

provision of the DTP to all NEMS personnel has the potential to improve Disaster Medicine culture among health professionals in the Country.

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Test Characteristics of Stool Color for Predicting Infection with *Vibrio Cholerae* in Patients with Acute Diarrhea

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Introduction: Recurring outbreaks of cholera coupled with lack of laboratory diagnostic capacity in low resource settings fuels clinicians' reliance on clinical case definitions and highlights the importance of accurate diagnostic guidelines. While "rice-water" stool color is the hallmark predictor of cholera, few have examined the diagnostic accuracy of this assessment. This study assesses the sensitivity, specificity and positive and negative predictive value (PPV; NPV) of classifying stool color as "rice", "clear" (i.e. watery) or "rice or clear" stool by either the patient or nurse for diagnosing cholera.

Method: From March 2019–2020, a random sample of patients presenting to the International Centre for Diarrhoeal Diseases Research, Bangladesh with acute diarrhea who had a stool sample obtained were included in this analysis (N=2135).

Results: Of the 1198 (56.1%) of patients that had culture growth, 641 (53.5%) were positive for *Vibrio cholerae*. "Rice" stool was reported by 518 (23.8%) patients and 640 (29.5%) nurses, while "clear" stool was reported by 1081 (49.8%) patients and 353 (16.3%) nurses. When observed by nurses, both "rice" (76%) and "clear" (85%) stool were reasonably specific but not very sensitive for cholera (44% and 20%, respectively). The combined "rice or clear" colored stool had the best balance of sensitivity (65%) and specificity (61%) with a PPV of 42% and NPV of 80%. When reported by patients, "rice" stool had high specificity for cholera (76%) but low sensitivity (25%), while "clear" stool had both poor sensitivity (54%) and specificity (51%).

Conclusion: Current international guidance that recommends classifying watery (clear) stool as cholera in outbreaks may still miss many patients with culture confirmed cholera even when the stool color is observed by trained health professionals and is likely not useful at all self-reported by patients. The combination of "rice or clear" diarrhea may provide somewhat more accurate assessments.

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Creating an International Resource Center for Pandemic and Disaster Nursing Education and Training

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Introduction: Globally, nurses play pivotal roles in epidemic and emergency response. Nurses' actions include supporting and informing surveillance and detection, dispensing live-saving medical countermeasures, implementing prevention and response interventions, providing direct care for patients, educating patients and the public, providing health systems leadership, and counseling community members. Despite these roles, there exist gaps in how countries train and prepare their nursing workforce for these health threats.

Method: To help address this gap, the Johns Hopkins Center for Health Security has developed an International Resource Center for Pandemic and Disaster Nursing. We have established an international working group to provide input on the goals and mission of the center, website development and functionality, and advocacy efforts. This working group has met four times over the course of the last year. We have also met with several organizations involved in nursing and epidemic and disaster preparedness and response, including the World Health Organization and the International Council of Nurses (ICN), to identify ways to align our work with other ongoing efforts.

Results: Presently, we have developed a static website that provides access to evidence-based, open-source trainings and educational resources applicable to pandemic and disaster nursing. The website also provides listings of upcoming webinars, guest blog posts, trainings, and conferences relevant to disaster and pandemic nursing. The website will be launched in early 2023.

Conclusion: The long-term vision for this center is to expand beyond a static website and create a vibrant and fully staffed virtual center. This center would be the first of its kind dedicated to developing the resources, technical assistance, partnerships, and advocacy efforts needed to build and support a global nursing workforce that is prepared for outbreaks and disasters. It would build on the existing wealth of expertise within the working group and forge lasting connections between disaster nurse experts across the globe.

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Hospital Workforce Education and Training for Emergency Management and Disaster Response in Complex Settings.

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Introduction: Understanding how to best prepare hospital staff for disasters or emergencies is critical, as there is increasing

frequency and scope of these events. Considerations include: identifying key staff, their roles, strategies to support continuity of care, delivery mode of education, and resource allocation.

