REAL PATIENT CASES FOR TEACHING EVIDENCE-BASED PAEDIATRICS: LONG-TERM COURSE SUSTAINABILITY

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PALACKY UNIVERSITY, OLOMOUC
CZECH REPUBLIC

22,500 students/2,700 teachers

University founded 1573

Faculty of Medicine & Dentistry 2013
INTRODUCTION

Collaborative Multiprofessional Team

- Clinical teachers in paediatrics, undergraduate medical students and medical librarians
- Innovation and delivery of evidence based courses
- Bench-to-bedside learning platform, real patients
- PICO seminar, framing clinical question
- Search for evidence, relevant research article
- Student mini-conference, presentation of evidence based patient cases, take home message

Biomed Pap 2010; 154(1):83-88,
AIM

- Assess 5-year experience on using real patient cases to teach evidence based paediatrics
- Propose innovative parameters for sustainability of undergraduate case-based paediatric courses
  - Training of trainers
  - Development of undergraduate elective courses
  - Improvement of evidence-based practice curricula

## METHODS (1)

### SWOT Analysis (2009-2012)

<table>
<thead>
<tr>
<th>Strength Points</th>
<th>Weak Points</th>
</tr>
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<tbody>
<tr>
<td>o Acceptance of new paradigm (90% students)</td>
<td>o Epidemiological thinking gaps</td>
</tr>
<tr>
<td>o Increased motivation (70%)</td>
<td>o Problems asking clinical questions</td>
</tr>
<tr>
<td>o High perceived value of web materials (82%)</td>
<td>o Insufficient search skills</td>
</tr>
<tr>
<td>o Offer for mentoring (64%)</td>
<td>o Critical reading medical articles</td>
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<tr>
<td>o Improved faculty-student communication</td>
<td>o Time-consuming</td>
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<tr>
<td>o Pro-active faculty-librarian cooperation</td>
<td></td>
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<tr>
<td>o More efficient use of information resources</td>
<td></td>
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</tbody>
</table>
METHODS (2)

SWOT Analysis (2009-2012)

Opportunities

- New projects 2012-2014
  - Integration of interactive paediatric simulator in medical curriculum (SimJunior®)
  - Maintenance of education e-portal MEFANET
  - Virtual paediatric hospital development
  - Evidence-based information resources collection

Threats

- Lack of integration between basic science and clinical case-based courses
- Deficient strategy for staff development in fields of teaching EBM skills
RESULTS (1)

Collection of Paediatric Cases

<table>
<thead>
<tr>
<th>Academic year</th>
<th>Without PICO / 1 student</th>
<th>With PICO / 1 student</th>
<th>With PICO / 2 students</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008/09</td>
<td>174</td>
<td>0</td>
<td>0</td>
<td>174</td>
</tr>
<tr>
<td>2009/10</td>
<td>0</td>
<td>175</td>
<td>0</td>
<td>175</td>
</tr>
<tr>
<td>2010/11</td>
<td>0</td>
<td>0</td>
<td>77</td>
<td>77</td>
</tr>
<tr>
<td>2011/12</td>
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<td>0</td>
<td>76</td>
<td>76</td>
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<tr>
<td>2012/13</td>
<td>0</td>
<td>0</td>
<td>82</td>
<td>82</td>
</tr>
<tr>
<td>Total</td>
<td>174</td>
<td>175</td>
<td>77</td>
<td>76</td>
</tr>
</tbody>
</table>
RESULTS (1a)

**Web List of Cases** - *in preparation*

Paediatric cases completed by 5th-year medical students (2008-2013)

**Organization of content**

- Diagnosis
- Year of patient admission
- Patient/Age
- Clinical question
- PICO format
- PubMed links to relevant journal articles for critical appraisal
RESULTS (1b) : Examples

Specialties, Diagnoses & Clinical Questions

Specialties

Gastroenterology – (21)
Endocrinology – (17)
Haemato-oncology – (29)
Surgery – (23)
Infectious diseases – (17)
Cardiology – (8)
Neurology – (15)
Neonatology – (3)
ENT – (6)
Respiratory diseases – (26)
Social paediatrics – (8)
Urology, nephrology – (29)

Diagnoses, clinical questions

Inflammatory bowel diseases (IBD)

In children with IBD, does 5-aminosalicylic acid have a chemoprotective effect on colorectal carcinoma risk?

Can breastfeeding influence manifestation of IBD in children?

In children, could IBD be manifested with ocular extraintestinal disorders?

Is there a role for psychotherapy in adolescent IBD management?

Subtotal: 202 cases
RESULTS (2)

Innovative Solutions

PICO Workshop
- Framing of clinical question
  - Balancing teacher control and student autonomy

New Undergraduate Elective EBM Course
- 4-days of F2F training
- E-learning

Training of Trainers
- Evidence based journal club
  - AAP Grand Rounds (pre-appraised evidence)

RESULTS (2a)

**Evidence-Based Journal Club**

**American Academy of Pediatrics Grand Rounds**

- **Mission**: To provide pediatricians with timely synopses and critiques of important new studies relevant to pediatric practice, reviewing methodology, significance, and practical impact, as part of ongoing CME activity.

- **Structure**
  - Specialty
  - Title
  - **PICO (question, question type, study design)**
  - Original summary
  - **Commentary by**
    - Editors’ note
    - References
    - Key words
RESULTS (3)  
Information Resources & Search Skills

**Background questions**
- (E)-textbooks
  - Elsevier e-library
  - Thieme e-book library
- UpToDate

**Foreground questions**
- MEDLINE/PubMed
- Nursing@Ovid
- Fulltext Journal Collections
  - Annual Reviews, Blackwell, BMJ, Karger, LWW, Proquest, Springer, Thieme ....
  - Czech publishers
- Interactive training sessions, e-learning

Int Care Med 2003;29:2119-2127.
LIMITS

Stability and personal commitment of training staff

Gaps in critical appraisal skills

Inter-professional collaboration
  - Clinical teachers
  - Information specialists
  - Paediatric nurses

Student motivation and involvement

Adequate portfolio of information resources
CONCLUSIONS

Much of current research in teaching adults indicates that active participation is an important factor in increasing effectiveness of learning.

Case-based teaching of evidence based healthcare skills may contribute to better interactions

- Teacher-student,
- Teacher-teacher,
- Teacher-student-librarian.
REFERENCES


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