**ABSTRACT**

**Title:** Mothers’ Experiences of Managing their Child’s Pain Before and During Attendance at the Emergency Department

**Aims and objectives:** To explore mothers’ experiences of managing their child’s pain before and during attendance at the Emergency Department (ED).

**Background**: Pain accounts for 50-80% of all visits to the ED. Historically paediatric pain has been poorly managed in the ED and there remains variability in practice. It is mothers who usually bring their child to the ED and as such it is important to explore their perspectives of how pain is managed.

**Design**: Exploratory qualitative study

**Methodology:** Semi-structured interviews were carried out withmothers (n=10) of children who have attended the ED in one hospital in the East of England during April 2015.

**Results:** Most mothers felt able to assess their child’s pain and reported attending the ED when their normal pain-relieving strategies failed following an injury. Several mothers sought advice from elsewhere before bringing their child to the ED. The advice received was usually to take their child to the ED.Mothers welcomed the professional approach to pain management in the ED and valued being kept informed about their child’s care. Mothers rated the care provided in the ED as good or very good.

**Conclusions:** Mothers attended the ED when their normal pain-relieving strategies failed. This suggests there is a need to provide additional resources to support parents in this context. Mothers often brought their child to the ED rather than their GP or other primary health care providers. The reasons for this need exploring further.

**Relevance to clinical practice:** The results suggest that mothers need additional resources to enable them to manage their child’s pain at home following an injury. The reasons mothers attend the ED rather than other health care providers needs exploring in more depth.

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| **WHAT DOES THIS PAPER CONTRIBUTE TO THE WIDER GLOBAL COMMUNITY?**   * Highlights the complexities of mothers’ concerns as they tried to manage their children’s pain and injury. This revealed that some other sources of assistance and advice may be required to support them in their home environment. * The development of understanding about mothers’ perceptions of their children’s pain can inform changing patterns of inter-professional working and guide service delivery to consider different ways of providing pain and health management advice to families without needing to come to the ED. * Addresses clinical issues, repeated internationally, on a day to day basis and seeks to understand the complexities of human nature in order to improve and manage service delivery and the clinical delivery of care in the emergency department. |

**KEYWORDS**:

Paediatric, Emergency Care, Mothers, Children, Pain Management

**INTRODUCTION**

An increasing evidence base addresses the management of pain in children in the emergency department (ED) (College of Emergency Medicine (CEM), 2017; Bailey & Trottier 2016; Krauss, Calligaris, Green & Barbi, 2016). Despite recommendations for improved pain management strategies in the ED, pain in children continues to be inadequately managed (Habich & Letzia, 2015; Le May et al., 2016). This is in part because the administration of appropriate analgesia in children in the ED is often significantly lower than for adults (Karreman, Krause & Smith, 2016). Another contributing factor may be the lack of protocols for managing children’s pain in the ED (Ferrante et al., 2013). This is evidenced by the results of one study where 35% of the protocols in EDs did not mention children and where they did most did not apply current best practice standards (Gaakeer, Van Lieshout & Bierens 2010).

The CEM guidelines state that children should have their pain treated within 20 minutes of arrival in the ED and reassessed within 60 minutes (CEM 2017). However, in practice this is still not happening consistently (Rupp & Delaney 2016). The need to manage pain effectively in children during acute or procedural pain is not unique to the ED (Twycross & Finley, 2013; McLaren, Chorney, Twycross, Mifflin & Archibald, 2014). The apparent suboptimal pain management is of concern as unrelieved pain has short and long term detrimental effects (Taddio *& Katz,* 1997; Grunau, 2013).

BACKGROUND

There is limited research focusing on children’s pain management in the ED. This is despite there being a consensus in the literature that managing children’s pain is an important part of emergency care which is often undertreated and erratically managed (Bailey & Trottier, 2016; Krauss, Calligaris, Green & Barbi, 2016). This is of concern as there is documented evidence of worrying behavioural and psychological effects developing in children who have experienced poor pain management in early childhood experiences ([Anandet al., 1999](#_ENREF_1); [Taddio & Katz, 2005](#_ENREF_15)). These are known to influence medical pain experience into adulthood ([Pate, Blount, Cohen & Smith, 1996](#_ENREF_13)). Given this there is a need to ensure that children’s pain is managed effectively.

