ORIGINAL ARTICLE

Exploration and development of standardized nursing leadership competencies during disasters

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Abstract
Aim: A systematic literature review was conducted to explore research on the subject of nurse leadership competencies during disasters.

Methods: A modified Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) search and review method was used, with pre-specified inclusion and exclusion criteria, definition of terms, and documentation of selection decisions, to retrieve articles published in the last 5 years that contained some or all of the desired search criteria. Articles were excluded if they were unrelated to leadership during disasters, or had solely an education- or clinical-care focus. Three reviewers performed the screening process.

Results: Interrater reliability (0.81) was confirmed through two rounds of title review and two rounds of abstract review. Twenty-two articles from a total of 207 identified were deemed relevant from a search using PubMed, CINAL, Scopus, Embase and Web of Science.

Conclusion: Results from the literature search were limited, and few articles were directly related to the specific search. Three articles that were reviewed addressed disaster competencies; no articles were found to focus on nursing or nursing leadership disaster competencies. This negative literature search revealed that more rigorous research on nurse leadership needs to be conducted and available, from which a cohort of standardized competencies can be shaped to address future disaster management.

Key words: competencies, disaster, leadership, nursing

INTRODUCTION
Disaster events create a sudden, unanticipated demand for healthcare services, which is referred to as ‘patient surge’ and has the potential to quickly overwhelm a hospital’s capability to function properly. During a disaster, the demand for care exceeds capacity to respond, and the institution’s normally acceptable patterns of care are disrupted to cater for crisis standards for care. Activation of the hospital’s emergency system response plan (ESRP) will trigger an incident command system (ICS) structure for leadership decision-making. With nurses at the forefront of service for disaster events, a wealth of research, with an evidence-based approach, and resources should be available to nurse leaders to prepare, respond, mitigate and recover from such disasters. Universal or, at minimum, widely tested and accepted knowledge sets and competencies should be expected from nurse leaders when engaging in ICS and decision-making in these critical situations. Application of competency-based leadership and decision-making, as well as education, was a relatively new concept to the field of disaster response ten years ago (Hsu et al., 2006). This, however, cannot continually be stated as justification that practices and decisions during disasters still lack foundations in sound research and professional training. Evidence must be used to identify those leadership competencies associated with better disaster outcomes from those we simply believe to be important to disaster.
leadership. Though a number of experts and organizations have produced their own lists of competencies and recommendations for clinicians and public health professionals working in disaster, standardization of nurse training or expectations of nurse leader competencies during disasters does not yet exist. The purpose of this study was to explore the existing evidence on nursing leadership competencies during disasters. This knowledge can then be used to inform nursing education in the arena of preparing leaders for disaster events.

METHODS

Search strategy
We conducted a search of peer-reviewed literature on the subject of nursing leadership during disasters. We used a modified PRISMA-guided search and review method, with pre-specified inclusion and exclusion criteria, definition of terms and documentation of selection decisions, as recommended by Kastner et al. (2012) and Moher, Liberati, Tetzlaff, and Altman (2009). The systematic search methodology, including the search terms, was developed in collaboration with an expert health sciences librarian, and specific to the topic of disaster nursing leadership. Medical subject headings (MeSH) included: nurse, nursing; leadership, leader; disaster, public health emergency; and competencies.

Data sources and searches
A comprehensive search was conducted using MEDLINE (PubMed), CINAHL, Scopus, Embase, and Web of Science databases. These five electronic databases were included in the search, based on relevance to the research question and feasibility of yielding appropriate results. For thoroughness, the search was executed a second time in each database using appropriate subheading MeSH terms (e.g., hurricane, earthquake, etc.) to ensure that all relevant studies were captured. Finally, the reference lists of the final articles included in this study were hand searched to ensure that pertinent and eligible articles were not missed.

