

Chapter 2.5

Identifying and Engaging High-risk Groups in Disaster Research

Elizabeth A. Newnham

Janice Y. Ho

Emily Y. Y. Chan

Learning objectives

To understand how to identify and support high-risk groups in disaster research by:

- Describing high-risk groups in the community.
- Addressing barriers to inclusion through strategies for sampling, recruitment and data collection.
- Engaging co-researchers or community advisors within the population of interest to ensure inclusive, ethically responsible research processes and valid findings.

Introduction (1)

High-risk groups are defined by disadvantages resulting from the characteristics and intersection of marginalization related to:

- Age
- Gender and sexual identities
- Race
- Culture
- Religion
- Disability
- Socio-economic status
- Geographical location
- Migration status

Risk is heightened with the intersection of multiple identities.

Introduction (2)

Many high-risk groups have a history of marginalization, stigmatization, and existing health problems, which, when intersected with disaster exposure, worsens health risk.

It is critical that health services and disaster risk reduction (DRR) policies are designed to be inclusive of high-risk groups and cater to their specific needs across all four phases of the disaster cycle: prevention, preparedness, response and recovery.

Introduction (3)

The needs of high-risk groups can be easily overlooked in research, which is why there is a need for targeted research and better representation in research studies.

It is important to remember that **high-risk groups will have specific strengths**, such as individual resilience, strong family or peer attachments, preparedness knowledge, and lived experience.

High-Risk Populations

The vulnerabilities and resiliencies of high-risk groups can change depending on the disaster scenario.

Example 1: During an evacuation, people with physical disabilities will need certain arrangements to help them to move.

Example 2: During a heatwave, cold-wave, heavy rainfall or flooding, homeless populations are especially vulnerable and require appropriate shelter.

Age and developmental stage (1)

Children and adolescents are vulnerable due to their dependence on caregivers for basic needs.

For younger children

- Age specific needs that are often overlooked in disaster risk management include a constant supply of infant formula, or identification of safe routes to school.

For adolescents

- Family support is critical after a traumatic event and for adolescent girls, reproductive health needs must be supported through education and other services.



Age and developmental stage (2)

Short and long-term separation from parents during a disaster is a stressor for children and further increases their risk of:

- Abuse
- Neglect
- Trafficking

Disasters and other emergencies can have a significant role in the development of psychological and physical trauma.

Case study 1: *Conducting mixed methods disaster research on adolescent engagement in DRR in China and Nepal (1)*

This study on adolescent resilience after disasters was conducted in China and Nepal to understand adolescents' disaster-related risks, mental health needs and engagement in DRR. Adolescents aged 13-19 years who were affected by disasters participated, along with stakeholders such as parents, teachers, healthcare professionals, etc.

Design: Mixed methods design comprising of a qualitative and quantitative assessment.

Qualitative Sample: 69 adolescents and 72 adults from both countries were interviewed and participated in focus group discussions.

Newnham et al., 2019



Case study 1: *Conducting mixed methods disaster research on adolescent engagement in DRR in China and Nepal (2)*

Five major themes were identified:

- The importance of adolescent safety and security post-disaster.
- Adolescent participation in disaster preparedness.
- Disaster response tailored to adolescents' needs.
- The need for evidence-based psychosocial support.
- Acknowledgement of adolescent participation in disaster risk management.

Conclusion: There is a need for DRR programming that supports adolescent safety and empowerment after a disaster.



Older people



Elderly people are also more vulnerable after disasters because of pre-existing medical conditions, their deteriorating physical abilities and difficulty performing activities of daily living (ADL).

They may need additional functional assistance and care.

→ **Instrumental Activities of Daily Living (IADL)** is the ability to live independently within a community, which older people may not have the capacity to do.

Gender and sexual identities (1)

Women, girls, and people of trans and non-binary gender can be vulnerable during disasters due to societal barriers, restrictions on freedoms, specific health needs and higher risk of domestic and sexual violence.

