

# Interventions to support parents when managing their child's pain at home: an integrative review

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# Outline

Background

Aim

Methods

Results

Links to practice

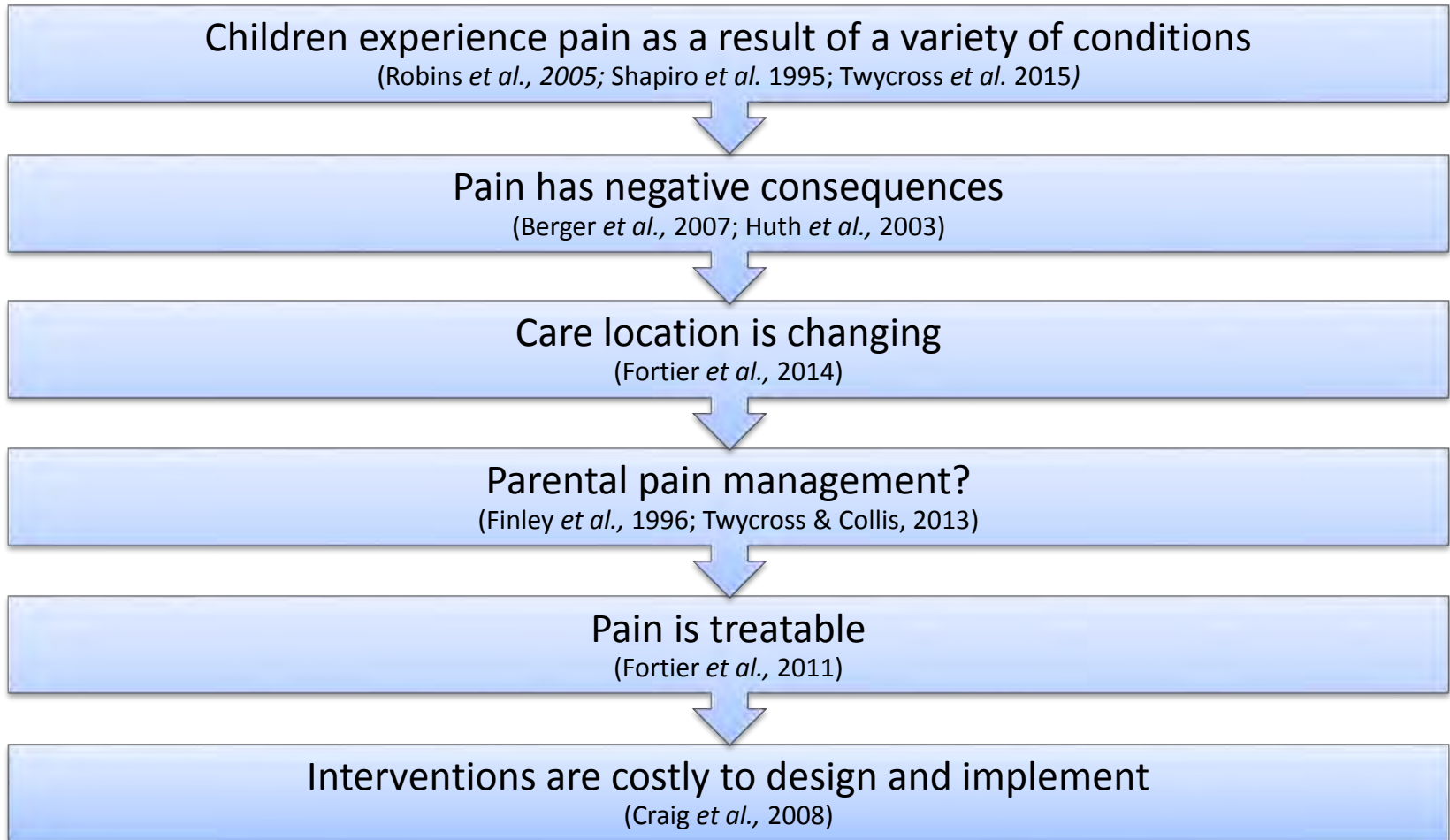
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# Background



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# Aim

To identify effective interventions which support parents in managing their child's pain at home