Eligibility criteria and study selection
For inclusion in this review, articles must have been published in a peer-reviewed journal in the English language within the last 5 years (January 2009 – August 2015). A limitation to the last 5 years was chosen to capture the most timely and relevant research available. Inclusion criteria encompassed reference to competencies, knowledge base or skill sets within articles retrieved, or reference to nurse leadership and decision-making during disasters. Articles that focused solely upon clinical aspects of disaster nursing or education related to disaster response were excluded. A title screening of the articles was first conducted to rule out and delete any obviously irrelevant articles that the search retrieved. Sixty-six articles were determined to be relevant in PubMed, 54 in CINAHL, 69 in Scopus, 128 in Embase, and 26 in Web of Science (Table 1). After removing duplicates, the search revealed 207 unique articles relating to nursing leadership competencies during disasters. The researchers met again to discuss themes and challenges in evaluating articles, and to ensure the credibility of the selection process. Three reviewers performed the screening process. Interrater reliability (0.81) was confirmed through two rounds of title review and two rounds of abstract review.

RESULTS
A total of 207 articles were identified from the literature search; after title and abstract reviews, 19 were considered for full examination based on inclusion criteria (Table 2). A manual search through references of the 19 chosen articles revealed an additional three articles for review, making for a total of twenty-two articles (Figure 1). The results of the systemic review produced a largely negative literature search (Table 3). None of the articles retrieved fit into the specified criteria, including concentration on all four focus themes (i.e., nursing, leadership, competencies, and disasters). When competencies were mentioned within studies, they were rarely specifically referred to as such. The majority of studies found were qualitative; only three studies presented quantitative data, all through the use of cross-
Table 2  Search terms and review criteria

| Search terms                                                                 | Exclusion criteria                                      |
|------------------------------------------------------------------------------|---------------------------------------------------------|
| Nurse: nursing, nurse                                                         | Published prior to 2008                                  |
| Leadership: leaders, leadership                                               | Not related to disasters                                |
| Disasters: accident, biological accident, crisis, cyclone, cyclonic storms, | Not available in English                                |
| disaster, disaster response, disease outbreak, earthquake, epidemic, flood,  | Focus solely on clinical care or education               |
| geological processes, hurricane, mass casualty, pandemic, public health      |                                                         |
| emergency, terrorism, tsunami, tornado, volcano,                            |                                                         |
| Competencies: characteristics, competencies, qualities                       |                                                         |

Inclusion criteria: Exclusion criteria:
- Reference to competencies, skill sets, or knowledge base in disasters
- Reference to nurse leadership and decision-making in disasters
- Published prior to 2008
- Not related to disasters
- Not available in English
- Focus solely on clinical care or education

Figure 1  Flow diagram of disaster nursing leadership competencies.

Table 3  Literature search by included criteria

| Categories                        | References                                      |
|-----------------------------------|-------------------------------------------------|
| Includes a focus on nursing       | 1. Bahrami et al., 2014                         |
|                                   | 2. Blanke, & McGrady, 2011                      |
|                                   | 3. Daily et al., 2010                           |
|                                   | 4. Danna, Bernard, Schaubhat, & Mathews, 2010*  |

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| Categories                                                                 | References                                                                 |
|---------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 5. De Jong et al., Farrar, 2010                                           | 6. Gulzar, Faheem, & Somani, 2012                                           |
| 7. Hale, 2008                                                              | 8. Knebel, Toomey, & Libby, 2012                                           |
| 9. Legg, 2009                                                              | 10. McHugh, 2010                                                            |
| 11. Priest, 2009                                                           | 12. Samuel, Quinn Griffin, White, & Fitzpatrick, 2015                       |
| 13. Sheetz, 2010                                                           | 14. Shih et al., 2009                                                       |
| 15. Vitello-Cicciu, & Quin, 2013                                          |                                                                            |

| Addresses leadership directly, generally                                   | 1. Blanke, & McGrady, 2011                                                  |
| 2. Clukey, 2010                                                            | 3. Danna et al., 2010                                                       |
| 4. Davidson et al., 2009                                                   | 5. De Jong et al., 2010                                                      |
| 6. Farrar, 2010                                                            | 7. Filmer, & Ranse, 2013                                                    |
| 8. George, Denham, Burgess, Angood, & Keohane, 2010                       | 9. Knebel et al., 2012                                                      |
| 10. Legg, 2009                                                             | 11. Lim, Lim, & Vasu, 2013                                                  |
| 12. Priest, 2009                                                           | 13. Samuel et al., 2015                                                    |
| 14. Schultz, Koenig, Whiteside, Murray, & National Standardized All-Hazard Disaster Core Competencies Task Force, 2012 | |
| 15. Sheetz, 2010                                                           | 16. Shih et al., 2009                                                       |
| 17. Vitello-Cicciu & Quin, 2013                                            |                                                                            |

