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Emergency Preparedness Education for Nurses

Core Competency Familiarity Measured Utilizing an Adapted Emergency Preparedness Information Questionnaire

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ABSTRACT

The purpose of this project was to measure trauma nurse improvement in familiarity with emergency preparedness and disaster response core competencies as originally defined by the Emergency Preparedness Information Questionnaire after a focused educational program. An adapted version of the Emergency Preparedness Information Questionnaire was utilized to measure familiarity of nurses with core competencies pertinent to first responder capabilities. This project utilized a pre- and postsurvey descriptive design and integrated education sessions into the preexisting, mandatory "Trauma Nurse Course" at large, level I trauma center. A total of 63 nurses completed the intervention during May and September 2014 sessions. Overall, all 8 competencies demonstrated significant ($P < .001$; 98% confidence interval) improvements in familiarity. In conclusion, this pilot quality improvement project demonstrated a unique approach to educating nurses to be more ready and comfortable when treating victims of a disaster.

Key Words

Disaster response education, Emergency preparedness, Emergency Preparedness Information Questionnaire, EPIQ, Trauma nurse

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I, Madeline M. Georgino, DNP, AGACNP-BC, PCCN, CCRN, confirm that the work presented in this research proposal/research report has been performed and interpreted solely by myself except where explicitly identified to the contrary. I confirm that this work is submitted in partial fulfillment for the degree of Doctorate of Nursing Practice at the University of Pittsburgh Graduate School of Nursing and has not been submitted in any other form to other journals. All approvals for the project were sought through the appropriate channels at UPMC Presbyterian (Evidence Based Council Committee, and Quality Improvement Council), as well as the University of Pittsburgh. All surveys were approved of by the aforementioned committees prior to being distributed to the nurses participating in this project; consent was obtained through completion of the survey. There are not conflicts of interest to report.

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At the end of the 20th century in response to multiple highly visible disasters, the United States placed increasing emphasis on emergency preparedness and disaster management education for health care providers.[1] Nurses have been an integral part of emergency preparedness and disaster response efforts as long as the profession has been in existence.[2] Despite comprising the largest sector of health care workers in the United States, the literature denotes that nurses often lack the proper educations and specific training necessary to help treat victims of a mass casualty incident.[3,4] This can lead to provider burnout, as well as an increased rate of victim morbidity and mortality when disaster strikes. Most undergraduate or new hire nursing orientation programs rarely provide adequate training to effectively prepare nurses.[5-10] The purpose of this pilot quality improvement project was to increase local trauma nurse familiarity regarding emergency preparedness and disaster response core knowledge competencies through the development and implementation of an evidence-based education session, which will provide a highly trained nursing staff ready and competent to respond to these unique events.

There are multiple articles published on barriers necessary to overcome to provide for a highly trained staff willing and ready to respond in a mass casualty incident.[11-13] The literature confers that treating actual victims of a disaster directly impacts health care provider willingness and comfort when responding to real-time disasters and treating victims of a mass casualty incident.[13,14] Since disasters are unpredictable by nature, it can be inferred that most nurses may not have the opportunity to treat victims in actual disaster situations. Therefore, emergency preparedness and disaster response training is invaluable to familiarize nurses with this information to provide for an effective disaster response in health care organizations nationwide.

After a review of the literature, there is some debate as to the effectiveness of emergency preparedness and disaster response education/training in reducing morbidity and mortality of victims of a real-life disaster. A systematic review by Williams et al[15] was insufficient to conclude that training interventions for health care providers are

effective in positively enhancing knowledge and skills in disaster response. However, in general institutions with comprehensive emergency preparedness educational programs and table-top/drill training demonstrated low patient fatality rates during disasters and mass casualty incidents.[16] Recent research from the Boston Marathon Bombings in 2013 further cemented the importance of this training endeavor as this was one of the first mass casualty incidents that extensive disaster training and education was directly correlated to low patient mortality and effective response during an actual disaster. Since 9/11, Boston community stakeholders (including local government, law enforcement agencies, hospitals, and many others) have collaborated extensively to create formal emergency operation plans and perform training exercises to mimic real-life disasters.[17] The Joint Commission requires all hospitals nationwide to perform 2 mock-disaster drills (either table-top or real time) annually. On average, Boston area hospitals enact community-wide drills 9 to 10 times per year, far exceeding this required stipulation.[18-20] This educational endeavor, based on findings from the literature, is important in providing nursing staff with the knowledge base to be ready, willing and competent to treat victims of a disaster.

