Nurse Likelihood to Report a Medication Error

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- Free-standing, not-for-profit woman’s and children’s hospital
- Magnet designated since 2003
- Ranked 4th Best Children’s Hospital by US News & World Report
- 25,966 Admissions
- 656 Beds
- 2300 RN employees
Medication Error-Nurses ARE the Sharp End

• Process of 40-60 steps (Botwinick, Bisognano, & Haraden; 2006)

• Any 50 step process will be completed with no error 61% of the time (Botwinick, Bisognano, & Haraden; 2006)

• Intercept 86% of all medication errors (Hughes & Ortiz, 2005)

• One process failure per hour (Edmondson, 2004)

• Find a quick fix work-around 93% of the time (Edmondson, 2004)
Nurses ARE the Sharp End

• Most trusted profession
• Multitask beyond brain’s capacity – reprioritize constantly
• Error under-reported by 50-90% (Barach, 2000)
• To learn from error we must report (Assumption)
• Temptation is to not report: too busy, shame, trivialization, fear of reprimand, no harm so why report – anecdotal
• More likely to report serious error – only 31.7% report breast milk connected to IV tubing if error caught before reaching the patient (Taylor et al, 2004)
Purpose

• To learn from lived experience
• Better understanding of contributing factors
• Interventions can be identified
• Facilitate psychologically healthy inner resolution to turmoil
• Increase reporting
• Increase learning
• Reduce possibility of future error
• Improve patient safety
Error Continuum – Researcher’s Depiction

PRE-REPORTING
Potential for Cognitive Dissonance

Prescribe/Prepare/Package/Deliver/Administer ➔ Error ➔ Report

ERROR PREVENTION
• FMEA to proactively address risk points
• Apply knowledge of human factors in prevention strategies
• Uncover and eliminate latent factors
• Foster a blame-free environment
• Establish an event reporting system

ERROR MANAGEMENT
• Ensure patient needs are met
• Evaluate patient harm
• Gather knowledge surrounding the error
• Support of nurse involved
• Disclose to patient/family
• Address system factors
Today’s Objectives

1. Describe the study’s research question and methodology.

2. Synthesize the results of this study into a set of implications for nursing leaders in both the practice and academic arenas.
What factors contribute to the likelihood that a pediatric nurse will report a medication error?
METHODS

• Design: Qualitative

• Setting: Children’s Hospital Southwest USA

• Population: RN

• Recruitment: Poster flyer

• Sampling: Purposive

• Data gathering: Structured group interviews/Interview guide
  - Individual vs. Group interview
  - Hypothetical questions – reportable conduct supersedes research confidentiality rules
FROM
“Tell me about a time when you…”
“What feelings and emotions did you experience…”

TO
“What do you think a nurse experiences…”
“What do you think runs through a nurse’s mind upon realizing…”
“How does a nurse react…”
METHODS

- Group size: Ideal 6-10 (Morgan, 1997)
  - Actual 2-9
- Group composition: Should share common set of norms /experiences
  - Homogeneous on many factors
  - General vs. special care – drove up “n”
- Group familiarity: common practice is groups who do not know one another (Morgan, 1997)
  - Richness of information and interactions (Jato, van der Straten, Kumah, & Tsitol; 1994)
METHODS: Sample

Number of groups and sub groups: General Care, Special Care, Combination

• One of each sub group?
  - Will not know if perspectives shared are due to group composition or a unique group dynamic

• Two of each sub group?
  - Similar outcomes would probably confirm that composition of unique dynamics were not at work (Morgan, 1997)

• Three of each sub group? Nine (9) total group interviews
  - More dependability (reliability)
METHODS: Data Collection

After IRB approval
- Structured group interviews private conference room away from patient care areas
- Consent and demographic forms
- Animal identifiers
- 2 digital recorders
- One moderator
- One scribe – attention to group dynamics, tone, body language, domination
- Conversational probes
- Attention to reflexivity; no judging tone or expression

Rich discussion, synergy, respectful interaction, engaged participants
METHODS: Data Analysis & Management

• Verbatim audio recording transcription
• Verbal and non-verbal aspects of conversations
• Group dynamics and energy around topics
• Transcripts coded and then analyzed for emerging themes
• Self-reporting bias – aware of possibility
• Field notes reviewed immediately
• Reflexivity
• Recordings and transcription reviewed for accuracy
RESULTS - Demographics

- Sample
- Mean age: 39.8 years
- Education level: 67% baccalaureate
- Certification status: 61%
- Mean years experience: 15.1 years
- Ethnicity: No difference
- Made a med error: 92.6%
- Made a med mistake: 98.1%
- Considered not reporting: 63%
RESULTS - Demographics

<table>
<thead>
<tr>
<th>Age ≥ 40 and &lt; 40 years</th>
<th>Special care nurses were younger</th>
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<tr>
<td></td>
<td>• Chi-square Fisher’s Extract Value 8.263, p = 0.017 (two sided)</td>
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<th>Years worked in pediatrics</th>
<th>General care nurses worked an average of 9 years longer than special care nurses</th>
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<tr>
<td></td>
<td>• One-way ANOVA; Bonferroni test of multiple comparisons mean difference score 9.3179, Standard Error 3.1878, p = 0.05.</td>
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RESULTS – Themes that Emerged

The nurse’s foremost concern is the wellbeing of the patient.

