Evidence-informed Health Policy and Practice

DR. PRATHAP THARYAN  MD, MRCPsych
Professor, Department Of Psychiatry
Associate Director, Christian Medical College
Vellore

Editor, Cochrane Schizophrenia Group &
Director, South Asian Cochrane Network & Center
Prof. BV Moses & Indian Council of Medical Research Advanced
Centre for Research & Training in Evidence Informed
Healthcare
Christian Medical College Vellore
Tamil Nadu, INDIA
IDA S. SCUDDER

- First woman doctor from Cornell Medical School
- Founder of Christian Medical College, Vellore in 1900
- 2500 beds, primary, secondary & tertiary care teaching hospital and medical college
- Private, charitable institution-provides highly subsidized education and 30% of income set apart for free/subsidized treatment
Does Evidence Based Medicine matter to India?

- Wherever health care is provided and used, it is essential to know which interventions work, which do not work, and which are likely to be harmful.
- This is especially important in situations where health problems are severe and the scarcity of resources makes it vital that they are not wasted.
- **EBM has a particular relevance to the developing world**
<table>
<thead>
<tr>
<th>Level</th>
<th>Method used to evaluate intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>1a: <strong>Systematic reviews (with homogeneity) of randomized controlled trials</strong>&lt;br&gt;1a-: Systematic review of randomized trials displaying heterogeneity&lt;br&gt;1b: Individual randomized controlled trials (with narrow confidence interval)&lt;br&gt;1b-: Individual randomized controlled trials (with a wide confidence interval)&lt;br&gt;1c: All or none randomized controlled trials</td>
</tr>
<tr>
<td>II</td>
<td>2a: <strong>Systematic reviews (with homogeneity) of cohort studies</strong>&lt;br&gt;2a-: Systematic reviews of cohort studies displaying worrisome heterogeneity&lt;br&gt;2b: Individual cohort study or low quality randomized controlled trials (&lt;80% follow-up)&lt;br&gt;2b-: Individual cohort study or low quality randomized controlled trials (&lt;80% follow-up / wide confidence interval)&lt;br&gt;2c: 'Outcomes' Research; ecological studies</td>
</tr>
<tr>
<td>III</td>
<td>3a: <strong>Systematic review (with homogeneity) of case-control studies</strong>&lt;br&gt;3a-: Systematic review of case-control studies with worrisome heterogeneity&lt;br&gt;3b: Individual case-control study</td>
</tr>
<tr>
<td>IV</td>
<td>4: <strong>Case-series (and poor quality cohort and case-control studies)</strong></td>
</tr>
</tbody>
</table>
The best single source of evidence of the effects of interventions
The Cochrane Library is a collection of Evidence-Based Medicine databases:

The Cochrane Database of Systematic Reviews (Cochrane Reviews)
The Cochrane Database of Reviews of Effects (Other Reviews)
The Cochrane Central Register of Controlled Trials (Clinical Trials)
The Cochrane Database of Methodology Reviews (Methods Reviews)
The Cochrane Methodology Register (Methods Studies)
Health Technology Assessment Database (Technology Assessments)
NHS Economic Evaluation Database (Economic Evaluations)

It also contains information about The Cochrane Collaboration and the Cochrane Collaborative Review Groups
The Cochrane Central Register of Controlled Trials (Clinical Trials; CENTRAL) database contains approx. 500,000 records, making browsing difficult. Please use the Advanced Search below.
CENTRAL is a database of controlled trials and other healthcare interventions that serves as the best available resource for those preparing and maintaining systematic reviews or searching for trials. CENTRAL includes citations that may not be indexed in MEDLINE, EMBASE, or other bibliographic databases, citations published internationally in many languages, and citations that are available in conference proceedings or other hard-to-access sources. (Dickersin K, Muntner R, Wieland S, Robinson KA, Leelawat C, McDaid S, and the Central Development Group. Development of the Cochrane librarian’s Central Register of Controlled Trials. Evaluation and the Health Professions, 2002, 25:38-64.)

