Example

ABSTRACT of summary of systematic reviews

TITLE:

Authors:

Affiliations:

Question: Is therapeutic exercise of benefit?
Design: A summary of systematic reviews on therapeutic exercise published from 2002 to September 2005.
Participants: People with neurological, musculoskeletal, cardiopulmonary and other conditions who would be expected to consult a physiotherapist.
Intervention: Therapeutic exercise was defined as the prescription of a physical activity program that involves the client undertaking voluntary muscle contraction and/or body movement with the aim of relieving symptoms, improving function or improving, retaining or slowing deterioration of health.
Outcome measures: Effect of therapeutic exercise in terms of impairment, activity limitations, or participation restriction.
Results: The search yielded 38 systematic reviews of reasonable quality. The results provided high level evidence that therapeutic exercise was beneficial across broad areas of physiotherapy practice, including people with conditions such as multiple sclerosis, osteoarthritis of the knee, chronic low back pain, coronary heart disease, chronic heart failure, and chronic obstructive pulmonary disease. Therapeutic exercise was more likely to be effective if it was relatively intense and there were indications that more targeted and individualised exercise programs might be more beneficial than standardised programs. There were few adverse events reported. In many areas of practice there was no evidence that one type of exercise was more beneficial than another.
Conclusion: Therapeutic exercise was beneficial for patients across broad areas of physiotherapy practice.

Key Practice Points:

- Therapeutic exercise is more likely to be effective if relatively intense.
- Indications are that targeted, individualised exercise programs are more beneficial.
- High quality evidence is needed in emerging areas of practice.

Example
ABSTRACT of systematic review
TITLE:

Authors:

Affiliations:

Question: Is strength training after stroke effective , is it harmful, and is it worthwhile?
Design: Systematic review with meta-analysis of randomised trials.
Participants: Stroke participants were categorised as (i) acute, very weak, (ii) acute, weak, (iii) chronic, very weak, or (iv) chronic, weak.
Intervention: Strengthening interventions were defined as interventions that involved attempts at repetitive, effortful muscle contractions and included biofeedback, electrical stimulation, muscle re-education, progressive resistance exercise, and mental practice.
Outcome measures: Strength was measured as continuous measures of force or torque or ordinal measures such as manual muscle tests. Spasticity was measured using the modified Ashworth Scale, a custom made scale, or the Pendulum Test. Activity was measured directly, eg, 10-m Walk Test, or the Box and Block Test, or with scales that measured dependence such as the Barthel Index.
Results: 21 trials were identified and 15 had data that could be included in a meta-analysis. Effect sizes were calculated as standardised mean differences since various muscles were studied and different outcome measures were used. Across all stroke participants, strengthening interventions had a small positive effect on both strength (SMD 0.33, 95% CI 0.13 to 0.54) and activity (SMD 0.32, 95% CI 0.11 to 0.53). There was very little effect on spasticity (SMD –0.13, 95% CI –0.75 to 0.50).
Conclusion: Strengthening interventions increase strength, improve activity, and do not increase spasticity.
Key Practice Points:

- Strengthening interventions after stroke increase strength and improve activity without increasing spasticity
- Following stroke, strengthening programs should be part of rehabilitation.

Example
ABSTRACT of systematic review
TITLE:

Authors:

Affiliations:

Question: Which models of undergraduate/entry-level clinical education are being used internationally in allied health disciplines? What is the effect and, from the perspective of stakeholders, what are the advantages, disadvantages, and recommendations for successful implementation of different models of undergraduate/entry-level clinical education?
Design: Systematic review with data from quantitative and qualitative studies synthesised in a narrative format.
Participants: Undergraduates/entry-level graduates from five allied health disciplines undergoing clinical education.
Intervention: Six broad models of clinical education: one-educator-to-one-student (1:1); one-educator-to-multiple-students (1:2); multiple-educators-to-one-student (2:1); multiple-educators-to-multiple-students (2:2); non-discipline-specific-educator and student-as-educator.
Outcome measures: Models were examined for productivity; student assessment; and advantages, disadvantages, and recommendations for implementation.
Results: The review found few experimental studies, and a large amount of descriptive research and opinion pieces. The rigour of quantitative evidence was low, however qualitative was higher. Evidence supporting one model over another was largely deficient with few comparative studies available for analysis. Each model proffered strengths and weaknesses, which were unique to the model.
Conclusion: There is currently no ‘gold standard’ model of clinical education. The perception that one model is superior to any other is based on anecdotes and historical precedents, rather than on meaningful, robust, comparative studies.

Key Practice Points:

- There is no gold standard for clinical education in physiotherapy education.
- No one model of clinical education has been proven superior to another.
- Research evidence in this field is limited to mainly descriptive and option pieces with some qualitative reports.

