




Parents' experiences with interprofessional collaboration in neonatal pain management: A descriptive qualitative study

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Abstract

Aim: To describe parents' experiences with interprofessional collaboration (IPC) in neonatal pain management.

Background: Neonatal care should be based on IPC, and non-pharmacological pain-relieving methods are recommended to be used primarily that enables parental participation. However, there is a lack of knowledge about pain management on IPC from the parent's viewpoint.

Design: A descriptive qualitative study.

Method: The research involved a purposive sample of parents ($n=16$) whose infant had been treated at a neonatal intensive care unit in Finland. Interviews were conducted with participants from all over Finland who were recruited through the national association for premature infants. Parents discussed their experiences during semi-structured interviews which were guided by the subareas of IPC, partnership, cooperation and coordination. The data were analysed using deductive-inductive content analysis. The reporting of results followed COREQ guidelines.

Results: Based on the parent's experiences the partnership involved themes of understanding the neonatal pain management context, being able to influence the pain management, and feeling valued. Cooperation included themes of identifying different roles and equality. Coordination was described through the sharing of knowledge, skills and expertise, as well as feeling supported by professionals.

Conclusion: Parental involvement on IPC should be developed through interventions that involve training around pain assessment and non-pharmacological pain-relief methods.

Relevance for clinical practice: Professionals involved in neonatal care should act in a goal-oriented and unified manner to promote a culture of care that allows for active parental participation.

No patient or public contribution: The research has been carried out in accordance with good scientific practice. Only the research team has been involved in the design, conduct, analysis and drafting of the manuscript.

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KEYWORDS

infant, interprofessional collaboration, interview, neonatal intensive care units, nursing, pain management, parents, qualitative research

1 | INTRODUCTION

An interprofessional collaboration (IPC) approach aims to improve the quality of care by involving the patient and/or their family. According to the World Health Organization (WHO), IPC is defined as a situation in which multiple health providers from different professional backgrounds work together with patients, families, caregivers and communities to deliver the highest quality of care (WHO, 2010). IPC is in the neonatal pain management context as an inclusive partnership between a team of health care providers and parents of infants. It involves shared decision-making and an emphasis on collaboration and professional expertise (Orchard et al., 2012). Prentice et al. (2016) emphasise that the context of IPC provides an opportunity to set goals. Therefore, successful IPC requires that the neonatal pain management context is understood correctly, and everyone involved in the care of the infant is included in the process. Balice-Bourgeois et al. (2020) stress that—in the context of pain management—parents and their infant are active participants of pain management and should thus work together with professionals.

In neonatal pain management, IPC is a goal-oriented activity and success is not only determined by completing tasks specific to a certain specialisation, but also through the sharing of competences that are relevant to the individual needs of the infant and their parents (WHO, 2010; Balice-Bourgeois et al., 2020).

1.1 | Background

This study was based on the approach of IPC (Orchard et al., 2012). IPC is central to pain management, which is one quality criteria for nursing care. Adequate pain management is especially important in neonatal nursing because both recurrent pain and inadequate pain relief can affect an infant's brain development (Pillai Riddell et al., 2015; Perry et al., 2018; Vinall & Grunau, 2014; Walker, 2019). Cognitive and behavioural challenges in later life resulting from inadequate or incorrect pain management can require large financial resources from society and negatively affect the quality of life of individuals and their families (Eccleston et al., 2020; Perry et al., 2018; Vinall & Grunau, 2014; Walker, 2019).

Good pain management involves competent pain assessment via relevant pain assessment scales, suitable pain relief for the situation and uniform care models (Eccleston et al., 2020). In addition, Walter-Nicolet et al. (2017) highlighted that the well-being and brain development of neonates should be supported by pain prevention, assessment, and treatment of painful procedures, and appropriate doses of medication. Furthermore, it is important to note that only pain that is assessed can be treated (Pölkki et al., 2018). Not all procedures that are classified as painful require medical

What does this paper contribute to the wider global clinical community?

- Attention is paid to how the interprofessional collaboration affects both the parents and all professionals involved in the infant's care in NICU, and how it contributes to the individuality and quality of care.
- The challenges faced by parents in the assessing and managing neonatal pain are described.
- The findings highlight why current pain management for infants falls short of parents' expectations, and what issues in partnership, cooperation and coordination should be addressed in the future.

pain relief. Some of these procedures can be performed using non-pharmacological pain relief methods which have been found to be effective, such as breastfeeding or non-nutritive sucking coupled with glucose (Koukou et al., 2022; Ullsten et al., 2021) or skin-to skin contact (Zengin et al., 2023). Non-pharmacological methods of pain relief allow parents to actively participate in neonatal pain management. It is important to stress that a clear goal and appropriate pain management for the infant will affect both the parents and professionals involved in neonatal care.