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# Methods – search strategy

Child\* OR pediatric OR paediatric OR adolescen\* OR young  
adult\* OR teenage\*

AND

parent\* OR caregiver\* OR guardian\* OR famil\*

AND

pain management

NOT

PICU or “paediatric intensive care” OR “pediatric intensive  
care”

OR

death OR dying OR bereave\*

OR

“painful procedures” OR immunisation OR immunization  
OR inject\*

OR

pregan\* OR labour OR labor

Databases:

- CINHALL
- Scopus
- Web of Knowledge
- Science Direct
- PubMed

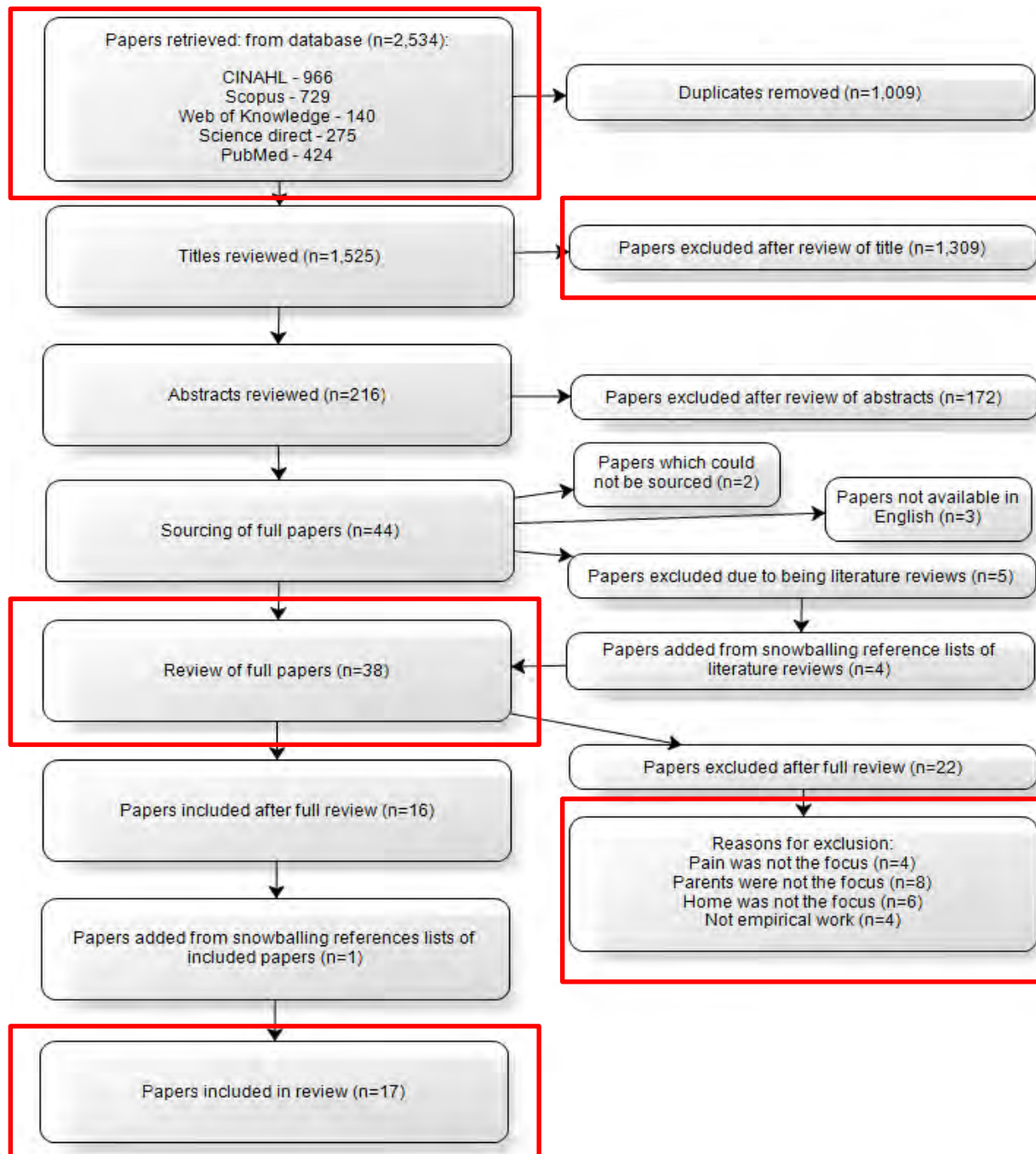
Limiters applied  
where available

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# Study characteristics I

## Sample size

- Median = 70 (IQR:47-108)

