Using Systematic Review Findings to Ensure Good Practice After the Indian Ocean Tsunami

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On behalf of the
Evidence Aid Working Group & Contributors;
The Cochrane Collaboration & Wiley-Blackwell
The calm before the storm
Goa: December 4 2004

2nd Evidence Aid Conference: Brussels October 29-30 2012
EDITORIAL

Aftermath of the tsunami on Black Sunday (December 26th 2004)
Article No. 990115

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The Asian tsunami of 2004

- Overall, the powerful, earthquake-triggered tsunami:
  - killed more than 280,000 people worldwide
  - displaced more than one million and
  - affected the lives of around five million more worldwide

December 26, 2010
Nagapattinam District

- 73 affected villages
- 1,96,184 population
- 36,860 homes
- 6053 human lives lost
- 5023 livestock perished
- 40 relief camps
- 36,664 people in camps
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Two weeks after the tsunami

- Acute stress reactions were common
  - Insomnia
  - Images of towering waves
  - High pitched sound of the tsunami
  - Cries of the dead
  - Rumors of earthquakes and tsunamis
  - Acute grief reactions
Immediately following the Tsunami, Dr. Chandri, Regional Mental Health Advisor to the WHO, claimed ‘almost all the people affected by the Tsunami.. will be suffering from some form of psychosocial trauma’”

“The successful treatment of PTSD in the West has resulted in this condition being over-diagnosed and its importance exaggerated"
Cultural differences in grieving

• The process of grieving
  • *In India, grieving is a community affair and expressions of grief and mourning are loud and publicly demonstrated; funeral processions are as tumultuous as wedding processions*

• Rituals
  • *Rituals allow survivors to confront their grief, bring families and communities together and help punctuate, and eventually set limits to, the process of grieving*

• Spiritual beliefs
  • *The near universal belief in the karmic cycle of birth and re-birth could prevent some of the fears and concerns of those who believe in reward or retribution after death*

• Non-linear model of causality
  • *Beliefs in super-natural phenomena co-exist alongside tacit acceptance of modern scientific explanations*
Resilience
Do we provide counseling for all survivors? Would large numbers develop PTSD?

SHOULD PSYCHOLOGICAL INTERVENTIONS BE USED AFTER DISASTERS?
Psychological interventions - models

- One model in use was to provide mass single session debriefing to each village, then move on – comprehensive coverage
- The other was to identify only people who were at risk of developing long term problems - provide supportive care and arrange for follow up
- Give time for acute reactions to subside naturally in others with reliance on own coping mechanisms and with community support

- Tremendous media pressure
- Local administration's concerns
- Can evidence inform the decision?
About the CD-ROM

No evidence from 6 trials that single session debriefing prevents PTSD in the short term compared to no debriefing.
Brief single session debriefing may increase odds of PTSD in longer term.
Identifying vulnerable people: risk factors for PTSD/PGD

**Grief-related**
- those who lost a spouse;
- those who lost a child under the age of 20 years;
- those whose loved ones were reported as missing;
- those with multiple deaths in the family;
- those who lost their homes;
- those with multiple losses (e.g. home and family member)

**Trauma-related**
- those directly involved and seriously injured in the tsunami

**General**
- older people, children, women
- those with previous mental health disorders
- those showing symptoms of excessive grief, post-traumatic stress or substance dependence
Health in Action

How the Cochrane Collaboration Is Responding to the Asian Tsunami

Prathap Tharyan*, Mike Clarke, Sally Green

Prathap Tharyan is Professor of Psychiatry at the Christian Medical College in Vellore, Tamil Nadu, India, and Coordinator of the South Asian Cochrane Network. Mike Clarke is Director of the UK Cochrane Centre in Oxford, United Kingdom. Sally Green is Director of the Australasian Cochrane Centre at Monash Institute of Health Services Research, Monash University, Clayton, Australia. The views expressed in this article are those of the authors and are not necessarily the views of the Cochrane Collaboration.

Competing Interests: Prathap Tharyan is an editor with the Cochrane Schizophrenia Group, a reviewer and co-reviewer with other Cochrane collaborative review groups, and Coordinator of the South Asian Cochrane Network. These are not paid posts, but he has received funding from the Cochrane Collaboration and from John Wiley and Sons to host a meeting of the South Asian Cochrane Network and from the Cochrane Collaboration to attend annual colloquia. Mike Clarke is employed as Director of the UK Cochrane Centre and to work on systematic reviews. This employment depends on the value placed on the work of the Cochrane Collaboration and systematic reviews. Sally Green is employed as Director of the Australasian Cochrane Centre and is a member of the Cochrane Collaboration Steering Committee.

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Abbreviation: PTSD, post-traumatic stress disorder


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Dealing with disasters

• Compile a comprehensive list, prioritized and organized, of the health and social consequences of disasters

• Identify updated evidence-based relevant interventions to be used in planning and dealing with such disasters

• Make these resources available to policy makers and people allocating resources and planning and providing care in affected regions

• Evaluate whether, and to which of the groups involved in disaster management, these resources would prove useful
The Cochrane Collaboration

The reliable source of evidence in health care

The Evidence Aid project: Resources for natural disasters and other healthcare emergencies

- Evidence Summaries - evidence to help people making decisions about health care in natural disasters and other healthcare emergencies
- The Evidence Aid project -
  1. Resources for health professionals
  2. The Cochrane Collaboration working party
  3. How you might help
  4. Leaflet on The Cochrane Collaboration’s response to healthcare emergencies

Resources for health professionals

The Cochrane Collaboration is preparing evidence summaries for interventions relevant to health care in natural disasters and other healthcare emergencies, such as those following the 2004 tsunami, and more recent events in the USA and South Asia. These summaries are being included here, along with links to other sources of evidence if summaries are not yet available. It is hoped that Evidence Aid will help government and non-government agencies, other organisations and individuals in planning and making decisions about health care.

