Informing a student's application of systematic review and trial results in OMT practice

Which information is relevant in trials and reviews

Dr. Jan Pool
Associate Professor  University of Applied Sciences Utrecht
Master Program Physical Therapy (OMT)
Member  Standard Committee IFOMPT
Figure 22.2 Biopsychosocial model of clinical reasoning as a collaborative process between physiotherapists and patients (adapted from Edwards & Jones 1995, with permission)

(Edwards et al, 2004)
OFTEN OUTCOME OF RCT’S AND OR REVIEWS WILL BE USED IN THE CLINICAL REASONING PROCES

- Is it possible to apply the results to individual patients??

Objective: discuss barriers and facilitators of using outcome of RCT’s and reviews in clinical practice
Reporting of complex interventions is often not satisfying, withholding important information on the interventions’ theory base, modelling of components and outcomes, pilot testing and process evaluation alongside the clinical trial.

Transparent and comprehensive reporting is needed for knowledge synthesis and successful transfer into practice.

<table>
<thead>
<tr>
<th>Clinical area</th>
<th>No of Trials</th>
<th>No (%) replicable</th>
<th>Methods of assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Back pain</td>
<td>24</td>
<td>3 (13)</td>
<td>Information sufficient for consumers</td>
</tr>
<tr>
<td>Surgical procedures</td>
<td>158</td>
<td>138 (87)</td>
<td>Required only that “some” detail was provided, not sufficient for replication; 41% also provided some detail on actual surgery used</td>
</tr>
<tr>
<td>Weight loss interventions</td>
<td>63</td>
<td>62 (98)</td>
<td>Compliance with Item 4 of CONSORT statement*</td>
</tr>
<tr>
<td>Range of topics published</td>
<td>55</td>
<td>36 (65)</td>
<td>Two general practitioners were independently asked whether they could use this treatment with patients if they saw them tomorrow</td>
</tr>
</tbody>
</table>

*2001 update.11

(Glasziou BMJ 2010)
### Table 1

CReDECI checklist.

<table>
<thead>
<tr>
<th>No</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>First stage – Development</strong></td>
</tr>
<tr>
<td>1</td>
<td>Description of the intervention’s underlying theoretical considerations</td>
</tr>
<tr>
<td>2</td>
<td>Description of all components of the intervention</td>
</tr>
<tr>
<td>3</td>
<td>Rationale for the selection of the intervention’s components</td>
</tr>
<tr>
<td>4</td>
<td>Illustration of any intended interactions between different components</td>
</tr>
<tr>
<td>5</td>
<td>Rationale for the aim/essential functions of the intervention’s components, including the evidence whether the components are appropriate for achieving this goal</td>
</tr>
<tr>
<td>6</td>
<td>Consideration of contextual factors and determinants of the setting in the modelling of the intervention</td>
</tr>
<tr>
<td></td>
<td><strong>Second stage – Feasibility and piloting</strong></td>
</tr>
<tr>
<td>7</td>
<td>Information on pilot-testing</td>
</tr>
<tr>
<td>8</td>
<td>In case of pilot-test: presentation of all relevant results and their impact on the modelling of the final intervention</td>
</tr>
<tr>
<td></td>
<td><strong>Third stage – Introduction of the intervention and evaluation</strong></td>
</tr>
<tr>
<td>9</td>
<td>Description of the control intervention (comparator)</td>
</tr>
<tr>
<td>10</td>
<td>If the study was conducted in different clusters or centres: description of a standardised implementation strategy throughout the centres</td>
</tr>
<tr>
<td>11</td>
<td>Description of all materials or tools used for the implementation of the intervention to allow a replication of the study</td>
</tr>
<tr>
<td>12</td>
<td>Description of an evaluation of the implementation process</td>
</tr>
<tr>
<td>13</td>
<td>Description of any deviation from the study protocol during the implementation process</td>
</tr>
<tr>
<td>14</td>
<td>Description of facilitators or barriers revealed by the process evaluation which have influenced the interventions’ implementation</td>
</tr>
<tr>
<td>15</td>
<td>Description of unexpected interactions between components of the intervention and the environment in which the intervention was implemented</td>
</tr>
<tr>
<td>16</td>
<td>Description of costs or required resources for the intervention’s implementation</td>
</tr>
<tr>
<td>Item 1</td>
<td>Brief name: provide the name or a phase that described the intervention</td>
</tr>
<tr>
<td>-------</td>
<td>------------------------------------------------------------------</td>
</tr>
<tr>
<td>Item 2</td>
<td>Why: describe any rationale, theory, or goal of the elements essential to the intervention</td>
</tr>
</tbody>
</table>
| Item 3 | a) What (materials): describe any physical or information materials used in the intervention, including those provided to participants or used in intervention delivery or in training of intervention providers;  
   b) Provide information on where the materials can be accessed (e.g., online appendix, URL) |
| Item 4 | What (procedures): describe each of the procedures, activities, and/or processes used in the intervention, including any enabling or support activities |
| Item 5 | Who provided: for each category of intervention provider (e.g., psychologist, nursing assistant), describe their expertise, background and any specific training given |
| Item 6 | a) How: describe the modes of delivery (such as face to face or by some other mechanism, such as internet or telephone) of the intervention and;  
   b) whether it was provided individually or in a group |
| Item 7 | Where: describe the type(s) of location(s) where the intervention occurred, including any necessary infrastructure or relevant features (eerste lijn etc) |
| Item 8 | When and how much: describe the number of times the intervention was delivered and over what period of time including:  
   a) the number of sessions; .............................  
   b) their schedule; ..................................p/w  
   c) their duration;.................................min  
   d) intensity or dose ..................................|

Hoffman et al. Better reporting of interventions: template for intervention description and replication (TIDieR) checklist and guide *BMJ* 2014;348:g1687
GROSS A, ET AL. MANIPULATION OR MOBILISATION FOR NECK PAIN. 
COCHRANE DATABASE OF SYSTEMATIC REVIEWS 2010, ISSUE 1.