Currently, the only reliable and valid tool in the literature utilized to evaluate nurses' perceived familiarity of emergency preparedness and disaster response core competencies is the Emergency Preparedness Information Questionnaire (EPIQ). Familiarity is an important measure as it assists in forming the basis for the acquisition of new information.[21,22] The EPIQ was developed by the Wisconsin Nurses Association in 2002 in an effort to identify critical core competency components necessary of first responders in large-scale disasters. In addition, the researchers sought to assess local nurses' perception of perceived familiarity with these capabilities and to determine preferred education methods and demographics for future educational endeavors.[23] The researchers performed an extensive search of the literature, which produced 8 competency areas for inclusion on the EPIQ.[23] These 8 competency areas included (1) triage and basic first aid; (2) biological agents; (3) ability to access critical resources and reporting; (4) the Incident Command System (ICS); (5) isolation, quarantine, and decontamination; (6) psychological issues and specialty populations; (7) epidemiology and clinical decision making; and (8) communication and connectivity. These 8 core competency components, as well as additional questions about local nurses demographics and preferred scheduling methodology, were distributed as a survey with 44 questions with respondents selecting their level of familiarity on a 5-point Likert-type scale (1 = not familiar, 5 = very familiar).

Despite its clear utility, the EPIQ has been limited in use in published research. The original literature published on the development and primary implementation of the EPIQ by Wisniewski et al[23-24] was followed by research that performed psychometric testing on the original sample population to determine that the EPIQ was reliable and valid in measuring familiarity across all 8 dimensions. McKibbin et al[14] and Baack and Alfred[25] utilized adapted versions of the EPIQ but did not perform psychometric testing to ensure the reliability and validity of their findings in comparison with the original EPIQ data. Most of the research utilizes a similar procedure as the original EPIQ, which entailed performing a primary survey on nurses with the intention of determining the lowest-ranked familiarity concepts to develop future education for health care providers. The only research conducted that utilized a pre- and posttest descriptive design with an educational session was completed by Worrall,[26] which utilized an adapted version of the EPIQ and surveyed 41 nurses in the United Kingdom. This research design was utilized in this primary pilot quality improvement project and applied the previous research findings from research utilizing the EPIQ.[26]

EDUCATIONAL SESSION/CASE STUDY DEVELOPMENT

As noted by Bulson and Bulson, "The link from the classroom to a real-life, unit-based understanding of disaster roles is best cultivated during nursing orientation, when new nurses should ask the veterans about disaster plans, unit expectations, and their experiences."[2(p481)] Although general nursing clinical education courses are taught to all new hires across most organizations, new trauma specialty nurses at a local level I trauma center were selected as a target population. In March 2012, nurses from this institution were first responders/code responders, as well as primary health care providers for victims of an active shooter incident at a local psychiatric hospital. Therefore, since actual victims of a disaster flowed through various levels of acuity in this service line, it can be inferred that this population of nurses should receive this education as part of their mandatory new hire training to assist in their familiarity with these core competencies if future local disasters should arise.

