Impact of an e-learning programme on the biopsychosocial model for non-specific low-back pain on experienced osteopaths’ attitudes to back pain: a pilot randomised-controlled trial.

E-learning to develop biopsychosocial practice

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Biopsychosocial model and low back pain

Osteopathy = holistic medicine

but... a survey of manual therapists (Kent et al. 2009) showed that:
100% assessed very frequently or often physical impairment
7% assessed very frequently or often psychosocial function

PS assessment usually based on gut feeling (Singla, Jones et al. 2014): not accurate

Or PS factors are better predictors of poor recovery than examination findings.

Biopsychosocial model and low back pain

- **Problem**: biomedical approach poor advice on work, physical activities and bed rest + concerns about fear avoidance beliefs (Rainville, Carlson et al. 2000, Houben, Ostelo et al. 2005, Poiraudneau, Rannou et al. 2006, Bishop, Foster et al. 2008)

- BPS model recommended for managing NSLBP (NICE 2009, 2016 [consultation phase])

- Unclear how BPS model should be taught
BPS trainings

• Characteristics of BPS trainings with no or little impact on practitioners’ attitudes to back pain
  - Either face-to-face delivery or printed material
  - Face-to-face had limited duration (5 hours)
  - Limited needs and content analysis
  - Not informed by a behavioural change framework

• Recent BPS training attempts have shown positive patient outcome results, e.g. Asenlof, Denison et al. 2009, Vibe Fersum, O'Sullivan et al. 2013, Beneciuk and George 2015.

• Effective educational intervention to enhance practice in this area is needed.
Research design

1. Scoping review

2. Development, design and implementation of an e-learning programme

3. Evaluation of the e-learning programme
   - Content evaluation
   - Quality evaluation
   - Confirmative evaluation
     - Mixed methods study
     - Quantitative: attitudinial questionnaires + satisfaction survey
     - Qualitative: semi-structured interviews
Attitudes: prerequisite for behaviour?

• The Attitudes of Back Pain Scale in Musculoskeletal Practitioners (ABS-mp) (Pincus et al. 2006)
  – good face validity
  – reliability unknown

• The Pain Attitudes and beliefs Scale (PABS) (Houben et al. 2005)
  – evidence for content and construct validity, internal consistency, reliability and responsiveness.
  – Reliability of biomedical domain is good but the behavioural domain reliability is low

Trial design

All participants send back questionnaire pre-study

Randomisation

Control group

Intervention group

E-learning programme

Semi-structured interviews

All participants send back questionnaire post-study

E-learning programme
**Intervention**

**Behavioural Change Wheel**

**ADDIE model**
(Ghirardini, B. (2011). E-learning methodologies: A guide for designing and developing e-learning courses.)

**E-learning**
5 units, 8 hours, self-paced

**Scoping review**
45 participants randomised
2 lost to follow up
Characteristics of participants

<table>
<thead>
<tr>
<th></th>
<th>Intervention group (n=23)</th>
<th>Control group (n=22)</th>
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<tbody>
<tr>
<td><strong>Gender % (n)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>52% (12)</td>
<td>77% (17)</td>
</tr>
<tr>
<td>Female</td>
<td>48% (11)</td>
<td>23% (5)</td>
</tr>
<tr>
<td><strong>Age group (median (IQR))</strong></td>
<td>4.00 (1.00)</td>
<td>3.50 (1.00)</td>
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<tr>
<td></td>
<td>(50-59)</td>
<td>(40-59)</td>
</tr>
<tr>
<td><strong>Years in practice</strong></td>
<td>22 (6)</td>
<td>23 (5)</td>
</tr>
<tr>
<td><strong>Special interest in LBP % (n)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>61% (14)</td>
<td>27% (6)</td>
</tr>
<tr>
<td>No</td>
<td>39% (9)</td>
<td>73% (16)</td>
</tr>
<tr>
<td><strong>Other special interest % (n)</strong></td>
<td></td>
<td></td>
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<tr>
<td>Yes</td>
<td>57% (13)</td>
<td>55% (12)</td>
</tr>
<tr>
<td>No</td>
<td>43% (10)</td>
<td>45% (10)</td>
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</tbody>
</table>
Completion rate

• 41/45 (91%) completed the course
  ➔ use of reminders

• 43/45 (96%) completed the questionnaires
## ABS-mp: within and between group changes

<table>
<thead>
<tr>
<th>ABS-mp</th>
<th>Intervention group</th>
<th>Control group</th>
</tr>
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<tbody>
<tr>
<td>Limitations on sessions</td>
<td></td>
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<tr>
<td>Psychology</td>
<td></td>
<td></td>
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<tr>
<td>Connection to health care system</td>
<td></td>
<td></td>
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<tr>
<td>Confidence and concern</td>
<td></td>
<td></td>
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<tr>
<td>Reactivation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biomedical</td>
<td></td>
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</tbody>
</table>
### PABS: within and between group changes

<table>
<thead>
<tr>
<th>PABS</th>
<th>Intervention group</th>
<th>Control group</th>
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</thead>
<tbody>
<tr>
<td>Biomedical</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Behavioural</td>
<td></td>
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</tbody>
</table>
What does that mean???

<table>
<thead>
<tr>
<th>Mean (SD)</th>
<th>PABS Biomedical</th>
<th>PABS Behavioural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changes in our study</td>
<td>Osteopaths &gt; 15 years experience</td>
<td>- 9.6</td>
</tr>
<tr>
<td>(Beneciuk and George 2015)</td>
<td>Physiotherapy students</td>
<td>- 4.5</td>
</tr>
<tr>
<td>(Overmeer, Boersma et al. 2009)</td>
<td>Physiotherapists</td>
<td>- 8.1</td>
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Satisfaction survey

21/23 answered after taking e-learning programme

- **Course satisfaction**: NR, satisfied, very satisfied
- **Course interest**: NR, very good, excellent
- **Teacher clarity**: NR, very good, excellent
Survey (cont.)

• Three most useful things (20/21):

  Content analysis, 4 categories:
  – pain theory (21)
  – management (18)
  – BPS influences and diagnosis (18)
  – other (1)
Survey (cont.)

• Other feedback (14/21)

Content analysis, 4 categories:
  – content of the course (33)
  – e-learning (14)
  – effects of the course (6)
  – suggestions (4)
Summary

• Feasibility using e-learning
• Key aspects for developing e-learning programmes
• Promising tool to give a different stance on BPS
Qualitative results

Insights on:
- practical experience
- engagement with the content
- perceptions of the BPS model

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<tr>
<th>Not structural enough</th>
<th>Already done</th>
<th>Fascinating</th>
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What's next?
Thank you very much for your attention

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