Teaching Evidence Based Health Care – ‘online or face to face’?

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Monash University
MBBS at Monash University

- Monash Bachelor of Medicine/Bachelor of Surgery (MBBS) is a five year undergraduate course
- 2007 – Undergraduate in Australia and Monash Malaysia
- 2008 – Four year Graduate course at Gippsland
MBBS course themes

1. Personal and professional development
2. Society, population, health and illness
   * Evidence Based Clinical Practice (EBCP)*
3. Scientific Basis of Clinical Practice
4. Clinical skills
Course structure

Year 1

Year 2

Year 3

Year 4

Year 5

“On campus”

Year long clinical placement

Clinical rotations
Brushing up on our geography
Brushing up on our geography

Regional Victoria
Rural Teaching & Accommodation

- Major Rural Teaching Site (Clinical School & Teaching Hospital)
- School of Rural Health - Office of Head of School
- Rural GP Teaching Practice
- Centre for Multi-Disciplinary Studies in Rural Health
Year 3 outline

- 10 x 2 hour ‘face to face’ tutorials
- Introduction
- ‘Hands on’ database searching
- Formative evaluation
- Therapy, harm, diagnosis, prognosis and systematic reviews
Year 4 outline

- Two semester ‘online’ tutorials
- 4 x 4 week modules per semester
- Evidence into policy and practice
- ‘Workshops’
MODULE 1 - OVERVIEW OF NEURAL TUBE DEFECTS

An overview of the early evidence of effectiveness of folate supplementation for prevention of neural tube defects (NTDs).

Index Case Focus: Elena – Neural Tube Defect

There is a great deal of interest in public policy to promote consumption of folic acid by women at risk of pregnancy to reduce the risk of giving birth to a child with a neural tube defect.

TASK 1
Read the following references:

Reference 1
This chapter discusses the burden of disease due to NTD’s. The concept of screening for the detection of NTD’s including the accuracy of various diagnostic tests, the rationale for early detection (effectiveness of intervention consequent upon detection), and benefits and harms are discussed. It also discusses the evidence concerning folate prophylaxis.

Reference 2
The original Medical Research Council of Great Britain randomised controlled trial, leading to the case for food fortification with folate.

Reference 3
Elwood has taken a critical appraisal tool and undertaken a critical appraisal of the MRC trial in considerable detail.

Reference 4
Table of Epidemiologic studies (From Recommendations for the use of folic acid to reduce the number of cases of spina bifida and other neural tube defects. MMWR.
Elwood raises the issue that the MRC trial shows evidence that the addition of folate supplementation reduced the risk of subsequent NTD in mothers who were at high risk. Do you think this evidence supports folate supplementation of the diet of all women, including those who may be at low risk (i.e., those without a prior history of a birth affected by NTD)?

This evidence alone isn’t very convincing when we change the population to mothers who are at low risk for having infants with neural tube defects. Some of the information is useful, such as: there was no harm from the folic acid supplementation, although the study does concede that the ability of the study to detect rare or slight adverse effects was limited. Given that the dose generally recommended to women at low risk for infants with NTDs is much lower than the dose given to prevent NTDs in high-risk women, would suggest even less chance of harm in low-risk women. That is, minimal or no harm. As for whether there is any point giving it, there are many studies supporting these findings. In a RCT in Germany, where low-risk women took supplements taken for at least one month before conception, the supplements had a complete protective effect (0 NTD pregnancies in 2,104 supplemented women).
Yes, I agree with you where the study about folate supplement for pregnant women is quite vague and it is hard to draw a clear line between women with high risk and women with low risk of neural tube defect. For my opinion there is no harm of advising pregnant women to take folate supplement as they also mentioned in the article that the adverse effects were limited. Even you can get folate supplement from dietary basis. Furthermore, neural tube defect in babies is very distressing problem and many complications can arise from it in the future. So, if there is slight chances to prevent it or reduce the possibility of having NTD by taking folate, and there is limited harm of doing so, might as well just go for it.
Student evaluation

• Quantitative survey of 3rd year → 4th year students
  – 136/235 (58%) 3rd year
  – 127/248* (51%) 4th year

• Qualitative analysis of 4th year student discussions
## Evaluation

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<thead>
<tr>
<th>Activity</th>
<th>3&lt;sup&gt;rd&lt;/sup&gt; yr</th>
<th>4&lt;sup&gt;th&lt;/sup&gt; yr</th>
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<tbody>
<tr>
<td>Asking an answerable question (PICO)</td>
<td>88%</td>
<td>93%</td>
</tr>
<tr>
<td>MEDLINE &amp; database searching skills</td>
<td>95%</td>
<td>94%</td>
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<tr>
<td>Measures of effect (RR, RRR, ARR, NNT)</td>
<td>78%</td>
<td>84%</td>
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<tr>
<td>Diagnostic measures (sensitivity/specificity/LRs)</td>
<td>49%</td>
<td>53%</td>
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## Evaluation

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<tr>
<th>Activity</th>
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<th>4&lt;sup&gt;th&lt;/sup&gt; yr</th>
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<tbody>
<tr>
<td>Critical appraisal of ‘therapy’</td>
<td>81%</td>
<td>84%</td>
</tr>
<tr>
<td>Critical appraisal of ‘harm’</td>
<td>74%</td>
<td>76%</td>
</tr>
<tr>
<td>Critical appraisal of ‘diagnosis’</td>
<td>57%</td>
<td>63%</td>
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<tr>
<td>Workload was reasonable *</td>
<td>78%</td>
<td>44%</td>
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## Evaluation

<table>
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<tr>
<th>Activity</th>
<th>3(^{rd}) yr</th>
<th>4(^{th}) yr</th>
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<tbody>
<tr>
<td>Will use EBCP skills in future practice</td>
<td>81%</td>
<td>78%</td>
</tr>
<tr>
<td>Used EBCP skills in clinical rotations</td>
<td></td>
<td>47%</td>
</tr>
<tr>
<td>Online teaching is a good mode of delivery</td>
<td></td>
<td>51%</td>
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<tr>
<td>‘Workshops’ provide additional reinforcement of online material</td>
<td></td>
<td>84%</td>
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Qualitative feedback

Facilitators
- Consolidation
- Applicability of EBCP in practice
- Flexibility/self directed

Barriers
- Workload (reading articles)
- Detached

Workshop
Conclusions

- Introduction to EBCP in clinical setting
  - Pre-clinical years are ‘lost’
- Online delivery
  - Workshops
  - Interactive nature of materials
  - Clinical applicability
  - Earlier exposure to ‘online environment’
Thank you

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