Example
ABSTRACT of randomised trial

TITLE:

Authors:

Affiliations:

Question: What is the effect of sitting training early after stroke on sitting ability and quality and does it carryover to mobility?
Design: Randomised placebo-controlled trial with concealed allocation, assessor blinding and intention-to-treat analysis.
Participants: 12 individuals who had a stroke less than 3 months previously and were able to sit unsupported.
Intervention: The experimental group completed a 2-week sitting training protocol that involved practicing reaching tasks beyond arm's length. The control group completed a 2-week sham sitting training protocol.
Outcome measures: The primary outcome was sitting ability (reach distance). Secondary outcomes were sitting quality (reach time and peak vertical force through affected foot during reaching) and carryover to mobility (peak vertical force through affected foot during standing up and walking speed during 10 m Walk Test).
Results: After 2-weeks training, the experimental group had increased their reach distance by 0.17 m (95% CI 0.12 to 0.21), decreased their reach time by 0.5 s (95% CI –0.8 to –0.2), increased their peak vertical force through the affected foot during reaching by 13% BW (95% CI 6 to 20) and during standing up by 21% BW (95% CI 14 to 28) compared with the control group. After 6 months, gains were maintained for reach distance and standing up.
Conclusion: The training was both feasible and effective in improving sitting and standing up early after stroke and somewhat effective six months later.
Trial registration: NCTR123456.

Key Practice Points:

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Example
ABSTRACT of randomised crossover trial

TITLE:

Authors:

Affiliations:

Question: What is the effect of the Mapleson C circuit compared with the Laerdal circuit in removing secretions and improving ventilation and gas exchange during manual hyperinflation?
Design: Prospective, randomised, cross-over trial with concealed allocation, assessor blinding and intention-to-treat analysis.
Participants: Twenty patients from a tertiary-level intensive care unit who were being mechanically ventilated.
Intervention: Manual hyperinflation in side-lying with both the Laerdal or Mapleson C circuit on the one day, one circuit in the morning and one in the afternoon, with a washout period of at least three hours between them.
Outcome measures: Secretion clearance was measured as sputum weight, ventilation was measured as respiratory compliance and tidal volume, while gas exchange was measured as oxygenation and CO_2 removal.
Results: The Mapleson C circuit cleared 0.89 g (95% CI 0.80 to 1.15) more secretions than the Laerdal circuit. There was no difference between the Mapleson C and the Laerdal circuits on respiratory compliance ($p = 0.81$), tidal volume ($p = 0.45$), oxygenation ($p = 0.28$), or CO_2 removal ($p = 0.17$).
Conclusion: Although there was more secretions cleared using the Mapleson C compared with the Laerdal circuit in this study, this had no consequence in terms of oxygenation and compliance only trended to improve. As the study was underpowered the clinical significance of these findings is not clear.
Trial registration: NCTR123456.

Key Practice Points:

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Example
ABSTRACT of experimental study

TITLE:

Authors:

Affiliations:

Question: Does faulty proprioceptive input disrupt the internal model of the body that the brain uses to control movement?
Design: Randomised, within-participant experimental study.
Participants: Twenty-two healthy adults.
Intervention: **M**otor imagery tasks involving left/right judgements of pictured right and left hands in 16 different postures under conditions involving different stimuli to the experimental (L) hand: vibration (to elicit the illusion of wrist flexion), sham (vibration of the ulna styloid), active flexion, passive flexion, and control.
Outcome measures: Accuracy and response time of the control (R) hand in making left/right judgements of the pictures.
Results: Response time during vibration was longer for those who reported the illusion of wrist flexion (n = 18) than for those who did not ($p < 0.01$). Accuracy was unaffected ($p = 0.71$). Those who reported the illusion, accuracy was unaffected by condition, hand or picture ($p > 0.21$). Response time during vibration was 910 ms longer (95% CI 730 to 1090) for pictures of the experimental (L) hand (mean 2731 ms, 95% CI 2543 to 2918) than for pictures of the control (R) hand (mean 1822 ms, 95% CI 1634 to 2009), and ~ 580 ms longer (95% CI 380 to 785) for pictures of either hand during any other condition ($p < 0.025$).
Conclusion: Faulty proprioceptive input disrupted this motor imagery task, which suggests it can disrupt the model of the limb that the brain uses for movement.

Key Practice Points:

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Example
ABSTRACT of observational study

TITLE:

Authors:

Affiliations:

Questions: How much upright mobilisation, particularly uptime, is performed in the first four days following upper abdominal surgery? In what part of the day is the greatest uptime achieved? Is length of stay related to uptime? Is there any difference in uptime in terms of postoperative factors?
Design: Prospective observational study.
Participants: Fifty patients who had undergone upper abdominal surgery after receiving standardised preoperative education and physiotherapy intervention on the first postoperative day.
Outcome measures: An activity logger recorded uptime continuously for the first four postoperative days. Postoperative factors such as postoperative pulmonary complications, surgical attachments, pain relief, duration of anaesthesia, and intensive care admission collected daily.
Results: Total median uptime was 3.0 (IQR 8.2), 7.6 (IQR 11.5), 13.2 (IQR 26.6), and 34.4 (IQR 65.6) minutes for the first four postoperative days respectively. Morning uptime was greater than both afternoon uptime ($p = 0.001$) and evening uptime ($p < 0.001$). Uptime over the first four postoperative days predicted length of stay ($r^2 = 0.50$, 95% CI 0.42 to 0.58). Uptime was not significantly less in those who developed postoperative pulmonary complications ($p = 0.08$ to 0.17).
Conclusion: The results show that the quantity of upright mobilisation performed is low. Given that uptime predicted length of stay, increasing early upright mobilisation may have a positive effect on reducing length of stay following upper abdominal surgery.

Key Practice Points:

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