In some cultural contexts, women and girls have a lower social status and there is an unequal power dynamic between them and men and boys, which can make it difficult for them to access resources such as education, income, health services and property rights.



Gender and sexual identities (2)

Women may have specific health needs if they are menstruating, lactating or pregnant; and pregnant women may have reduced mobility and greater health needs.

In post-disaster settings, women have a higher risk of experiencing sexual abuse and domestic violence. For example, a study of 82 cases of violence against women and children after the **2011 Great East Japan Disaster** found that domestic violence increased in severity in the year following the disaster.



Gender and sexual identities (3)

Many members of the LGBTQI+ community are vulnerable during disasters due to stigma, violence, and discrimination, as well as restricted access to health services.

For example, same sex couples have experienced exclusion from shelter and aid due to policies that use traditional definitions of family.



Gender and sexual identities (4)



It is important for Health EDRM research to include a broad spectrum of gender and sexuality and to consider how existing policies may impact the development of assessment protocols, interventions and systems of evaluation.

Pre-existing health conditions

People with pre-existing chronic conditions are vulnerable during disasters due to disruptions to medical supply, routine health care and critical infrastructure.

Example 1: people with diabetes require regular access to medications.

Example 2: cancer patients may have weakened immune systems and be at higher risk of infections or injury. Further, treatment may be disrupted during disasters or pandemics.

People with pre-existing mental health conditions are also at risk of worsened health outcomes after a disaster.



Case study 2: *Assessing the impact of Hurricane Katrina on persons with chronic disease (1)*

This study assessed the causes and extent of chronic disease treatment disruptions among survivors of Hurricane Katrina, which landed in South-Eastern USA in 2005 and impacted millions of people.

English-speaking adults aged ≥ 18 years were recruited 5 months after the disaster.

Sampling frames included a telephone bank of households located in countries impacted by the hurricane, and cellular as well as land-based telephone.

After using a prescreening questionnaire to determine eligibility, 1043 participants were included in the final sample.

(The Hurricane Katrina Community Advisory Group & Kessler, 2007)



Case study 2: *Assessing the impact of Hurricane Katrina on persons with chronic disease (2)*

Findings: 73.9% of participants reported that they had chronic conditions before the hurricane, and among those, 20.8% reported disrupted treatment after the hurricane.

People younger than 65 years of age, those who had fewer family/friends nearby, and those experiencing residential instability were more likely to have disrupted treatment.

Treatment disruption was mostly due to lack of access to physicians and medication, problems with finance, insurance, or transportation and demands on time.

(The Hurricane Katrina Community Advisory Group & Kessler, 2007)



Case study 2: *Assessing the impact of Hurricane Katrina on persons with chronic disease (3)*

Conclusions: The needs of people with chronic illness should be integrated in disaster management.

Continuation of treatment can be ensured through timely reestablishment of primary healthcare systems, access to medical records and activation of portable emergency insurance coverage.



(The Hurricane Katrina Community Advisory Group & Kessler, 2007)

Persons with disabilities (1)



There are many types of disabilities, such as blindness, deafness, neurological conditions, reduced limb use, that may impact on a person's capacities.

Persons with disabilities (2)

These disabilities can be exacerbated during disasters, and people with disabilities are often overlooked in receiving assistance.

People with disabilities face isolation, stigma, inaccessible resources, communication difficulties and cognitive impairment, which further increase barriers to assistance during and after disasters.



Other marginalized groups (1)



Marginalized groups also include migrants, Indigenous and First Nations peoples, undocumented persons, displaced persons, those living in poverty and the homeless population.

These groups often experience inaccessibility to healthcare, resources and information outside the context of a disaster.

During disasters, barriers such as literacy, language, and cultural differences may prevent people from receiving and understanding warning messages.

Other marginalized groups (2)



People living in remote areas are also vulnerable during disasters due to poor communication pathways, road access and distance from health services.

