Disaster rehabilitation and its need in developing countries

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International Society of Physical and Rehabilitation Medicine (ISPRM)

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### Selected Data from Recent Severe Earthquakes

<table>
<thead>
<tr>
<th></th>
<th>Pakistan/Kashmir</th>
<th>China/Sichuan</th>
<th>Haiti</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Date</strong></td>
<td>October 8, 2005</td>
<td>May 12, 2008</td>
<td>January 12 2010</td>
</tr>
<tr>
<td><strong>Time of occurrence (24 h)</strong></td>
<td>08:52</td>
<td>14:48</td>
<td>16:53</td>
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<tr>
<td><strong>Epicentre</strong></td>
<td>Muzaffarabad</td>
<td>Wenchuan county</td>
<td>Port au Prince</td>
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<tr>
<td><strong>Magnitude (Richter scale)</strong></td>
<td>7.6</td>
<td>8</td>
<td>7.3</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>Major</td>
<td>Great</td>
<td>Major</td>
</tr>
<tr>
<td><strong>No. of injured</strong></td>
<td>128,309</td>
<td>368,412</td>
<td>300,000</td>
</tr>
<tr>
<td><strong>No. of deaths</strong></td>
<td>73,338</td>
<td>87,564</td>
<td>222,570</td>
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<tr>
<td><strong>Injury-to-death ratio</strong></td>
<td>1.75</td>
<td>4.21</td>
<td>1.35</td>
</tr>
<tr>
<td><strong>No. of surviving SCI victims</strong></td>
<td>741 (Mallik 2010)</td>
<td>336 (author estimate*)</td>
<td>150 (Burns 2010)</td>
</tr>
<tr>
<td><strong>Percentage SCI of injured</strong></td>
<td>0.00575</td>
<td>0.00091</td>
<td>0.0005</td>
</tr>
</tbody>
</table>

*Estimate is derived from 14,000 injured victims hospitalized\textsuperscript{25}, 2.4% with SCI\textsuperscript{21} \((14,000 \times 0.024) = 336\).*

Severe disabling injuries

- Fracture
- Amputation
- Burn
- Spinal cord injury
- Traumatic brain injury
- Peripheral nerve injury
Rehabilitation of disabling injuries: positive outcomes

• reduced hospital stay
• increased functional recovery
• fewer complications

The disaster cycle

1º Prevention
PREPAREDNESS
Preimpact
Vulnerability Reduction
Hazard Mitigation
Emergency Preparedness
Emergency Planning

2º Prevention
RESPONSE
Transimpact
Warning and Evacuation
Emergency Response
Disaster Relief

Disaster Cycle

3º Prevention
RECOVERY
Postimpact
Disaster Recovery and Reconstruction
Disaster rehabilitation continuum
by time post disaster and stage

Adapted from Fig. 1. A suggested plan of rehabilitation interventions after a natural disaster in the article.
Community integration
Assessing the Impact of Hurricane Katrina on Persons with Disabilities

Glen W. White, PhD
Michael H. Fox, ScD
Catherine Rooney, MA
University of Kansas

Anthony Cahill, PhD
University of New Mexico

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Barriers to disaster rehab (in developing countries)

• underdeveloped civil infrastructure: building standards, communication/transportation networks

• limited pre-hospital systems: search & rescue, triage & initial stabilization, evacuation

• insufficient acute & definitive medical/rehab care: supplies, equipment & facilities, trained personnel
Disaster rehabilitation continuum by time post disaster and stage

Adapted from Fig. 1. A suggested plan of rehabilitation interventions after a natural disaster in the article. "Medical Rehabilitation After Natural Disasters: Why, When, and How? Arch Phys Med Rehab Vol 93, October 2012."
Overcoming disaster rehab barriers

• Needs assessment (ongoing)
• Continuity of care (comprehensive)
• Rehabilitation-specific training (at all levels)
• Coordination (ongoing, comprehensive, at all levels)
CLASSIFICATION AND MINIMUM STANDARDS FOR FOREIGN MEDICAL TEAMS IN SUDDEN ONSET DISASTERS
USER FRIENDLY PROTOCOL/GUIDELINES ON

POST TRAUMA CARE IN LARGE SCALE DISASTER SCENARIO
(AMPUTATION, OPEN FRACTURE & SPINAL CORD INJURY)
Guidance Note on Disability and Emergency Risk Management for Health
Injury and rehabilitation research needs
An evidence review of research on health interventions in humanitarian crises (LSHTM, 2013)

• Evidence following natural disasters

• Evidence on rehabilitation interventions in camp contexts

• Evidence on the effectiveness and cost-effectiveness of long-term rehabilitative interventions (long-term health outcomes, functionality, and quality of life)

• Understanding of mechanisms that enable a continuum of care as programs transition from the emergency to the development phase

• Studies evaluating rehabilitation interventions in the preparedness phase with their subsequent impact on health outcomes

• Appropriate quality standards and measurements of service performance
Resources

An evidence review of research on health interventions in humanitarian crises (London School of Hygiene and Tropical Medicine/Harvard School of Public Health). 2013.


User friendly protocol/guidelines on post-trauma care in a large scale disaster scenario (amputation, open fracture, and spinal cord injury) as part of the ‘Enhancing emergency health and rehabilitation response readiness capacity of the health system in event of high intensity earthquake’ project in Nepal (Nepal Red Cross Society/ Handicap International/European Commission Humanitarian Aid and Civil Protection [ECHO]. 2013.
References


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aap ka Shukriya
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