CENTRAL Management Plan

The CENTRAL Management Plan describes the methods used and work invested in developing the CENTRAL database. Two of the chapters are Guides to be used by Cochrane Group Trial Search Coordinators for contributing trials registers for publication on CENTRAL.

I. Introduction
II. Guide for Submission of Specialized Registers to CENTRAL
III. Guide for Submission of Handsearch Results to CENTRAL
IV. Coding of Records in CENTRAL as CCTR and Correction of Records
V. Work Performed by the USCC in the Development and Management of CENTRAL
VI. Update Software’s System for Processing Specialized Registers and Handsearch Results
VII. Searching CENTRAL

Download Full Documents:
- CENTRAL Management Plan Document (Chapters I-VII) (PDF)
- Guide for Submission of Specialized Registers (Chapter II) (PDF)
- Guide for Submission of Handsearch Results (Chapter III) (PDF)
WHAT HAVE YOU LEARNT FROM THE COCHRANE COLLABORATION?

LIFE IS FULL OF TRIALS
Are Cochrane Systematic Reviews different from other systematic reviews?

- Only about 20% of reviews published each year are Cochrane Systematic Reviews
- Cochrane Systematic Reviews emphasize methodological rigour
  - Found to be of better quality, more up to date, & less biased in methods and interpretation than non-Cochrane systematic reviews
  - Free of conflicted sources of funding
- Used to inform practice guidelines of the WHO, many policy making bodies world-wide; have changed health practices too


The Cochrane Collaboration in South Asia

SOUTH ASIAN COCHRANE NETWORK & CENTRE

Reference centre for countries of the South Asian Association of Regional Cooperation (SAARC)- Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka
13 Cochrane Centers worldwide
The South Asian Cochrane Network

Formally registered with the Cochrane Collaboration as a Branch of the Australasian Cochrane Centre in Jan 2005
Declared as an independent Cochrane Centre on 15 July 2008
Free access to the Cochrane Library to anyone in India

Get a computer and crosscheck your doctor’s prescription

G.S. MUDUR

New Delhi, Feb. 3: Anyone with a computer in India may soon have free access to information on what works and what doesn’t in medicine, allowing them to verify whether the treatment offered by their doctor is the appropriate one.

India has become the first low-income country to buy and offer to residents free access to information on treatment and prevention methods that have passed the toughest of scientific tests — whether it’s about ushering a baby into the world, treating infections or combating obesity.

The Indian Council of Medical Research (ICMR) has signed a contract with the international publishing company, John Wiley and Sons, for nationwide access to the Cochrane Library. The library is a vast storehouse of what medical researchers view as reliable information about proven treatment and prevention strategies across myriad medical topics, from surgery to general health.

The Telegraph, Kolkatta; Feb 3, 2007
Free access to the Cochrane Library to anyone in India

“This will give doctors in India evidence-based information to challenge or accept what they’ve been taught,” said Prathap Tharyan, a psychiatrist at the Christian Medical College in Vellore and a member of the South Asian Cochrane Network.

“Modern medicine always improves through studies. The Cochrane effort has often challenged what had become conventional medical wisdom,” Tharyan told The Telegraph. “Some reviews have plain-language summaries for consumers.”

But some are sceptical about the impact that the Cochrane Library may have on India.

“We have a medical system that does not in any way encourage doctors to keep themselves abreast of the latest research,” said a senior health official. “The big question is, will our doctors make use of the database?”

As for the consumers, while the library offers them a way of checking up on the treatment, they should not be tempted to try self-medication.
Usage statistics of the Cochrane Library before and after the National Provision

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of full text articles downloaded</th>
<th>Number of instances where access was denied</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>9,338</td>
<td>4,662</td>
</tr>
<tr>
<td>2007</td>
<td>62,621</td>
<td>nil</td>
</tr>
</tbody>
</table>

700% increase in full text downloads in 2007 over 2006
Evidence for interventions used after disasters
Evidence for what kind(s) of psychological interventions should be used after disasters?