Barriers and strategies for conducting research with high-risk groups (1)

Sampling can be one of the main barriers to conducting rigorous research with high-risk groups.

High-risk groups are often hard-to-reach, which makes standard random sampling techniques inadequate for acquiring sufficient sample sizes.

Probability sampling is also difficult to use because the list of potential participants in the sampling frame might be unknown.

Barriers and strategies for conducting research with high-risk groups (2)

There are a variety of non-probability sampling methods that can be used:

- **Convenience sampling**: selects participants who are accessible and eligible for participation.
- **Purposive sampling**: selects participants who fit a certain inclusion criterion relevant to the study purpose, which can be complemented by snowball sampling or respondent-driven sampling.
- **Targeted sampling/venue-based time-location sampling**: selects participants from an exhaustive list of venues attended by the target population.

Barriers and strategies for conducting research with high-risk groups (3)



High-risk groups are best reached using a combination of sampling strategies. When sampling high-risk populations, it is important to **work with community organizations** that have access to these groups or are led by group members.

Relevant stakeholders such as community members, hospital staff, caretakers, and guardians of children may have **unique perspectives** about the target group and should also be included in the research.

Including community advisory boards when developing the research protocol, sampling strategies, and interpreting the findings is also important, especially for building trust.

Barriers and strategies for conducting research with high-risk groups (4)

Limitations and biases:

- **Selection bias**: is introduced based on the way that individuals are chosen as participants.
- **Non-response bias**: occurs when those who participate in the study are inherently different from those who decline to participate.
- **Gatekeeper bias**: participation is limited by those who provide entry into the community groups and may restrict the types of participants who can be involved in the study.

Barriers and strategies for conducting research with high-risk groups (5)



Recruitment: When working with high-risk communities, researchers often face low recruitment rates.

Potential barriers to recruitment include lack of trust in researchers and the fear of being mistreated or exploited.

Barriers and strategies for conducting research with high-risk groups (6)

Building community relationships and developing trust is essential to address these issues. This can be done by:

- Partnering with the community
- Engaging the support of respected Elders, religious leaders and local authorities
- Involving members of the high-risk group in the design and conduct of the research.

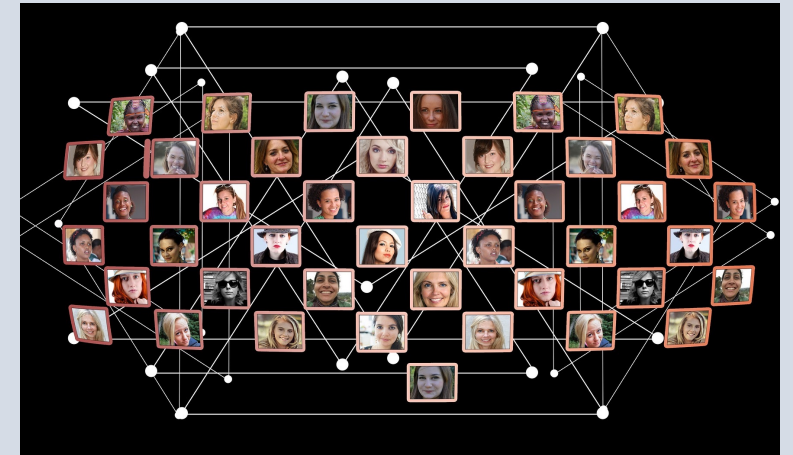
These strategies may, in turn, encourage engagement and assist with recruitment.

Barriers and strategies for conducting research with high-risk groups (7)

Recruitment methods might include personalized outreach and online recruiting.

Social media might be used, but has limitations due to it being self-selecting, vulnerable to noise and may not be representative of the general population.

It is important to remember that what works in one population or setting might not work in another.



Study design (1)



Data collection methods differ depending on the study design.

High-risk groups might be more involved in **qualitative** research, while **quantitative** research allows for greater generalizability.

Both methodologies can be used in combination in a **mixed-methods** study design.