| Articulates leadership themes or domains                                   | 1. Danna et al., 2010                                                       |
| 2. De Jong et al., 2010                                                    | 3. Farrar, 2010                                                             |
| 4. George et al., 2010                                                    | 5. Knebel et al., 2012                                                      |
| 6. Legg, 2009                                                             | 7. Samuel et al., 2015                                                     |
| 8. Schultz et al., 2012                                                   |                                                                            |

| Articulates competencies                                                  | 1. Bahrami et al., 2014                                                      |
| 2. Daily et al., 2010                                                      | 3. Schultz et al., 2012                                                     |

| Includes competencies for disaster-related work                            | 1. Bahrami et al., 2014                                                      |
| 2. Daily et al., 2010                                                      | 3. Schultz et al., 2012                                                     |

| Includes leadership competencies for disasters                             | None found                                                                  |
| Includes competencies specific to disaster nursing leadership             | None found                                                                  |


| Study authors                  | Year | Title                                                                 | Type of study | Additional description                                                                 | Key findings in nursing leadership and competencies                                                                 | Recommendations/conclusions                                                                 |
|--------------------------------|------|------------------------------------------------------------------------|---------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Bahrami, Aliakbari, & Aein     | 2014 | Iranian nurses’ perception of essential competences in disaster response: A qualitative study | Qualitative: Phenomenology | 35 nurses from various provinces and working background interviewed from Iran; each had prior experience working in a disaster. | Five themes were identified with corresponding categories: disaster scene coordination, management of human and other resources, professional ethics in disaster, adherence to law in disaster, knowledge about duties and organization hierarchy, unity in command, physical ability, self-management, meta competence critical thinking ability, communication skills, specific knowledge and applying knowledge. Subcategories identified were determined by interviewees as competencies for nursing. | This study examined the competencies required for nurses to provide better care in disaster situations. According to the findings, technical, management, ethical and personal abilities are necessary for all nurses who are providing care. Considering the importance of these competencies in disastrous situations, it seems necessary to put these trainings in academic curriculums and in nurses’ service trainings. |
| Blanke, & McGrady              | 2011 | From hot ashes to a cool recovery: Reducing risk by acting on business continuity and disaster recovery lessons learned | Qualitative: Case study | Continuing operations post-fire at a Visiting Nurses Association building. | Critical leadership and clear communication across all stakeholders is important. Ongoing and regularly scheduled leadership communication is also very important. Senior leadership was onsite to immediately initiate the business continuity and disaster response plan. | To create a CEO and senior management succession plan in the event that they are not onsite or not available. |
| Clukey                         | 2010 | Transformative experience for Hurricanes Katrina and Rita disaster volunteers | Qualitative: Phenomenology | 8 self-selected volunteer informants individually interviewed; thematic analysis used. | The prominent finding was that volunteering in response to these natural disasters was a transformative experience for the relief workers. Three thematic categories emerged as common findings; these were: emotional reactions, frustration with leadership, and life-changing personal transformation. Respondents identified lack of competent organizational leadership as the most significant negative experience. Respondents reported people in decision-making roles lacked the interpersonal skills needed for leadership responsibility. | The author recommends that using federal guidelines and university-based programs could help develop, implement and evaluate educational programs for their proficiency in developing skilled relief service providers. Leadership training and coordination skills for organizers and professionals sent into disaster situations may be essential. |

