The Gap Between Evidence and Practice in Maternal Health Care

José Villar, Metin Gülmezoglu, Guillermo Carroli and Gilda Piaggio
Maternal health multicentre trials: Collaborating institutions
STRATEGIES

• Evaluation of interventions:
  – Systematic reviews
  – Effectiveness
  – Cost
  – Satisfaction

• Long-term follow-up

• Research methodology

• Fundamental research
Principles
“What matters in health care is identifying and using interventions that have been shown by strong research evidence to achieve the best outcomes within available resources for everyone.”

Fletcher R, Lancet 1999
Faith Versus Facts

WE HAVE TWO OPTIONS. EITHER AN EVIDENCE-BASED TREATMENT OR AN EXCITING, RISKY ALTERNATIVE.
The same evidence of efficacy and safety should be required for both drugs and non-drugs forms of care.
The Gap In Antenatal Care
ANC Trial Baseline Survey

- Clinic level: Interviews to clinic staff of 53 clinics in 4 countries
- Pregnant woman level: 2913 women Review retrospectively all clinic records

Piaggio G et al. Paediatric and Perinatal Epidemiology 1998;12:116-141
Clinical activities
(Percentages of women)

<table>
<thead>
<tr>
<th>Study Site</th>
<th>A %</th>
<th>B %</th>
<th>C %</th>
<th>D %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routine vaginal exam</td>
<td>42.5</td>
<td>99.2</td>
<td>0.7</td>
<td>0.8</td>
</tr>
<tr>
<td>Risk score</td>
<td>0.0</td>
<td>87.6</td>
<td>98.8</td>
<td>0.8</td>
</tr>
<tr>
<td>Uterine height chart</td>
<td>2.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Doppler for fetal heart</td>
<td>0.4</td>
<td>0.0</td>
<td>89.5</td>
<td>31.1</td>
</tr>
<tr>
<td>Study Site “A”</td>
<td>New ANC Model</td>
<td>Standard ANC Model</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------</td>
<td>---------------</td>
<td>-------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% women</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iron supplementation during pregnancy</td>
<td>85.5</td>
<td>20.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Severe postpartum anaemia</td>
<td>8.8</td>
<td>13.3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Villar J, 2000
The Gap In Intrapartum Care

Interventions
Attitudes
Choice
Effective interventions to reduce maternal mortality/severe morbidity

- Parenteral antibiotics, uterotonics and anticonvulsants
- Removal of placenta and retained products
- Assisted vaginal delivery
- Caesarean section
- Blood transfusion
Maternal Services in 49 Developing Countries As Rated by Local Experts

Staff can give ATB (iv) 61.4%
Use of partograph 45.8%
Manage PPH 52.0%
Vacuum aspiration 24.3%
Manage retained placenta 48.6%
Transport available 43.4%

Bulato R, Ross J. 2000, Futures Group
Procedures Used During 303 Vaginal Deliveries (%), Shanghai, April-May 1999

Practices that should be eliminated

- Pubic Shaving 73.3
- Enemas 7.9
- Rectal examination 70.3
- Supine position 99.0

Practices that should not be used routinely

- EFM 62.4
- Episiotomy 81.8

Attitudes
Question:

If you or your partner were pregnant for the first time in an uncomplicated, singleton pregnancy in cephalic presentation at term which will be your preference regarding mode of delivery?
282 Ob.specialists in 31 NHS Obstetric Units in London

31% female Obstetricians
8% male Obstetricians
Requested Caesarean Section!

The Gap In Getting Evidence Into Practice
Overview of Systematic Reviews

Included reviews:

• 51 reviews identified
  – 19 reviews of broad strategies (eg CME, guidelines)
  – 15 reviews of interventions for specific behaviours
  – 17 reviews of specific interventions

Effective Health Care (1999)
Getting evidence into practice
Summary of Reviews

*Largely ineffective strategies*

- Dissemination of written educational materials
- Didactic educational sessions

The Gap In Research

- Curative versus Preventive
- Priorities: North versus South
- Biased versus Unbiased
## Pregnancy and Childbirth Trials in the Cochrane Library, 2000

<table>
<thead>
<tr>
<th>Condition</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPH</td>
<td>45</td>
<td>0.5%</td>
</tr>
<tr>
<td>Pre-eclampsia</td>
<td>156</td>
<td>1.7%</td>
</tr>
<tr>
<td>IUGR/SGA</td>
<td>111</td>
<td>1.2%</td>
</tr>
<tr>
<td>Pre-term delivery</td>
<td>1203</td>
<td>13.3%</td>
</tr>
</tbody>
</table>

N = 9014
“Randomized Controlled Trials are the less biased option”:

• To select the most effective practices

• To stop the transfer of ineffective forms of care
“We cannot wait for the results of trials: we have to act now!”

- It is almost impossible to abandon an ineffective treatment: once the genie is out of the bottle ....
- Large, collaborative, simple trials can be completed in a short period of time: WHO Misoprostol trial has recruited 18,500 women in <2.5 years.
“RCTs are too costly for developing countries”

• Large amounts of resources are used in developing and implementing ineffective and sometimes harmful forms of care.
• Cost extremely low by any developed country standard.
“Common sense says that this intervention is effective and harmless”

“In 15 trials investigating bed rest as a primary treatment, no outcomes improved and [in] nine [trials] worsened significantly for some conditions (……..,proteinuric hypertension during pregnancy,……..)”

“RCTs are inappropriate for evaluating social interventions”

“[RCTs] became less popular as policy makers reacted negatively to evidence of ‘near zero’ effects”

Oakley A. BMJ, 1998;317:1239-1242
The Gap In Knowledge
Median Time Spent Reading Per Week In Oxford University Hospitals

<table>
<thead>
<tr>
<th>Role</th>
<th>Median Time (minutes)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-reports</td>
<td>none</td>
<td></td>
</tr>
<tr>
<td>Medical Students</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>House Officers</td>
<td>20</td>
<td>70%</td>
</tr>
<tr>
<td>S.H.O.’s</td>
<td>20</td>
<td>15%</td>
</tr>
<tr>
<td>Registrars</td>
<td>45</td>
<td>40%</td>
</tr>
<tr>
<td>Senior Registrars</td>
<td>30</td>
<td>15%</td>
</tr>
<tr>
<td>Consultants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grad.Post 1975</td>
<td>45</td>
<td>30%</td>
</tr>
<tr>
<td>Grad.Pre 1975</td>
<td>30</td>
<td>40%</td>
</tr>
</tbody>
</table>

CEBM web site: [http://cebm.jr2.ox.ac.uk/](http://cebm.jr2.ox.ac.uk/)
The Slippery Slope

knowledge of current best care

years since graduation

r = -0.54
p<0.001

CEBM web site:
http://cebm.jr2.ox.ac.uk/