Clinical Research Literacy Curriculum

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Naturopathic and Chinese Medical Education

**Naturopathic - ND**
- 4 year medical degree
- Years 1-2– basic sciences
- Basic science boards
- Years 3-4– clinical
  - Nutrition, herbal medicine, pharmacology, physical medicine, counseling, mind-body, minor surgery
- Clinical boards
- Nationally accredited
  - 5 schools in the US

**Chinese Medicine – LAc**
- 3 or 4 year master’s degree
- Basic science and clinical science integrated throughout
- Clinical science includes acupuncture, nutrition, Qi gong, Chinese herbal medicine
- Acupuncture boards
- Nationally accredited
  - 50 schools in the US
Plan?ng  
  
  Research  
  
  Literacy  
  
  in the  
  
  Curriculum
Strategies for Teaching Evidence Based Medicine (EBM)

• Challenges:
  – Adding EBM to already packed curriculum
    • Can either cut existing material, or
    • Maximize what is already there
  – Some therapies don’t have a literature base
Spiral/Longitudinal Learning

- Foundational Skills Course
- Reinforce skills later in didactic and clinical curriculum ➔ Clinic
Components of a Foundational Research Literacy/EBM Course

• Ask a clinical question
• Search the literature
  – Not usually Pubmed
  – UpToDate, First Consult, TRIP Database
• Critically evaluate the information
  – Basic biostats such as P values and confidence intervals
  – Also Relative Risk, Absolute Relative Risk, Reduced Risk Ratio, and Number Needed to Treat
• Weigh the literature with other information
• Apply to the clinical case
• Assess effectiveness
Example of Reinforcement

• Anatomy lab, Micro, Immuno, Pathology, etc.
  – Ask a clinical question
  – Find the literature
  – Critically evaluate

• Clinical courses and clinic
  – Add applying it to the case
  – Assess whether or not it worked
Active Learning

• Students have to perform EBM activities for themselves
  – May never get good at locating literature if it’s always being demo’d
  – Stocking the pond
Power of Narrative

• Students learn from stories and anecdotes – especially stories they can repeat/recall
• Adding an active EBM component can further solidify the information
• Using cases reduces the silo effect
Technology

• Online content
  – Foundational courses online
  – Online cases
  – Online discussion boards
• Apps for databases, biostats, etc.
• Reference managers
  – Students keep track of the papers they’re reading
Specific Teaching Strategies

- Chart stimulated recall
- Modified One-Minute-Preceptor
- Thinking aloud
- TBL – mini journal clubs
Evaluation Strategies

- Knowledge, Skills, and Attitude scales
- Artifacts
- Rubrics
- Focus groups
- Interviews
- Portfolios
- Natural History Log
Evaluation

- Bloom
- Miller
Faculty Development – Equipping the Faculty
Faculty Development

• Faculty often haven’t been trained to offer this type of curriculum
• Training the faculty provides the fertile soil for cultivating the students
Faculty Development

Two strategies
• Train entire faculty
• Train a select cadre

Approach
• Series of short workshops
• Short courses – week long intensives
Faculty Development

- Faculty training must keep up with the students
- Often faculty need to trim some material to add new
- Faculty may need less time learning to do the stats, and more time with the technology
Summary

- Adding Research Literacy/EBM to the curriculum is challenging but possible.
- Curriculum development and faculty development go hand-in-hand.
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