## Follow up

- Median 4 days (IQR: 3-109)

## Condition

- Post-operative pain (n=15)
- Migraine (n=1)
- Chronic idiopathic pain (n=1)



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# Study characteristics II: Design

## Design

- RCT  
(n=13)
- Other quantitative  
(n=3)
- Mixed methods  
(n=1)

## Control

- Standard care  
(n=8)
- Other  
(n=7)
- No control  
(n=2)

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# Study characteristics III: Risk of bias

- Underpowered (9/17)
- No control group (2/7)
- Randomisation problems (7/17)
- Characteristics of participants who withdrew (3/17)
- Homogeneity of groups (7/17)



Caldwell *et al.*, 2011

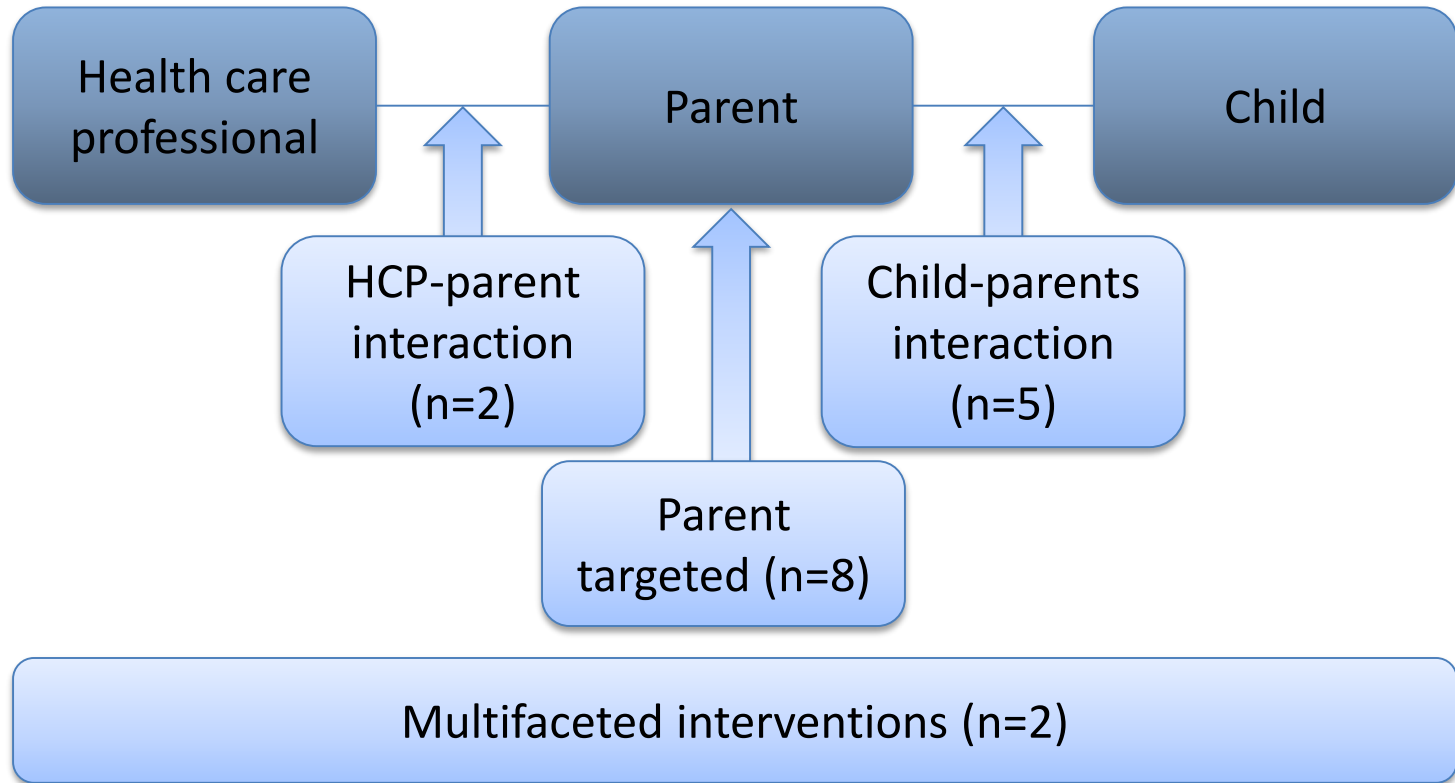
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# Results – by intervention type



