Using a Needs Assessment to Determine Nurses' Knowledge Gaps in Trauma Care

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Background & Purpose

Carilion Roanoke Memorial Hospital (CRMH) is a Level I trauma center in southwest Virginia. As a trauma center, nurses are required to have four hours of trauma specific education per year, yet there is no structured orientation course related specifically to trauma at CRMH.

This study aimed to identify nurses' confidence levels in their trauma knowledge and skills. In addition, it compared nurses' confidence to providers' confidence in the nurses' trauma knowledge and skill to determine potential educational needs.

Sample

- Convenience sample
- List of nurses obtained from unit directors over the neuro-trauma and surgical PCU's and ICU's
- List of providers (physicians, ACPS, residents, and fellows) obtained by principal investigator.
- 124 TNA links emailed out
  - 15 responses round 1
  - 9 responses round 2
- Providers N=9
  - 1 excluded as TNA was incomplete
- Nurses N=15
  - 1 excluded as TNA was incomplete
- Final sample N=22

Methods

- Trauma Needs Assessment (TNA) developed
- Areas of focus included:
  - ✓ Traumatic brain injury
  - ✓ Spinal cord injury,
  - ✓ Chest tubes
  - ✓ Neuro exam
  - ✓ Neurogenic bowel and bladder
  - ✓ Incentive spirometry
  - ✓ Documentation
- REDCap® utilized for TNA data collection
- Reminder emails sent weekly over three weeks.

Results

- Fisher's Exact Test was used for data analysis with significance set at p=0.05.
- All areas of the TNA, the providers had more confidence in the nurses' care than the nurses had in themselves.

Traumatic Brain Injury	P value
Types	0.3083
Low vs. High Stimulation	0.6437
Medications	0.4653
Agitated Patients	0.5720
Mobility	0.7823
Complications	0.9381

Incentive Spirometry	P value
Teaching Patients	0.6460
Spirometry Frequency	0.1399

Spinal Cord Injury	P value
Levels of Injury	0.5078
Dermatomes	0.0161*
Medications	0.3792
Complete Injury	0.5060
Incomplete Injury	0.2524
Central Cord	0.6272
Complications	0.8664

Neurogenic Bowel	P value
Definition	1.000
Use of Lidocaine Jelly Rectally	0.7623
Bowel Medications	0.7428
When to Hold Bowel Regimen	0.7656

Neuro Exam	P value
Components of the Exam	0.7471
Dermatomes	0.4968
Glasgow Coma Score	0.0211*
Cranial Nerves	0.5852
Pupil Exam	0.0191*

Chest Tubes	P value
Indications for Use	1.0000
Managing the Drainage System	0.4209
Trouble Shooting	0.5331
Suction vs. Water Seal	0.3160
Dressing Changes	0.8529
Assessing Chest tube	1.0000
Post Removal Care	0.4042

Documentation	P value
Neuro Exam	0.6506
Bowel Regimen	0.2522
Bladder Scans	0.5541
Chest Tubes	0.7465
Incentive Spirometry	0.4319

Limitations

- Small response rate
- Potential response bias
- Single center study

Next Steps

- Curriculum has been designed
- Quasi-experimental one group pre-test/post-test repeated measure design research study
- Effects on knowledge, skills, and confidence levels

Practice Implications

- Improve nurses' self confidence
- Staff morale
- Interdisciplinary collaboration
- Engagement

Acknowledgements

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