When Disaster Strikes: A Training Intervention to Improve Nurses’ Confidence and Preparedness for the Surge

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Significance of the Problem

- Over the last 20 years, 2.6 billion people have been affected by naturally occurring mass casualty incidents (MCI) and another 2 million have been affected by man-induced MCI globally (World Health Organization [WHO], 2011).
- With the increased frequency and the lasting affects communities accrue post incident, nurses’ preparedness and confidence when responding to these incidents is of critical importance.
- Nurses in the United States reported suboptimal competence and self-reported readiness for disasters which included MCI (Lambrague et al., 2017).
- Training is insufficient, unavailable, and not standardized.

PICOT Question

Do nurses in a rural community emergency department located in the Midwest have improved self-perceived confidence and preparedness (increased modified EPIQ scores) in responding to human-induced and naturally occurring mass casualty events after completing an educational intervention including competencies specific to mass casualty incidents delivered via didactic method and hands on training over a two month period?

Review of the Literature

Search Terms: Disaster prepare** or “emergency prepare**” or “disaster management” or “disaster response” or “emergency preparedness” or “disaster training” or “disaster readiness” AND (educ* or competen* or confiden* ) AND (mass casualty or “mass gathering” AND nurs*).

Inclusion Criteria: Scholarly (Peer Reviewed) Journals; Published Date: 2006/01/01-present; and published in the English Language.

Exclusion Criteria: Educational interventions for pre-hospital personnel.

Evidence Based Practice Model: The John Hopkins Evidence Based Practice (JHNEBP) Model

Time: Two months

Measurement of Outcomes:

- Pre and Post Implementation
  - The 30 question modified Emergency Preparedness Information Questionnaire (EPIQ) was administered (Garbutt, Peltier, & Fitzpatrick, 2008).
  - Five Point Likert Scale (1= Very familiar 5= Not familiar)

Sample Characteristics

Statistical Analysis

<table>
<thead>
<tr>
<th>Paired Sample Statistics</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
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<tbody>
<tr>
<td>Pre-Test</td>
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<td>Post-Test</td>
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<td>12</td>
<td>.094</td>
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</tbody>
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Strengths and Limitations

Strengths:
- Nurses were enthusiastic to take part in an opportunity to not only benefit themselves but prepare the institution for the what has become a more prevalent occurrence globally.
- During the implementation phase, the institutions protocol was printed and made accessible for all participants. A badge reference card was developed which included the MCI triage algorithm and other key points as an available reference.
- All participants felt that the materials provided were easy to follow and assessable for future use.
- In-services were scheduled on multiple days during multiple shifts to accommodate the participants schedules.
- This project was successful, as evidence by the statistical analysis, in improving nurse’s preparedness and confidence when responding to MCI.

Limitations:
- Although in-services were scheduled on multiple days during multiple shifts, the timing of the in-service was during a very high census time in the emergency department.
- The small original sample size along with voluntary participation and high patient census resulted in fewer participants than anticipated.
- Different educational backgrounds, experiences, and prior training among the participants.

Conclusion

- The results of this EBP project authenticates current research that MCI specific education implemented into disaster training improves overall familiarity with response activities/preparedness in the case of a large-scale emergency event.
- By reviewing available training methods, recommendations for developing and delivering effective MCI training can be made to prepare nurses for disruptive events that can overwhelm staff when responding to the demands of a MCI.
- This EBP projects successful evaluation on effective MCI training can improve the preparedness of all nurses involved.