Mothers are usually present when their child attends the ED (Loopstra, Stridi & Herd, 2015; Local Audit, 2015;). Despite this, mothers’ perspectives of their children’s pain management in the ED have not previously been explored. Parental satisfaction with the care provided in the ED has been studied. Ninety percent of parents provided high ratings for how well medical staff and nurses worked together, but this dropped to 57% if low ratings for satisfaction with pain management were noted (Byczkowski et al., 2013). This suggests pain management may be a key concern to parents in the ED. This concurs with the findings of other studies (Pagnamenta & Benger, 2008; LeMay et al., 2010). Other factors identified as important to parents during a visit to the ED are the provision of repeated and effective information as well as good communication with health care professionals (Kubicek et al., 2012; Byczkowski et al., 2013).

A unique consideration in paediatric pain is the bidirectional influences of children’s pain experiences and maternal family factors (Palermo, Valrie & Karlson, 2014). A child’s mismanaged pain may cause parental distress. Parents’ behaviour is increasingly being recognised as having a significant influence on their children’s pain (Knafl, Leeman, Havill, Crandell & Sandelowski, 2015; Langer et al*.,* 2016). However, no single variable has been identified as predicting the impact of parents’ behaviours on their children’s pain (Neece, Green & Baker, 2012; Caes et al., *2014*). Of note, some studies found no correlation between parent and child expressions of anxiety (Horton & Riddell, 2010; Bearden, Feinsten & Cohen, 2012) but there is evidence that some pain behaviours are learned from caregivers (Goodman & McGrath, 2003). Parents’ previous experiences are known to correlate to their perception of their child’s pain experience (Zhou, Roberts & Horgan, 2008; Liossi, White, Croome & Hatira, 2012). However, it has been observed that when children rate their own pain it was not necessarily as bad as their parents anticipated it would be (Riddell et al., 2011).

Optimal pain management suggests an assessment of the pain needs to be made, adequate analgesia should be provided, supported by physical and psychological strategies (Association of Paediatric Anaesthetists (APA), 2012). Research in this area suggests that parents’ assessment of their children’s pain does not subsequently pre-empt the administration of effective doses of analgesia by the parents (Fortier, Martin, Kain & Tan, 2009; Kankkuenen et al., 2009).  Previous research has found parents fear the side effects of analgesics; think they are addictive; and that children should receive as little pain medication as possible (Zisk-Rony, Fortier, MacLaren-Chorney, Perrerr & Zain, 2010).

There is a need to explore parents’, and particularly mothers’, experiences of pain management when their child needs to visit the ED. This study will, therefore, focus on mothers’ experiences of their child’s pain management around the time of attendance at the ED following an injury. The aim of this study was to explore mothers’ experiences of managing their child’s pain before and during attendance at the ED. More specifically the study explored:

1. The actions taken by mothers to mange their child’s pain prior to attending the ED
2. The reasons mothers’ bring their child in pain to the ED
3. Mothers’ perceptions of what was done to manage their child’s pain in the ED
4. Mother’s perceptions of what could be done to improve their child’s pain management in the ED

**METHODOLOGY**

A descriptive qualitative approach was selected for this study. Descriptive qualitative studies allow the researcher to describe events from participants’ point of view (Sandelowski 2000). This was felt to be important given the lack of previous research exploring mothers’ experiences in this context. ~~This was based on the philosophical branch of phenomenology where the focus is on the individual’s interpretation of lived experiences and how they express them. There is a specific emphasis on describing a particular phenomena; mother’s experience of the management of their children’s pain.~~ This approach embraces the subjectivity of the mother’s responses and seeks to make sense of the varied descriptions mothers’ present and organise their individual ideas into themes that share similar characteristics, elucidating a richer understanding of a phenomena in clinical practice (Nicholls, 2009).

