Overview of overviews (OoO) - How to summarise and grade the evidence?

Cochrane Colloquium
Melbourne 2005

Gro Jamtvedt, Gunn E Vist
Norwegian Knowledge Centre for the Health Services

Overview of overviews

etc.

Systematic review

Systematic review

Comparable results

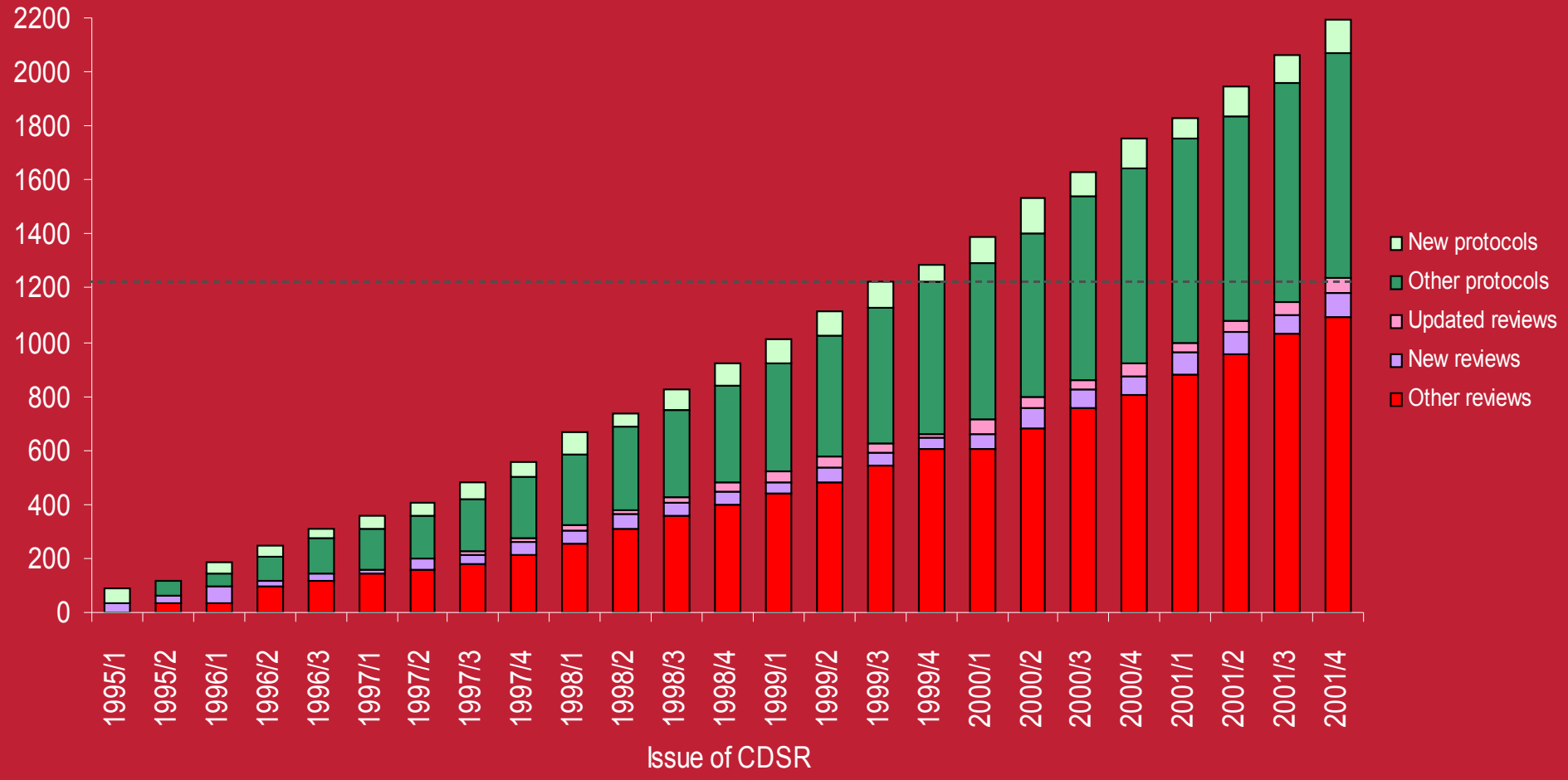
Comparable results

primary studies

primary studies

Why OoO ?