Study design (2)

Longitudinal Research: examines trajectories of change after disasters and the impact of interventions within communities, which may be difficult when studying transient populations such as migrants, nomads and the homeless population.

Participatory Action Research (PAR): engages participants as co-researchers, challenges traditional power relationships and knowledge through an emphasis on equity and participation.



Study design (3)

- PAR allows for more targeted and critically valid research that includes groups that are less represented in the current scientific literature.
- This approach has been used in DRR research to engage marginalized groups and promote messages of risk and disaster management.
- Other approaches include working with a culturally-secure lens and decolonizing research strategies. This can help to build trust among participants while supporting more reliable measurement and accurate interpretation of data.

Ethical issues (1)

When conducting research on high-risk groups, it is especially important to be cognizant of ethical issues.

Since high-risk groups can be extremely vulnerable, ethical research processes must reduce risks of:

- Physical harm
- Retraumatization
- Manipulation
- Unrealistic Expectations
- Stigmatization
- Exploitation

Ethical issues (2)

Informed consent is critical and must be obtained from all participants.

Information about their rights and the research process must be specially tailored for participants with less education, language restrictions or severe mental health issues or cognitive difficulties, in order to be understandable.

Participants must be given the opportunity to ask questions about the research activities and to decline to take part in the study without pressure or persecution.

Ethical approval must be obtained from the appropriate ethics committee in both the researcher's and the research setting.

Conclusions (1)

The inclusion of high-risk groups is important for good quality Health EDRM research, policy and programming.

Researchers should:

- Create inclusive research protocols.
- Consider diversity within and between groups.
- Acknowledge the role of intersectionality.

Conclusions (2)

A robust evidence base will support the effective and equitable delivery of disaster prevention, preparedness, response and recovery services in environments that are often severely resource constrained.

Inclusive and holistic disaster risk management plans, effective leadership and equitable policies will occur when there is better understanding of each group's specific disaster risks, resilience, preparedness and responses.

Key messages (1)

- Health EDRM research with an inclusive focus on high-risk populations should be conducted across the entire disaster cycle.
- Intersectionality plays a significant role in capacities and heightened vulnerabilities.
- Common high-risk groups include children, elderly, gender and sexual minorities, those with preexisting chronic conditions or disabilities, ethnic minorities, migrants, displaced persons and other marginalized groups.

Key messages (2)

- High-risk populations may be difficult to reach, which can affect sampling, recruitment and data collection.
- Inclusive and ethically responsible research protocols must consider the impact of research on high-risk populations and guide reliable as well as thoughtful dissemination of findings.

Further readings

Centers for Disease Control and Prevention (US) Office of Public Health Preparedness and Response (CDC). Public Health Workbook: To Define, Locate, and Reach Special, Vulnerable, and At-risk Populations in an Emergency. 2010.

This CDC workbook describes processes for locating, reaching and communicating with high-risk groups during disasters and emergencies.

Handicap International. Mainstreaming Disability into Disaster Risk Reduction: A Training Manual. 2009.

In this training manual, Handicap International Nepal provides training materials for including disability issues in DRR.

Kemmis S, McTaggart R, Nixon R. The action research planner: Doing critical participatory action research. Springer Science & Business Media. 2013.

This is a comprehensive guide to conducting critical participatory action research including the development of protocols for collaborative working with high-risk groups in DRR.

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The action research planner: Doing critical participatory action research. Springer Science and Business Media. 2013.

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Designing Research in Disaster-Affected Settings: A training guide informed by The Study on Adolescent Resilience. Hong Kong Jockey Club Disaster Preparedness and Response Institute. 2017.

Contact information

Dr Elizabeth Newnham

School of Population Health

Curtin University

Australia

Elizabeth.Newnham@curtin.edu.au

Twitter: @psy_resilience

Health EDRM Research Network

Secretariat

WHO Centre for Health

Development (WHO Kobe Centre)

Email: wkc_tprn@who.int