The assessment of parents' experiences of IPC in neonatal intensive care is justified because the neonatal intensive care unit (NICU) employs a substantial number of different professionals who participate in the planning and provision of neonatal care (Balice-Bourgeois et al., 2020; Mäki-Asiala et al., 2022). Mäki-Asiala et al. (2022) recently studied Finnish professionals' experiences of IPC in the context of neonatal pain management. The results revealed that various professionals who work in the NICU have positive attitudes towards involving parents in pain management for infants.

A model focusing on neonatal pain management presented by Balice-Bourgeois et al. (2020) identified parents as a resource for IPC. Although IPC is currently considered an important topic in neonatal care (Eccleston et al., 2020) and has received increasing research attention in past years, there is still a lack of evidence regarding the parent's perspective of neonatal pain management.

It is important for health care professionals and organisations to have up-to-date information about how parents perceive their involvement in IPC in the context of neonatal pain management, as well as input concerning how the current practices can be developed and improved. This topic has not been previously studied from a parental perspective in relation to IPC. Parents' experiences and opinions are critical (Axelin et al., 2018; Balice-Bourgeois et al., 2020), and any hindrance to their active participation means that a crucial

resource is being ignored. Thus, this study aimed to describe parents' experiences of IPC in neonatal pain management based on the themes of partnership, cooperation and coordination. Partnership describes the attitudes of various stakeholders, how participants perceive their role and the support received from professionals. Cooperation reflects values like openness and honesty within the team, while coordination refers to the willingness and ability to share knowledge and skills (Orchard et al., 2012).

2 | METHODS

2.1 | Design

Descriptive qualitative design was adopted as we were aiming to describe parents' experiences with IPC in their infant's pain management (Lincoln & Guba, 1985; Willis et al., 2016). We followed the Consolidated Criteria for Reporting Qualitative Research (COREQ) (Tong et al., 2007) throughout the study (Supplementary file 1).

2.2 | Study setting and recruitment

Parents were eligible for this study if they had a child under the age of 1 year who had been admitted to a NICU in Finland. Parents whose child was no longer in hospital were considered to find it easier to go through and reflect on the past treatment period of care. Therefore, parents who had sought out the social media channels of a peer support organisation were invited to participate. Purposive sampling was used to recruit parents from all around Finland through the social media channels of a national association of premature infants across

the country. The choice to focus on the context of pain management and conducting the study using semi-structured interviews both narrowed the focus of the study, and thus, supported data saturation. The parents contacted the researcher by sending a consent form, which was available from 20 May to 15 August 2022. After this, the researcher contacted the participant to arrange an interview time. No parent dropped out after having signed the consent form.

2.3 | Data collection

Parents were interviewed about their experiences through single semi-structured interviews (Table 1), which were audio-recorded. The interview guide was developed based on a quantitative survey on IPC by Orchard et al. (2012). The prompts were adapted from the literature on neonatal pain management. The themes and/or prompts in interviews were pre-tested.

Data collection covered a 3-month period (June–August 2022). The parents ($n=16$) were from various parts of Finland. Data saturation, which was defined as the point at which no additional codes were identified ($n=12$), determined the sample size (Elo et al., 2014). Nevertheless, four additional interviews were conducted to confirm data saturation. Interviews took place at a time and location chosen by the parent via Teams (digital platform; Microsoft Corporation, Redmond, WA). Parents were allowed to keep the camera on if they wished. The video footage was not analysed. The interviews were transcribed verbatim, and the transcribed text was checked by comparing the text with the recorded interviews.

In the interviews, neonatal pain management was defined as: 'pain management begins and ends with an assessment. It is possible to assess and treat pain together in IPC. The best pain management

TABLE 1 The interview guide.

