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Does the ADLS Course Increase Nursing Students' Knowledge of Disaster Response?
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Recent global trends have indicated a marked increase in the number of disasters worldwide (World Health Organization, 2011). In the last two decades, over 2.6 billion people have been affected by both natural and technological disasters (WHO, 2011). According to the Federal Emergency Management Agency (FEMA), on average the United States (US) federal government declares a disaster at least once per week (FEMA, 2011). The frequency of the occurrence of these catastrophic events has brought with it a demand for nurses to be equipped to access quality disaster preparedness and response preparation (Alfred et al, 2015). The last twenty years have seen an increase in disaster preparedness and response activities; however, many professional groups remain underprepared (Turale, 2015). Numerous definitions of a disaster can be found within the academic nursing literature; however, in order to give context to this paper, the definition provided by both the WHO and the International Council for Nurses (ICN) will be utilized. These organizations define disasters as "widespread destruction of the environment, the economic, social and healthcare infrastructure, as well as loss of life, overwhelming the capability of individuals and the community to respond using their own resources" (WHO & ICN, 2009, p.3).

Nurse educationalists face a series of different challenges that do not allow for the simple inclusion of disaster response related content at both the Registered Nurse (RN) and Advanced Practice Registered Nurse (APRN) Level. These challenges relate to an already compacted nursing curriculum and non-standardization of the knowledge base of nursing faculty. As a result of the events in the US on September 11, 2001, a number of easily accessible disaster preparedness courses and training programs were developed and became widely available to Student Nurses (SNs), Registered Nurses (RNs), and Advanced Practice Registered Nurses (APRNs) (Farra, Miller, &Hodgson, 2015). These include Basic Disaster Life Support (BDLS), Core Disaster Life Support (CDLS), and Advanced Disaster Life Support (ADLS). While access to such training has been implemented within the last fifteen years, the determination of when to introduce this content and at what level has still to be fully articulated (Stanley & Bennecoff-Wolanski, 2015). The American Association of Colleges of Nursing (AACN) published the *Essentials of Baccalaureate Education* which instructed approved nursing education providers to integrate disaster preparedness content as part of the Knowledge, Skills, and Abilities (KSAs) for an RN (AACN, 2008). However, there is no standardized approach on how to present disaster preparedness material, when to present it, or what should be included in the content (Langan, Lavin, Wolgast, & Goodwin-Veenema, 2017).

This pragmatic projects aim was to conduct a quantitative analysis of the Advanced Disaster Life Support (ADLS) course. This course is a 2-day educational intervention that utilizes both didactic education and disaster moulage. Pre and post course questionnaires were administered to a group of pre-licensure student nurses (n=14). Statistical analyses were facilitated using SPSS Version 23. Analysis of data also consisted of summation of categorical data in the form of pre- and post- questionnaire means. In addition, student responses between pre- and post- intervention were compared using Cohen's d in order to better understand the standardized difference between the two means. A total of fourteen students participated in the course, and the pre-and post- questionnaires were completed by eight participants (n= 8, 57.14%). Participants were all

final semester student nurses in the upper division program. Overwhelmingly, all participants reported that they had never received any formal disaster preparedness and response education previously.

Interestingly, in all ten questions, there is a positive movement in the overall mean score for each question. The most significant improvements were seen in Questions 1 and 10: Assist with triage and Working in teams. It is also worth mentioning that Question 3, Scene safety, received an improved mean score in the post-questionnaire. Cohen's d was utilized to demonstrate the strength of the relationship between the pre and post intervention mean scores. Interestingly, Assist with triage received a Cohen's d score of 0.816 (Large effect), Scene safety received a Cohen's d of 0.564 (Medium effect).

From the data presented it is clear that the ADLS course does have a significant impact on student nurses' learning and knowledge base related to disaster preparedness and response. This project underscores the necessity for CONs nationally to provide frequent opportunities for students to interface with disaster related education. While it may be cost prohibitive to have all students complete an NDLSF approved course there is certainly a good case to be made for the inclusion of a blended learning opportunity which allows students to access up to date disaster related information which covers the ten competency related questions utilized in this project and also give students the opportunity to practice these cores skills in a disaster related moulage scenario.

All nurses must be able to support and provide evidence-based care to victims in all types of disasters. The lack of standardized learning opportunities greatly impacts the depth of knowledge required by nurses to operate effectively in disaster situations. Integrating disaster preparedness and response education and simulations into the RN core curriculum will provide students with the knowledge and confidence to care for victims effectively. This study demonstrated that the keys skills of assisting with triage and the ability to work in teams were greatly enhanced by the ability to access standardized disaster preparedness and response education.

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Abstract Summary:

This project is a quantitative evaluation of the Advanced Disaster Life Support (ADLS) course. The ADLS course is an educational intervention designed to deliver standardized education that seeks to enhance the knowledge base of registered nurses in disaster preparedness and response.

Content Outline:

Recent global trends have indicated a marked increase in the number of disasters worldwide (World Health Organization, 2011). In the last two decades, over 2.6 billion people have been affected by both natural and technological disasters (WHO, 2011). According to the Federal Emergency Management Agency (FEMA), on average the United States (US) federal government declares a disaster at least once per week (FEMA, 2011). The frequency of the occurrence of these catastrophic events has brought with it a demand for nurses to be equipped to access quality disaster preparedness and response preparation (Alfred et al, 2015). The last twenty years have seen an increase in disaster preparedness and response activities; however, many professional groups remain underprepared (Turale, 2015). Nurse educationalists face a series of different challenges that do not allow for the simple inclusion of disaster response related content at both the Registered Nurse (RN) and Advanced Practice Registered Nurse (APRN) Level. These challenges relate to an already compacted nursing curriculum and non-standardization of the knowledge base of nursing faculty.

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