Promoting evidence-based practice in OMPT Education

An approach to developing competence in instructors and learners

Orthopaedic Division
Groupe d'orthopédie

CAMPT Canadian Academy of Manipulative Physiotherapy

IFOMPT Teachers' Meeting
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Purpose

To describe a theory-informed approach to promoting evidence-based practice in orthopaedic manual physical therapy (OMPT) training in Canada.

IFOMPT Education Standards

Dimension 1: Demonstration of critical and evaluative **evidence based practice**

Dimension 9: Demonstration of a critical understanding and application of the **process of research**

Promoting EBP

- Multiple implementation strategies required to promote use of research evidence in clinical decision-making (Garrish & Clayton 2004, Roger 2003)
- Which implementation strategies work?
  - Multi-faceted approach ☺ ☺ ☺
  - Didactic lectures ☹
  - Interactive education sessions ☺
  - Opinion leaders ☺
  - Change champions ☺

Canadian Instructor Workshop

- 176 instructors attended
- One-hour session embedded within a one-day workshop devoted to helping instructors understand evidence based practice

Self-Efficacy in EBP Skills

Self-efficacy in EBP skills Cohort of Canadian Orthopaedic Instructors (n=62)	
How confident are you in your ability to:	**Mean % (SD)**
a. Identify an issue in your education (teaching) practice that requires further knowledge or research?	75.2 (16.8)
b. Effectively search the relevant literature to address a specific clinical question?	71.6 (19.5)
c. Critically appraise the literature for quality and relevance?	67.9 (19.7)
d. Interpret statistical results	51.5 (21.5)
e. Appropriately apply the evidence from the literature to your needs as an instructor?	68.9 (18.0)
f. Continually evaluate the effect of your education practice?	62.9 (18.2)

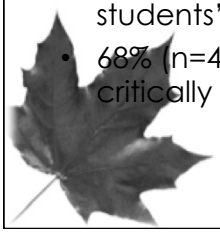
Adapted from Delaney 2011

Personal Attitudes towards the use and perceived benefits and limitations of EBP in clinical education (n=64)

- All respondents indicated that evidence-based literature was necessary in education of students
- 98% indicated that literature and research findings were useful and improved the quality of the education practice
- 92% (n=59) were interested in learning or improving their skills necessary to incorporate evidence into their teaching

Personal Attitudes towards the use and perceived benefits and limitations of EBP in clinical education (n=64)

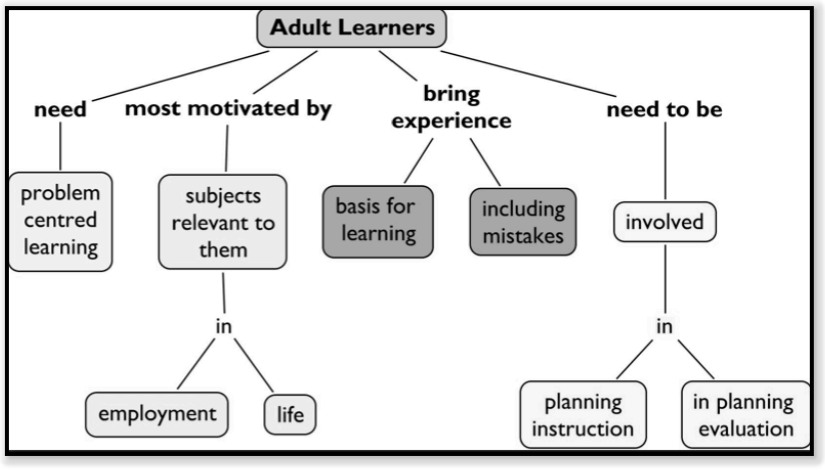
- 87% (n=56) acknowledged the need to increase the use of evidence in their education and clinical practice
- The responses suggest that evidence and literature was potentially useful to their teaching practice however only 46% (n=30) felt they should be responsible for conducting their own literature reviews
- 67% (n=43) indicated that it was their responsibility to interpret the applicability of the research findings to their students' needs
- 68% (n=44) indicated that they should be responsible for critically evaluating the quality of the literature



Steps of EBP

Formulating Questions → Searching the Evidence → Critical Appraisal → Integrating the Evidence → Bringing Change to Practice