- Do we provide counseling for all survivors? Would large numbers develop PTSD?
  
  The other was to identify only people who had increased risk of developing long term problems and provide supportive care and follow up.

- One model in use was to visit all villages and provide mass single session de-briefing then move on - comprehensive.

- Tremendous media pressure

- How do we make this decision?
Psychological debriefing for preventing post traumatic stress disorder (PTSD) (Cochrane Review).
Rose S, Bisson J, Wessely S.

Pooled data from 5 trials – providing debriefing does not differ from not doing so in odds of preventing PTSD in the short term.
Brief single session debriefing increases odds of PTSD in long term.
Evidence based trauma counselling training workshop
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

Versions: printable
Search
this site
Search
A-Z index Help
From the newsroom
Evidence-based Child Health - Issue 2 now available
In the latest issue of Evidence-Based Child Health: A Cochrane Review Journal, an Umbrella Review looks into nephrotic syndrome...
Published: 2008.09.09

--------------
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 first dose aminosalicylic acid 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.
Inclusion criteria

Studies:
Randomized or quasi-randomized trials.

Participants:
People aged 16 and over, exposed to a traumatic event no more than four weeks prior to the intervention.

Intervention:
Any single session psychological intervention that involves some recollection of the trauma and subsequent emotional reactions.

Outcomes:
Rates of post-traumatic stress disorder (PTSD); general psychological and psychiatric morbidity; depression; anxiety; dropout from treatment; general functioning.

Results

- Fifteen trials met the inclusion criteria; six trials had adequate allocation concealment.
- No difference was shown in PTSD between those counselled and those not at one year of follow up in one trial (n=105); in a second trial, PTSD was worse in the counselled group (Peto odds ratio 2.51, 95% confidence interval 1.24 to 5.09; 1 trial, 105 participants).
- No difference in severity was demonstrated in one small trial with follow up to three years.
- No difference in depression was seen in early follow up, but it was more common in the intervention group after six months (standardised mean score difference 0.33, 95% CI 0.09 to 0.58; 3 trials, 265 participants).
- No difference in general psychiatric morbidity and general function was demonstrated in one trial (n=106).
- One trial comparing immediate (< 10 hours) with delayed (> 48 hours) counselling suggests early intervention is associated with better outcomes (weighted mean difference -26.16, 95% CI -30.59 to -21.73; 1 trial, 77 participants).


Produced by the Effective Health Care Alliance Programme (www.liv.ac.uk/evidence). Liverpool School of Tropical Medicine, supported by the Department for International Development (UK) and the Australasian Cochrane Centre. Evidence Update can be distributed free of charge.
Psychological debriefing versus control: people with post-traumatic stress disorder diagnosed at follow up