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| Study authors | Year | Title | Type of study | Additional description | Key findings in nursing leadership and competencies | Recommendations/ conclusions |
|---------------|------|-------|---------------|------------------------|---------------------------------------------------|-------------------------------|
| Daily, Padjen, & Birnbaum | 2010 | A review of competencies developed for disaster healthcare providers: limitations of current processes and applicability | Literature review Electronic database search with disaster and competencies used as key words. | 86 articles were identified, 39 were deemed appropriate for analysis. 28 articles described competencies targeted to a specific profession, 10 articles described competencies targeted to a defined role or function during a disaster, two articles categorized disaster nursing competencies according to the phases of the disaster management continuum. | Hundreds of competencies have been developed in attempts to create a healthcare workforce prepared to respond appropriately and effectively to a disaster. Thus far, none of the reviewed competencies have been validated, nor is there any evidence to indicate that any one of the published sets of competencies is better or more useful than another. |
| Danna, Bernard, Schaubhut, & Mathews | 2010 | Experiences of nurse leaders surviving Hurricane Katrina, New Orleans, Louisiana, USA | Qualitative: Case study Descriptive of authors’ own experiences. | Nurses found themselves in the role of both caretaker and victim. Nurse managers were challenged to return to work coping with personal, property and financial losses. Nursing leaders assumed many roles and functions including organization and coordination, creativity, spontaneity and flexibility, patient advocacy and assertiveness, teamwork, camaraderie, and support for staff members and each other. | Nurses are in the unique positions to serve as caregivers and leaders when responding to these life-threatening events. Nurses have the responsibility to maintain competence and preparedness during disaster and emergency situations. |
| Davidson et al. | 2009 | Disaster dilemma: Factors affecting decision to come to work during a natural disaster | Qualitative: Descriptive phenomenology Focus group at urban teaching hospital. | Hospital leaders may influence disaster response by establishing a caring connection, providing resources for family members and pets, and promoting perceived importance of the employee. | This study further validates that the response to disaster may be contextually based upon family, safety, vulnerability, connectivity, perceived importance, past experience, and time. It is plausible that these factors may be modifiable with creative preplanning by hospital leadership. |
| De Jong et al. | 2010 | Mass casualty care in an expeditionary environment: Developing local knowledge and expertise in context | Qualitative: Phenomenology Interviewed 107 Army, Air Force and Navy nurses to explore clinical experiential knowledge. | Leaders influence the extent to which nurses incorporate local context and local knowledge into practice. This kind of “locally focused specialization” became increasingly organized over time of deployment and was due, in large measure, to strong leadership by the clinical leader in the emergency department. In dealing with the uncertainty of incoming casualties, strong clinical leadership is essential. Nurses learned a tremendous amount of knowledge during each mass-casualty event. | Authors describe 12 prominent principles of managing mass-casualty events that leaders and clinicians should use as they plan for, execute care, and reflect on care provided during mass-casualty events. The use of these 12 principles can initiate self-improving practices and provide efficient and local expert care, which promotes learning and esprit de corps. |

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| Study authors | Year | Title | Type of study | Additional description | Key findings in nursing leadership and competencies | Recommendations/conclusions |
|---------------|------|-------|---------------|------------------------|-------------------------------------------------|------------------------------|
| Farrar        | 2010 | Pandemic influenza: Allocating scarce critical care resources | Qualitative: Descriptive literature review | Nursing leaders play a significant role in the planning and implementation of processes for scarce critical care resource allocation during pandemic events. Nursing leaders need to consider: professional responsibility; development and validation of triage protocols; ethical impact; alternate models and standards of care; communication and collaboration; and education, training and testing. | A paucity of scientific research evidence exists to inform the practice of nurse leaders. A thorough search of the literature revealed a complete lack of experimental or quasi-experiment research designs. There is a need for ongoing research and discussion to address issues such as professional responsibility, crisis communication and collaboration, ethical dissonance, and the rights of patients and families during pandemic events. |
| Filmer, & Ranse | 2013 | Who is my leader? A case study from a hospital disaster scenario in a less developed country | Qualitative: Case study | Nursing and medical staff are often quick to fill any voids in leadership that can develop in a disaster scenario. Official leadership was rarely adequately maintained with multiple people taking on roles of leadership and giving contradictory commands. Leaders struggled to take a broad leadership prospective and manage security, casualty movement and communication. Many nurses who volunteer for disaster leadership roles have not had formal training regarding such roles. Spontaneous leaders who may naturally assume leadership may cause disruption to the disaster plan. | Both the recognized leadership of an organization and those who, in a disaster, may step up as “disaster leaders” need to be confident in implementing the disaster contingency plans. Leadership during disaster must have a clear distinction between the incident controller and clinical leader roles. |
| George, Denham, Burgess, Angood, & Keohane | 2010 | Leading in crisis: Lessons for safety leaders | Quantitative: Cross-sectional survey | 674 hospitals with an average of 4.5 participants per hospital participated in a webinar; 272 safety leaders responded to a survey immediately after the webinar. | The 7 Lessons for Leading in Crisis provide a roadmap of the well-developed and evidence-based Safe Practices. Challenges of nursing leadership addressed, which can be approached with this 7 Lessons model, include ongoing industry crises of hospital budget cuts, changes in nursing practice, communication issues within hospitals, transition from staff to management, responsibility with authority, staff management, time management, and the need for nurse self-development. |

