

a Likert scale. Confidence was assessed using a confidence matrix before and after the course. Overall feedback was taken at the end of the session.

Results: Of 82 participants, 74 participants from four trainings were included for analysis. Post-test Cronbach's alpha for MCQ was 0.82 and the confidence matrix was 0.86. Mean score for the pre-test MCQ was 6.12 (SD 2.22) compared to the post-test mean of 10.97 (SD 2.97), which was a statistically significant improvement ($p < 0.05$). Trainees reported that the trauma teaching was helpful. They felt that it improved confidence regarding trauma and disasters.

Discussion: Adding this training to current CBIMNCI can be an effective tool to reach out to primary health care workers, and provide further knowledge and skills on care of children during a disaster or humanitarian crisis.

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Towards a Better Response: Combining Pareto Ranking and Geostatistics to Model Gender-Based Vulnerability in Rohingya Refugee Settlements in Bangladesh

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Introduction: The Rohingya refugee crisis in Bangladesh continues to overburden humanitarian resources and undermine the health and security of over 900,000 people. Spatial, sector-specific information is required to better understand the needs of vulnerable populations, such as women and girls, and to target interventions with improved efficiency and effectiveness.

Aim: The aim of this study was to create a gender-based vulnerability index and explore the geospatial and thematic variations in the gender-based vulnerability of Rohingya refugees residing in Bangladesh by utilizing pre-existing, open-source data.

Methods: Data sources included remotely-sensed REACH data on humanitarian infrastructure, UN Population Fund resource availability data, and the Needs and Population Monitoring Survey conducted by the International Organization for Migration in October 2017. Gaps in data were addressed through probabilistic interpolation. A vulnerability index was designed through a process of literature review, variable selection and thematic grouping, normalization, and scorecard creation. Pareto ranking was employed to rank sites based on vulnerability scoring. Spatial autocorrelation of vulnerability was analyzed with the Global and Anselin Local Moran's I applied to both combined vulnerability index rank and disaggregated thematic ranking.

Results: Twenty-four percent of settlements were ranked as most vulnerable, with 30 highly vulnerable clusters identified predominantly in the Upazila of Sadar. Five settlements in Dhokkin, Somitipara, and Pahartoli were categorized as less vulnerable outliers amongst highly vulnerable neighboring sites.

Security- and health-related variables appear to be the largest drivers of gender-specific vulnerability in Cox's Bazar. Clusters of low security and education vulnerability measures are shown near the refugee ingress point near Gundum.

Discussion: The humanitarian space produces tremendous amounts of data that can be analyzed with spatial statistics to better target research and programmatic intervention. The critical utilization of these data and validation of vulnerability indexes is required to improve the international response to the global refugee crisis.

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The Use of Evidence in Humanitarian Response Decision-Making

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Introduction: The need to use evidence in humanitarian settings is recognized, yet utilizing that evidence to make decisions about humanitarian response remains a challenge.

Aim: To identify how, when, and why decision makers in humanitarian response use scientific, peer-reviewed evidence to make decisions.

Methods: An online cross-sectional survey of fifteen open- and closed-ended questions on demographics, experience, and role in humanitarian response was developed by Evidence Aid (EA) and Karolinska Institutet (KI). The online survey was available on the EA website from August 2015 to October 2018. Participants were self-selected, recruited through social media channels and mailing lists of EA and KI. All respondents and responses were anonymized. Responses were analyzed with descriptive statistics and content analysis.

Results: 47 people responded, primarily working in Europe or North America with roles of humanitarian response director/manager, independent consultant, or policymaker. Personal assessment of the quality of information, trust in the source, and information that was contextually relevant or based on field experience were factors for deciding whether information should be considered evidence. Reasons for using evidence when making decisions included adhering to good practice to maximize impact and effectiveness of aid, reassurance that the right decisions were being made, personal or organizational values, and using evidence as a tool to protect beneficiaries and organizations from poor quality decisions and program content.

Discussion: Using evidence for decision making was common practice during the process of designing implementing and evaluating humanitarian response content, yet reasons for use varied. The importance of evidence developed and validated from field experience and trust in the source reported by this sample suggests that strengthening collaborative efforts between decisionmakers and evidence generators could be one approach to improve evidence and evidence use in humanitarian response.

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