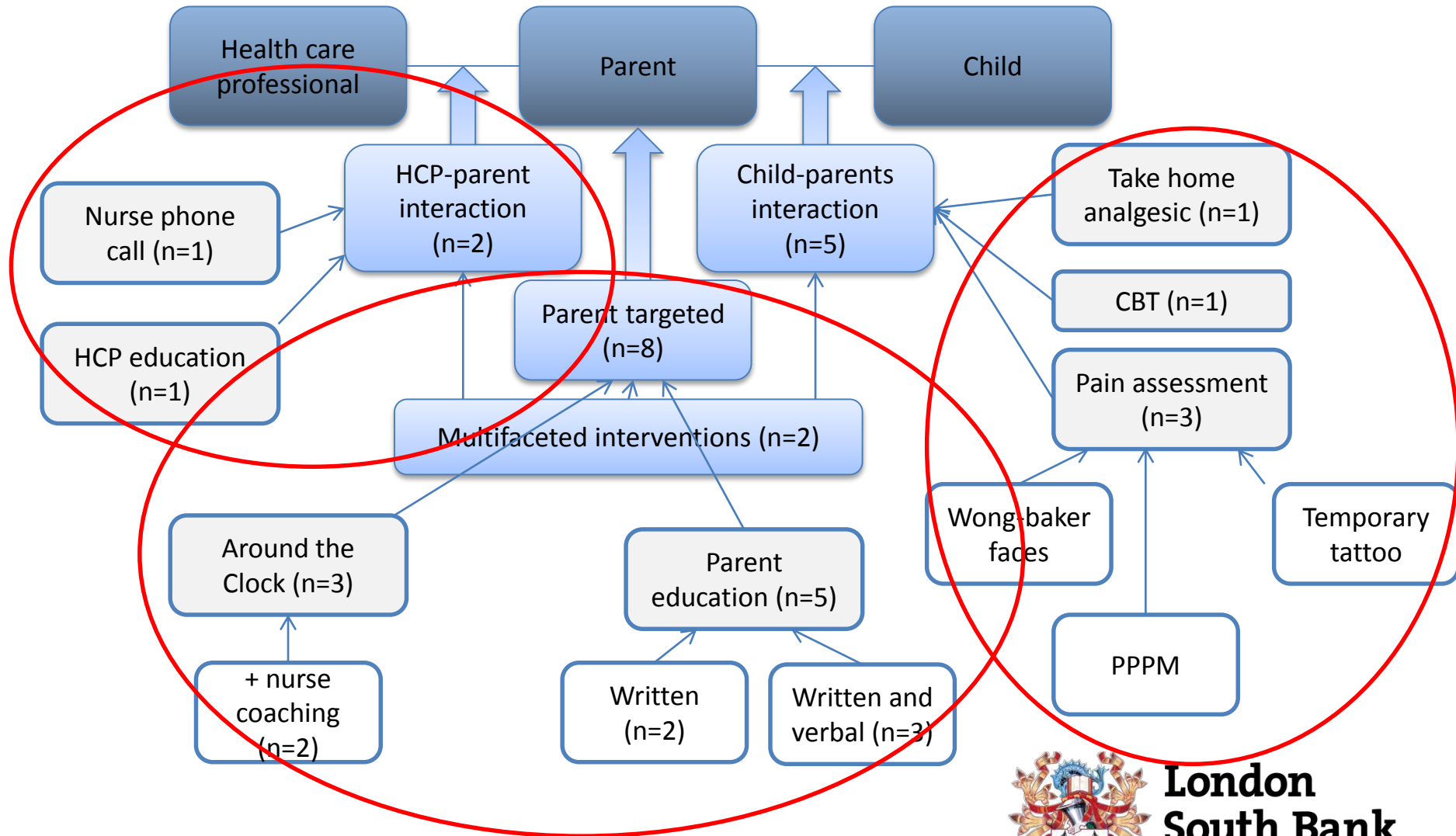
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# Interventions in full