Immediate and instantaneous fight or flight.

Fear, shock, anxiety, bewilderment, sinking feeling, sense of devastation, HR increase, chest pounding, perspiration, nausea.
RESULTS – Themes that Emerged

Managers are key. If managers are supportive in response to error, a nurse is likely to report again.

- “…acknowledge their discomfort…check on them periodically to make sure that they are doing okay…”

- “…loop back… on what a difference their reporting made in the process…” (Nurse 2, Group 1)

Nurses want to be held accountable for their errors.

“Hold us accountable, but be human.” (Nurse 4, G7)
RESULTS – Themes that Emerged

Nurses are more likely to report in an environment perceived as non-punitive.

- “…if they could say to their manager, ‘I really messed this up. What do I need to do?’ and not feel like they were going to be talked bad to or yelled at or something really ugly happening to them… they might speak up.” (Nurse 4, G7)

- Fears – loss of license, career, job, livelihood
RESULTS – Themes that Emerged

Nurses struggle with wanting to be perfect.

- Introspection, self-talk, self-doubt, question own competence, shaken self-confidence, shock and disbelief.

- “I think we’re under the gun so much to meet schedule deadlines and so many other things that we have to do throughout the course of a shift…our expectation is that we do everything perfectly.” (Nurse 1, Group 8)
RESULTS – Themes that Emerged

Nurses question their own competence after an error.

- Introspection, self-talk, self-doubt, question own competence, shaken self-confidence, shock and disbelief.
- Nurses beat themselves up – heard over and over.

- “How could I have been so stupid to make a mistake? What was I thinking? Should I be at this job giving dangerous drugs?” (Nurse 5, Group 9)
- “Oh my gosh. Am I not supposed to be a nurse?” (Nurse 6, Group 1)
- I can’t believe I did it. That was so stupid. That was dumb. I didn’t double check. I’m always careful.” (Nurse 4, Group 7)
RESULTS – Themes that Emerged

Nurses need to regain Self-Worth and so engage in a process of reconciling the dissonance between wanting to be perfect and having made a medication error.

Nurses may rationalize or minimize (trivialize) the severity or significance of the error in their own mind.

- “Oh, well, there was no harm done, so why do we have to report it?” (Nurse 5, G7)
RESULTS – Themes that Emerged

Self-Worth / Reconciling the dissonance

They may blame others.

- “I was devastated and scared and all that, but then on top there was anger because it was ordered wrong by a resident, not caught by pharmacy, dispensed wrong, and there it was. So then you’re angry, and that’s just trying to diffuse some of the guilt because you feel awful.” (Nurse 6, G1)
RESULTS – Themes that Emerged

Self-Worth / Reconciling the dissonance

They may try to save face and avoid telling the truth.

- Avoid telling patient and family, co-workers, physicians because of potential loss of trust and respect
RESULTS – Themes that Emerged

Nurses take issue with the process of reporting.

• Lack of clear definitions
  - Error vs. mistake; reach the patient vs. not reach the patient; harm vs. no harm; incident vs. near miss

• Cumbersome procedures - Need to be efficient and private
  - “…having to do it at the end of the day … You want to go home because you’re so tired, and yet, you have to sit down and fill out this long process of reporting… Because it’s really difficult to do it in the midst of patient care, because you get interrupted, and then, of course, you worry about people looking at the screen… you lock up…..you might lose your data…” (Nurse 1, G3)
RESULTS – Themes that Emerged

Nurses want to be involved in synthesizing error reports.

Nurses want to be involved in data analysis.

- “You know, I think another thing that might encourage nurses to report would also be if there’s a circle back so that if that nurse felt like she’s going to report that, and then she’s going to get feedback about how that information was used to change a process… you as a nurse would feel so good that you were part of the process of making something safer.” (Nurse 4, G6)
VALUE

• Nurses want to be part of the solution and help us learn from error.
• A nurse’s first concern is for their patient.
• Themes emerged as powerful factors in likelihood to report:
  - Culture of blame
  - Managers are key
  - Struggle with perfection
  - Reconciliation to regain self-worth
  - Cumbersome systems of reporting
  - Need to be involved in data analysis and need for feedback
LIMITATIONS

• Limited transferability / generalizability
• Self-selection bias / reporting bias
Today’s Objectives

1. Describe the study’s research question and methodology.

   What factors contribute to likelihood to report…

2. Synthesize the results of this study into a set of implications for nursing leaders in both the practice and academic arenas.

