Unprofessional Behavior Experiences and Barriers to Medication Error Reporting Predict Safety Climate in Hospital Nurses

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• Positive nursing work environment, nurse satisfaction associated with better patient outcomes (Aiken et al., 2011; Aiken, Clarke, Sloane, Lake, & Cheney, 2008)

• Improving nursing work environment can ↓ failure to rescue & patient mortality (Aiken, Sloane, et al., 2011; Silber et al., 2016)

• More positive work environment (↓ levels of unprofessional behavior, perceptions of better safety climate) should reflect greater patient safety
Study aimed to determine whether unprofessional behavior experiences and barriers to medication error reporting predict safety climate among hospital nurses

Part of workforce engagement initiative at faith-based community hospital in southwestern United States

Purpose
Spring 2017, ~1000 nurses invited using electronic mail (weekly x 3)

Explanation of study, participation requirements, anonymous link to survey (Qualtrics®)

Eligible nurses employed at hospital for 3+ months

Reminders by managers and internal hospital communications
- Demographics

- Safety Climate subscale from Safety Attitudes Questionnaire (Sexton et al., 2006)

- 3 subscales from Johns Hopkins Disruptive Clinician Behavior Survey© (JH_DCBS; Dang et al., 2015)

- 20-item Barriers to Medication Error Reporting scale (Handler et al., 2007)
- Prior validity, reliability
- 7-items with 5-point Likert scale
  - “Medical errors are handled appropriately in my unit/department/clinic.”
  - “I would feel safe being treated as a patient here.”
- Alpha, .84 (reflects internal consistency)

Safety Climate
(from Safety Attitudes Questionnaire)
Prior reliability, validity; subscale use independently

**Exposure to Unprofessional Behaviors (UBs)**
- 7 items (frequency: 1 = Never 2 = Rarely 3 = Monthly 4 = Weekly 5 = Daily)
- Conflict, Condescending language /power play, Intimidation/threats/harassment, Passive aggressive behavior, Physical violence, Professional disregard, Rudeness/disrespect

**Impact of UBs on Provider**
- 8 items measured by Likert scale

**Impact of UBs on Patients**
- 2 items (Yes, No, Not sure, Not applicable)

Alphas: Exposure to UBs, .87; Impact of UBs on Provider, .83

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**Johns Hopkins Disruptive Clinician Behavior Survey©**
Developed for use in nursing homes based upon interviews (nursing staff, physicians, pharmacists)

20-items (2 response sets: likelihood of occurrence; modifiability in terms of practice change)

List of potential barriers for medication error reporting; each rated by likelihood that item acts as a barrier (1 = Very likely to 5 = Very unlikely). Summed items = total score

Coefficient alpha, .95
Descriptive statistics – sample, survey results; correlations - potential predictors of Safety Climate

Hierarchical multiple regression (Safety Climate as dependent variable):

1. Nurse role (staff nurse = 1; other = 0)
2. Unprofessional Behavior Experiences (Exposure, Impact on Nurse, Patient Impact)
3. BMER scores

No problem with multicollinearity (Tolerance scores < .70).
457 of 480 nurse respondents completed demographics

- 90% female
- Average age 44.0 yrs (SD 12.5)
- Years in current position 0 – 39 (M 8.7 SD 8.2)
- 80% bachelor’s degree or higher
- 50% certified (outside professional organization)
- 77% clinical nurses

320 had complete data on key study variables
Experiences with UB and BMER explained 35% of variation in safety climate perceptions

- All three blocks contributed significantly to predictive power of model
- Nurse role predicted small but significant amount of variance in safety climate ($R^2 = .06$)
  - Non-clinical nurses ↑ safety climate
- “Experience of unprofessional behavior” block (3 variables) accounted for ~half explained variance ($R^2 = .16$)
  - Only Exposure to UB significantly negatively related to safety climate:
    - ↑ exposure to UB ↓ safety climate
- BMER scores predicted ~half of variance ($R^2 = .14$)
  - ↑ barriers ↓ perceptions of safety climate
Hierarchical Multiple Regression of Safety Climate Perceptions in Hospital Nurses (N = 320)

<table>
<thead>
<tr>
<th>Step</th>
<th>Predictor</th>
<th>Beta(^a)</th>
<th>R(^2) Change</th>
<th>Semi-partial correlations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Staff nurse vs. Other (Staff nurse = 1; Other = 0)</td>
<td>-.223*</td>
<td>.061*</td>
<td>-.219</td>
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<tr>
<td>2</td>
<td>Experiences with Unprofessional Behavior</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exposure (indication of frequency)</td>
<td>-.275*</td>
<td>.159*</td>
<td>-.234</td>
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<tr>
<td></td>
<td>Impact on Nurse</td>
<td>.029</td>
<td></td>
<td>.028</td>
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<tr>
<td></td>
<td>Negative Impact on Patients</td>
<td>.085</td>
<td></td>
<td>.077</td>
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<tr>
<td>3</td>
<td>Barriers to Medication Error Reporting</td>
<td>-.409*</td>
<td>.142*</td>
<td>-.376</td>
</tr>
<tr>
<td></td>
<td>Cumulative R(^2)</td>
<td></td>
<td></td>
<td>.352*</td>
</tr>
</tbody>
</table>

\(^a\) Betas for last step.

*p < .0001
• Findings support unprofessional behaviors and BMER as negatively associated with perceived safety climate among hospital nurses

• Congruent with findings from non-hospital settings r/t reporting of errors (Probst, 2015)

• Underreporting can compromise patient safety by disabling hospital improvement efforts
Findings also relate to conclusions from review evaluating disruptive behaviors between nurses & physicians in North America (Saxton, Hines, & Enriquez, 2009): such behaviors linked to ↑ patient errors and trouble concentrating on task at hand & engaging in critical thinking.
To enhance patient safety, organizations may consider appropriate programs targeted at increasing civility and decreasing barriers to medication error reporting.