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| Study authors | Year | Title | Type of study | Additional description | Key findings in nursing leadership and competencies | Recommendations/ conclusions |
|---------------|------|-------|---------------|------------------------|----------------------------------------------------|-------------------------------|
| Gulzar, Faheem, & Somani | 2012 | Role of community health nurse in earthquake-affected areas | Qualitative: Descriptive report | Assessment phase: focus group discussions and in-depth interviews. Evaluation phase: observation and informal discussions. | Integration of key public health concepts, such as sustainability, community mobilization, community empowerment, and active community participation are essential in interventional projects. Community participation, that is, decision-making, planning and internalizing the importance of such initiatives, should be reflected upon by the public health leadership and key stakeholders prior to designing such programs. | There should be a well-defined role of a community health nurse in the healthcare delivery system. This role would ensure effective rehabilitation and community health promotion in earthquake-affected areas, particularly from the nursing perspective. |
| Hale | 2008 | Managing a disaster scene and multiple casualties before help arrives | Qualitative: Descriptive | | Health systems need to prepare nurse leaders for potential disasters; these leaders should demonstrate competencies in critical thinking, assessment, technical skills and communication. Core knowledge areas should include health promotion, risk reduction and disease prevention; healthcare systems and policy; illness and disease management; information and healthcare technologies; ethics; and human diversity. | Studies present an overview of common issues for nurses to consider when preparing for and responding to all types of high-impact events. |
| Knebel, Toomey, & Libby | 2012 | Nursing leadership in disaster preparedness and response | Literature review | A search of terms in leadership, leader, disaster, preparedness, emergencies and nursing or nurses yielded 106 articles in July 2011. A subsequent search in September 2011 with search terms of crises leadership, disaster, and emergencies and nursing resulted in 44 articles. Theories of leadership and crisis decision-making are discussed. A historical perspective of nursing leadership in crisis is also presented. | Crisis leadership skills can and must be developed to ensure that the nation has the crisis leaders we need to respond to the inevitable natural disasters and the increased risk of terrorism. To advance the science of nursing leadership in disaster preparedness and response requires going beyond synthesis of anecdotal information to more rigorous research methodologies. The recommendations for future research fall into three areas: leadership training and development, theory development, and research methods and measures. | |
| Legg | 2009 | Nursing in disaster situations: are you prepared to answer the call? | Qualitative: Descriptive Commentary | Leaders possess requisite skills, which include emotional intelligence, strong communication skills, motivation, and flexibility. Also important is knowledge of special populations, technical skills, and culture. | The professional nurse already possesses many of the skills and competencies needed to respond to the disaster situation. | 