All newly hired nursing staff in the trauma service line at the local Pittsburgh level I trauma center are required to successfully complete "Trauma Nurse Course" within 1 year of employment. The "Trauma Nurse Course" education meets the current standard recommendations for mandatory education for trauma specialty nurses set forth by the Pennsylvania Trauma Systems Foundation Core Curriculum.[27] Each education session on trauma-specific curriculum is completed in a 1- to 2-hour face-to-face presentation over a 3-day period with a comprehensive examination at the end of the last day of education. As noted by the original EPIQ research, nurses prefer

face-to-face education in a 2-hour lecture/Web-based training modality.[23] Therefore, in an effort to increase emergency preparedness and disaster response core competency familiarity of local trauma nurses, the authors' intention was to implement this educational initiative as an addendum to current nursing curriculum offered during the "Trauma Nurse Course."

The education session focused on the 8 core competency topics as defined by the original EPIQ as these coincided with suggested education on emergency preparedness and disaster response for nurses. Subsequently, an iterative review of the literature was conducted for topic-specific educational materials. Sources including the Federal Emergency Management Agency and the Centers for Disease Control and Prevention were utilized to provide up-to-date information on chemical and biological agents. A search of the local hospital's policy and procedures online database was performed to obtain all relevant Emergency Operation Plans (EOP) specific to preparedness concepts.

The case study that was presented in addition to the educational session sought to further enhance familiarity by applying concepts learned into a mock disaster table-top exercise. Despite the original EPIQ research demonstrating most Wisconsin nurses are familiar with bioterrorism agent preparedness and associated response procedures, other non–EPIQ-specific research has showed consistently that nurses are least familiar with this area of preparedness.[28] Therefore, since the trauma service line demographic was primarily acute care nurses the authors determined that the case study should focus on biological agent preparedness, detection, response, and hospital-specific Emergency Operation Plans related to the specific agent. Inhalation anthrax and a large-scale mass casualty incident at a local sporting arena were chosen as the "hot-zone" for this simulated bioterrorism attack. Inhalation anthrax is a "category A" bioterrorism agent that can be easily disseminated, highly infective after primary exposure, results in high mortality, can cause public panic, and requires special action for public health preparedness actions.[29] The primary author interwove 10 free response/multiple choice questions that the participants were asked to callout answers to throughout the case study presentation. These included questions on (1) identification that a bioterrorism attack had occurred; (2) surveillance and detection concepts specific to anthrax release; (3) personal protective equipment; (4) communication and the ICS; (5) treatment of infected patients; (6) transmission patterns specific to anthrax; (7) where to locate and how to execute policies specific to their local hospital; (8) free response questions on if the nurse would enter a building and would response, and if the nurse would come to work without knowing what sort of agent (chemical vs biological vs radiological) was the exposure.

ADAPTATION OF THE EPIQ

To adapt the EPIQ, the authors reduced the original questionnaire from 44 questions to 18 questions on the pretest and 20 questions on the posttest. Primarily, questions on preference of class scheduling as well as nursing demographics were eliminated. In addition, questions within the 8 core competencies were adapted or edited to accommodate a limited time frame (2 hours) for the pretest, posttest, educational session, and case study presentation. Subsequently, the adapted EPIQ contained a more in-depth, expanded key defining each level of familiarity. The original EPIQ contained a question ranking overall familiarity with emergency preparedness and disaster response core competencies. This was edited on the posttest, and an additional question on how the course could be edited for future sessions with a free response area was also included (see Tables 1 and 2).

PILOT QUALITY IMPROVEMENT PROGRAM OVERVIEW

This project was approved by the University of Pittsburgh Doctorate of Nursing Practice Committee, as well as the Evidence Based Council Committee and Quality Improvement Committee at the University of Pittsburgh Medical Center Presbyterian. Completion of the surveys denoted consent. The primary author provided a brief description of this quality improvement project and how data would be collected to all nurse participants at "Trauma Nurse Course" during each of the 2 sessions. Each nurse was told to choose a unique identifier of 5 letters and numbers to put on the pretest and posttest. The primary purpose of the unique identifier was to determine whether there was an improvement in mean familiarity scores for the 8 core competencies (and furthermore, each of the 18 questions) between pre- and posttest evaluations for each nurse. A packet of materials was then disseminated to each nurse. Each packet contained (1) the pretest survey; (2) copy of the educational session presentation; (3) ancillary packet with additional information on biological, chemical, and radiological agents; (4) a small paper printout for the nurses to keep between the pre- and posttest to remember their unique identifier. After the nurses completed the pretest (approximately 15 minutes), they were collected. This was to ensure that the posttest responses would not be based on the pretest responses and erroneously inflate scores. The education session was approximately 1 hour in length and based on the core competency dimensions as defined by the EPIQ. After the education session was completed, the case study was presented to the nurses in approximately 45 minutes. Finally, the posttest with the aforementioned 2 additional questions was distributed to the nurses and collected prior to the nurses leaving.