Evidence summaries are here. Details of the prioritisation process for topics are here: prioritisation process, list of topics for which up-to-date Cochrane reviews are available, and list of topics for which up-to-date Cochrane reviews are not currently available. Suggestions for changes and additions to the prioritised topics are welcome and should be sent to reviews@cochrane.org.

An article about the Evidence Aid project was published in the June 2005 issue of PLoS Medicine. To read, print or download it click here.

The Cochrane Collaboration working party

http://www.cochrane.org/
The Cochrane Collaboration

The reliable source of evidence in health care

Cochrane Collaboration - Evidence Aid Category Index

This website highlights evidence relevant to the effects of interventions. Its aim is to help people making decisions about health care in natural disasters and other healthcare emergencies. The topics were originally identified as priorities by people in the regions affected by the 2004 tsunami, and relate to interventions that might be used or available. Where possible, a structured summary (Evidence Update) or another summary has been prepared, based on one or more Cochrane reviews. If a summary is not available but a relevant Cochrane review exists, a link is given to the review in The Cochrane Library. If a suitable Cochrane review is not available, there are links to other sources of evidence, in particular to topics in the BMJ's Clinical Evidence. (The inclusion of links to material from outside The Cochrane Collaboration does not imply endorsement of that material by the Collaboration.) If you would like to comment or ask questions, please email reviews@cochrane.org.

Infectious diseases

Injuries and wounds

Rebuilding of communities and infrastructure

Mental health

Nutrition

Rehabilitation

Pregnancy and childbirth
Infectious diseases

This website has been designed to try to help people making decisions about health care in the aftermath of natural disasters and other emergencies. The topics have been identified as priorities by people in affected regions, and relate to treatments that might be used or available. Where possible, a summary has been prepared, based on one or more Cochrane reviews. If such a summary is not yet ready, links are included to other sources of evidence, if these have been identified. If you would like to comment or ask questions, please email reviews@cochrane.org.

Cholera
Diarrhoea
Hepatitis
Leptospirosis
Malaria
Rehabilitation
Respiratory infections and influenza
Other infections
Evidence summaries for topics of high priority in health care in affected regions.

**Prevention of malaria**

Does prophylaxis or intermittent treatment with antimalarial drugs benefit young children living in areas with malaria? (PDF document)

Drugs for preventing malaria-related illness in pregnant women and death in the newborn (PDF document 0.22 MB)

Insecticide-treated bed nets and curtains for preventing malaria (PDF document 0.25 MB)

**Treatment of malaria**

Amodiaquine for treating malaria (PDF document 0.40 MB)

Artemether-lumefantrine (six-dose regimen) for treating uncomplicated falciparum malaria (A summary for this topic is not currently available. The relevant Cochrane review is available here.)

Artesunate plus mefloquine versus mefloquine for treating uncomplicated malaria (A summary for this topic is not currently available. The relevant Cochrane review is available here.)

Atovaquone-proguanil for treating uncomplicated malaria (A summary for this topic is not currently available. The relevant Cochrane review is available here.)

Chloroquine or amodiaquine combined with sulfadoxine-pyrimethamine for treating uncomplicated malaria (A summary for this topic is not currently available. The relevant Cochrane review is available here.)

Chlorproguanil-dapsone for treating uncomplicated malaria (PDF document 0.18 MB)

Drugs for treating uncomplicated malaria in pregnant women (PDF document 0.12 MB)

High dose quinine regimens for treating severe malaria (PDF document 0.14 MB)
Evidence Update

Mental Health Series

January 2006

Does brief psychological debriefing help manage psychological distress after trauma and prevent post traumatic stress disorder?

There is no evidence that single session individual psychological debriefing prevents post traumatic stress disorder after traumatic events.

DFID
Department for International Development

effective health care
RESEARCH CONSORTIUM

LSTM
University School of Tropical Medicine

2nd Evidence Aid Conference: Brussels October 29-30 2012
Psychological debriefing versus control: people with post-traumatic stress disorder diagnosed at follow up

Authors’ conclusions

Implications for practice:
There is no evidence of benefit of single session individual debriefing, and some evidence of possible harm. The practice of compulsory debriefing following trauma should cease pending further evidence.

Implications for research:
Large, well-designed trials are needed to evaluate the effects of psychological debriefing in emergency workers, children, and those with existing psychiatric conditions. Future trials should also evaluate the effects of group debriefing and debriefing after mass disasters. Trials should ensure that potential harms, as well as benefits, are assessed and reported.
Lessons from the tsunami

The tsunami was a reminder that the divisions within and between nations, as well as attempts to close our eyes and borders to problems abroad, flounder in the face of the challenges posed by nature.

Lessons learned from the tsunami

- Well-meaning but misdirected and sometimes harmful interventions could be prevented if those making decisions about the nature of responses had access to reliable and up-to-date evidence of what works and what does not.

Lessons learned from the tsunami

- Good-quality systematic reviews form the basis on which interventions should be implemented and on which new interventions should be planned and evaluated.

IS EVIDENCE AID BEING USED?

2nd Evidence Aid Conference: Brussels October 29-30 2012
Colecções Cochrane na BVS

The Cochrane Library
Colecção de fontes de informação de boa evidência em atenção à saúde, em inglês. Inclui as Revisões Sistemáticas da Colaboração Cochrane, em texto completo, além de ensaios clínicos, estudos de avaliação econômica em saúde, informes de avaliação de tecnologias de saúde e revisões sistemáticas resumidas criticamente.