Reviews and protocols for reviews on *The Cochrane Database of Systematic Reviews*



Why OoO ?

- Broad questions often asked
- Meeting the needs of users
- Making the results of reviews more accessible

Different names

- Overview of Overview – OoO
- Overview of Reviews – OoR
- Review of Reviews - ROR
- Summary of Systematic Reviews - SoS
- Synthesis of Reviews - SoR
- Umbrella reviews – UR
- Just “Overview”

Types of OoO

- Different interventions for the same condition

Treatment

What does the research say?

Which information is relevant for me?

Acupuncture

Back school

Bed rest/staying active

Bio-psycho-social rehab

Cognitive-behavioural treatment

Disc surgery

Exercise

Injections

Lumbar support belts

Manipulation

Massage

Muscle relaxants

Neuroreflexotherapy

NSAIDs

Radiofrequency

TENS

Treatment in pregnancy

Treatment - what does the research say?

In this section, we describe what research can tell us about the effects of a number of different treatments for back pain.

Find out what research says about back pain treatments by using the menu to your left or by using our search system "Which information is relevant for me?"

NB! None of our information concerns people with back pain that is caused by a serious, underlying problem such as cancer or a fracture.

People who experience paralysis in their legs and/or who lose control of their bladder may need urgent surgery to stop these symptoms from getting worse or maybe to cure them. The information on this web site does not apply to this group.

This page was last updated 2nd August 2005

Types of OoO

- Different interventions for the same condition
- Same intervention for different conditions

Effectiveness of exercise therapy: A best-evidence summary of systematic reviews

Nynke Smidt, Henrica CW de Vet, Lex M Bouter and Joost Dekker

for the Exercise Therapy Group[a]

The purpose of this project was to summarise the available evidence on the effectiveness of exercise therapy for patients with disorders of the musculoskeletal, nervous, respiratory, and cardiovascular systems. Systematic reviews were identified by means of a comprehensive search strategy in 11 bibliographic databases (08/2002), in combination with reference tracking. Reviews that included (i) at least one randomised controlled trial investigating the effectiveness of exercise therapy, (ii) clinically relevant outcome measures, and (iii) full text written in English, German or Dutch, were selected by two reviewers. Thirteen independent and blinded reviewers participated in the selection, quality assessment and data-extraction of the systematic reviews. Conclusions about the effectiveness of exercise therapy were based on the results presented in reasonable or good quality systematic reviews (quality score ≥ 60 out of 100 points). A total of 104 systematic reviews were selected, 45 of which were of reasonable or good quality. Exercise therapy is effective for patients with knee osteoarthritis, sub-acute (6 to 12 weeks) and chronic (≥ 12 weeks) low back pain, cystic fibrosis, chronic obstructive pulmonary disease, and intermittent claudication. Furthermore, there are indications that exercise therapy is effective for patients with ankylosing spondylitis, hip osteoarthritis, Parkinson's disease, and for patients who have suffered a stroke. There is insufficient evidence to support or refute the effectiveness of exercise therapy for patients with neck pain, shoulder pain, repetitive strain injury, rheumatoid arthritis, asthma, and bronchiectasis. Exercise therapy is not effective for patients with acute low back pain. It is concluded that exercise therapy is effective for a wide range of chronic disorders. **[Smidt N, de Vet HCW, Bouter LM and Dekker J (2005): Effectiveness of exercise therapy: A best-evidence summary of systematic reviews. *Australian Journal of Physiotherapy* 51: 71–85]**

Key words: Exercise Therapy; Exercise Movement Techniques; Meta-analysis; Physical Therapy Techniques

Types of OoO

- Different interventions for the same condition
- Same intervention for different conditions
- Same intervention for the same condition focusing on different outcomes

Types of OoO

- Different interventions for the same condition
- Same intervention for different conditions
- Same intervention for the same condition focusing on different outcomes
- Broad overviews that summarise what is known in a field