TABLE 1 Eighteen-Question Adapted Emergency Preparedness Information Questionnaire (EPIQ)[a]

Unique identifier (last 5 digits of your social security number [SSN], or 5 letters and numbers of your choosing):

Please circle the number of your level of familiarity with the following topics before AND/OR after educational program and table top exercise.

Key:

1. I have never heard of this topic before.
2. I have heard the terminology but have no knowledge of this information.
3. I know the terminology but have limited knowledge of this topic.
4. I am familiar with this topic but not extremely proficient in all subject matter.
5. I am very familiar with this topic; I am an expert in proficiency on this topic.

Topic	Level of Familiarity				
I. Triage and basic first aid					
Q1. Performance of a rapid physical and mental assessment	1	2	3	4	5
Q2. Assisting with triage (START model)	1	2	3	4	5
Q3. Basic first aid in a large-scale emergency event	1	2	3	4	5
II. Biological agent detection					
Q4. Recognition of relevant signs and symptoms	1	2	3	4	5
Q5. Modes of transmission	1	2	3	4	5
Q6. Appropriate antidote and prophylactic medicine	1	2	3	4	5
Q7. Possible adverse reactions/complications	1	2	3	4	5
Q8. Signs/symptoms of exposure to different biological agents	1	2	3	4	5
III. Accessing critical resources and reporting					
Q9. When to report an unusual set of symptoms to the local and state health departments	1	2	3	4	5
IV. The Incident Command System (ICS)					
Q10. Knowledge of an Emergency Operation Plan (EOP)	1	2	3	4	5
Q11. Processes of the ICS	1	2	3	4	5
Q12. Agency preparedness information	1	2	3	4	5
Q13. The content of the EOP at hospital	1	2	3	4	5
V. Isolation, quarantine, and decontamination					
Q14. Isolation procedures for persons exposed to biological or chemical agents	1	2	3	4	5
VI. Psychological issues					
Q15. Signs/symptoms of posttraumatic stress following a disaster	1	2	3	4	5
Q16. Appropriate psychosocial needs/resources for victims	1	2	3	4	5
VII. Epidemiology and clinical decision making					
Q17. Ability to discern and treat persons with comorbidities whom are exposed to chemical agents, biological agents and/or radiation.	1	2	3	4	5
VIII. Communication and connectivity					
Q18. Procedures for communicating critical patient information for transporting patients during a disaster transporting	1	2	3	4	5

[a]*Adapted with permission by Gina Dennik-Champion, MSN, RN, MSHA, and James W. Peltier, PhD.*

TABLE 2 Posttest Adapted EPIQ, Additional 2 Questions

Please answer the following questions if this is a posttest survey:				
1. This course improved my knowledge regarding emergency preparedness and disaster response:				
Strongly disagree	Disagree	Neutral	Agree	Strongly agree
2. Please provide feedback for how this education session could be improved the following space:				

Abbreviation: EPIQ, Emergency Preparedness Information Questionnaire.

STATISTICAL PROCEDURES

A paired student test was utilized to analyze the data collected in Statistical Product and Service Solutions. This was to determine whether there was a statistically significant difference between pre- and posttest familiarity scores with the educational intervention. Subsequently, data were analyzed for each of the 18 questions to make comparisons between pre- and posttest mean familiarity scores (see Table 3).

