How well is acute pain in children managed?

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Nurses pain management practices: Study 1

- **PhD: Case study approach**
  - Participant observation
  - Knowledge questionnaire
  - Criticality of pain management tasks
  - Clinical decision-making
  - Post-operative pain

- Shadowed nurses (n=13) for 2-4 shifts
- Completed field notes and compared practices with checklist
- At end of observation nurses (n=12) completed a training needs questionnaire and a knowledge questionnaire
- Re-conceptualisation
- Think aloud technique used to examine clinical decision making (n=12)
Study 1: Findings

- Nurses administered analgesic drugs if a child complained of pain.
- Other aspects of current recommendations were not routinely applied.
- Practices did not conform to best practice in many areas.
- No positive relationship between nurses’ level of knowledge and how well they actually managed pain.
- The importance attributed to a pain management task did not reflect the likelihood of the task being undertaken.
- Nurses used non-expert decision making strategies - regardless of their years of experience or level of academic attainment.
Study 2

- Audit at local hospital
  - Observation (8 periods)
  - Nurses’ views (n=30)
  - Young people’s views (n=17)
  - Parents’ views (n=17)

**Aim**: To obtain a snapshot of acute pain management practices
Study 2: Focus group findings

- Nurses (n=30) asked about barriers and facilitators to effective pain management
- Barriers relating to staff:
  - Lack of knowledge (nurses + medics)
- Barriers relating to parents and children:
  - Should let nurses know when they are in pain
  - Parents exaggerate child’s pain
  - Parents ask for drugs before their child needs them
  - Children’s behavior not always indicative of pain
- Organisational barriers:
  - Workload issues and staff shortages
  - Insufficient analgesic drugs prescribed

(Twycross and Collis 2011)
Study 2: Other findings

- Observational data:
  - Practices conform to guidelines in some but not all areas

- Parent and young people’s questionnaires
  - 59% of children experiencing severe pain
  - Pain management perceived as acceptable/very good
  - Evidence of need for better communication

(Twycross and Collis 2012)
Study 2: Ratings of worst pain

Worst pain: Young people (n=17)
- Severe pain: 58%
- Moderate pain: 24%
- Mild pain: 18%

Worst pain: Parents (n=17)
- Severe pain: 58%
- Moderate pain: 18%
- Mild pain: 24%

Mild pain = 1-3; Moderate pain = 4-6; Severe pain = 7-10
Study 3

*Case study (n=10)*
- Canadian hospital
- Participant observation
- Nurses asked questions
- Interviews with children
- Parental questionnaire
- Post-operative pain

*Data analysis*
- Looked at:
  - Pain scores $\geq 5$
  - Mapped recorded pain scores against pain meds given
  - Content analysis: description of each case + field notes
## Study 3: Demographic details

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## Study 3: Worst pain

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Pain assessment 1

• Pain assessments more likely to take place in the immediate post-operative period
  • 75% of the pain assessment recorded (n=75) were in the first 24 hours post-surgery.

• Some nurses more likely to record pain scores than others.

• Numerical pain scale usually used:
  • Asked the child how she was and then what her pain score was on a scale of 1-10. [Case 5, Nurse 12]
Pain assessment 2

- Pain assessments not consistently recorded:
  - No pain scores recorded on graphic chart for over 24 hours. [Case 9, Observation 4]

- Reassessment did not always take place
  - Pain meds given 130 times
  - An evaluation of effectiveness (reassessment) took place 15 (12%) times

- Behavioural cues not always picked up or acted on
- Behavioural tool – not available
Pain assessment 3

Informal assessment?

- Nurses would sometimes ask the child whether they were OK, rather than asking them about their pain.
- This could be seen as an informal assessment of pain.
- Not clear whether children and parents understood this.

Missed opportunities?

- Pain not always assessed when other nursing care undertaken:
  - Went in to give IV antibiotics. No pain score done and child not asked about her pain. [Case 4, Nurse 10]
  - Patient called the nurse as the IV alarm was bleeping (IV antibiotics). The nurse didn’t ask the patient about her pain. (Case 7, Nurse 15)
- Are these missed opportunities for evaluating the effectiveness of interventions?
Child’s behaviour and pain score

• How the child behaved in relation to their self-report of pain seemed to be an important consideration when assessing pain:

  • Nurse told me that had asked the child her pain score …. and that it was a 4/5 – which she felt matched what the child currently looked like. [Case 1, Nurse 1]
When should action be taken?

- In Birnie et al.’s (2011) study children’s mean pain treatment threshold post-operatively was found to be is 4.72/10.

- Other studies have reported similar findings (Gauthier et al. 1998; Demyttenaere et al. 2001).