<p>1: Partnership</p> <p>How did you experience the partnership? Please describe, for example:</p> <ul style="list-style-type: none"> • Planning treatment and setting goals • Listening to your wishes and considering individuality in the implementation of pain treatment • Who participated in setting the goals of the treatment plan • The coherence of the conversation between different parties and your role in it <p>2: Cooperation</p> <p>How did you experience cooperation in the team? Please describe, for example:</p> <ul style="list-style-type: none"> • Respect, trust, openness and honesty • Feedback and changing the operation • Differences in opinion and attitudes towards them • Mutual trust • Decision-making and sharing responsibility- shared competence and expertise • Laws and regulations related to each professional group's own duties and responsibilities <p>3: Coordination</p> <p>How did you experience the clinical practice? Please describe, for example:</p> <ul style="list-style-type: none"> • Appearance of interprofessional cooperation in practice (similar–different) • Whether goals were jointly agreed upon • Empowering and encouraging open discussion • Resolution of conflicts and the agreed course of action (commitment) • Choosing the leader/responsible person and approving the responsible person • Your experience of the support you received when participating in team meetings (e.g. doctor's visit)

is to avoid or prepare for painful procedures' (Bucea & Pillai Riddell, 2019; Orchard et al., 2012; Pölkki et al., 2018). This definition was presented to participants and followed by the question: 'How would you describe your role in pain management when your child was being treated in the neonatal intensive care unit?' The mean interview length was 38 min (range 28–74 min).

2.4 | Data analysis

The data were analysed using deductive-inductive content analysis (Elo & Kyngäs, 2008). To begin the process, one researcher (MMA) carefully reviewed the interview transcripts several times to become familiar with the data. Next, a categorization matrix was created for the deductive-inductive content analysis. The categorization used in the present study was based on Orchard's et al. (2012) description about subareas of IPC, that is, partnership, cooperation and coordination. The themes were identified deductively, while the analysis applied an inductive approach.

During the content analysis, original phrases and sentences, as well as condensed meaning units within original phrases and sentences, that were related to the study objective were identified and coded into the matrix. The identified codes were then inductively synthesised into subcategories. Throughout the analysis, the researcher (MMA) examined the findings in relation to the interview themes. As such, the researcher was constantly moving back and forth between the data, codes, subcategories and main categories. The research team (MMA, AA and TP) critically evaluated the analysis and sought to reach a consensus on the refinement of subcategories.

2.5 | Ethical considerations

The research followed the good scientific principles set forth by the World Medical Association (2018). The first author's organisation had finalised a cooperation agreement on participant recruitment with the national association for premature infants before the research began. The study received ethics approval from The Ethics Committee of Human Sciences of University of Oulu (20th April 2022). In line with General Data Protection Regulation (EU 2016/679) of the European Parliament and of the Council, the participants gave their written consent to participate and to be audio-recorded after they were informed about the research topic; moreover, participation was confidential and voluntary. The participants were also told that they could withdraw from the study at any point without any consequences. At the beginning of the interview, before recording began, each participant was told what the context of neonatal pain management means and given the opportunity to ask questions.

Parents who felt that the interview may evoke difficult memories were directed to talk with the staff of their own child health clinic. With each participant, it was also ensured that each participant would receive conversational contact and professional help if necessary.

2.6 | Rigour and reflexivity

The research team consisted of a PhD researcher, an assistant professor and a professor employed by the university. It is important that the relationship between the researchers and the participants and the conduct of the study is clearly explained, as this prevents subjective information from influencing the interpretation of the results (Olmos-Vega et al., 2023). Interviews were conducted by one of the authors (MMA), a female researcher with training in qualitative methodology during her master's degree and ongoing PhD studies, while the other researchers had strong methodological skills.

The first author was aware that her own background both as a mother of a premature child and as a nurse in a NICU might influence the analyse and interpretation of the results. However, an open mind and interest in other people's experiences, as well as a thorough understanding of the background concepts and the research question, helped the researcher to process the study. Regular meetings and discussions between the research team were also thought to have reduced researcher bias during the analysis phase (Olmos-Vega et al., 2023).

3 | FINDINGS

A total of 16 parents, whose child had been admitted to a NICU in Finland, agreed to participate in the research. These 13 women and three men had a mean age of 28 years (range 20–44 years) represented all of the Finnish University hospitals ($N=5$). Of the participants, three reported previous experience with the NICU, either as a professional or child's parent before their child was treated in a NICU. The gestational age at birth of the infants of participants ranged from 24 to 41 weeks, and the NICU stay had a mean duration of 5 weeks.

The parents' experiences with IPC in neonatal pain management at the NICU could be organised into three themes: experiences with partnership; experiences with cooperation; and experiences with coordination (Figure 1).