Method: Participants experienced in disasters and major emergencies or preparation at three tertiary referral teaching hospitals were purposively selected during 2016 and 2019. An interpretive paradigm and case study design enabled the exploration of perspectives concerning effective and preferred methods for preparedness. Fifty-five allied health professionals, medical practitioners, and nurses participated in semi-structured interviews; and support staff participated in focus groups.

Results: Key findings: 1. Recognition that allied health professionals and support staff are essential and must be included in disaster or major emergency preparation and plans. 2. Factors that increase the likelihood of staff deciding to be absent from work include: perception of danger, insufficient understanding of responsibilities, and hospital preparation is perceived inadequate. Staff understanding their role has a positive influence for attendance and coping during disasters. 3. Preferred and most effective method of disaster preparedness is practical learning, combined with other preparation methods. Online learning as the major mode was unpopular. 4. Challenges of inadequate resources limits managers' ability to facilitate staff preparation and care delivery during disasters. Resources affect method, duration and multidisciplinary inclusion in disaster preparation.

Conclusion: This research found disaster preparedness in hospitals is critical. Site and occupation specific differences need to be addressed. To mitigate impacts of disasters or major emergencies, preparation must include identification of required resources. Disaster preparedness and management must be inclusive of multidisciplinary staff, including allied health and support staff. Facilitation of role understanding to promote continuity of care during disasters or major emergencies is imperative to promote staff participation and effectiveness in response to disasters.

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Use of the U.S. National Poison Data System (NPDS) to Detect and Describe Potentially Harmful, Non-Traditional Behaviors Taken by Individuals to Prevent, Treat, or Cure COVID-19

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Introduction: On January 19, 2020, Washington State reported the first confirmed case of COVID-19. Two years later, the Centers for Disease Control and Prevention (CDC) reported over 90 million cases across every U.S. state and territory causing more than 1 million deaths, with numbers continuing to grow. As part of the overall pandemic response, CDC, in coordination with America's Poison Centers, conducted enhanced surveillance of National Poison Data System (NPDS) data to detect potentially harmful, non-

traditional behaviors taken to prevent, treat, or cure COVID-19 to provide situational awareness and ensure CDC continues to develop effective, evidence-based health communication messages and materials.

Method: Data from the fifty-five U.S. poison centers (PCs) are uploaded in near real-time to NPDS. CDC monitored several categories including cleaners and disinfectants, medications/vitamins, and behaviors such as suicide and drug use. We characterized exposures by daily call volume, age group, management site, route of exposure, and medical outcome compared to previous years. We also conducted follow-up detailed review for certain anomalies, spikes, or extreme adverse events.

Results: We reported PC data to several task forces within the CDC Emergency Operations Center. The daily number of exposures increased sharply beginning in March 2020 for exposures to cleaners and disinfectants. For example, bleach exposure calls saw a 62.1% increase compared to 2019. Several medications saw spikes in calls in coordination with media coverage of certain treatments (e.g., hydroxychloroquine) throughout the pandemic.

Conclusion: This data helped ensure a coordinated public health response to COVID-19 and maximized the unique role of PCs in addressing public and medical provider concerns and questions. Results led to several actions including notifications to state health departments, targeted messaging, and tailored response efforts. PCs are a valuable resource for providing guidance and advice about exposures to hazardous substances and can help reduce the burden on the healthcare system.

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Evaluating the Effect of Brief Disaster Education on Emergency Department Staff: Can Short, Low-cost Education Improve Disaster Readiness of Non-DMAT Healthcare Personnel?

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Introduction: Some incidents require early deployment of emergency department personnel not designated as disaster medical assistance team (DMAT). Although not as trained as DMAT members, they should be aware of basic disaster response concepts and knowledge. Educating disaster readiness to every healthcare staff in emergency departments would be ideal but it is very costly in both time and expense. To overcome this problem, we tried to evaluate the effectiveness of teaching basic concept and knowledge to non-designated personnel in a short-session and measure the effect.

Method: This study is a before-and-after comparison study. From July 2020 to July 2022, a two-hour education was given to volunteers among doctors, nurses, paramedics and administrative staff working in emergency departments across four hospitals in Korea. Educational sessions consisted of basic disaster concept, pre-deployment DMAT preparations, initial actions required on incident site, key elements of incident response (command, control, safety, communication), and triage.