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# Results – by outcome

## Reducing child pain

### Parent targeted

(n=3)

Allen & Shriver (1998)

Bailey et al. (2015)

Sutters et al. (2010)

## Increasing analgesic administration

### Parent targeted

(n=4)

Chambers et al. (1997)

Sutters et al. (2004)

Sutters et al. (2010)

Wiggins (2009)

### HCP-parent interaction

(n=2)

Paquette et al. (2013)

Sepponen et al. (1999)

# Pain reduction vs analgesic administration

## Inadequate strength of analgesic

- Paracetamol + codeine vs paracetamol + hydrocodone  
(Sutters *et al.*, 2004 & 2010)

## Child pain assessment

- Pain level satisfaction (Vincent *et al.*, 2012)
- Activity limitations (Palermo *et al.*, 2009)
- Pain behaviour (Helgadottir & Wilson, 2014)

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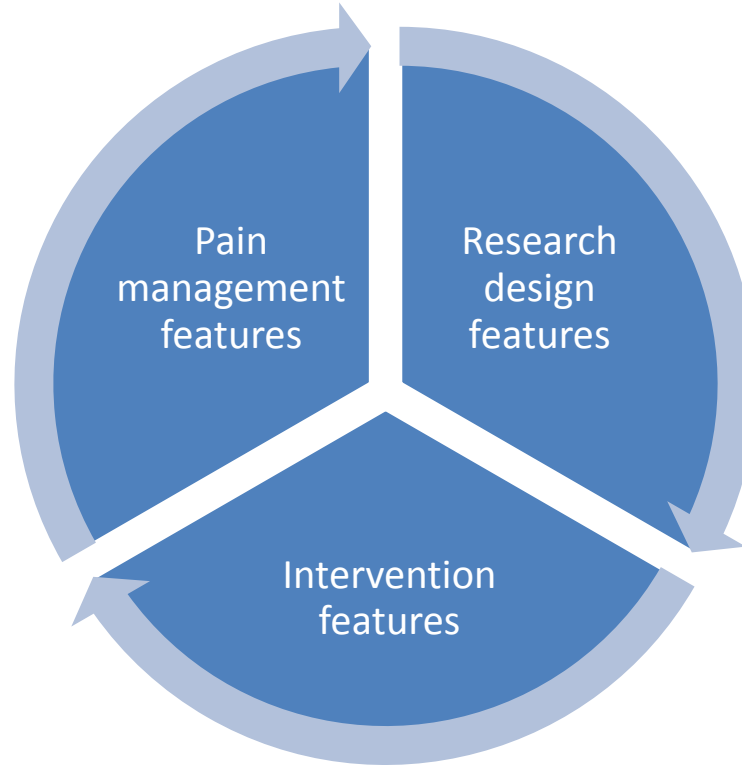


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# Reasons for intervention effectiveness

- Analgesic effectiveness
- Pain education
- Pain assessment tools
- Attitudes



- Sample size
- Pain measure
- Compliance measure
- Sedation measure

- Multifaceted
- Tailored

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# Links to practice

- Tentative conclusion regarding type of intervention
  - Parent targeted
- As nurses
  - Ensure analgesic drugs of appropriate strength are provided
- As researchers
  - Interventions which are tailored and multifaceted may be more successful
  - Ensure funding available for sufficiently powered samples
  - Consider other measures of pain

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# Summary

- Interventions to support parents managing pain at home are required
- After scoping review, 17 interventions included
- Interventions skewed towards
  - Postoperative pain
  - Caucasian population
- Easier to increase analgesic administration than reduce pain due to
  - ... inadequate analgesics?
  - ... inadequate pain assessment?
- Reasons for intervention effectiveness
  - Pain management features
  - Research design features
  - Intervention features