3.1 | Partnership

The parents' experiences of partnership could be described through: (1) understanding the pain management context and their own influence in it; and (2) feeling valued (Figure 2).

3.1.1 | Understanding the pain management context and their own influence in it

This main category consisted of the following subcategories: insufficient communication; irregular involvement in meetings; and professional centered goal setting.

The parents reported that there was some degree of communication about non-pharmacological pain-relieving methods, but this was so limited that the topic remained unclear or unfamiliar

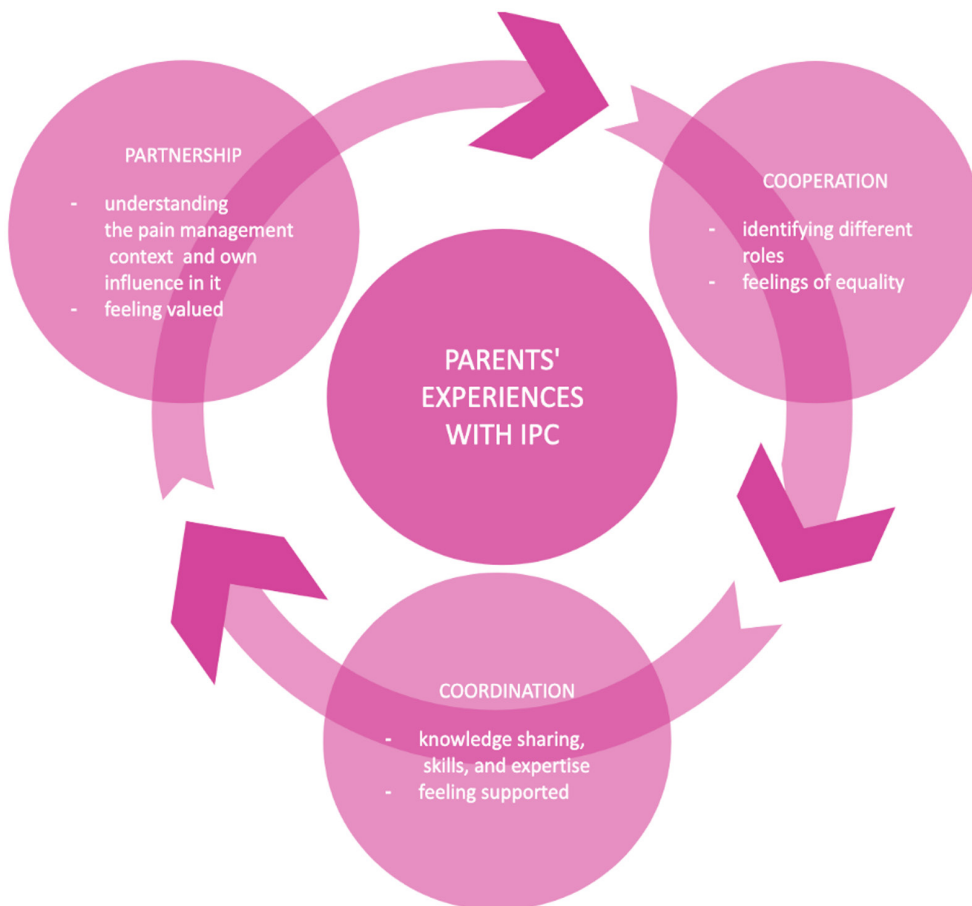


FIGURE 1 Parental involvement in partnership, cooperation and coordination during neonatal pain management.