**Sample**

Participants were mothers of children who attended the ED in a district general hospital in the east of England. The inclusion and exclusion criteria are outlined in Table 1.

**Data collection tools**

The interview schedule was developed following an extensive review of the literature and drawing on the researcher’s clinical experience of caring for children in pain in the ED (Smith & Osbourne, 2008). To ensure the interview schedule had content validity, experts (n=6) in the field reviewed the proposed format and ensured the questions to be asked were appropriate for the study (Cresswell, 2014). The experts were also asked to comment on the extent to which the questions would elicit the relevant dimensions and knowledge from the mothers regarding the management of their children’s pain.  Following this, the wording was made simpler and question eight was modified to ensure that the emphasis did not reflect a mother’s own efforts to administer pain medication prior to their visit to the ED.

**Procedure**

The procedure followed to undertake the study is outlined in Figure 1.

**Data Analysis**

Interviews were transcribed verbatim.The outcome analysis of this descriptive study

was to provide a description of the lived experiences of mothers and to present a

coherent narrative about the experience. An iterative content analysis was carried out as advocated by Sandelowski (2000). Cresswell’s (2014) five step approach provided a systematic way of doing this: ~~and rigorous data analysis tool that facilitated the researcher’s aspirations for this research;~~

1. Creating and organising files for data
2. Reading through the text and forming initial codes
3. Describing the social setting, people involved and events
4. Analysing data for identifying emerging themes
5. Interpreting and make sense of the findings

(Cresswell, 2014)

To avoid researcher bias, the supervisor reviewed 20% of the coding of the transcript.

**ETHICAL CONSIDERATIONS**

Approval to carry out the study in the ED was obtained from the Clinical Matron, the local Research and Development department, the NHS Research Ethics Committee (NRES), and the University’s Research Ethics Committee. Participants received information leaflets and consent forms that adhered to NRES standards. Participants were assured of confidentiality and anonymity at all times, were made aware that they could withdraw at any time with no notification or explanation and that doing so would not impact on their child’s care in any way. The data generated was anonymised. Participant numbers were inserted at each point where a mother’s name was used and all names were omitted.

**RESULTS**

Ten mothers were interviewed to gain an understanding of their experience of their children’s pain before and during attendance in the ED. The children aged in range from two to seven years old. They presented to ED with minor injuries and their average pain score at injury was seven out of ten. Demographic details of the participants are provided in Table 2. During data analysis the researcher was immersed in the rich descriptive data. Underlying patterns and trends became apparent allowing mothers’ experiences in this context to be categorized into ‘themes’. These themes facilitate a description of mothers’ experiences in this context to be presented as a focused narrative.

Three themes emerged providing an insight into mother’s pre-hospital strategies employed to manage their children’s pain before and during a visit to the ED. It also highlighted the significance of professionals’ interventions in the ED, and the importance of excellent professional communication skills to support the mother and child’s journey through the ED. The following themes will be discussed in turn;

1. Pain management strategies used prior to arriving in the ED

2. Actions taken in the ED to manage children’s pain

3. The importance of being kept informed and regular communication

As ethical permission has not been received to use direct quotes, all quotes have been paraphrased in accordance with the Research Ethics Committee request. Given this, the number of mothers providing responses for each theme was noted to ensure as full a picture as possible of their experiences was obtained and some results have also been tabulated to provide as full a picture of mothers’ experiences as possible.

**Pain management strategies used prior to arriving in the ED**

All mothers (n=10) had tried to assess their children’s pain prior to arriving in the ED

and described their children as demonstrating different behaviours, which were perceived as a reflection of pain that may be more serious than simple day to day minor injuries. On occasion, it was the type of injury, rather than the symptoms displayed that caused increased anxiety for mothers and a perception that their child must be in pain. Details of how mothers described their child’s pain prior to arriving in the ED can be seen in Table 3.