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| Study authors | Year | Title                                                                 | Type of study                              | Additional description                                                                 | Key findings in nursing leadership and competencies                                                                                                                                                                                                                                                                                                                                 | Recommendations/conclusions                                                                                     |
|---------------|------|----------------------------------------------------------------------|--------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Lim, Lim, & Vasu | 2013 | Survey of factors affecting health care workers’ perception towards institutional and individual disaster preparedness | Quantitative: Cross-sectional survey        | Survey among doctors, nurses and allied health workers over 2 months.                   | Most nurses surveyed felt that their supervisors would be able to lead them during a disaster incident response. “They were also more confident of their own disaster preparedness when they perceived that their supervisors and the institution were prepared.”                                                                                                                                                                                                                                 | The study suggested that healthcare workers perceived themselves as poorly prepared for disaster response and having suboptimal knowledge on access to training opportunities in the area. The study identified some factors associated with this, especially in terms of institutional leadership, prior experience with a mass incident, and family and peer support. |
| McHugh        | 2010 | Hospital Nurse Staffing and Public Health Emergency Preparedness: Implications for Policy | Qualitative: Retrospective descriptive review | Commentary                                                                             | In order to keep up with demand and maintain emergency preparedness, a minimum increase in nurse graduations by at least 25% annually is required. Schools of nursing, however, are not currently able to produce this number of nurses because of insufficient nursing faculty, inadequate financial resources, limited physical capacity, and insufficient clinical education sites.                                                                                                                                                                                                 | Workforce shortages of nurses impact the allowance for disaster and emergency preparedness, and there does not yet currently exist a national plan to correct this problem. A national investment in nursing education and workforce infrastructure, as well as incentives for hospitals to efficiently maximize nurse staff, are needed to ensure emergency preparedness in the USA. |
| Priest        | 2009 | Catastrophic conditions, tough decisions: The roles and responsibilities of nurse leaders in disaster settings | Qualitative: Descriptive                    | Commentary                                                                             | If nurse leaders and their teams understand that, in a catastrophic disaster, such decisions will have to be made, those decisions will be made more effectively and consistently. The incident commander should be someone whose role, background, or training makes him or her right for the job. The nurse leader will defer to the incident commander in such situations, who will make many of the resource decisions.                                                                                                                                                                                                 | With proper training and planning, nurse leaders can confidently lead their team in disaster situations. Nurse leaders must understand and prepare their nurses for the implication of limited or rationed resources, and be prepared to make decisions regarding allocations of such scarce resources. |
| Samuel, Quinn Griffin, White, & Fitzpatrick | 2015 | Crisis leadership efficacy of nurse practitioners | Quantitative description design            | The study population included 105 acute care nurse practitioners in the USA.            | A significant positive relationship between participants’ self-reported familiarity with departmental preparedness to prevent/respond to safety crises/emergencies and crisis leadership efficacy. Just under half (47.6%) of participants reported being either ‘not all familiar’ or ‘somewhat familiar’ with departmental preparedness to prevent and respond to safety crises/emergencies.                                                                                                                                                                                                 | Future research is proposed to analyze whether crisis leadership training and nurse practitioner specialization and preparedness affect the self-efficacy levels of nurse practitioners in managing patient safety-related crises. |

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sectional surveys (George, Denham, Burgess, Angood, & Keohane, 2010; Lim, Lim, & Vasu, 2013).

**DISCUSSION**

A comprehensive review of the existing literature on crisis leadership in nursing yielded disappointingly, meagre results. Key findings were so broad in scope it was difficult to categorize meaningful relationships (Table 4). Some articles included competencies for clinicians broadly; competencies for nursing leadership were not referred to in these articles directly. Two articles...
discussed broad competencies such as communication and, perhaps, expanded upon challenges, but existed without evidence of strong leadership; these articles failed to articulate competencies of disaster response specific to nursing as well (Daily, Padgen, & Birnbaum, 2010; Shultz, Koenig, Whiteside, Murray, & National Standardized All-Hazard Disaster Core Competencies Task Force, 2012). One study discussed nursing disaster competencies but did not address leadership (Bahrami, Aliakhari, & Aein, 2014). Lastly, and including the largest category found, many articles were editorial or anecdotal in nature, rather than substantiated in tested literature or using quantitative techniques. While the contribution of qualitative research studies in disaster nursing is significant and has been of great value to advancing our understanding of the lived experiences of nurses in disaster settings, this systematic review revealed a substantive absence of quantitative evaluations. This over-reliance on qualitative methodology severely limited the quality and generalizability of research found.

A chapter from the Annual Review of Nursing Research (2012) directly addressed nursing, leadership, and disasters, making reference to other studies of what could be extrapolated as competencies. Within their discussion and literature review, the authors make references to ‘nursing characteristics’ required for effective disaster nursing leadership, including: demonstrating autonomy, both a decisive and calm manner, physical strength and stamina, positive attitudes, adaptability, socio-political and analytical skills, emotional intelligence, and being highly visible and accessible (Knebel, Toomey, & Libby, 2012).