Biblioteca Cochrane Plus
BCP é uma coleção adicional à Cochrane Library, produzida pela Rede Cochrane Ibero-Americana. Inclui as revisões sistemáticas Cochrane, com textos completos traduzidos ao espanhol e outras fontes exclusivas em espanhol: Bandolera, Gestión Clínica y Sanitaria, Resúmenes de la Fundación Kovacs, Evidencia en Atención Primaria de Argentina, entre outras.

Resumos de Revisões Sistemáticas em Português
COCHRANE EVIDENCE AID: RESOURCES FOR CHILE AND HAITI EARTHQUAKES

A selection of Cochrane Reviews and their conclusions for healthcare topics that have been identified as important in the aftermath of a major earthquake. These are signposts to systematic reviews that might be helpful to decision-makers. All countries in Latin America and the Caribbean can access The Cochrane Library for free via the Virtual Health Library BIREME interface (in English, Spanish or Portuguese).

This information is also available to download as a PDF in English, Spanish, and French.

Guidelines about making drug donations following disasters are available here from the World Health Organization (WHO), and details of the Interagency Emergency Medical Kit are available in English, French and Spanish from this webpage.

Contact: Mike Clarke and Harriet Maclehose (mclarke@cochrane.ac.uk; hmaclehose@cochrane.org) if you have questions or suggestions for other topics.

DIARRHOEA PREVENTION AND TREATMENT

*Polymer-based oral rehydration solution for treating acute watery diarrhoea*

Polymer-based ORS [oral rehydration solution] shows some advantages compared to ORS ≥ 310 [the original ORS was based on glucose and had an osmolality of ≥ 310 mOsm/L] for treating all-cause diarrhoea, and in diarrhoea caused by cholera. Comparisons favoured the polymer-based ORS over ORS ≤ 270 [the currently agreed best formula with ≤ 270 mOsm/L], but the analysis was underpowered. [Download PDF] [Resumen en español] [Evidence Update summary]

*Oral versus intravenous rehydration for treating dehydration due to gastroenteritis in children*

There were no important clinical differences between ORT and IVT for rehydration secondary to acute gastroenteritis in children. It seems reasonable that children presenting for medical care with mild to moderate dehydration secondary to acute gastroenteritis should initially be treated with ORT. Should treatment fail, then IVT may be used. In children who have persistent vomiting, ORT may be used, but the child must be closely observed for proof of successful treatment.

For every 25 children treated with ORT, one would fail and require IVT. Clinicians and families need to apply this evidence to individual situations in order to decide whether they are willing to accept this minimal risk. [Download PDF] [Resumen en español] [Evidence Update summary]
August 2010: Severe floods in Pakistan

WATER SAFETY & WATER-RELATED DISEASES

New! Cochrane Evidence Aid: Resources for Pakistan floods
Usage statistics of the Water borne diseases collection: Google analytics

This page was viewed 2,246 times

2,246 Pageviews

1,726 Unique Views
Country/Territory Detail:

Pakistan

Sep 7, 2010 - Oct 7, 2010
Comparing to: Site

Visits
1 1 1 1 1 1 1 1 1 1

This country/territory sent 591 visits via 10 cities

Site Usage

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2nd Evidence Aid Conference: Brussels October 29-30 2012
Free access to The Cochrane Library for all people in Pakistan up to November 2010

As part of the Evidence Aid programme, John Wiley & Sons, Ltd, have granted all people in Pakistan access to all databases in The Cochrane Library, including the Cochrane Database of Systematic Reviews, up to November 2010.

Evidence Aid special collection: evidence summaries to help rehabilitation efforts in areas affected by floods

Water safety and water related diseases:

A collection of evidence summaries based on systematic reviews from The Cochrane Collaboration. Where available, a link is provided to Evidence Update summaries.

These include evidence summaries on the following themes:
# Usage of The Cochrane Library in Pakistan

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Access to the Cochrane library via the Emergency Access Initiative of the National Library of Medicine

The Emergency Access Initiative (EAI) is a partnership of the National Library of Medicine, the National Network of Libraries of Medicine, and the Professional/Scholarly Publishing Division of the Association of American Publishers and other publishers. EAI provides temporary free access to full text articles from major biomedicine titles to healthcare professionals, librarians, and the public affected by disasters.

Access to biomedical literature through the Emergency Access Initiative is only available to those affected by the disaster and for those providing assistance to the affected population. Other users should contact their local medical library or the National Network of Libraries of Medicine by calling 1-800-338-7657 for biomedical literature.

Active Event: Pakistan floods
Free access period: September 9, 2010 - November 6, 2010

As of Oct 11, 2010
Visitors: 1,852
Visitors Who Visited Once: 1,471
Visitors Who Visited More Than Once: 381
Average Visits per Visitor: 2.14

Statistics provided by Maria Elizabeth Collins; NLM
Access to the Cochrane library via the EAI of the NLM

• Quote from a librarian at the WHO Country Office for Islamabad: (provided by Maria E. Collins, NLM)

  “I am overwhelmed while I am writing to you about how useful I found this EAI access for Pakistan. It was a very timely support which eased my task and enabled me to retrieve/collect and disseminate required information to the professionals, doctors and all others who are involved in the relief and rehabilitation work for the flood victims in Pakistan. Since the process is ongoing, they would need updated information on emergency and related topics from time to time.”
How is the evidence collection is being used?

“I know that many of the individuals involved in making guidelines for local groups such as Infectious Disease Society of Pakistan found these very useful in preparing their own guidelines.”

Anita Zaidi
South Asian Cochrane Network
Aga Khan University, Karachi
Did we do the right thing in 2004, based on such limited evidence?