FEBRUARY 1999 VOLUME 5 NUMBER 1 ISSN: 0965-0288

Effective Health Care

Bulletin on the effectiveness of health service interventions for decision makers

Getting evidence into practice

Unless research-based evidence and guidance is incorporated

Summerising and grading the evidence in OoO

GRADE

- Criteria from GRADE was choosen
- A systematic and explicit approach for grading the quality of evidence
- ”Summary of findings table” in Cochrane reviews are based on GRADE

GRADE working group 2004

The following factors were taken into account for quality of evidence

- Quality of reviews
- Design of primary studies
- Quality of primary studies
- Consistency of the results
- Directness

Quality of reviews

- Criteria for assessing methodological quality of reviews
  - Inclusion criteria
  - Search strategy
  - Assessment of methodological quality
  - Explicit way of combining the results

Design of primary studies

- For questions of effect
  - Randomised trials
  - Observational studies

Quality of primary studies

- Extracted from included systematic reviews

Consistency of the results

- Between systematic reviews
  - Consistency of results from different reviews
  - Compare conclusions

- Within each systematic review
  - Consistency of primary studies

Directness

- Population
- Intervention
- Outcome
- Comparison

Four levels of quality of evidence in OoO

- High quality evidence
- Moderate quality evidence
- Low quality evidence
- Very low quality evidence

Level	Based on
High quality evidence	
Moderate quality evidence	
Low quality evidence	
Very low quality evidence	

Level	Based on
High quality evidence	One or more updated, high quality systematic review that are based on at least two high quality primary studies with consistent results
Moderate quality evidence	
Low quality evidence	
Very low quality evidence	

Level	Based on
High quality evidence	One or more updated, high quality systematic review that are based on at least two high quality primary studies with consistent results
Moderate quality evidence	One or more updated systematic review of high or moderate quality ▪ based on at least one high quality primary study ▪ based on at least two primary studies of moderate quality with consistent results
Low quality evidence	
Very low quality evidence	

Level	Based on
High quality evidence	One or more updated, high quality systematic review that are based on at least two high quality primary studies with consistent results
Moderate quality evidence	One or more updated systematic review of high or moderate quality ▪ based on at least one high quality primary study ▪ based on at least two primary studies of moderate quality with consistent results
Low quality evidence	One or more systematic review of variable quality ▪ based on primary studies of moderate quality ▪ based on inconsistent results in the reviews ▪ based on inconsistent results in primary studies
Very low quality evidence	

Level	Based on
High quality evidence	One or more updated, high quality systematic review that are based on at least two high quality primary studies with consistent results
Moderate quality evidence	One or more updated systematic review of high or moderate quality ▪ based on at least one high quality primary study ▪ based on at least two primary studies of moderate quality with consistent results
Low quality evidence	One or more systematic review of variable quality ▪ based on primary studies of moderate quality ▪ based on inconsistent results in the reviews ▪ based on inconsistent results in primary studies
Very low quality evidence	There is no systematic review identified on this topic

Level	Based on
High quality evidence	One or more updated, high quality systematic review that are based on at least two high quality primary studies with consistent results
Moderate quality evidence	One or more updated systematic review of high or moderate quality ▪ based on at least one high quality primary study ▪ based on at least two primary studies of moderate quality with consistent results
Low quality evidence	One or more systematic review of variable quality ▪ based on primary studies of moderate quality ▪ based on inconsistent results in the reviews ▪ based on inconsistent results in primary studies
Very low quality evidence	There is no systematic review identified on this topic

Interpretation

Level	Expressed as
High quality evidence	The summery of evidence from systematic reviews shows that ….
Moderate quality evidence	
Low quality evidence	
Very low quality evidence	

Level	Expressed as
High quality evidence	The summery of evidence from systematic reviews shows that ….
Moderate quality evidence	The summery of evidence from systematic reviews indicates that …
Low quality evidence	
Very low quality evidence	

Level	Expressed as
High quality evidence	The summery of evidence from systematic reviews shows that ….
Moderate quality evidence	The summery of evidence from systematic reviews indicates that …
Low quality evidence	The summery of evidence from systematic reviews is uncertain …
Very low quality evidence	

Level	Expressed as
High quality evidence	The summery of evidence from systematic reviews shows that ….
Moderate quality evidence	The summery of evidence from systematic reviews indicates that …
Low quality evidence	The summery of evidence from systematic reviews is uncertain …
Very low quality evidence	Evidence from systematic reviews is lacking ….