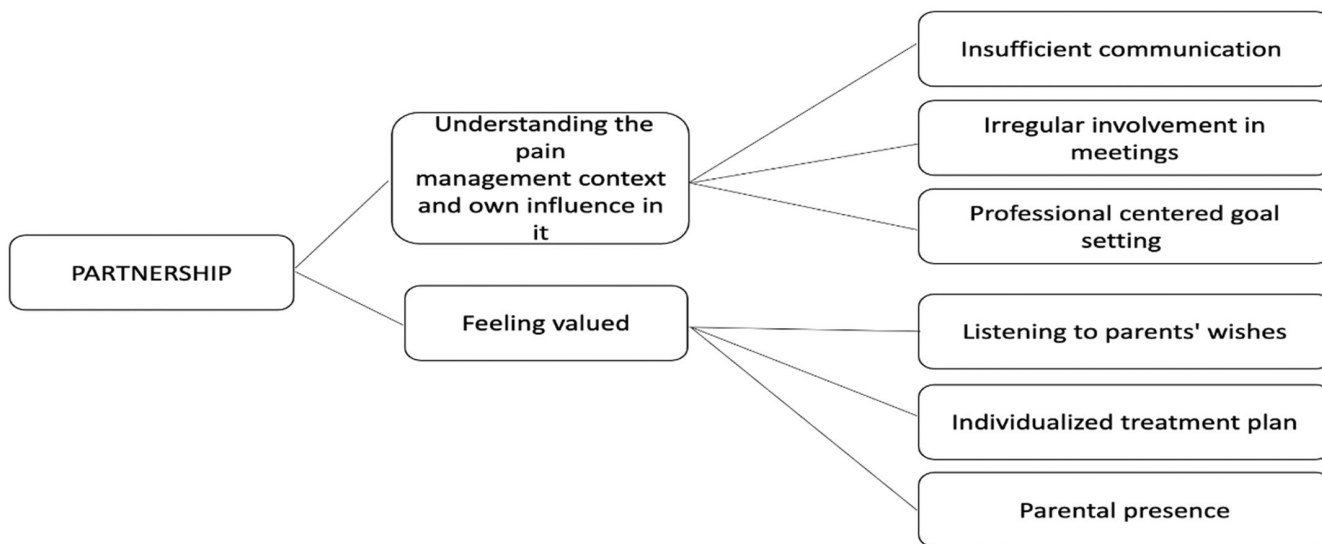


FIGURE 2 The parents' experiences of partnership in neonatal pain management at the neonatal intensive care unit.

to parents. Some of the parents expressed that pain relief was not discussed with them, or that they did not remember having such a conversation.

It [communication] was increasingly involved in the day-to-day work, but it came in such pieces.

[Interview 4]

I do not remember that it had been specifically talked about or that we had a pain relief discussion.

[Interview 1]

The participating parents reported varying experiences of going through, and updating, the treatment plan. Most of the parents shared that there was irregular involvement in meetings to discuss the treatment and pain management of the infant; some parents reported having this kind of discussion weekly, while others had hoped for individual meetings whenever there was the need for one. The parents with children who required hospital treatment even after the mother had been discharged from the hospital hoped that doctor would be present when they went to the NICU. According to the interviewed parents, the mother's role was emphasised in pain management discussions, while the father's role in pain management was not considered.

They do not really sit down with us at any point and go through the treatment plan.

[Interview 4]

Since I do not get to visit the NICU many times, let us make an appointment so that the doctor will be there to tell you the important information right away.

[Interview 8]

The woman is asked everything, and the man knows absolutely nothing.

[Interview 12]

The participants reported that there was minimal parental presence when setting goals for pain management, as there was rarely a scheduled meeting at which health care professionals and the infant's parents were both present. The participating parents felt that acute situations and urgency influenced the flow of these conversations. As such, the care goals were set somewhere else, between professionals, and not often with parents. The general perception was that at least the doctor participated in setting the goals of pain management, or that all of the professionals gathered in specific meetings. A professional's competence in managing a situation strengthened the experience of confidence. The participating parents shared that they were more content with nurses who were already familiar with the infant that participated in these conversations.

There was a paediatrician and obviously nurses. But not us, the parents. We have not been included in it like that.

[Interview 8]

Either me or my spouse, whichever one of us was there, and then the nurses on shift and then the

doctor in charge of treatment [were involved in setting pain management goals].

[Interview 4]

3.1.2 | Feeling valued

This main category included various subcategories, namely, listening to parents' wishes, providing an individualised treatment plan and parental presence.

The parents shared that listening to parents' wishes was a crucial factor in satisfactory pain management; this factor comprises being asked for opinions as well as being guided and encouraged to participate. Freedom to choose was described as parents having an opinion about how much, and in which way, they wanted to participate. Unfortunately, some parents shared experiences in which they were asked not to take part in the neonatal pain management. Some parents felt that they were excluded or ignored. Others suggested that they could not take part because critical intensive care was a priority. As such, there was noticeable variety in the parent's role; several parents felt that they had a passive role, or no role at all, in their infant's pain management. These discrepancies in perceived role, and degree of involvement, could partly be attributed to parents' understanding of intensive care. For instance, there may be situations when—due to an emergency—there is no room for discussion or consideration from parents. The participating parents did mention that stabilising the critical condition of an infant is always a priority.