WHAT CONSTITUTES RELIABLE EVIDENCE IN DISASTERS?
Ideally, an up to date Systematic Review of RCTs
Review update: summary

- 15 trials fulfilled the inclusion criteria for the update
- Single session individual debriefing did not prevent the onset of post traumatic stress disorder (PTSD) nor reduce psychological distress, compared to no debriefing or to educational interventions
- At one year, one trial reported a significantly increased risk of PTSD in those receiving debriefing
  - OR 2.51; 95% CI 1.24 to 5.09
- Methodological quality was variable, but the majority of trials scored poorly
- Can we then trust these estimates?
- What else can we do?
Did we do the right thing after the 2004 tsunami?

Coping with the Asian tsunami: Perspectives from Tamil Nadu, India on the determinants of resilience in the face of adversity

Anto P. Rajkumar, Titus S. Premkumar, Prathap Tharyan
Department of Psychiatry, Christian Medical College, Vellore 632002, Tamil Nadu, India

Qualitative research: Sept 2005
9 months after the tsunami

- **Four costal villages in Nagapattinam district**
- Premise: immediate stress and grief reactions would have had time to settle and successful community coping strategies would be identifiable.
- **6 focus groups: fishermen (2), housewives (2), village leaders (1);**
- **Youth (1)**

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Effects of the tsunami:

- Reconstructive and resettlement activities had not progressed as expected and the majority of participants were still living in shelters.
- Aid agencies and health workers were still present and active in the area, though less numerous than in the immediate aftermath of the tsunami.
- Some fishermen had resumed normal fishing activities, others awaited settlement of compensation claims.
- Rumors about earthquakes and impending tsunamis were rife and facilitated by reports in the press and through local radio and television programs.
Psychological impact of the tsunami

Most had experienced multiple loses; many were grieving loss of loved ones

“I was holding on my two sons against the pull of those giant waves. Suddenly, the torrent overwhelmed me and I could not help but become a mere spectator of my children disappearing to their fate. I shall never see their faces again. If I had held them a little stronger on that single moment, they might be alive now. I frequently get dreams of my children and the horror written over their faces has not yet vanished.”
Coping with the Asian tsunami: Perspectives from Tamil Nadu, India on the determinants of resilience in the face of adversity

Anto P. Rajkumar, Titus S. Premkumar, Prathap Tharyan

Department of Psychiatry, Christian Medical College, Vellore 632002, Tamil Nadu, India

- Psychological impact of the tsunami
- Loss of trust:
  - “We have been taught in our childhood how to survive during storms and cyclones. We would be alert only when we were sailing over the sea. On the shore, we would be relaxed like sleeping in our mother’s lap. This is the first time we learned that the sea might hit us even when we are on the shore. This tsunami destroyed everything we held precious and took away the one thing that sustains us, our trust in the mother, the sea.”
Psychological impact of the tsunami

Loss of self-esteem:

“When the tsunami waves receded, I was hanging over a branch of a tree. When I got down, I realized that it washed away all of my property, including the clothes I wore. I had to run naked for a few kilometers to save my life. What an agony! What a humiliation! How can I forget this while I am alive?”

“In our mythology, even Lord Shiva had to beg for his food once, but, we... the fishermen had been so self-reliant and never expected help from others. We could not digest the fact that this tsunami made us receive help from others. The worst blow on us was this blow on our self esteem.”

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Positive changes in attitudes and world-view:

“We received help from all corners of the world. We have not seen the faces of most of the people who helped us, yet we are so grateful for their succour. We can only pray for them and the well being of their families. We never knew that this world has these many helping souls. This world appears now to be a better place to live.”

“Our families had never planned our finances. Our life would be guided by our daily catch of fish. Now, we view money differently and understand its true value. We have become more economical. We are spending five rupees in the place of fifty rupees.”
Coping strategies: Individual coping due to shared adversity

“I would cry if I were the only one who lost my son. There were many who lost more than what I did. When I tried to console others, I learnt to control my tears.”

“We were chosen by our God to survive. We have the special responsibility of rebuilding our village and to change the future.”

“An ordinary fisherman’s life has never been luxurious. We are known for our hardships and resilience. We are proud of that.”

“We won’t expect much from our lives. If we get some food, water and shelter, we can go on with our life. That’s why we did not develop any mental illness.”
Societal changes and collective coping:

- "People in the neighbouring towns forgot their communal and religious differences. They all came together to feed us, even before we asked them. We are so grateful! When we first returned to sea after tsunami, we dedicated our first catch to them!"

- "If there were no alcohol, the fishermen community would be the richest. We had spent three-fourths our income on alcohol. Now, we have established stringent village regulations curbing alcohol sales and use rebuild our village."

- "If we see anyone beating his wife under the influence of alcohol, we will warn him once. If he does that again, he will be punished and be segregated forever from our community!"
Spiritual coping strategies:

- “We conduct Karyam and offer Padaiyal to fulfill their wishes. The souls attain divine status. We pray to them and they protect us and guide our lives.”

- “Not only tsunami.. Nothing can alter our belief on God. We can confidently say this!”

- “God gave me four beautiful sons. We completed our family with permanent sterilization surgery. This tsunami wiped away all my children… not even one among them was left alive. What shall I do? My children were the precious gifts handed over by Lord Shiva. He took them back. His wish shall be done!”
Structural social changes:

1. Caste issues:

“We could never imagine living next to fishermen families. Now, we earn more and keep our houses cleaner than what they do. Our men once made their livelihood by serving fishermen. Now, we are independent and our self esteem is much better!”