With the exception of Worrall,[26] other previous versions of research conducted with the EPIQ did not utilize a pre- and posttest design with an educational session. Therefore, to make comparisons mean familiarity scores were computed and ranked from highest to lowest score to make comparisons with previous research that did not utilize this design (see Table 4). This is also a unique endeavor as it utilized a case study table-top exercise that had not been previously done with prior EPIQ research.

RESULTS

A total of 63 trauma specialty nurses participated in the 2 education sessions at "Trauma Nurse Course": May 2014 (29 nurses); September 2014 (34 nurses). This unique population of nurses spanned various levels of acuity and units at this level I trauma center including the emergency department, operating room, intensive care units, and telemetry units. Overall, all emergency preparedness and disaster response core competencies as defined by the EPIQ had a statistically significant ($P < .001$; 98% confidence interval) improvement in mean familiarity score between pre- and posttest surveys. In addition, each of the 18 questions on the pre- and posttest showed a significant improvement in mean familiarity scores (see Table 3). The posttest question—"This course improved my knowledge regarding emergency preparedness and disaster response" had a total of 62 responses; most nurses "agreed" (28 nurses total; 45.2%) or "strongly agreed" (25 responses; 40.3%). Therefore, this pilot quality improvement project demonstrated improvement in mean familiarity scores between pre- and posttest evaluations and can be considered successful.

DISCUSSION

The purpose of this pilot quality improvement project was to increase local trauma nurse familiarity regarding emergency preparedness and disaster response core knowledge competencies through the development and implementation of an evidence-based education session, which will provide a highly trained nursing staff ready and competent to respond to these unique events. This project was successful on the basis of the statistically significant improvement between the pre- and posttest mean familiarity scores.

After analyzing mean improvement in familiarity scores between pre- and posttest results, the top 3 most improved familiarity scores included (1) the ICS; (2) accessing critical resources and reporting; and (3) isolation, quarantine, and decontamination (see Table 3). Despite the ICS ranking in the lowest overall mean improvement scores, it can be inferred that the education improved trauma nurse scores and subsequent education would be necessary to have the rank-order change. The least improved mean familiarity scores for the 8 core competencies included (1) II. Biological agent detection; (2) VI. Psychological issues and VII. Epidemiology and clinical decision making; and (3) Triage and basic first aid. Biological agents were not discussed in length during this project, and therefore additional education on this topic may help with enhanced comprehension. Psychological issues and triage and basic first aid had some of the highest overall familiarity scores on the pretest Likert-type score;

TABLE 3 Results: Statistical Analysis of Mean Improvement in Familiarity Scores of All 18 Questions Within the 8 Core Competencies as Defined by the EPIQ on the Pre- and Posttest Surveys