<table>
<thead>
<tr>
<th>Study</th>
<th>Debriefing</th>
<th>Control</th>
<th>Meta Odds Ratio 95% CI</th>
<th>Weight (%)</th>
<th>Meta Odds Ratio 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>81 Up to 1 hour</td>
<td>9/10</td>
<td>4/5</td>
<td>1.15 [0.7, 1.9]</td>
<td>100.0</td>
<td>0.99 [0.10, 1.0]</td>
</tr>
<tr>
<td></td>
<td>Subtotal</td>
<td>50/70</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total events: 2 (Debriefing), 4 (Control)</td>
<td></td>
<td></td>
<td>Test for heterogeneity: not applicable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test for overall effect: z=0.82, p=0.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>82 5-8 months</td>
<td>3/77</td>
<td>17/18</td>
<td>53.6 [1.0, 0.1]</td>
<td>53.0</td>
<td>5.0 [0.8, 0.1]</td>
</tr>
<tr>
<td></td>
<td>Bisson 1997</td>
<td>9/10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>13/16</td>
<td>33/22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rose 1996</td>
<td>12/26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12/26</td>
<td>12/26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Subtotal</td>
<td>40/86</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total events: 30 (Debriefing), 37 (Control)</td>
<td></td>
<td></td>
<td>Test for heterogeneity: not applicable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test for overall effect: z=0.81, p=0.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>83 1-12 months</td>
<td>3/50</td>
<td>10/51</td>
<td>0.95 [0.39, 2.49]</td>
<td>100.0</td>
<td>0.99 [0.35, 2.49]</td>
</tr>
<tr>
<td></td>
<td>Rose 1996</td>
<td>10/54</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>10/51</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Subtotal</td>
<td>45/88</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total events: 20 (Debriefing), 22 (Control)</td>
<td></td>
<td></td>
<td>Test for heterogeneity: not applicable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test for overall effect: z=0.34, p=0.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>84 12 months or more</td>
<td>5/17</td>
<td>14/18</td>
<td>0.51 [1.24, 5.09]</td>
<td>100.0</td>
<td>0.51 [1.24, 5.09]</td>
</tr>
<tr>
<td></td>
<td>Bisson 1997</td>
<td>5/27</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>14/18</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Subtotal</td>
<td>12/41</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total events: 20 (Debriefing), 15 (Control)</td>
<td></td>
<td></td>
<td>Test for heterogeneity: not applicable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test for overall effect: z=2.25, p=0.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.
Using evidence to influence health policy

Primaquine for preventing relapses in people with Plasmodium vivax malaria
Galappaththy GN L, Omari AAA, Tharyan P. Cochrane Database for Systematic Reviews Issue 1, 2007

• **Background**
  – Plasmodium vivax infections contribute to a significant proportion of the malaria infections in many countries. Primaquine is the most widely used drug for treating the dormant liver stage. Different primaquine dosing regimens are in use.
  
  – WHO recommends 15 days of Primaquine following chloroquine; India, Sri Lanka and other countries in the south Asian region recommend 5 days of primaquine following chloroquine

• **Objectives**
  – To compare primaquine regimens for preventing relapses in people with P. vivax malaria.
Main results

- Nine RCTs (3423 participants) met the inclusion criteria.
- Most from India
- Pakistan, Afghanistan, Thailand

• Reviewers' conclusions
  – Primaquine (15 mg day for 14 days) plus chloroquine is:
    • more effective than chloroquine alone or
    • primaquine (15 mg for 5 days) plus chloroquine in preventing relapses of P. vivax malaria.
  – Primaquine (five days) plus chloroquine appears no better than chloroquine alone
  – Countries advocating the five-day regimen should follow the World Health Organization's recommendation of the 14-day primaquine plus chloroquine regimen.
Changing health policy

• Within 6 months of publication of the Cochrane Review
  – Revised National Malaria Control Guidelines 2007 for India changed Primaquine dosing regimen for radical cure of P. vivax malaria from 5 days to 14 days
  – Sri Lankan guidelines changed within 2 months of publication
Evidence-informed healthcare

• Health Policy and practice should be based on reliable evidence of the effects of interventions
• This is often a matter of life and death
• The most reliable evidence for the effects of interventions comes from systematic reviews and synthesis of the results of unbiased studies of comparative effectiveness—
  – not all systematic reviews are reliable, however.
• The Cochrane Collaboration has much to offer the world in terms of:
  – its output (the Cochrane Library) and
  – Its input (into the methods of healthcare decision making, involving and empowering consumers, driving the research agenda)
• The US Cochrane Centre and US contributors are vital to the work of the Collaboration
“On Climate Change for Health: How Prominent is the Evidence Footprint?”

- Dr. TIKKI PANG; Director, Research Policy & Cooperation; World Health Organization; Geneva; Switzerland,

“the evidence footprint can be considered as a "measure of the impact science has on health improvement in terms of the informed use of evidence in health decision making, measured in units of lives saved or increased efficiency in the delivery of health care".