2. Gender issues:

• “When we were offered some money by an aid agency, we requested them to provide some machinery for self-employment. We added our savings to that and started this coir rope business. Many ridiculed us initially. Now, we earn more than men. We take our own decisions and we support the education of our children with this income.”
Structural social changes:

3. The dowry system

“We had to spend hundreds of thousands of rupees to get a girl married in an average fisherman family. Now, we are able to conduct marriages of our sisters with a little ease.”

4. Aspirations

“We consider different job opportunities now. We have to earn more to recover from our losses. We are prepared to do any work!”

“We are more united now. We learnt that we could survive only if we throw away our differences. This is the most important lesson taught by the tsunami.”
Reflections:

1. Psychological reactions to natural disasters are diverse and shaped by ethno-cultural variations – cultural sensitivity required in aid responses. Effect modifiers:
   - Collectivizing personal trauma,
   - Re-constructing meaning following the disaster using a “fatalistic” perspective,
   - Using a problem-focused coping style,
   - Utilizing extended social supports,
   - Displaying grief and mourning publicly, and
   - Drawing on strongly rooted spiritual beliefs and practices
Reflections:

2. Coping mechanisms exist at individual and community levels that enhance resilience in the face of adversity and enable normal functioning in the majority of those affected, without requiring professional intervention.

- **Disasters result in positive and negative transformations**
- **The social response to a disaster is not just collapse, but also results in growth, learning and resilience**
- **Disaster relief efforts should facilitate, and not impede or delay such transformations**
Lessons from the 2004 Asian tsunami: Epidemiological and nosological debates in the diagnosis of post-traumatic stress disorder in non-Western post-disaster communities

A. P. Rajkumar,¹,² T. S. P. Mohan³ and P. Tharyan¹

- We assessed Post Traumatic Stress Symptoms (PTSS) and grief symptoms in 643 survivors from five Indian villages struck by the Asian tsunami 9 months later using the Impact of Events Scale – Revised and the Complicated Grief Assessment Scale.

- We adopted a case control design (those with and without PTSS) and employed complex sample multiple logistic regression statistics to study the determinants of PTSS.
Results

1. Did many people develop PTSD?
   • The prevalence of PTSS was 15.1% (95% CI 12.3%–17.9%)
     • i.e.: 85% had no stress symptoms 9 months after the tsunami

2. How accurate were our predictive risk factors?
   • PTSS was significantly associated with
     • traumatic grief (adjusted OR 6.50, 95% CI 3.12–13.57; P = 0.002)
     • female gender (adjusted OR 1.90, 95% CI 1.06–3.39; P = 0.04)
     • physical injury in tsunami (adjusted OR 3.85, 95% CI 1.51–9.83; P = 0.02)
     • death of children (adjusted OR, 2.93, 95% CI 1.43–5.99; P = 0.01)
     • financial losses > INR 100,000 (OR 1.28, 95% CI 1.01–1.62; P = 0.03)
   • PTSS was significantly lower in those
     • received aid of value =/> INR 40,000 (OR 0.60, 95% CI 0.42–0.86; P = 0.03)
Results II

- PTSS not associated: (after adjusting for sex, education, & cluster effect)  
  ** P <0.05; ** P <0.01 in univariate analyses, but not significant after adjusting for cluster effect
  - Illiteracy**
  - Being a fisherman (291/643)
  - Monthly income < INR 1500
  - Being caught in tsunami waves
  - Loss of consciousness while caught in tsunami waves*
  - Witnessing death during tsunami
  - Experiencing horror, fear, helplessness
  - Experiencing fear of one’s own death*
  - Handling corpses during relief work*
  - Alcohol use (men- 291/643)
  - Death of a relative**
  - Death of spouse*
Results III

• Inherent to diagnosis of Post Traumatic Stress Disorder as opposed to Post Traumatic Stress Symptoms is ‘avoidance’

• Participants scored significantly less on the avoidance subscale when compared to hyper-arousal (P < 0.001) and the intrusion subscale of Impact of Event Scale-Revised (P < 0.001)

• Those with PTSS and those without PTSS did not differ significantly on functional impairment, defined by their inability to return to their pre-disaster or equivalent occupation, following the tsunami (P = 0.91).

• Participants with PTSS and with traumatic grief scored higher on the hyper-arousal (P < 0.001), intrusion (P < 0.001) and avoidance (p < 0.001) subscales of IES-R, than those without grief symptoms.
Reflections

- We were probably right in not offering routine counseling to all tsunami survivors (qualitative study and quantitative data).
- Following natural disasters, psychological responses are best aimed at:
  - strengthening community coping for the majority; and
  - identifying and providing appropriate psychological services for those with persistent difficulties (the majority of whom can be readily identified)
- Evidence from systematic reviews of RCTs guided our initial response but we confirmed these predictions by operational research that was observational (qualitative and quantitative)
The Indian Council of Medical Research has renewed the country's National Subscription to the Cochrane Library for three years.

The original National Subscription has been in place since 2007, offering all users in India free access to the Cochrane Library's resources. Usage has increased significantly since January 2007 as a result, and this trend is expected to continue.

External link for more information:
http://www.cochrane-sacn.org/Admin/CochraneLibrary.aspx

Contributor's name:
Dr. Prathap Tharyan
EVIDENCE...

OF THE PEOPLE...

BY THE PEOPLE...

FOR THE PEOPLE

2nd Evidence Aid Conference: Brussels October 29-30 2012
Coordinated response
Engineering perspectives (shelters, toilets)
Occupational rehabilitation
Infra-structure strengthening
Mass casualties and dead bodies
Social change
Prevent corruption with regard to aid received
Timely Implementation, Monitoring and Evaluation of projects

UN-ANSWERED QUESTIONS
AT THE TIME

2nd Evidence Aid Conference: Brussels October 29-30 2012
Current status of disaster preparedness in India
National Institute of Disaster Management

The National Institute of Disaster Management (NIDM) was constituted under an Act of Parliament with a vision to play the role of a premier institute for capacity development in India and the region.

