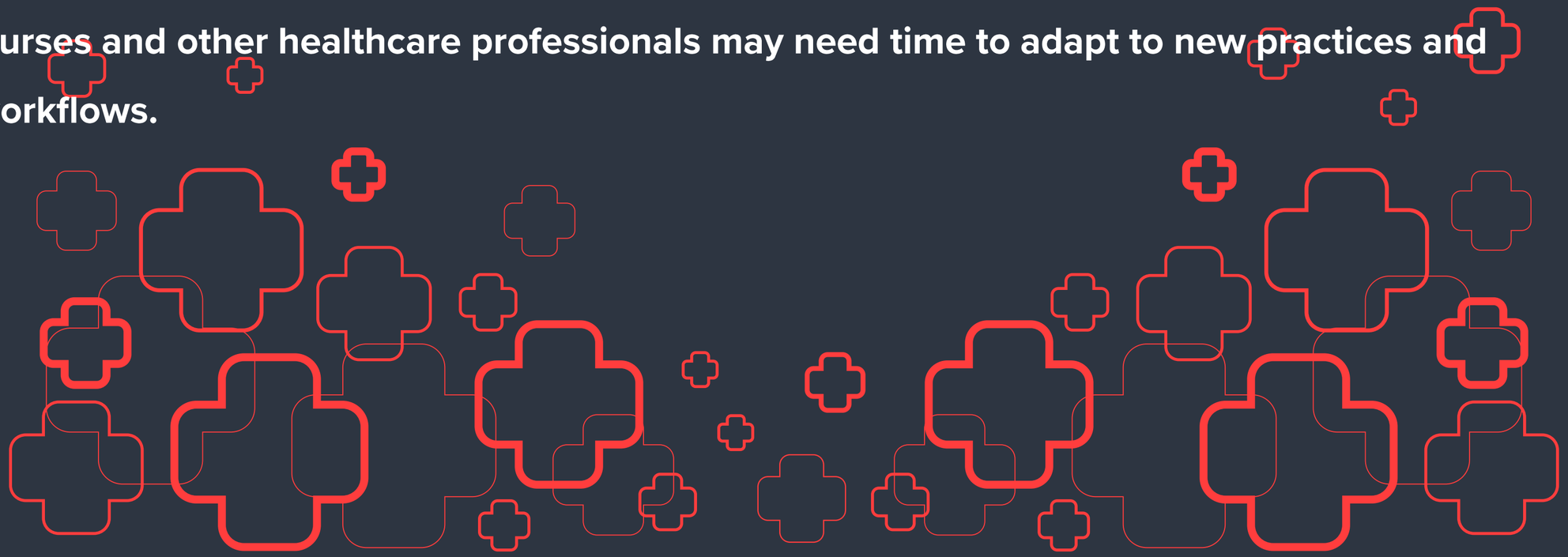
POTENTIAL CHALLENGES

- Nurses and physicians may initially resist changes due to habitual work patterns.
- Implementing “no-interruption zones' may require adjustments to staffing or workflow, which could be resource-intensive.
- Nurses and other healthcare professionals may need time to adapt to new practices and workflows.



IMPLICATIONS FOR PRACTICE

- Reducing interruptions directly impacts patient safety by decreasing medication errors.
- Reducing errors will help hospitals avoid the high costs associated with malpractice claims, extended stays, and treatment of complications.
- Nurses will experience reduced stress, leading to greater job satisfaction and less turnover.

CONCLUSION

- Interruptions during medication administration are a significant problem that directly affects patient safety and nurse efficiency.
- The proposed intervention aims to reduce interruptions through environmental changes, technology support, and staff training.
- Implementing this study has the potential to improve medication safety, enhance patient outcomes, and create a better working environment for healthcare staff.

REFERENCES

Henry Basil, J., Premakumar, C. M., Mhd Ali, A., Mohd Tahir, N. A., Seman, Z., Voo, J. Y. H., ... & Mohamed Shah, N. (2025). Prevalence and factors associated with medication administration errors in the neonatal intensive care unit: a multicenter, nationwide direct observational study. Journal of Advanced Nursing, 81(2), 820-833. https://doi.org/10.1111/jan.16247

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