Question	Paired Differences					*t*	*df*	Significance (2-Tailed)
	Mean Familiarity Score Improvement	Standard Deviation	Standard Error Mean	98% Confidence Interval of the Difference				
				Lower	Upper			
I. Triage and basic first aid								
Q1: Performance of a rapid physical and mental assessment	0.492	0.796	0.104	0.739	0.244	4.743	58	0.000
Q2: Assisting with triage (START model)	1.644	1.079	0.140	1.980	1.308	11.704	58	0.000
Q3: Basic first aid in a large-scale emergency event	0.534	0.821	0.108	0.793	0.276	4.957	57	0.000
II. Biological agent detection								
Q4: Recognition of relevant signs and symptoms	0.780	0.811	0.106	1.032	0.527	7.386	58	0.000
Q5: Modes of transmission	0.780	0.892	0.116	1.057	0.502	6.715	58	0.000
Q6: Appropriate antidote and prophylactic medicine	0.746	0.902	0.117	1.027	0.465	6.351	58	0.000
Q7: Possible adverse reactions/complications	0.847	0.887	0.115	1.124	0.571	7.339	58	0.000
Q8: Signs/symptoms of exposure to different biological agents	1.051	0.860	0.112	1.319	0.783	9.391	58	0.000
III. Accessing critical resources and reporting								
Q9: When to report an unusual set of symptoms [...]	1.305	0.915	0.119	1.590	1.020	10.961	58	0.000
IV. The Incident Command System (ICS)								
Q10: Knowledge of an Emergency Operation Plan (EOP)	1.254	0.993	0.129	1.564	0.945	9.702	58	0.000
Q11: Processes of the ICS	1.576	0.932	0.121	1.867	1.286	12.988	58	0.000
Q12: Agency preparedness information	1.576	0.986	0.128	1.833	1.269	12.277	58	0.000
Q13: The content of the EOP at UPMC	1.220	0.911	0.119	1.504	0.937	10.289	58	0.000
V. Isolation, quarantine, and decontamination								
Q14: Isolation procedures for persons exposed to biological or chemical agents	1.136	0.973	0.127	1.439	0.833	8.964	58	0.000
VI. Psychological issues								
Q15: Signs/symptoms of posttraumatic stress [...]	0.864	0.776	0.101	1.106	0.623	8.558	58	0.000
Q16: Appropriate psychosocial needs/resources for victims	0.847	0.761	0.099	1.085	0.610	8.549	58	0.000
VII. Epidemiology and clinical decision making								
Q17: Ability to discern and treat persons with comorbidities whom are exposed to [...]	1.136	0.706	0.092	1.356	0.916	12.354	58	0.000
VIII. Communication and connectivity								
Q18: Procedures for communicating critical patient information for transporting patients during a disaster	1.119	1.035	0.135	1.441	0.796	8.229	58	0.000

Abbreviations: EPIQ, Emergency Preparedness Information Questionnaire; EOP, Emergency Operation Plan; ICS, Incident Command System; UPMC, University of Pittsburgh Medical Center.

TABLE 4 Highest- and Lowest-Ranked Mean Familiarity Score Core Competencies Based on a Literature Review of the EPIQ

Authors	n	Highest Mean Familiarity Score Competency	Lowest Mean Familiarity Score Competency
Wisniewski et al[23]	877	1. Triage and basic first aid (3.15) 2. Detection (2.85) 3. Accessing critical resources and reporting (2.74)	1. Psychological issues (2.38) 2. Epidemiology and clinical decision making (2.12) 3. Communication and connectivity (2.08)
Garbutt et al[24]	776	1. Triage (3.2) 2. Biologic agents (2.9) 3. Reporting and accessing critical resources (2.8)	1. Psychological issues and special populations (2.4) 2. Epidemiology and clinical decision making (2.2) 3. Communication and connectivity (2.1)
Worall[26]	41	1. Incident Command System 2. Triage 3. Reporting and accessing critical resources	1. Epidemiology and clinical decision making 2. Psychological issues and special populations
This study	63	1. Triage and basic first aid (3.50) 2. Psychological issues (3.47) 3. Accessing critical resources and reporting (3.35)	1. Epidemiology and clinical decision making (3.10) 2. Biological agent detection (3.00) 3. The Incident Command System (ICS) (2.98)

Abbreviations: EPIQ, Emergency Preparedness Information Questionnaire; ICS, Incident Command System.

therefore, this most likely contributed to the overall lower variation between pre- and posttest scores. Since this pretest and posttest descriptive design has only been utilized once in prior literature, additional quality improvement project must be completed with this type of design to be able to make comparative results.

In comparing the results of this quality improvement project to the literature, there are several similarities and differences to be discussed. In general, the previous literature confers that nurses are most familiar with (1) triage and basic first aid, (2) accessing critical resources and reporting, and (3) detection/biological agents (see Table 4). The lowest-ranked familiarity scores across the literature included (1) psychological issues, (2) epidemiology and clinical decision making, and (3) communication and connectivity. In contrast to the literature, the results from this quality improvement demonstrate several differences in the highest- and lowest-ranked familiarity score competencies. Psychological issues ranked in the bottom for most prior literature; however, it was one of the 3 highest competency areas in this project. This is most likely due to the fact that the trauma nurses received additional education during "Trauma Nurse Course" on this topic matter prior to the emergency preparedness and disaster response presentation that influenced scores. Subsequently, biological agent detection and the ICS ranked among the lowest familiarity scores for this population. This is most likely due to the fact that these topics were not discussed in depth, or that trauma nurses represent an new demographic of nurses that had previously not been utilized, which influenced results.