Forthcoming Events

29 Oct - 02 Nov 2012
Training Programme on "Civil Defence and Disaster Management" at NIDM

31 Oct - 02 Nov 2012
Training Programme on "Seismic Safety Assessment of Buildings in Delhi by Rapid Visual Survey" at NIDM

05 - 09 Nov 2012
Training Programme on "Coastal Hazards Risk Management" at AIM Tamil Nadu

05 - 09 Nov 2012
Training Programme on "Landslide Hazard and Risk Management" at Maharashtra

05 - 09 Nov 2012
Training Programme on "Disaster Management in the North East" at NIDM

Photo Gallery

Important Links

- National Portal of India
- Ministry of Home Affairs
- National Disaster Management Authority
- SAARC Disaster Management Centre
The Tenth Five-Year Plan Document also had, for the first time, a detailed chapter on Disaster Management. Similarly, the Twelfth Finance Commission was also mandated to review the financial arrangements for Disaster Management.
## Guidelines

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Description</th>
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<tbody>
<tr>
<td>1.</td>
<td>Guidelines on Earthquake</td>
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<td>2.</td>
<td>Guidelines for Management of</td>
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<td>3.</td>
<td>Guidelines on Cyclone</td>
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<td>4.</td>
<td>Guidelines on Flood</td>
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<td>Guidelines on Management of</td>
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<td>Guidelines on Drought Management</td>
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<td>Guidelines for Landslide</td>
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<td>Guidelines for Nuclear and Radiological</td>
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<td>Guidelines on Chemical Disaster</td>
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<td>10.</td>
<td>Guidelines for Chemical (Terrorism)</td>
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<td>Guidelines for Biological Disaster</td>
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<td>13.</td>
<td>Guidelines for Psycho-Social Support</td>
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<td>Guidelines for Incident Response System</td>
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<td>16.</td>
<td>Guidelines for National Disaster Management Information and Communication System</td>
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<td>17.</td>
<td>Guidelines for Scaling, Type of Equipment and Training of Fire Services</td>
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<tr>
<td>18.</td>
<td>Guidelines for Hand Book for Training and Capacity Building of Civil Defence and Sister Organisations</td>
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### Reports

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<tr>
<th>Sr. No.</th>
<th>Description</th>
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<tbody>
<tr>
<td>1.</td>
<td>Revamping of Civil Defence</td>
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<td>2.</td>
<td>NIDM's Functioning</td>
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<td>3.</td>
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<td>4.</td>
<td>Disaster Response Training at the Centre &amp; States-NDRF and SDRF</td>
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<tr>
<td>5.</td>
<td>Strengthening of safety and security for transportation of POL tankers</td>
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<tr>
<td>6.</td>
<td>Threats to Municipal Water Supply and Water Reservoirs</td>
</tr>
<tr>
<td>7.</td>
<td>Mechanism to Detect, Prevent and Respond to Radiological Emergencies in India</td>
</tr>
<tr>
<td>8.</td>
<td>Management of Dead in the Aftermath of Disaster</td>
</tr>
</tbody>
</table>
42. **Emergency Medical Response**

i. Prompt and efficient emergency medical response will be provided by Quick Reaction Medical Teams (QRMTs), Mobile Field Hospitals, Accident Relief Medical Vans (ARMVs) and Heli-ambulances. They will be activated to reach the tsunami-affected areas immediately, along with dressing material, splints, portable X-ray machines, mobile operation theatres, pulse oximeters, resuscitation equipment and life-saving drugs, etc. Resuscitation, triage and medical evacuation of victims who require hospitalisation will be done in accordance with SOPs. A large number of victims may suffer from psychosocial trauma, for which appropriate counselling will be provided.
19. Psycho-Social First Aid in Post Disaster Phase

The psycho-social first aid is a process which prevents further deterioration of the coping capacities of the survivors, thereby enhancing the chances of rapid normalization process. In the absence of psycho-social first aid, the process of normalization for the affected community will be delayed and prolonged. In the response phase, PSFA will be provided by duly trained skilled first responders who form part of PSSMHS care team. Psycho-social first aid is provided in the initial one-to-six week period. Trained CLW's from the affected community shall be more successful in mitigating the effects of acute psycho-social distress. This will go a long way in preventing major psychological and mental health problems.
<table>
<thead>
<tr>
<th>Do’s</th>
<th>Don’ts</th>
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<tr>
<td>Learn about and, where appropriate, use local cultural practices to support local people.</td>
<td>Do not assume that all local cultural practices are helpful or that all local people are supportive of particular practices.</td>
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<tr>
<td>Use methods from outside the culture where it is appropriate to do so.</td>
<td>Do not assume that methods from abroad are necessarily better or impose them on local people in ways that marginalise local supportive practices and beliefs.</td>
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<td>Build government capacities and integrate mental health care for emergency survivors in general health services and, if available, in community mental health services.</td>
<td>Do not create parallel mental health services for specific sub-populations.</td>
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<td>Organise access to a range of supports, including psychological first aid, to people in acute distress after exposure to an extreme stressor.</td>
<td>Do not provide one-off, single-session psychological debriefing for people in the general population as an early intervention after exposure to conflict or natural disaster.</td>
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<tr>
<td>Train and supervise primary/general health care workers in good prescription practices and in basic psychological support.</td>
<td>Do not provide psychotropic medication or psychological support without training and supervision.</td>
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<td>Use generic medications that are on the essential drug list of the country.</td>
<td>Do not introduce new, branded medications in contexts where such medications are not widely used.</td>
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<tr>
<td>Establish effective systems for referring and supporting severely affected people.</td>
<td>Do not establish screening for people with mental disorders without having in place appropriate and accessible services to care for identified persons.</td>
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<td>Develop locally appropriate care solutions for people at risk of being institutionalised.</td>
<td>Do not institutionalise people (unless an institution is temporarily an indisputable last resort for basic care and protection).</td>
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<tr>
<td>Function or Domain</td>
<td>Emergency Preparedness</td>
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<td>Human resources</td>
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<td>Part B. Core mental health and psychosocial support domains</td>
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<td>5 Community mobilisation and support</td>
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Management of the Dead in the Aftermath of Disasters
August 2010