Expectation that when pain score ≥ 5 action would be taken.
Actions taken when pain score ≥ 5

Actions when pain score ≥ 5 (n=27)

- No action taken (30%)
- Pain meds due (33%)
- Additional action taken (37%)
Case 3: Administration of pain meds v recording of pain scores

Key - pain meds
1 = tylenol
2 = IV toradol
3 = IV morphine
4 = IV toradol
Case 5: Administration of pain meds v recording of pain scores

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Key - pain meds
1 = Tylenol

IV morphine running at 0.02 mg/kg/hr until 0900 on Day 3, then increased to 0.03 mg/kg/hr for 1 hour, then decreased to 0.01 mg/kg/hr for an hour and then...
Decision-making

• The administration of pain medications did not appear to be routinely guided by children’s pain scores.

• Biggest influence on practice was the unit’s pain management culture of *giving pain medications regularly even if they are prescribed prn.*
Pain medications

- Pain medications administered regularly even if prescribed *prn*:
  - Nurse says they are good at giving pain meds. That they try to be proactive and give them regularly for at least the first 24 hours – even if they are written up *prn*. [Case 1, Nurse 2]
  - You’ve probably noticed that even though a lot of pain meds are prescribed *prn* we give them regularly – it is just what we do. [Case 7, Nurse 15]
Pain medications: Opioids

- Reluctance to give opioids with nurses preferring to wait and see if the child needed morphine rather than giving it regularly:
  - Student asked RN whether she should take in the tylenol with her or wait until she had assessed the child. RN said to wait and just give IV antibiotics. [Case 5, Observation 3]
  - Went into see patient. Took paracetamol in but not morphine. [Case 7, Nurse 12].

- Even when morphine prescribed 2 or 3 hourly tends to be given four hourly:
  - In medication room I said “She’s having morphine three hourly?” The nurse replied that actually she’d been giving it four hourly. [Case 7, Nurse 15]

- When children were on IV morphine infusions there was a reluctance to increase the rate
Non-drug methods

• Limited use was made of non-drug methods of pain-relief.

• Use of non-drug methods seen as the parents’ role:
  • *Ice packs changed at parents’ request* [Case 1, Nurse 1]
  • *Patient asked for his ice packs back – mum sorted this out* [Case 9, Nurse 20]

• Child life specialists (play therapists) on ward but did not appear to be routinely used in this context.
Nurses’ expectations

Expected trajectory of recovery

- With “jaws” they tend to come off the IV morphine earlier than say for someone with an appendectomy – usually within 24 hours. [Nurse 2, Case 1]

Stoicism seen as a good thing

- The nurses commented that this child is doing well on her pain transition and that she is stoic. [Case 4, Nurse 10]
Communication with child and parents

Tended to focus on pain medications with nurses telling the child/parent what they were going to be doing.

- The nurse told mum that she would give tylenol and morphine four hourly overnight. [Case 2, Nurse 4]

- Nurse explained that the child was on IV morphine and that she would be giving four hourly tylenol overnight ........ and that he was also on 6 hourly toradol IV. The nurse said she would be checking him every hour. [Case 6, Nurse 13]

- Discussion was with child (parents not there) – telling child what the plan was – no negotiation. [Case 1, Nurse 2]
Communication with parents

- Little negotiation about parents’ role in managing their child’s pain.

- Parents did not often let the nurse know that their child was in pain:
  - Went to see child and met parents at the door – child had just gone to sleep – parents reported that she had had a bad hour and really been in pain – although the parents hadn’t called anyone. Apparently the child had thrown up immediately after her last medicine – so possibly the pain meds didn’t work. Again the parents had not reported this to the nurses. [Case 2, Nurse 4]
Parental expectations

Appeared to have an expectation that child’s pain may increase prior to the time pain medications were due:

- Mum said to doctor that pain gets bad as she gets near the time for her pain meds [Case 2, Observation 4]

- Went into give morphine. Asked what number her pain was now = 5. Mum said her pain had been creeping up for the past 20-30 minutes but that she knew the nurse would be in with the morphine soon. [Case 8, Nurse 18]
Documentation

- Limited and focused on pain medications
- No pain history taken
- Constrained by format issues
  - Flowchart
  - Handover sheet
- Little evidence of the effectiveness of pain medications administered being documented:
  - No documentation re effectiveness of IV bolus of morphine or other pain-relieving interventions. [Case 1, Nurse 2]
- For one child half their dose of morphine had been administered on three occasions overnight but nothing was recorded about why this had taken place [Case 7].
Inconsistent pain assessment practices

Pain management synonymous with administering drugs

Decision-making not guided by pain scores

Non-drug methods not seen as a nursing role

Limited communication with child and parents

Limited documentation

Children experience moderate to severe pain

Acute pain management
Study 1: Publications


Study 2: Publications


Study 3: Publications
