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

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Background

- 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

Purpose

- 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

Methods: Procedures

- 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

Measures Reported

- 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

Johns Hopkins Disruptive Clinician Behavior Survey©

Barriers to Medication Error Reporting (BMER)

- 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

Data Analysis

- 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) .

Sample Description

- 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

Results

- 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)

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

[a] Betas for last step.

*$p < .0001$

Discussion

- 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

Conclusions

- To enhance patient safety, organizations may consider appropriate programs targeted at increasing civility and decreasing barriers to medication error reporting