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Introduction: Considering the need for hospital disaster preparedness post-Nepal earthquake 2015, the Ministry of Health and Population of Nepal developed a Hospital Disaster Preparedness and Response Plan (HDPRP) for mass casualty management. However, until now, there is no scientific literature on how the district hospitals, which are the major health service providers in Nepal, implemented their HDPRP during mass casualty incidents (MCIs). So, this study aims to understand how the HDPRP was implemented during MCIs in three district public hospitals of Nepal.

Method: A mixed sequential QUANT-QUAL study was designed. Out of seven districts under the severely hit category by Nepal Earthquake 2015, three districts were selected randomly. For the quantitative component, the WHO hospital emergency response checklist was adapted which was self-administered in each hospital. Based on a scoring system, each hospital was placed in one of three categories (effective, insufficient, unacceptable), to assess the level of HDPRP implementation. For the qualitative component, semi-structured interviews were conducted to understand how the HDPRP was implemented in each hospital. An inductive thematic analysis was carried out. All information was collected for the most recent management of MCI reported in the hospital.

Results: Out of three hospitals, two hospitals have effectively implemented their HDPRP, whereas one has insufficient implementation. Three themes emerged during the data analysis: enablers in implementation of HDPRP, barriers in implementation of HDPRP, and recommendations for the future. Multiple enablers and barriers were identified for the implementation of HDPRP, and the recommendations were identified for the hospital, hospital staff, and external stakeholders.

Conclusion: Implementation of HDPRP as per the protocol is difficult due to many external and internal factors that arise while managing the MCIs. The findings of this study provide the basis for the Ministry of Health and Population and district hospitals for the future update of HDPRP and planning of MCIs.

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Educating the Public for the Nuclear Reality: Understanding Likely Behaviors in the Aftermath of a Nuclear Detonation

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Introduction: Amid the escalating nuclear arms race in the latter half of the 20th century, civil defense preparedness drills, commonly known as “Duck-and-Cover” drills, were practiced throughout classrooms in the United States. Since then,

education and preparedness measures have been largely replaced by fire evacuation and active shooter drills. This study endeavored to understand the likely actions that members of the public may take in the event of a nuclear detonation in the 21st century.

Method: Scenarios for 5 kiloton and 100 kiloton near-surface nuclear detonations were modeled using the Hazard Prediction Assessment and Capability (HPAC) software. A video was created animating the models with a voiceover that explained the initial effects of a nuclear detonation. Using the Qualtrics platform, a survey was created in which the order of behavior-based questions and the video was randomized. Lucid distributed the survey to a representative sample of the American public.

Results: Among 3,087 participants, only 921 (30%) indicated their confidence in knowing what to do in the event of a nuclear detonation in their city. Participants were most likely to listen to the radio, hide in an interior room, and seal windows or doors. Two thirds indicated they would “duck and cover” (n = 2034, 66%), an action that ranked below helping others (n = 2183, 71%) and wearing a mask (n = 2174, 70%). Study participants who indicated their likely behaviors after watching the video were significantly more likely to listen to the radio (p = 0.044) than those who answered such questions before watching the video.

Conclusion: The results of this study suggest there remains a need for emergency preparedness education for members of the public in the United States. As the threat of a nuclear detonation grows, educational methods such as video explanations may increase the preparedness of the American public.

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The Usefulness of a Digital Whiteboard for Communication During Disasters

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Introduction: Information sharing during disasters tends to be confusing. We started the trial operation of a digital whiteboard (DWB) as a communication tool during disasters in 2019 and fully introduced it in 2022. The DWB is a large tablet that allows interactive communication in close to real-time in remote locations through Wi-Fi.

Method: To verify the usefulness of the system, DWBs were placed at triage posts in severely, moderately, and mildly damaged areas during a 2022 disaster drill responding to mass casualties to facilitate the sharing of patient information between Disaster Response Headquarters and each treatment area. In each treatment area, doctors, nurses and paramedics completed a standard form to share information about each patient. Information collected included the triage tag number, patient name, age, gender, type of injury or disease, and description of the treatment.

Results: Six DWBs were remotely shared, with the triage post noting the number of patients passing through each severity