Some mothers lacked confidence in their assessment of their child’s pain because of the child’s age (n=2) or because they lacked knowledge about the type of injury (n=9). For example:

*They can’t talk to you properly, she was wincing a lot and this worried me* (Participant I)

*I just don’t know how much pain they are in or where their pain is*

*(Participant C)*

Some mothers (n=4) implemented pharmacological pain-relieving strategies prior to coming to ED. Mothers reported that if they felt their children required over the counter analgesia they were confident to provide this. All mothers (n=10) used non-pharmacological strategies, such as cuddles (n=5), immobilising limbs (n=2) and keeping themselves and their children distracted (n=3). Other non-pharmacological strategies and simple caretaking activities, such as touching, comforting, hugging and reassuring, promoted the mother-child relationship at home, before deciding to come to the ED. The pain-relieving strategies used by each participant can be seen in Table 4. Interestingly, all the participants commented on trying to hide their own anxiety (worry) as evidenced by comments such as: *I have learned to be brave for him (Participant J).*

One mother (Participant E) on seeing the severity of the injury, picked up her child to cuddle and reassure her and came straight to the ED. Some participants sought telephone advice from the NHS 111 service which provides 24 hour telephone advice for health related problems in the community (n=2), others from family members (n=4) or their GP surgeries (n=2). All these participants were advised to attend the ED and for some (n=3) this increased their anxiety, as they feared the worst.

*My daughter had a three day old ankle injury she had been walking on. When I phoned 111 they advised me to get her to ED immediately. I felt so concerned I didn’t let her walk on it any more and carried her. (Participant G)*

Whether or not mothers had sought advice from elsewhere a decision to visit the ED was usually taken when the strategies they would normally use to manage their child’s pain failed. Mothers actively sought professional advice by attending the ED. One participant said;

*When cuddles and watching TV didn’t help his pain, I took him to ED (Participant H).*

**Actions taken in the ED to manage children’s pain**

All participants indicated that pain was the main reason for their attendance in the ED. The actions mothers reported being taken to manage their child’s pain in the ED can be seen in Table 5. Interestingly, despite attending ED because of the child’s pain some mothers (n=2) and children (n=3) refused analgesic drugs when they were offered as they said their pain was improving. The mothers’ perspective of their children’s pain score at the time of injury and on arrival in the ED are also detailed in Table 5.

Once in the ED, mothers (n=10) welcomed the professional approach by the triage nurse and felt reassured by the formal assessment made of their child’s injuries. For example:

*The nurse was brilliant and definitely the most useful tool. So calm, they talked to me and my child, told us what they were going to do, what they thought and how the time in ED will be (Participant H)*

Mothers who had a very long wait in the ED (n=2), and those who refused analgesic drugs (n=4) while in the ED, felt the care was good*.* Other mothers rated the care in the ED as *very good*.

**The importance of being kept informed and regular communication**

Participants highlighted the value of being kept informed and indicated that without clarity of the process and clear communication during busy periods, the long wait for those not informed became confusing, and with that came uncertainty and increased emotional responses. Mothers in less busy periods described a calm environment that was pleasant for them to wait in. Mothers (n=10) reported it was important to be reassured on arrival in ED that the pain and injury could be managed without any long-term consequences.

*Reassurance*

*The injury was awful but within 5 minutes the nurses had explained it would be alright, she had strong pain medicine and was less distressed, then all I wanted to do was give her cuddles (Participant E)*

The holistic approach and sharing of knowledge offered by the nurse affirmed her abilities as a mum and gave her the confidence to continue managing her child’s pain at home:

*Sometimes the expertise and advice you get is just as important as the medicine (Participant A)*

Mothers (n=9) felt that one of their major roles was to protect their children from pain:

*I wished I had magic to take the pain away (Participant H)*

Mothers (n=6) expressed concerns when their children’s injuries caused a physical deformity, decreased range of movement of a limb, or when there was pain but no obvious injury:

*I couldn’t see an injury and that was worrying (Participant D)*

Mothers (n=10) expressed a desire to support their child as much as possible and retain their caregiver role:

*I hoped I had made the right decision bringing my child to ED or not. I didn’t want to seem stupid and even though my baby needed no treatment the nurses gave me really good advice and I felt I had made the right decision as a mum. (Participant A)*