Two studies addressed the inclusion criteria of nursing, disaster and competencies. Bahrami et al. (2014) discussed competencies uncovered by a qualitative study interviewing Iranian nurses involved in disasters. Five themes (management of nursing response, legal and ethical performance in disastrous situations, team work ability, specific personal ability, and technical competences) and corresponding categories were determined. Sub-categories that were derived depicted more specific competencies including: psycho-emotional stress management, scene safety, assessment of required human and other resources, operational coordination and management of resources, ethical commitment, observing ethics, familiarity with the legal requirements, observing legal requirements, emotional self-control, adopting to conditions, communication with other health professionals, communication with patients, basic knowledge in nursing, knowledge about the disaster, documentation of care, skill with tools and equipment, triage skills, ongoing assessment, disaster-specific treatment skills, physical care, and psychological care. Schultz et al. (2012) also conducted a qualitative study that revealed a number of competencies for disaster clinicians. Some of these competencies included recognition of a disaster in progress, comprehending various forms of communication, the ability to work within an incident management system, management of supplies, preventing and mitigating risks to self and others, using resources effectively, prioritizing patients, use of effective record-keeping, and facilitation of patient transport.

A similar systematic literature review was revealed when conducting research for this project, although the focus of the research question was on nursing clinical practice rather than on nursing leadership. Results were similar and the authors reported “Imprecise and inconsistent terminology and structure are evident through the reviewed competency sets. Universal acceptance and application of these competencies are lacking and none have been validated” (Daily et al., 2010).

Although disaster nursing leadership is relatively new in developing as a distinctive field, it is alarming that not a single article could be found that addressed all inclusion criteria of nursing leadership competencies during disasters. This negative review reflects upon the distinct challenges and limitations of conducting research during or after large scale disasters. The narrow scope of the studies reviewed limited both the findings as well as the generalizability of the results. The preponderance of qualitative studies or anecdotal reports further limited our investigation. Characterization of the essential elements of effective disaster nursing leadership remains underexplored despite the critical need to prepare nurse leaders for crisis conditions resulting from disasters and large-scale public health emergencies. The existing evidence is scant and limited in its applicability. It is impossible to expect and evaluate consistent and quality decision-making during disaster by nurse executives if there does not exist a strong, tested guide for nursing leadership competencies.

CONCLUSIONS

Nurses are indispensable in responding to disasters, yet evidence-based leadership research, particularly regarding competencies required to perform well in leading nurses (or in leading others) in disasters, is minimally available. Most of the existing training and education programs have been developed in the absence of evidence-based standards (Schultz et al., 2012). Future research needs to focus upon identifying and building
consensus around those critical concepts and competencies that are so imperative to comprehensive disaster nursing leadership. Core concepts and competencies identified can then be validated specific to crisis nursing leadership and can be used as the foundation for building disaster nursing leadership educational programs. Disaster nursing leadership content developed for nurse administrators/executives and others in leadership positions would facilitate decision-making in highly ambiguous situations, the allocation of scarce resources (e.g. space, staff, supplies), and decision-making regarding disaster event management such as evacuation and patient transfers. Furthermore, these evidence-based competencies need to be continually re-evaluated and updated, as the field of disaster management is ever-evolving. Future research should also include both qualitative study of the behaviors of nurse leaders during disaster events and quantitative evaluations of the impact of crisis nursing leadership decisions upon organizations and patient outcomes. Ultimately, this work will contribute “to preparing national nursing leaders with the knowledge, skills and abilities to provide leadership and sound crisis decision-making during disaster or public health emergencies, and to create a culture of preparedness among nurses” (Veenema, 2013).

DISCLOSURES

The authors declare that they have no competing interests.

AUTHORS’ CONTRIBUTIONS

TV, SN, SL and SS contributed to the conception and design of this study; TV and SL performed the statistical analysis and drafted the manuscript; all authors critically reviewed the manuscript and supervised the whole study process.

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