Educational principles



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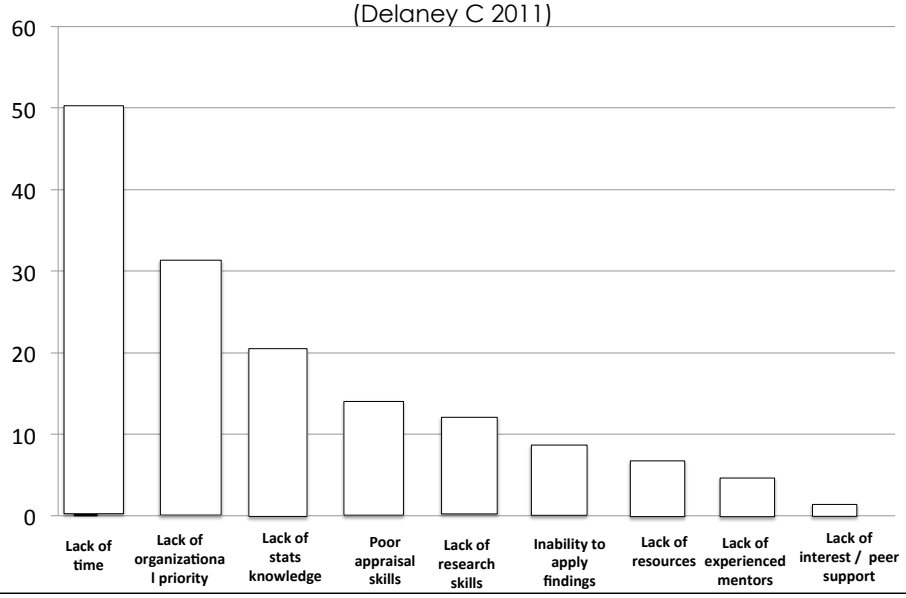
"Speed Dating" Incorporating EBP

- Divide into 2 groups: interviewers & interviewees
- Interviewers: take 3 minutes to write down 2-3 questions that you could ask someone about their teaching and incorporating evidence. These questions should be able to help you understand how EBP is played out in their clinical practice and teaching.
- Pair up 3 minutes per interview (talk to 3-4 people)

Identifying Barriers and Facilitators

Barriers to Updating Clinical Educational Knowledge

(Delaney C 2011)

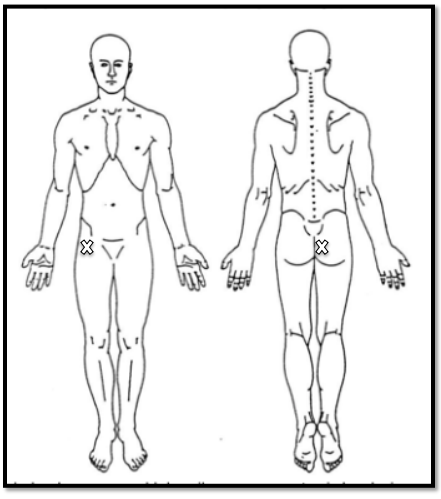


Case History

46 year old police detective presented with complaints of right hip (groin and buttock) pain becoming more bothersome over the past year

Active individual who liked to golf, play hockey and tennis

Previous treatment included massage therapy



PICO - Clinical Question Worksheet

The Well-Built, Patient-Oriented Clinical Question

Question Components	Your Question
P – Patient or Population Describe the most important characteristics of the patient. (e.g., age, disease/condition, gender)	
I – Intervention; Prognostic Factor; Exposure Describe the main intervention. (e.g., drug or other treatment, diagnostic/screening test)	
C – Comparison (if appropriate) Describe the main alternative being considered. (e.g., placebo, standard therapy, no treatment, the gold standard)	
O – Outcome Describe what you're trying to accomplish, measure, improve, affect. (e.g., reduced mortality or morbidity, improved memory, accurate and timely diagnosis)	
The well-built clinical question:	

Type of Question	Ideal Type of Study
☐ Therapy	RCT
☐ Prevention	RCT > Cohort Study > Case Control
☐ Diagnosis	Prospective, blind controlled trial comparison to gold standard
☐ Prognosis	Cohort Study > Case Control > Case Series/Case Report
☐ Etiology/Harm	RCT > Cohort Study > Case Control
☐ Cost analysis	economic analysis

Note: Meta-analyses and systematic reviews, when available, often provide the best answers to clinical questions.

Search Strategy Development

	Primary search term	Synonym 1	Synonym 2
P			
I			
C			
O			

Searching the Evidence

Looking for Evidence – Searching for Answers

List of Data Bases

Developed by: Alison Hoens, Physical Therapy Knowledge Broker, UBC Department of Physical Therapy, Physiotherapy Association of BC, BC Rehab Sciences Research Network

CRITICAL APPRAISAL SKILLS PROGRAMME
Making sense of evidence about clinical effectiveness

11 questions to help you make sense of a trial

These questions consider the following:

Are the results of the trial valid? (SECTION A)

What are the results? (SECTION B)

Will the results help locally? (SECTION C)

A number of italicised prompts are given after each question. These are designed to remind you why the question is important. There will not be time in the small groups to answer them all in detail!

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Critical Appraisal Tool

Group Discussion – Section C

C/ Will the results help locally?