National Disaster Management Authority
Government of India
Mass Fatality Management following the South Asian Tsunami Disaster: Case Studies in Thailand, Indonesia, and Sri Lanka

Oliver W. Morgan¹*, Pongruk Sribanditmongkol², Clifford Perera³, Yeddii Sulasmi⁴, Dana Van Alphen⁵, Egbert Sondorp¹

¹ Health Policy Unit, London School of Hygiene and Tropical Medicine, London, United Kingdom, ² Department of Forensic Medicine, Faculty of Medicine, Chiang Mai University, Chiang Mai, Thailand, ³ Department of Forensic Medicine, University of Ruhuna, Galle, Sri Lanka, ⁴ World Health Organization, Banda Aceh, Indonesia, ⁵ Pan American Health Organization, Washington, District of Columbia, United States of America

Box 1. Recommendations for the Management of the Dead after Natural Disasters

Health Impacts
- The health risk to the general public of large numbers of dead bodies is negligible
- Drinking water must be treated to avoid possible diarrhoeal diseases
- Body handlers should follow universal precautions for blood and body fluids, wear gloves, and wash their hands

Body Storage
- Refrigerated containers provide the best storage, if available
- Temporary burial in trench graves can be used if refrigeration is not available

Body Identification
- Visual recognition or photographs of fresh bodies are the simplest forms of non-forensic identification and should be attempted after all natural disasters
- If resources and comparative data are available, simpler methods can be supplemented by forensic techniques

Body Disposal
- Communal graves may be necessary following large disasters
- Bodies should be buried in one layer to facilitate future exhumation
- Graves should be clearly marked

Coordination
- A named person/organisation should have an agreed mandate to coordinate the management of dead bodies

Preparedness
- Mass fatality plans should be included in national and local disaster preparedness activities
- Systematic documentation about how the dead are managed in future disasters is needed to learn from them

Communications
- Close working with the media is needed to avoid misinformation and to promote the rights of the survivors
Management of Dead Bodies after Disasters:
A Field Manual for First Responders
Mass Fatality Management following the South Asian Tsunami Disaster: Case Studies in Thailand, Indonesia, and Sri Lanka

Oliver W. Morgan¹, Pongruk Sribanditmongkol², Clifford Perera³, Yeddi Sulasmi⁴, Dana Van Alphen⁵, Egbert Sondorp¹

1 Health Policy Unit, London School of Hygiene and Tropical Medicine, London, United Kingdom, 2 Department of Forensic Medicine, Faculty of Medicine, Chiang Mai University, Chaing Mai, Thailand, 3 Department of Forensic Medicine, University of Ruhuna, Galle, Sri Lanka, 4 World Health Organization, Banda Aceh, Indonesia, 5 Pan American Health Organization, Washington, District of Columbia, United States of America

Box 2. Areas of Further Research in the Management of Dead Bodies following Natural Disasters

- Different methods of body storage where refrigeration is not available.
- Hydrological characteristics of mass communal burial and measures to avoid groundwater contamination.
- Epidemiological studies of infectious and non-infectious health risks for individuals recovering and identifying dead bodies.
- Methods for victim identification in situations where specialist forensic support is limited or unavailable, especially using visual and fingerprint identification.

- Strategies for developing regional and international forensic capacity and resources.
- Systems and protocols for managing information about the dead and missing.
- Social and cultural impacts of bereavement and the imperative to identify missing relatives and friends.
- Social and cultural acceptability of technical approaches for identification.
- Community-level approaches to disaster preparedness and response with regard to the management of the dead.
Information products that are NOT considered guidelines

- Documents containing standards for manufacturing health technologies, such as pharmaceuticals and vaccines.
- ‘How to’ documents, or operational manuals (e.g. how to set up a research project or how to implement a service).
- Documents that describe standard operating procedures for organizations or systems.
- Documents that state established principles (e.g. ethics, human rights, WHO constitutional issues).
- Documents that provide information on different options for interventions without recommending any particular intervention.
Presumptive malaria treatment

- Chloroquine 25 mg/kg over 3 days

Uncomplicated *P. falciparum* malaria

- In areas without CQ resistance: Chloroquine for 3-days
- In areas with CQ resistance: ACT for 3-days plus one dose of PQ
  - 1\textsuperscript{st} choice AS+SP
  - AL and AS+MQ also available

Severe *P. falciparum* malaria

- Four options: Artesunate iv (im): 2.4 mg/kg on admission/12hr/24hrs
  - or Quinine iv (im): 20mg/kg on admission then 10mg/kg 8 hrly
  - or Artemether im
  - or Arteether im
- Once able to tolerate oral treatment complete 7 days of
Intravenous (IV) artesunate should be used in preference to quinine for the treatment of severe P. falciparum malaria in adults.