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# References

- Akers, J., Aguiar-Ibáñez, R., Baba-Akbari Sari, A. and others (2009) CRD's Guidance for Undertaking Reviews in Health Care, York: Centre for Reviews and Dissemination (CRD).
- Allen, K. D. and Shriver, M. D. (1998) Role of parent-mediated pain behavior management strategies in biofeedback treatment of childhood migraines, *Behavior Therapy*, 29 (3), pp. 477–490. DOI:10.1016/S0005-7894(98)80044-0.
- Bailey, L., Sun, J., Courtney, M. and Murphy, P. (2015) Improving postoperative tonsillectomy pain management in children--a double blinded randomised control trial of a patient analgesia information sheet, *International Journal Of Pediatric Otorhinolaryngology*, 79 (5), pp. 732–739. DOI:10.1016/j.ijporl.2015.03.003.
- Berger, A. M., Shuster, J. L. and Roenn, J. H. V. (2007) *Principles and Practice of Palliative Care and Supportive Oncology*. Lippincott Williams & Wilkins.
- Chambers, C., Reid, G. and McGrath, P. (1997) A randomized trial of a pain education booklet: effects on parents' attitudes and postoperative pain management... presented at the meeting of the Canadian Psychological Association, Charlottetown, Prince Edward Island, June 1995, *Children's Health Care*, 26 (1), pp. 1–13 13p.
- Craig, P., Dieppe, P., Macintyre, S., Michie, S., Nazareth, I. and Petticrew, M. (2008) Developing and evaluating complex interventions: the new Medical Research Council guidance, *Bmj*, 337, pp. a1655.
- Finley, G. A., McGrath, P. J., Forward, S. P., McNeill, G. and Fitzgerald, P. (1996) Parents' management of children's pain following 'minor'surgery, *Pain*, 64 (1), pp. 83–87.
- Fortier, M. A., Sender, L. S. and Kain, Z. N. (2011) Management of Pediatric Oncology Pain in the Home Setting: The Next Frontier, *Journal of Pediatric Hematology/Oncology*, 33 (4), pp. 249–250. DOI:10.1097/MPH.0b013e318217b054.
- Fortier, M. A., Wahi, A., Bruce, C., Maurer, E. L. and Stevenson, R. (2014) Pain management at home in children with cancer: A daily diary study, *Pediatric Blood & Cancer*, 61 (6), pp. 1029–1033. DOI:10.1002/pbc.24907.
- Franck, L. S., Allen, A. and Oulton, K. (2007) Making pain assessment more accessible to children and parents: Can greater involvement improve the quality of care?, *The Clinical Journal of Pain*, 23 (4), pp. 331–338. DOI:10.1097/AJP.0b013e318032456f.