LIMITATIONS

Despite the results showing improvement in overall nursing familiarity with emergency preparedness and disaster response core competencies as defined by the EPIQ, there are multiple limitations to this project.

First, this is a subjective, ordinal reporting system versus an objective test. A true evaluative test may be inappropriate as there was very limited time between the pretest and posttest analyses (approximately 2 hours total). If this education session were to span multiple days, a formal evaluative test may provide more objective data. Psychometric testing of the original EPIQ tool was performed, which revealed good validity and reliability. However, the adapted version of the EPIQ did not have this completed. The reduction in the number of questions or changes to the Likert-type scale may have impaired the reliability and validity of this tool. However, the statistical analysis demonstrating increased familiarity on all 8 core competencies cannot be ignored. For future endeavors, this would need to be completed to ensure data collected was relevant to the original findings. The biological agents demonstrated marginal improvement

between pre- and posttest analyses. In future educational sessions, there will be additional time allotted to this subject matter as it seemed to perplex nurses the most. Despite ancillary packets, and a case study focusing on the biological agents, additional education sessions solely dedicated to biological agents may be required to see a more significant improvement between pre- and posttest scores. As previously mentioned, original research with the EPIQ accessed a unique population of public health workers, first responders, and emergency department nurses, which was not representative of this population. Agents may be more familiarity to previous populations in research conducted with the EPIQ.

CONCLUSIONS

The purpose of this quality improvement project was to increase familiarity of local trauma staff nurses regarding emergency preparedness and disaster response core competencies through the development and implementation of an evidence-based education session, which will provide a highly trained nursing staff ready and competent to respond to these unique events. This project demonstrated a statistically significant improvement in mean familiarity scores between pre- and posttest analyses. Although adapting the original EPIQ was beneficial for this project, reducing the number of questions without completing psychometric testing may be a major limitation of this endeavor. However, the authors feel that the trauma nurses displayed increased familiarity on the basis of the statistical results. This is a feasible education program that can be easily incorporated into new nurse or continuing nursing education nationwide. In an era where disasters are becoming increasingly visible, it is imperative that nurses nationwide become familiar with these basic core competencies to be an effective and integral part of treating victims of a mass casualty incident, should and when a disaster strikes.

KEY POINTS

- Since nurses are critical to effective response, emergency preparedness and disaster response education is necessary for trauma nurses. Enhancing trauma nurse familiarity and knowledge regarding emergency preparedness and disaster response core competencies may improve response in an actual disaster.
- Emergency preparedness and disaster response education can be easily integrated into preexisting trauma nurse education or new graduate nursing education. The use of a table-top case study or interactive drill may also cement concepts learned in real-life applications.
- The purpose of this quality improvement project was to measure trauma nurse improvement in familiarity with emergency preparedness and disaster response core competencies as originally defined by the Emergency Preparedness Information Questionnaire (EPIQ).
- This project utilized a pre- and postsurvey descriptive design and integrated education sessions into the preexisting, mandatory "Trauma Nurse Course" at large, level I trauma center. A total of 63 nurses completed the intervention during May and September 2014 sessions. Overall, all 8 competencies demonstrated significant ($P < .001$, 98% confidence interval) improvements in familiarity.
- Despite the limitations of this project, the authors feel that trauma nurses in this population demonstrated increased familiarity (and knowledge) of the emergency preparedness/disaster response core competencies as defined by the EPIQ. Future psychometric testing of the adapted EPIQ, as well as experimentally designed studies may be necessary to confirm the findings in this quality improvement project.

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