- Authors’ conclusions

- Cervical manipulation and mobilisation produced similar changes. Either may provide immediate- or short-term change; no longterm data are available. Thoracic manipulation may improve pain and function. Optimal techniques and dose are unresolved.
TWO BLACK BOXES

1) The patient with neck pain

2) Intervention

- Patient
- Intervention
- Outcome
• Patient

- Neck pain no causal relations, various levels and various perceptions.

- Neck pain with or without radiating pain in the extremities

- Neck pain with or without headache or dizziness
• Patient

• Mechanical neck pain WAD category I and II
  – myofascial neck pain
  – degenerative changes

• Neck pain with radiculopathy, WAD category III
Imagine how you’d feel...

I feel spacey...

I’m not sure where my head is...

I feel off...

I feel lightheaded...

I feel imbalanced...

I feel ????
Also;

- Patient

- Age ??
- Level of pain
- Prognostic factors
- Risc factors
- Activity level (fitness)
- Level of participation
- Level of selfmanagement
- Illness perceptions
- Expectancies

Can it influence outcome?
What is the research really about?

I EAT EVERYTHING SO MY DIET IS ALSO IN IT
• **Intervention**

  • Unpacking the black box, ???!!

  1. Detailed description of an intervention
  2. Easy replication of an intervention

Only 7% of the space in an article is used for intervention description in 141 studies in Nursing Research Journals

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**Unpacking the Black Box: Countering the Problem of Inadequate Intervention Descriptions in Research Reports**

Vicki S. Conn

*West J Nurs Res* 2012 34: 427
Fig 1: Distortion or loss of information about the true intervention can occur at each of four stages and the intervention may not reach practice without good reporting and trial fidelity (shaded boxes).

Glasziou 2010
• Intervention

In our example review of Gross et al.;

- Manips and or mobilisation cannot be used separately only with exercises and advice.
- So multimodel therapy
Retrospective information of 2 RCT’s

Manual Therapy, Physical Therapy, or Continued Care by a General Practitioner for Patients with Neck Pain

A Randomized, Controlled Trial

Jan Lucas Hoening, PT, PhD; Bart W. Koes, PhD; Henrica C.W. de Vet, PhD; Danielle A.W.J.M. van der Windt, PhD; Willem J.J. Assendelft, M.D, PhD; Henk van Mameren, M.D, PhD; Walter J.J.M. Devillè, M.D, PhD; Jan J.M. Pool, PT; Rob J.P.M Schooten, MD, PhD, and Lex M. Bouter, PhD

Ann Intern Med 2002

Is a behavioral graded activity programme more effective than manual therapy in patients with sub-acute neck pain?

Results of a randomized clinical trial

Jan J.M. Pool MSc, PT, MT#*, Raymond W.J.G. Ostelo PhD, PT*†, Dirk L. Knol PhD*#, Johan W.S. Vlaeyen PhD†**, Lex M. Bouter PhD‡§, Henrica C.W. de Vet PhD*#

• Spine 2010

IFOMPT Teachers Meeting, Glasgow – 3 July 2016
Publication of design article??

- Description of the rationale of interventions
- Definition of manips and mobilization techniques
- Description of treatment protocol

- Discussion of professional bodies manual therapy NVMT, physical therapy KNGF and General Practitioners organization

- Focus group session participating PT’s and MT’s

Registration of the intervention example manual therapy
Which intervention performed (%) (n=618)
Specific performance articular movements; "segmental level" (n=2368)
Home exercises (n=515)
Question still remains:

- What is the relation between patient characteristics and the planned intervention?
- Which part of the intervention is responsible for the effect?
BUT................
Recruitment of clinical physiotherapists (n = 10)

Videotape of three patient treatments each (mild, moderate and severe motor impairment)

Immediately after treatment, physiotherapist completed recording form and visual analogue scale:
0 = did not capture any of content of session
100 = captured entire content of session (validity)

Calculated mean and 95% CI

Fig 2 | Illustration of methods to develop a physical therapy treatment schedule

<4 weeks later watched videotapes and completed recording form

≥4 weeks later watched videotapes and completed recording form

Compared recording forms to give level of agreement (Kappa)
CONCLUSIONS

Students can use information from RCT’s /reviews but;

► EBP is not solely based on the outcome of RCT’s and/or reviews
► Replication of intervention is a minimum requirement
► Multimodal therapy based on characteristics' of a patient and or therapist
► Alternative look on outcome is necessary
Thank you for your attention