We were not even asked “do you want to be involved in such a procedure”.

[Interview 11]

We were also offered the option of whether you want to participate or not, which left us with the opportunity to participate as much as we felt was possible.

[Interview 5]

For me, it was just that I was present.

[Interview 3]

When asked about individualised treatment plans for the infant, parents felt that their proposals were usually accepted. However, the parents shared that they were in an unfamiliar situation, with most parents also feeling that they now had a new role as parents. Therefore, finding a role in the interprofessional team was challenging for parents, many of whom shared that they had low levels of both parenting and pain management skills.

They [the professionals] gave me a chance, but I had nothing to say.

[Interview 4]

I was such a novice. I knew nothing. I took everything [that was recommended].

[Interview 2]

Parents' presence in planning the pain management depended on how the interprofessional team functioned. The participating parents shared that they had a sense of equality when a parent's participation in care was encouraged, or when they did not have to clearly ask about participation. However, the parents also found it challenging to participate in painful situations because they had low levels of competence and knowledge in pain management. In some cases, painful procedures were performed by professionals when the parent was not present. When parents were asked to leave the room during a painful procedure, they felt that their role as parents was being taken away.

I do not really know how to describe it—do I blame myself or them, but somehow, at least the situation wasn't such that it made me feel as I was welcome to "lend a helping hand".

[Interview 2]

3.2 | Cooperation

The parents' experiences of cooperation included descriptions of (1) identifying different roles and (2) feelings of equality (Figure 3).

3.2.1 | Identifying different roles

This main category consisted of the following subcategories: respect and trust; lack of fluency when giving feedback; and alternative ways of working.

Smooth interactions within the interprofessional team, as well as listening to the opinions and input of all team members (both professionals and parents), increased the parents' confidence and trust. Open and honest communication laid the foundation for cooperation in pain management. The participating parents were satisfied with how decisions to use medicine for pain management were communicated. Some parents shared that they trusted the skills of professionals and therefore did not question their decisions. Although the parents recognised the authority of health care professionals, they felt that it was good that the doctor did not overemphasise his/her own role. The participants also emphasised the importance of positive encounters and personal contact.

We were clearly told which medicine was given and when it was given, and "if necessary, we would give more", in this way the medication information was communicated well.

[Interview 7]

There was a certain kind of personal chemistry and a similar style of facing things and explaining them to me [clearly and comprehensibly].

[Interview 1]

Any positive feedback given by the doctor and/or other health care professionals was seen as constructive in terms of decision-making and sharing responsibility. Nevertheless, the parents shared certain experiences of conflict situations during which the professional left the care situation or did not come to check on the infant on subsequent days. Moreover, sometimes the parents did not receive feedback, or it was given in a way that seemed like instructions. The parents shared that receiving any type of feedback, whether positive or negative, was meaningful. The parents

