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***Effectiveness of  
manual therapy for unsettled,  
distressed and excessively  
crying infants:  
a systematic review.***



# Background:

Parents caring for healthy but unsettled, distressed and excessively crying infants often seek help and support during the first 12 weeks of their infant's life from manual therapists.



# Background:

- Prevalence ~20%
- 6 weeks peak in crying time.
- Peak abusive harm to infants
- Association between maternal depression and unsettled infant behaviour



# Background:

- Aetiology unknown
- Manual therapy based on premise that musculoskeletal strains and or limitations can cause distress
- Controversial as condition is self-limiting
- Controversy over effectiveness and safety



# Background:

- Cochrane review (Dobson et al 2012)
- RCTs: Found small statistically non significant outcomes
- We wanted to update this study and look at a greater variety of research



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# Aim:

To assess the effect of manual therapy interventions on parent- and patient- centred outcomes to provide information to help inform decisions about care.



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# Method:

- Systematic review of literature

- Last 26 years

- 9 databases

(Medline, EMBASE, Web of Science, PEDro, OSTMED.DR, Cochrane, Index of Chiropractic Literature, Open Access Theses and Dissertations (OATD) and CINAHL)



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# Method:

- Inclusion criteria:
  - Infants 0-12 months
  - Unsettled, distressed or excessively crying, but otherwise healthy
  - Treated in primary care
  - Original research



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# Method:

- Exclusion criteria:
  - Conditions requiring specialist care such as:  
Respiratory disorders, developmental disorders, cystic fibrosis, otitis media, neuralgia, congenital torticollis or MSK trauma.
  - Plagiocephaly and brachiocephaly
  - Mixed therapies



# Method:

- Intervention:
  - Manual therapy - hands on delivered with therapeutic intent
  - Manual therapist - a trained and regulated health care professional / therapist



# Method:

- Outcomes:
  - Crying
  - Sleep
  - Displays of distress, discomfort
  - Difficulties feeding
  - Parental confidence, satisfaction, experience
  - Adverse events



# Method:

- Selection by two reviewers independently
- Data extraction by two reviewers independently
- Quality appraised
- Meta analysis where possible



# Method:

Grade of evidence (all studies by outcome)

- High, moderate, low
- Favourable, unfavourable, inconclusive



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# Results:



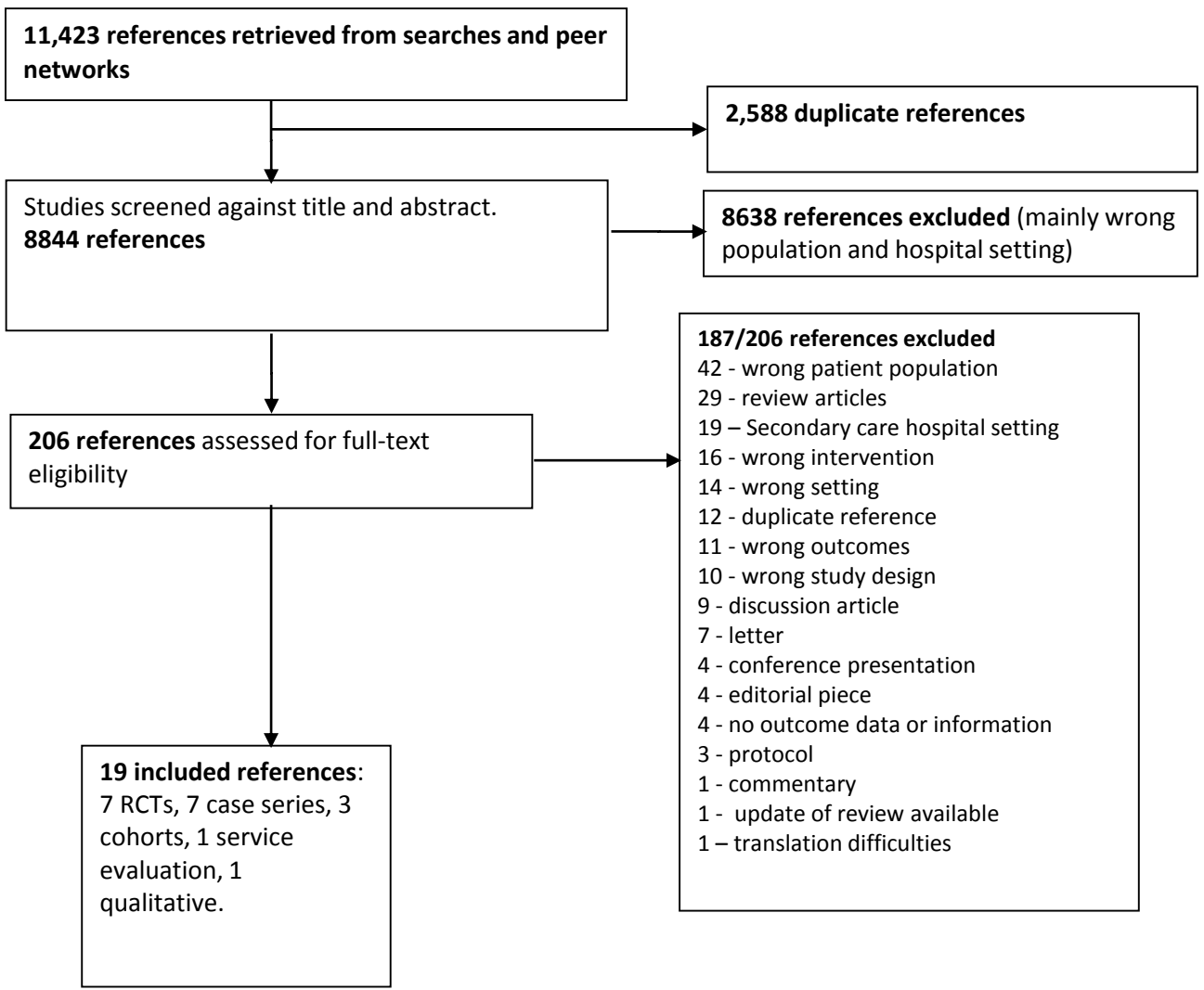
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# Results:

19 studies:

- 7 RCTs
- 7 case series
- 3 cohort studies
- 1 service evaluation
- 1 qualitative study



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# Results:

- 9 studies UK
  - 3 USA
  - 3 Australia
  - 2 Denmark
  - 1 Canada
  - 1 Norway
- 
- 15 chiropractic, 3 osteopathic, 1 massage



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# Results:

- Conditions using diagnosis of unsettled, distressed and excessively crying infants:
  - 11 'Colic'
  - 2 Gastroesophageal 'reflux'
  - 5 Breastfeeding difficulty
  - 1 Infant 'headache'



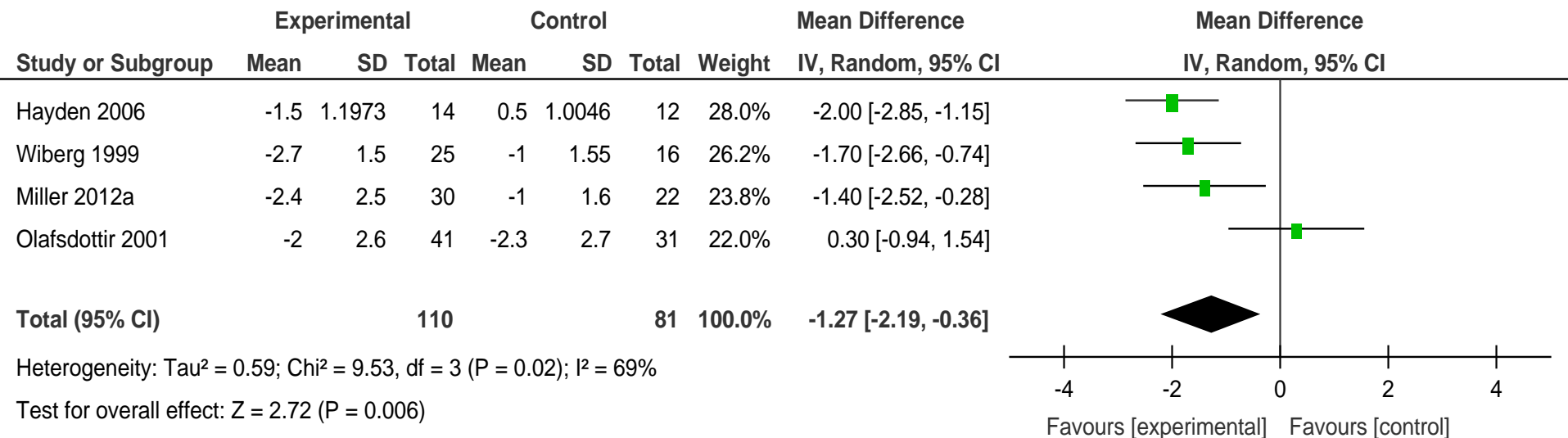
# Results:

- Quality:
  - RCTs 7:
    - 4 High quality
    - 2 Moderate quality
    - 1 Low quality
  - Qualitative study 1: High quality
  - Remainder: 11 Moderate to Low quality



# Results: Effectiveness - crying

- **Outcome: Crying time** - 4 studies suitable for meta-analysis



# Results: Effectiveness - sleeping

Moderate strength evidence: inconclusive

Not possible to meta-analyse

4 studies of varying quality reporting mixed outcomes

2 studies: Hours of sleep

2 studies: Parent report on an impression scale



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# Results: Effectiveness – parent child relations

Moderate strength evidence: inconclusive

Not possible to meta-analyse

3 studies of varying quality

Outcomes studied: social cues, contact time and impression scale



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# Results: Effectiveness – global improvement

Moderate strength evidence: no effect

Not possible to meta-analyse

5 studies of varying quality

Outcomes reported: impression scales for ‘overall improvement of symptoms’ (2 studies) and ‘complete resolution’ (1 study), practitioner reported improvement (2 studies)



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# Results: Effectiveness

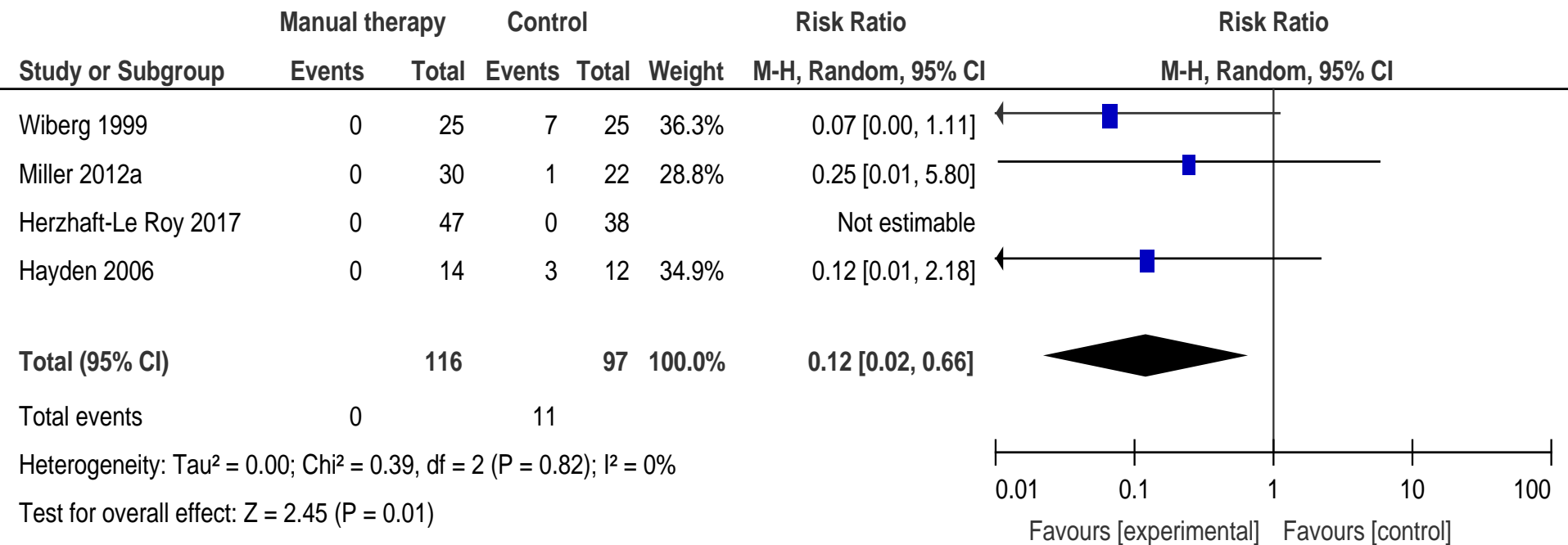
## Low strength evidence:

- **Improvement in feeding** : (6 studies)
- **Resolution of gastric symptoms**: (1 study)
- **Maternal satisfaction**: (1 study)
- **Nipple pain** (1 study)
- **Temper tantrum frequency**: (1 study)
- **Improvement in headache associated behaviours**: (1 study)



# Results: Adverse events

Comparison - exposed to manual therapy vs other



# Results: Adverse events

- 1308 infants exposed to manual therapy
- 9 non-serious adverse events
  
- 7 non serious events per 1000 infants exposed



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# Conclusions:

Positive effect for crying time: Is it patient and clinically important?

Cost and cost effectiveness not evaluated

Findings could change with more research

Relatively safe



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**Crowd funded**

With thanks to all those who  
donated and made this work possible



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