*On-going communication*

Effective communication enabled mothers (n=10) to feel more in control and thus increase their feelings of empowerment:

*My child had no pain so I felt empowered (Participant C).*

Being well informed about what was going on was important to the majority mothers (n=9). For example:

*I had been kept informed by my nurse and felt good but some parents had not and they were getting agitated in the waiting room affecting their children and others waiting in a negative way (Participant B)*

Mothers (n=9) also indicated that being well informed and understanding the processes involved while waiting to be seen was important:

*Waiting while my child was in pain was terrible. Triage was more than 20 minutes. Uncertainty affected us down to basic things such as not going to the loo in case we missed our call, we were in ED 5 hours (Participant B)*

A timely triage and pain assessment, followed by advice as to how long they would have to wait before being seen or reviewed provided reassurance to the mother’s in this study. However,the challenges of the fluctuating ED workload requiring the nurses to constantly prioritise more urgent care, sometimes made it difficult to keep participants informed and made it difficult to communicate effectively.

**DISCUSSION**

Mothers brought their children to the ED for assistance in managing their children’s pain when the strategies they normally used at home were not effective. By the time they arrived in the ED the child’s pain had often decreased and they did not require or refused analgesic drugs at this time. Many participants also sought advice from elsewhere before deciding to attend the ED. Mothers discussed sometimes struggling to assess their child’s pain but were able to pick up on some behavioural indicators of pain. Mothers identified the importance of effective and on-going communication with healthcare professionals while they were in the ED. The key findings of the study about mothers’ experience are summarised in Figure 2.

## Mothers bring their children to the ED because of pain

The results of this study suggest mothers bring their children to the ED when the normal pain-relieving strategies used at home are not effective and stress levels rise as they seek to understand and resolve their child’s pain. Other studies focusing on parents (mothers and fathers) suggest that dissatisfaction with primary care providers and the perceived advantages of ED is why children are taken to hospital (Brousseau, Nimmer, Yunk, Nattinger & Greer, 2011). It is, therefore, unsurprising that a significant proportion of mothers bring their children to the ED rather than using one of the alternatives, such as primary care providers. This finding is particularly pertinent in England with the current issues of ED capacity and the struggle to meet the 95% target, a core national standard set out in NHS Mandate to improve clinical standards and patient experience (Kings Fund, 2017). In this context 95% of patients attending an ED in England must be seen, treated and admitted or discharged in under four hours. It is interesting then that mothers who sought advice from other sources such as NHS111 were often advised to bring their child to the ED. This suggests there may be a need to provide better care for children and young people in primary health care settings. Alternatively, mothers may not be aware of alternative treatment venues for their children. This needs exploring further.

A decision to come to the ED, in this study, was associated with an unexpected injury that mothers perceived to be an emergency. Similar findings have been noted in other studies (Kubicek et al., 2012; Wong, Claudet, Sorum & Mullett, 2015). This supports the conjecture that parents feel unprepared to manage their children’s pain at home and often need to seek additional help (Homer, Swallow & Semple, 2001; Swallow, Briggs & Semple, 2000). This suggests there is a need to develop resources to support parents when managing their child’s pain at home. When developing such resources there is a need to consider the format particularly as several studies have explored the effect of providing parents with an educational booklet about pain management (Huth, Broome, Mussatto & Morgan, 2003; Le May et al. 2010). There was some evidence that parental knowledge increased but with little improvement in pain care. This is perhaps due to a failure to consider behavioural change theories. In the era of social media and smart phones the use of Twitter campaigns similar to #itdoesn’thavetohurt (<http://itdoesnthavetohurt.ca)>, and developing apps or websites (e.g. http://mychildisinpain.org.uk)should be considered.

**Influences on mothers’ pain management strategies**

Most mothers, in this study, indicated they recognised their children’s behavioural cues of pain. Indeed, it was this assessment of pain that was the reason mothers brought their child to the ED. Interestingly, the results of several other studies have shown that parents have erroneous attitudes in relation to children’s expressions of pain (Fortier *et al*. 2011; Zisk-Rony *et al.* 2010). This needs exploring further to ascertain whether mothers’ attitudes impact on their assessment of pain in this context and whether perceptions of pain as a result of an injury are perceived differently to other types of pain.