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- Hegarty, M., Calder, A., Davies, K., Shave, M., Christiansen, E., Meyer, T. and von Ungern-Sternberg, B. S. (2013) Does take-home analgesia improve postoperative pain after elective day case surgery? A comparison of hospital vs parent-supplied analgesia, *Paediatric Anaesthesia*, 23 (5), pp. 385–389. DOI:10.1111/pan.12077.
- Helgadóttir, H. L. and Wilson, M. E. (2014) A Randomized Controlled Trial of the Effectiveness of Educating Parents about Distraction to Decrease Postoperative Pain in Children at Home after Tonsillectomy, *Pain Management Nursing*, 15 (3), pp. 632–640 9p. DOI:10.1016/j.pmn.2013.07.001.
- Huth, M. M., Broome, M. E., Mussatto, K. A. and Morgan, S. W. (2003) A study of the effectiveness of a pain management education booklet for parents of children having cardiac surgery, *Pain Management Nursing*, 4 (1), pp. 31–39.
- Kankkunen, P., Vehviläinen-Julkunen K, Pietilä A, Korhonen A, Nyssönen S, Lehtikoinen N and Kokki H (2009) Promoting children's pharmacological post-operative pain alleviation at home, *Pediatric Nursing*, 35 (5), pp. 298–303 6p.
- Palermo, T. M., Wilson, A. C., Peters, M., Lewandowski, A. and Somhegyi, H. (2009) Randomized controlled trial of an Internet-delivered family cognitive-behavioral therapy intervention for children and adolescents with chronic pain, *Pain*, 146 (1–2), pp. 205–213. DOI:10.1016/j.pain.2009.07.034.
- Paquette, J., Le May, S., Lachance Fiola, J., Villeneuve, E., Lapointe, A. and Bourgault, P. (2013) A randomized clinical trial of a nurse telephone follow-up on paediatric tonsillectomy pain management and complications, *Journal Of Advanced Nursing*, 69 (9), pp. 2054–2065. DOI:10.1111/jan.12072.
- Popay, J., Roberts, H., Sowden, A., Petticrew, M., Arai, L., Rodgers, M., Britten, N., Roen, K. and Duffy, S. (2006) Guidance on the conduct of narrative synthesis in systematic reviews, *A Product from the ESRC Methods Programme Version*, 1, pp. b92.
- Robins, P. M., Smith, S. M., Glutting, J. J. and Bishop, C. T. (2005) A Randomized Controlled Trial of a Cognitive-Behavioral Family Intervention for Pediatric Recurrent Abdominal Pain, *Journal of Pediatric Psychology*, 30 (5), pp. 397–408. DOI:10.1093/jpepsy/jsi063.
- Sepponen, K., Kokki, H. and Ahonen, R. (1999) Training of medical staff positively influences postoperative pain management at home in children, *Pharmacy World & Science: PWS*, 21 (4), pp. 168–172.

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Sutters, K. A., Miaskowski, C., Holdridge-Zeuner, D., Waite, S., Paul, S. M., Savedra, M. C. and Lanier, B. (2004) A randomized clinical trial of the effectiveness of a scheduled oral analgesic dosing regimen for the management of postoperative pain in children following tonsillectomy, *Pain*, 110 (1–2), pp. 49–55. DOI:10.1016/j.pain.2004.03.008.

Sutters, K. A., Miaskowski, C., Holdridge-Zeuner, D., Waite, S., Paul, S. M., Savedra, M. C., Lanier, B. and Mahoney, K. (2010) A Randomized Clinical Trial of the Efficacy of Scheduled Dosing of Acetaminophen and Hydrocodone for the Management of Postoperative Pain in Children Following Tonsillectomy, *The Clinical Journal of Pain*, 26 (2), pp. 95–103. DOI:10.1097/AJP.0b013e3181b85f98.

Twycross, A. and Collis, S. (2013) How well is acute pain in children managed? A snapshot in one English hospital, *Pain Management Nursing: Official Journal Of The American Society Of Pain Management Nurses*, 14 (4), pp. e204–e215. DOI:10.1016/j.pmn.2012.01.003.

Twycross, A., Parker, R., Williams, A. and Gibson, F. (2015) Cancer-Related Pain and Pain Management Sources, Prevalence, and the Experiences of Children and Parents, *Journal of Pediatric Oncology Nursing*, 32 (6), pp. 369–384.

Unsworth, V., Franck, L. S. and Choonara, I. (2007) Parental assessment and management of children's postoperative pain: a randomized clinical trial, *Journal of Child Health Care: For Professionals Working with Children in the Hospital and Community*, 11 (3), pp. 186–194. DOI:10.1177/1367493507079558.

Vincent, C., Chiappetta, M., Beach, A., Kiolbasa, C., Latta, K., Maloney, R. and Van Roeyen, L. S. (2012) Parents' management of children's pain at home after surgery, *Journal for Specialists in Pediatric Nursing*, 17 (2), pp. 108–120. DOI:10.1111/j.1744-6155.2012.00326.x.

Walther-Larsen, S., Aagaard, G. B., Friis, S. M., Petersen, T., Møller-Sonnergaard, J. and Rømsing, J. (2016) Structured intervention for management of pain following day surgery in children, *Paediatric Anaesthesia*, 26 (2), pp. 151–157. DOI:10.1111/pan.12811.

Wiggins, S. A. (2009) Family exemplars during implementation of a home pain management intervention, *Issues in Comprehensive Pediatric Nursing*, 32 (4), pp. 160–179. DOI:10.3109/01460860903281341

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# Any questions?

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