Household Emergency Preparedness Instrument Development: A Delphi Study

Tara Heagle, PhD, RN, PCCN, EMT; Charleen McNeill, PhD, RN; Lavonne Adams, PhD, RN; Danita Alfred, PhD, RN

1Hunter College, The City University of New York, 2East Carolina University, 3Texas Christian University, 4The University of Texas at Tyler

Objective

- To generate a consensus on the concept definition of household emergency preparedness (HEP) from experts representing multiple disciplines & countries, along with community stakeholders, facilitating development of an all-hazards, comprehensive, easily understandable, valid & reliable HEP instrument.

Background

- Increased levels of HEP could save lives prevent worsening of chronic medical conditions increase likelihood to report to work during disasters
- Currently there is no commonly used, benchmark HEP instrument
- Accurate assessment of preparedness levels is critical for effective planning & necessary to enhance health promotion, prevent injuries & promote disaster-related community resilience

Methods

- Instrument questions were generated via three methods:
  - Literature search
  - Using existing instruments
  - Expert panels via the Delphi technique

We would like to acknowledge the work of our research assistants Asha Everse, Wen Pin Hu, Kamil Keleora & Soon-Hee Shimizu.

Summary and Conclusions

- Next steps
  - Pilot test the instrument
  - Evaluate the performance of each question
  - Determine which questions to keep on the final instrument

Use the instrument to assess preparedness levels of vulnerable populations & provide evidence to support interventions addressing health needs of community members following a disaster

Results

- After three rounds of the Delphi study, panelists (N=177) representing 36 countries came to a consensus that HEP is defined as completion of several preparedness actions assembling a disaster supply kit that can be readily transported in a precipitous evacuation
- A 42-question HEP instrument, with an optional 9-question subscale for respondents with health conditions was created
- Instrument demonstrates face, content & criterion validity & internal consistency reliability (α=.96)
- Preparedness actions (α=.79)
- Communication plans (α=.74)
- Evacuation plans (α=.90)
- Disaster supplies (α=.92)
- Access & functional needs (α=.91)

Concept Definition of Household Emergency Preparedness

Preparedness Actions

- Prepared & discussed a family emergency plan
- Practiced or drilled on what to do in an emergency at home
- Taken first aid training
- Has working smoke detectors
- Has a fire escape plan for the home
- Knows the types of disasters that are most likely to occur in their community
- Has signed up for a community emergency alert system

Communication Plans

- Planned for how the family would contact each other in an emergency if they were separated
- Has written contact information of family & friends

Evacuation Plans

- Has considered safe & unsafe places in the community
- Knows if the home is in an evacuation zone
- Has a plan on where to go
- Has planned which routes to take
- Has a source of transportation to leave the neighborhood quickly
- Has a family meeting place in case of separation
- Everyone in the home is aware of the evacuation plans

Disaster Supplies

- 3.8 liters (1 gallon) of water per person per day for each person in the home for 1 week
- 1-week supply of ready-to-eat food that will not spoil for all those living in the home
- Moist wipes, hand sanitizer, soap & other personal hygiene supplies
- Non-electric portable lighting
- First aid kit
- Sleeping bag or warm blanket for each person
- Cash
- Batteries
- Matches
- Fire extinguisher
- Wrench, pliers, or multi-tool
- Other supplies if applicable (e.g., extra glasses/contact lenses, baby supplies, pet supplies)

Access & Functional Needs

- Has important family documents in a waterproof, portable container or stored on a flash drive or cloud storage server
- Has supplies set aside in the home in a kit to use in case of disaster
- Checks the supplies regularly for expired items
- Knows how to turn off the utilities
- Has a way to receive information about disasters if there were no power or telephones (such as with a solar, hand-crank or battery-operated radio)

- Has family or friends that they could stay with
- Knows where the local emergency shelter is located
- Has a plan for what to take if they had to leave the home quickly
- Has prepared a small kit with emergency supplies to take with them
- If applicable, has an evacuation plan for the pets

References