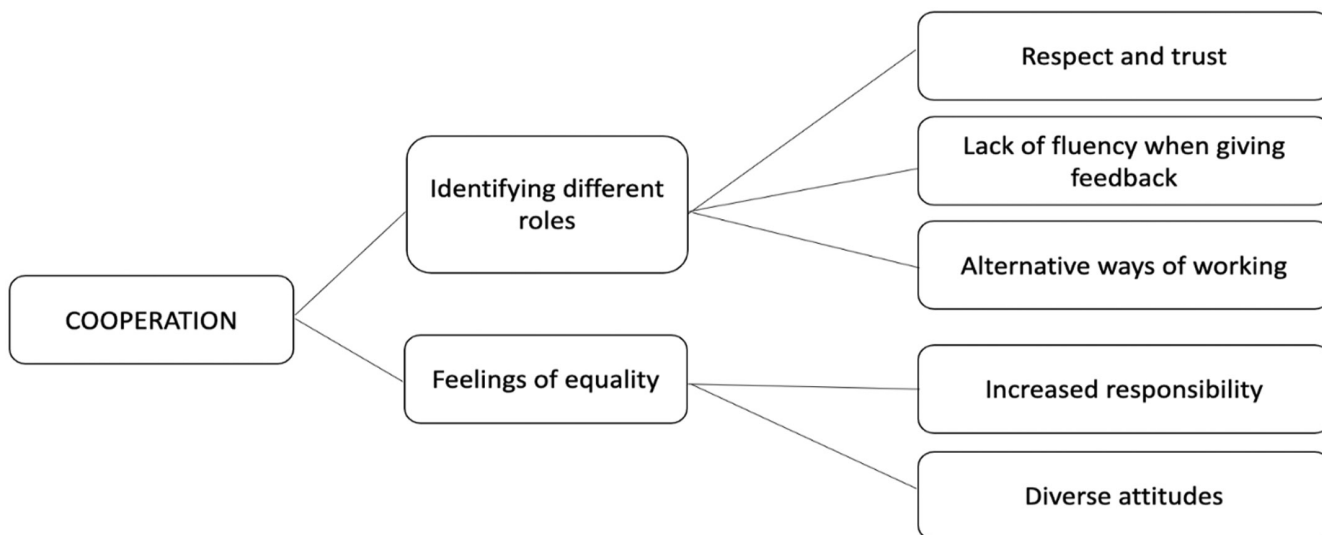


FIGURE 3 The parents' experiences with cooperation in neonatal pain management at neonatal intensive care unit.

also stressed the importance of a health care professionals' willingness to listen to the parents to find a mutually satisfactory course of action.

After that [unfortunate situation], she/he was no longer our caregiver.

[Interview 8]

Maybe at most we [the parents] were given instructions, but no feedback.

[Interview 3]

The parents felt that a professional's attitude was an important part of pain management. For instance, the parents shared that they became confused when some of the professionals in the IPC team acted differently or gave different advice. Nevertheless, the parents who had previous NICU experience felt that different advice could reflect diverse ways of acting in the same situation, with both approaches being equally good. When discussing conflict situations, the parents emphasised that understanding the purpose of what was happening is important to them. Some parents shared that misunderstandings were not resolved; parents also felt frustrated when the staff changed and gave the impression that they knew the best course of action.

We thought that we could somehow change his [the baby's] position a little, raise his head. The nurse then came to dictate how to do these things "here with us, here at NICU".

[Interview 15]

3.2.2 | Feelings of equality

This main category comprised the subcategories (1) increased responsibility and (2) diverse attitudes.

The participating parents shared that they were satisfied whenever they could get involved in painful situations as a team member, for example, by preparing for a blood sample by warming up the injection site. Parents appreciated clear guidance and encouragement in these situations. The parents perceived the role of pain reliever as important; however, the parents felt that a passive role may be more natural in some situations that were painful for the infant. The professionals listened to, and respected, parents' wishes to have space and just be a parent, that is, not be involved in pain management. The new role of the parent in the context of pain management was found to be challenging, with the participants sharing that it took time to grow into this role. Nevertheless, the parents stress that they felt as though they have the best understanding of their infant. Parents felt that, over time, adopting the parent role in the IPC team allowed them to take on more responsibility for their infant's pain management. However, the main

responsibility for pain management and decision-making lay with professionals, especially doctors.

As the knowledge increased and the mind adapted to the situation, we were given more and more of those things [responsibilities].

[Interview 16]

The parents identified various modes of action among the IPC professionals, with empathic, receptive and inclusive attitudes being perceived as positive and empowering by the parents. Direct action without foresight and an authoritarian manner of work were perceived as the most challenging modes of action. Parents understood that even professionals have different personalities; nevertheless, certain pain management situations were perceived as challenging due to the behaviour and attitudes of professional. Hence, the parents felt powerless whenever there was a situation in which they could have planned the approach together with professionals, but did not and instead saw their infant in pain.

If a nurse is used to removing tape from a baby's face and does it terribly violently in front of the parents. That kind of thing makes you feel sad and then you say "hey, you can't hurt our baby like that".

[Interview 8]

3.3 | Coordination

Parents' experiences of coordination consisted of knowledge sharing, skills and expertise, along with feeling supported (Figure 4).

3.3.1 | Knowledge sharing, skills, and expertise

This main category consisted of three subcategories, namely, (1) pain assessment and management, (2) openness to guidance and (3) common and clear goals.

The participating parents felt that their infants' pain was treated in a routine manner. Parents with prior experience in the NICU felt that critical medical care was correctly prioritised. Parents felt that all the professionals had a clear role and area of responsibility, which was based on the hierarchy of the health care organisation. The nurse and the parent could sometimes have a joint role in pain management, but in acute situations the parent was left without a role.

They [professionals] probably have a certain routine for pain management that everyone follows.