One example

- Interventions for eating disorders

High quality evidence Summery of evidence from systematic reviews shows that…	
Moderate quality evidence Summery of evidence from systematic reviews indicates that…	
Low quality evidence The summery of evidence from systematic reviews is uncertain …	
Very low quality evidence Evidence from systematic reviews is lacking …	

High quality evidence Summery of evidence from systematic reviews shows that…	…there is no updated, high quality systematic review based on at least two high quality primary studies with consistent results on this topic.
Moderate quality evidence Summery of evidence from systematic reviews indicates that…	
Low quality evidence The summery of evidence from systematic reviews is uncertain …	
Very low quality evidence Evidence from systematic reviews is lacking …	

High quality evidence Summery of evidence from systematic reviews shows that…	…there is no updated, high quality systematic review based on at least two high quality primary studies with consistent results on this topic.
Moderate quality evidence Summery of evidence from systematic reviews indicates that…	…psychotherapy improves symptoms of bulemia and anorexia …psychotherapy is better than no treatment, waiting list or dietary advise …antidepressants improve symptoms of bulemia, but have high rates of dropouts …schoolbased interventions do not prevent eating disorders
Low quality evidence The summery of evidence from systematic reviews is uncertain …	
Very low quality evidence Evidence from systematic reviews is lacking …	

High quality evidence Summery of evidence from systematic reviews shows that…	…there is no updated, high quality systematic review based on at least two high quality primary studies with consistent results on this topic.
Moderate quality evidence Summery of evidence from systematic reviews indicates that…	…psychotherapy improves symptoms of bulemia and anorexia …psychotherapy is better than no treatment, waiting list or dietary advise …antidepressants improve symptoms of bulemia, but have high rates of dropouts …schoolbased interventions do not prevent eating disorders
Low quality evidence The summery of evidence from systematic reviews is uncertain …	… as to whether eating disorders should be treated inside or outside institutions.
Very low quality evidence Evidence from systematic reviews is lacking …	

High quality evidence Summery of evidence from systematic reviews shows that…	…there is no updated, high quality systematic review based on at least two high quality primary studies with consistent results on this topic.
Moderate quality evidence Summery of evidence from systematic reviews indicates that…	…psychotherapy improves symptoms of bulemia and anorexia …psychotherapy is better than no treatment, waiting list or dietary advise …antidepressants improve symptoms of bulemia, but have high rates of dropouts …schoolbased interventions do not prevent eating disorders
Low quality evidence The summery of evidence from systematic reviews is uncertain …	… as to whether eating disorders should be treated inside or outside institutions.
Very low quality evidence Evidence from systematic reviews is lacking …	…for interventions to prevent eating disorders. …for long time follow-up of all interventions.

High quality evidence Summery of evidence from systematic reviews shows that…	…there is no updated, high quality systematic review based on at least two high quality primary studies with consistent results on this topic.
Moderate quality evidence Summery of evidence from systematic reviews indicates that…	…psychotherapy improves symptoms of bulemia and anorexia …psychotherapy is better than no treatment, waiting list or dietary advise …antidepressants improve symptoms of bulemia, but have high rates of dropouts …schoolbased interventions do not prevent eating disorders
Low quality evidence The summery of evidence from systematic reviews is uncertain …	… as to whether eating disorders should be treated inside or outside institutions.
Very low quality evidence Evidence from systematic reviews is lacking …	…for interventions to prevent eating disorders. …for long time follow-up of all interventions.

Limitations of OoO

- Limited by the availability of high quality, updated systematic reviews
- Primary studies not identified
  - Review not updated
  - No review carried out in some areas
- Lack of systematic reviews must not be interpretated as ”no evidence”
- Far from primary studies

Conclusion

- OoO migh be useful
- OoO might be usuable
- We need to improve the methods used to summerise and grade the evidence in OoO!

Thank you for your attention !