9 Can the results be applied to the local population? *Do you think that the patients covered by the trial are similar enough to your population?*	Yes O	Can't tell O	No O
10 Were all clinically important outcomes considered? *If not, does this affect the decision?*	Yes O		No O
11 Are the benefits worth the harms and costs? *This is unlikely to be addressed by the trial. But what do you think?*	Yes O		No O

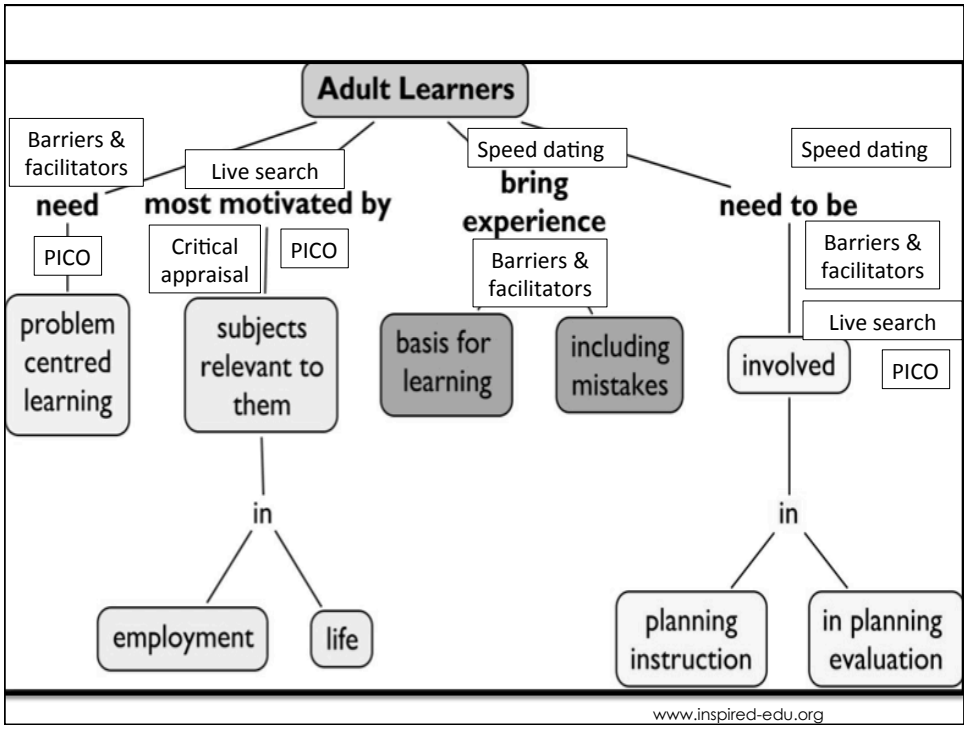
Structured Debate

Sample Debate Topic

Physiotherapists must adhere to the clinical prediction rule developed by Flynn/Childs for lumbar spine manipulations.

Tool Kit

- PICO worksheet
- CASP Critical appraisal tool for RCTs
- Compilation of relevant databases (Alison Hoens)
- Critical appraisal tool and guidelines for use in a journal club
- Guidelines for formulating a research question and tips for searching the evidence



Participant Feedback

- Topic was relevant to teaching
- Opportunity to network, share ideas and learn from more senior instructors
- Small group interactions – less intimidating and more interactive
- Presentation on evidence – very simple and applicable
- Group interaction -> speed dating
- I felt practical ideas/intro to research integration teaching tools were given. I actually feel I can do this!
- Needed more time for EBP for it to be useful
- Still finding challenge is integrating evidence into 9 day course

Strategies for Promoting EBP

Strategies	Formulating Questions	Searching Evidence	Critical Appraisal	Integrating Evidence	Bringing change to practice
Clinical scenarios with worksheets ✓	+++	+++	+++	+++	++
Case History Platform ✓	+++	+++	+++	+++	+++
Small group exercises in class ✓	+++	+	++	+	+
Homework assignments ✓	+++	+++	++	+	++
Clinical mentoring sessions	+++	+	+	++	+++
On-line Research course ✓	++	+++	+++	+	+
Journal Clubs	+	++	+++	+	+
In Class Debate ✓	+	+++	+++	++	++

Thangaratinam S, Barnfield G, Weinbrenner S et al. Teaching trainers to incoporate evidence-based medicine (EBM) teaching in clinical practice: The Eu-EMN project. BMC Med Ed. 2009;9:59-67

Addressing IFOMPT Education Standards

Dimension	Competency	Description of competency
1	D1.S1	Demonstrate ability to retrieve, integrate and apply knowledge from the clinical, medical and behavioural sciences in the clinical setting, recognising the limitations of incorporating evidence into practice
	D1.S2	Demonstrate ability to critically review the recent literature of the basic and applied sciences relevant to NMS dysfunction, to draw inferences for OMT practice and present material logically in both verbal and written forms
	D1.S3	Demonstrate an evidence based approach to the assessment and management of patients with NMS dysfunctions
9	D9.S1	Demonstrate effective critical appraisal of research relevant to OMT Physical Therapy practice as it relates to NMS dysfunction
	D9.S2	Demonstrate generation of a research question based on a critical evaluation of the current literature relevant to OMT Physical Therapy practice and relating to NMS dysfunction

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Observations

- Significant difficulty formatting PICO questions that do not pertain to interventions
- Diverse demographics and skills among instructors
- Difficulty with statistical interpretation
- Many barriers to EBP and few facilitators identified

Future Considerations

Consider:

- More longitudinal learning activities
- How to encourage application to their teaching and clinical practices
- How to provide feedback to instructors
- Live searches in a variety of data bases

Thank you!!

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Questions??