   Next…
CONCLUSIONS

1. When an error occurs, it is a very stressful time for a nurse

2. Hospitals have an opportunity here; and so do our schools of nursing.
Implications for Schools of Nursing and Healthcare Organizations

Curricula

- Theories of high hazard industries, human performance, natural accident theory, high reliability organization theory, system complexity, production pressures, attribution bias, trivialization, dissonance, and the psychology of human reaction to error including the strive for perfection should be incorporated into undergraduate curricula and reinforced in health care organizations.
Implications for Schools of Nursing and Health Care Organizations

Managers

• Education must include the natural human tendency to attribute blame and how we must overcome that attribution bias to uncover all contributing factors to error.

• Education and training should be available to managers who immediately counsel the nurse who has made an error do demonstrate more compassion and fairness, acknowledging this is a process with many opportunity for system failure so that less blame is perceived by the nurse.
Implications for Schools of Nursing and Health Care Organizations

Reporting Process

• Procedures used in reporting should be evaluated to promote the most efficient and most private process possible.

• Promote reporting on near misses in addition to error.
Implications for Schools of Nursing and Health Care Organizations

Synthesis, Interpretation, and feedback

• Structures and processes should be put in place to engage the bedside nurse in discussing error, and in synthesizing and interpreting the data around medication error; and feedback provided to demonstrate that organizations can learn from error and change long standing traditional practices.

• Include interprofessional solutions
Today’s Objectives

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TRANSLATE THIS

Model the Way to:

• Make curricular enhancements around theoretical foundations in schools of nursing;
• Empower our nurse managers to make a difference - educate on natural attribution bias; provide training on how to “hold me accountable but be human”;
• Improve reporting process definitions, efficiencies, privacy; and include near misses; and
• Engage your nurses – share event data, involve in interpretation and analysis, and close the communication loop by providing feedback on process change.
Implications for Schools of Nursing and Health Care Organizations

Curricula

- Theories of high hazard industries, human performance, natural accident theory, high reliability organization theory, system complexity, production pressures, attribution bias, trivialization, dissonance, and the psychology of human reaction to error including the strive for perfection should be incorporated into undergraduate curricula and reinforced in health care organizations.
Nurse Leaders around the globe must Model the Way to:

• Make **curricular enhancements** around theoretical foundations in schools of nursing;
• **Empower our nurse managers to make a difference** – Give them the tools: educate on natural attribution bias; provide training on how to “hold me accountable but be human”;
• **Improve reporting process** definitions, efficiencies, privacy; and include near misses; and
• **Engage our nurses** – share event data, involve in interpretation and analysis, and close the communication loop by providing feedback on process change.
“Be more transparent, talk about errors more, the message should be that we should not be ashamed.”

Powerful… But are we listening?
Study results are all wrapped up in this…perfection, blame, shame, self-worth, managers, engage nurses in interpreting, provide feedback.

As leaders – what should our own behaviors be?
What should our nurses be experiencing?

We can control this if we choose to and it has to start in our schools of nursing and needs to be the lived experience in our health care facilities.
SUMMARY - Nurses

- Take pride in healing and perfection;
- Are perceived as the most trusted and ethical profession;
- Are subject to their own needs for self-esteem;
- Work with humans who have a natural tendency to attribute error;
- Work in cultures in which blame and shame are inherent even if those cultures are improving;
- Work in systems that are complex, tightly coupled, requiring hand-offs all day, with distractions and interruptions and problems to solve;
- Are fallible and will make mistakes;
- Will someday find themselves having to reconcile an error and needing to come out of the experience with their self-worth intact but also having learned from and having helped a system learn from the mistake.
WANT TO LEARN FROM ERROR?

• Error we understand – system is complex, multiple contributing factors
• What we need to understand is:
  - WE can help our nurses better understand this phenomenon that is HAPPENING TO THEM
    • Think we need to be perfect
    • Humans attribute blame
    • Humans experience dissonance and need to reconcile self-worth
    • Need to be involved – want to contribute to improvement and feel like “I’m not the only one”

“…message should be that we should not be ashamed.”
This change is up to us …

Curricula – teach it

Health Care Systems – reinforce it and live it

Thank you!
References


FESTINGER, L. (1957). A THEORY OF COGNITIVE DISSONANCE. EVANSTON, IL: ROW-PETERSON.

References


References


References