Strong recommendation, high quality evidence.
### Artesunate compared to Quinine for Adults with severe malaria

**Patient or population:** Adults with severe malaria  
**Settings:** India  
**Intervention:** Artesunate  
**Comparison:** Quinine

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Illustrative comparative risks*</th>
<th>Relative effect</th>
<th>Participants (studies)</th>
<th>Quality (GRADE)</th>
<th>Comments</th>
</tr>
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<tbody>
<tr>
<td></td>
<td><strong>(95% CI)</strong></td>
<td><strong>(95% CI)</strong></td>
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<td></td>
<td>Assumed risk</td>
<td>Corresponding risk</td>
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</table>
| **Quinine**                      | 222 per 1000                     | 84 fewer per 1000 (from 56 fewer to 109 fewer) | **RR 0.62** (0.51 to 0.75) | **⊕⊕⊕⊕⊕** | high  
| **Artesunate**                   | **185 per 1000**                 | **109 fewer** (from 2 fewer to 35 more) | **RR 0.62** (0.51 to 0.75) | **⊕⊕⊕⊕⊕** | high  
| **Neurological sequelae at discharge** | **5 per 1000**                  | **6 more per 1000** (from 2 fewer to 35 more) | **RR 2.21** (0.64 to 7.63) | **⊕⊕⊕⊕** | low  
| **Coma recovery time**           | The mean coma recovery time in the control groups Was **55.80 Hours** | The mean Coma recovery time in the intervention groups Was **2.11 hours Longer** (from 19.17 hrs quicker to 23.4 hrs longer) | 231 (2 studies) | **⊕⊕⊕⊕** | very low  
| **Time to hospital discharge**   | The mean time to hospital discharge in the control groups was **5.00 Days** | The mean Time to hospital discharge in the intervention groups was **0.10 days longer** (1.34 days quicker to 1.54 days) | 113 (1 study) | **⊕⊕⊕⊕** | very low  

---

Numerical results linked to the overall quality of evidence

In order to understand (and have confidence in) the results of a systematic review we need to know:

• The risk of bias of the included trials: (Study Limitations)
  • Can we trust the evidence?

• A lot about the characteristics of the individual trials: (Directness)
  • Does it apply to my setting? (population/comparisons/outcomes/health systems)

• Are the results consistent in all the trials: can heterogeneity be explained by a subgroup analysis? (Consistency)
  • Does the intervention work the same in all trials or does it work better in some and not in other trials?

• Are the results precise? (Precision)
  • Do the results clearly indicate statistical significance and clinical importance

• Is there evidence of publication bias? (Publication bias)
  • Did the review search for all relevant trials or only published and easily accessed ones?

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Linking the numerical results to our confidence in that effect estimate

**Levels of certainty or uncertainty**

<table>
<thead>
<tr>
<th>GRADE</th>
<th>Description</th>
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<tbody>
<tr>
<td>4 = High</td>
<td>We are very confident that the true effect lies close to that of the estimate of the effect; further research is unlikely to change this estimate</td>
</tr>
<tr>
<td>3 = Moderate</td>
<td>We are moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different; further research may change this estimate</td>
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<tr>
<td>2 = Low</td>
<td>Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect; further research is likely to change this estimate</td>
</tr>
<tr>
<td>1 = Very low</td>
<td>We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect; further research is needed and is very likely to alter these estimates</td>
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</table>

**RCTs**

- **Observational**

- **2nd Evidence**
Using the evidence: to inform policy decisions

The overall quality of the evidence and confidence in the result

<table>
<thead>
<tr>
<th>Quality Level</th>
<th>Description</th>
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<tbody>
<tr>
<td>High</td>
<td>Further research is very unlikely to change our confidence in the estimate of effect.</td>
</tr>
<tr>
<td>Moderate</td>
<td>Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.</td>
</tr>
<tr>
<td>Low</td>
<td>Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.</td>
</tr>
<tr>
<td>Very low</td>
<td>We are very uncertain about the estimate.</td>
</tr>
</tbody>
</table>

Strength of the recommendations

- **Strong recommendations**: most informed patients would choose the recommended management
- **Conditional recommendations**: patients’ choices will vary according to their values and preferences

Balance of benefits/harms/ cost/resources/burdens/preferences

Formulate recommendations:
- For or against (direction)
- Strong or weak (strength)

By considering:
- Quality of evidence
- Balance benefits/harms
- Values and preferences

Revise if necessary by considering:
- Resource use (cost)

Rate overall quality of evidence across outcomes based on lowest quality of critical outcomes

- “We recommend using...”
- “We suggest using...”
- “We recommend against using...”
- “We suggest against using...”
Adequate funding
Global partnerships
Volunteers to prepare and maintain systematic reviews of relevant interventions
Primary research to fill the gaps indicated by these reviews

THE LASTING LEGACY OF THE 2004 TSUNAMI?

2nd Evidence Aid Conference: Brussels October 29-30 2012
The Research-Evidence-Policy-Practice Gaps

Epistemic community: Thoughtful committed citizens who can change the world

Research domain  Policy domain  Societal domain

Priorities

Research

Evidence

Policy

Practice

MIND THE GAP

Priorities

Policy Briefs

Guidelines/Policies

Contextual factors

Benefits & Harms

Dialogue with public

Implementation

Monitor

Evaluate

Refine

Managerial domain

Global and local evidence

Systematic reviews

GRADE

• Problems
• Interventions
• Implementation

• Assess risk of bias
• Meta-analysis

• Summary of findings
• Evidence Profiles

• Applicability
• Resource use
• Equity

• Preferences
• Delivery

• Advocacy
• Politics

• Outcomes
• Impact
• Costs

• Systems
• Processes
Evidence Aid Conference: Brussels October 29-30 2012
Email: EvidenceAid@cochrane.org

Find out more visit
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