Only four out of the 10 children in this study received pre-hospital analgesia, either because the pain resolved or mothers did not want to mask the pain before being seen by professionals. Interestingly, two of the mothers also refused analgesic drugs for their child when they were admitted to the ED. This seeming irregularity between presentation to the ED because their child is in pain and the refusal to take analgesic drugs may be reflected in mothers’ personal or cultural experiences (Fortier et al. 2011; Huang & Lamb, 2015). Indeed, there is evidence in other studies of parents holding erroneous views about pain medications such as thinking that pain medications work best when given as little as possible, and that the less often children take pain medications the better the medicine works (Zisk-Rony et al., 2010). Given the lack of analgesic drugs administered at home and the fact some mothers refused these drugs for their children in the ED it is possible these beliefs are held by participants in this study. This is of concern, if this results in children experiencing unnecessary unrelieved pain. There is evidence that despite attempts to advise parents about the benefits of effective pain management strategies for their children, there remains a reluctance by them to provide it (Dorkham, Chalkiadis, Ungern, Sterberg & Davison, 2014). This adds further supports to the conjecture that there is a need to develop a range of resources to support parents to manage their children’s pain.

Mothers, in this study, used non-pharmacological strategies such as touching, comforting, hugging and verbal reassurance. Children have identified the use of non-pharmacological strategies as something that helps them cope with their pain (Wen, Taylor, Lixia & Hong-Gu, 2013). However, these strategies are most effective if used in conjunction with analgesic drugs (APA 2012). It is possible that if over-the-counter pain medications had been administered at home the child’s pain may have resolved without a need to visit the ED. This provides further evidence of the need to develop resources to support parents to manage their child’s pain at home in this context as well as the need to ensure mothers are given appropriate advise from services such as NHS111.

## The importance of communication and healthcare professionals appearing competent

Communication was seen by mothers in this study as an essential component of an effective pain management strategy. This concurs with the results of other studies (Kubicek et al., 2012; Byczkowski et al., 2013). Healthcare professionals have a responsibility not only to establish good pain management for children but also to manage their distress and anxiety and that of their families associated with acute or procedural pain in the ED (Weingarten, Kircher, Drendel, Newton & Ali, 2014). This imparting of professional knowledge and advice seemed to allow mothers to regain a sense of control and feel empowered again. Mothers, in this study, felt confident in health care professionals’ ability to manage their child’s pain. There is a need for healthcare professionals to communicate clearly and articulately how they are going to manage child’s pain in the ED.

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## LIMITATIONS

The sample may not have been representative of all socio-economic groups and this may have a bearing on their experience of the assessment and management of their children’s pain. Triangulation and using different comparisons of pain scores, parents and/or fathers in the research may have helped to understand the variables. However, this study provides insights into mothers’ experiences in relation to their child’s pain management in the ED.

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## IMPLICATIONS FOR RESEARCH AND CLINICAL PRACTICE

There is a need to provide additional resources to mothers to enable them to assess and manage their child’s pain at home. Future research should focus on identifying the most effective strategies for supporting mothers to manage their child’s pain at home in an emergency. More work is need to look at mothers’ attitudes to pain expression and pain medications and how these impact on how they manage their child’s pain. There is also a need to explore the reasons why mothers bring their child to the ED rather than accessing other healthcare settings. Healthcare professionals need to be aware of the need to communicate effectively with mothers about their child’s pain.

**CONCLUSION**

This study has explored mothers’ experiences of their child’s pain management before and during an admission to the ED for the first time. The insight gained about mothers’ experiences in this context suggests additional resources are needed to support mothers in managing their child’s pain as well as a need to explore why ED is considered a more appropriate place to access care than other healthcare settings. Mothers want healthcare professionals to communicate with them effectively about how their child’s pain is being managed.

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