

EVALUATING EVIDENCE-BASED PRACTICE KNOWLEDGE AND SKILL AMONG NURSING LEADERS IN THE WAKE OF COVID-19

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PURPOSE STATEMENT

To evaluate the level of **EBP competency** among nursing leaders in a Magnet-accredited academic medical center following COVID-19.

BACKGROUND

- The COVID-19 pandemic brought several negative changes to patient care that suggest a need to revisit evidence-based practice (EBP) skills in hospitals
 - Processes that underpin nursing professional practice and autonomy diminished
 - Patient quality outcomes worsened across both inpatient and outpatient areas
 - Post-pandemic nurses are seeking professional experiences that transcend day-to-day patient care responsibilities
- Given the high turnover in nursing during the pandemic, it is unknown if current nursing leaders have sufficient skills to lead a re-launch of EBP.

METHODS

Study Design

- Cross-sectional correlational design

Setting and Sample

- Acute care nurse managers and directors from one Magnet-accredited academic medical center

Measurement

- EBP competency measured with Halm's 13-question *Modified Fresno Test – Acute Care Nursing*, an objective, reliable and valid tool, intended to assess the EBP knowledge and skill of acute care nurses
 - Participants were given 30 minutes to complete the test.
 - Passing score is 110/220.
 - Scoring was conducted by 3 EBP educators with significant experience coaching EBP projects (one PhD prepared nurse, one Master's prepared nurse, and one Master's prepared medical librarian).
 - Two scored each test independently, and then discussed the score until consensus was reached.

Analysis

- Overall scores and pass rates were computed across groups.
- Univariate and multivariate analyses were conducted to determine factors influencing EBP competency scores.

PARTICIPANT and SCORE ANALYSIS

Characteristic	Overall (n=26)	Passed (n=6)	Did not Pass (n=20)
Position			
Asst Manager	12 (46%)	4 (67%)	8 (40%)
Manager	11 (42%)	1 (17%)	10 (50%)
Director	3 (12%)	1 (17%)	2 (10%)
Highest Degree ^a			
BSN	12 (46%)	2 (33%)	10 (50%)
Masters	12 (46%)	2 (33%)	10 (50%)
DNP	1 (4%)	1 (17%)	0 (0.0%)
PhD	1 (4%)	1 (17%)	0 (0.0%)
Female Sex	23 (88%)	5 (83%)	17 (90%)
White Race ^b	20 (95%)	4 (80%)	15 (75%)
Yrs Since Graduation ^c (mean, sd)	13.8 (12.3)	11.0 (13.0)	15.0 (12.4)
Score (mean, sd)	91.5 (24.6)	126.5 (10.5)	81.1 (16.3)

Notes: Differences in groups were calculated using χ^2 for categorical variables and independent t-test for continuous variables.

^a significant at 0.05 level using 1-sided test for position, degree, yrs. since grad. and score; ^b denominator for race is n=20 due to missing data;

^c n=21 due to missing data

There were significant differences in scores for 6 of the 13 questions: Those that did not pass had lower scores in *developing a PICO question, understanding sources of evidence, study design, searching for evidence to answer a PICO question, assessing clinical and statistical significance* and *assessing patient preferences*. Lowest scoring questions overall were related to *assessing clinical and statistical significance* (20% of possible points awarded) and *internal validity* (22% of possible points awarded).

MULTIVARIATE ANALYSIS

- We modeled overall score using linear regression and including highest level of education and years since graduation as independent variables
 - Normality assumptions were met.
- Only level of education predicted overall score, with obtaining a higher level associated with a 15 point score increase.
- Overall model $p=.076$; $F=2.986$; $R^2=.249$

Model	Unstandardized Beta	Standard Error	Standardized Coefficient	t-statistic	p-value
Coefficient	75.36	13.83		5.45	<.001
Highest level of education	14.96	6.78	.452	2.21	.040
Yrs. Since graduation	-0.51	0.42	-2.49	-1.22	.240

CONCLUSIONS and FUTURE DIRECTIONS

- Our results suggest that *acute care nursing managers and directors may not be sufficiently proficient in evidence-based practice* to lead a resurgence of EBP, even when they have a Master's degree.
- Turnover may actually improve EBP competency* because newer educated nurses may be more likely to have received EBP training, although the difference was not statistically significant.
- We plan to extend this study beyond one organization to determine the impact in other settings and with a larger sample size.
- We are conducting a sensitivity analysis to determine the impact of the shorter time-frame of administering the test on passing scores.

Overall, more than 2/3 of nurse leaders did not achieve a passing score...

...despite the fact that 100% had at least a BSN and over half had a Masters or Doctoral degree.

Those who had graduated more recently were more likely to pass, although this was not a significant effect.