[Interview 13]

The parents valued the professionals' expertise and knowledge. Moreover, parents were open to guidance on pain management

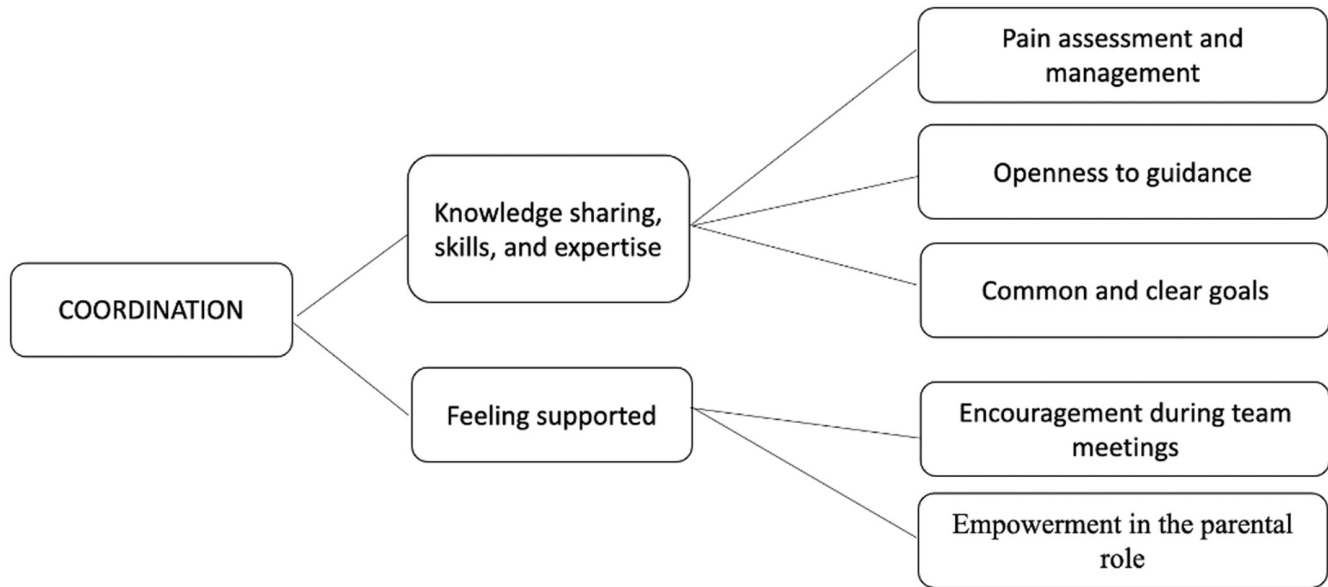


FIGURE 4 Parents' experiences of coordination during neonatal pain management at the neonatal intensive care unit.

because they recognised this, as necessary. They recognised that their role as experts was minor and they needed encouragement. The parents shared that even if they received guidance on how to interpret an infant's pain, they still needed guidance on pain assessment and different non-pharmacological pain relief methods. The parents stated that although each professional group has a certain area of expertise and skills, these groups varied in the ability to share information in relation to pain management.

Suddenly they said, "take your hand away, don't touch, the baby is in so much pain". It made me feel freaked out. It left a strong impression on me. After this, there was no explanation what that changing factor was.

[Interview 9]

The parents shared a lack of common and clear goals in pain relief, especially when the treatment plan remained unclear. Some parents felt that there was no treatment plan at all. However, the parents experienced that the professionals showed consistent work actions, for example, during blood sampling. More specifically, the parents shared that the infant was always offered either glucose or milk before the blood sample was taken.

I wished that the baby would be in as little pain as possible, but there was no such clear goal.

[Interview 9]

It came in a flash. The glucose was always given when the blood sample was clicked.

[Interview 2]

3.3.2 | Feeling supported

This main category consisted of the subcategories (1) encouragement during team meetings and (2) empowerment in the parental role.

There were differences in parents' experiences. Some experienced equality within the IPC team, while others felt that they were not encouraged to share their opinions about pain management during team meetings. Regardless of the extent to which parents participated in discussions related to pain management, the participants felt that the doctor's actions were important. Feeling supported also depended on parents' previous experiences, as parents who had previous NICU experience were more confident in voicing their opinions during the doctor's rounds.

I was encouraged (on a general level) to talk, but very little in relation to the pain.

[Interview 7]

When we were there and talked about things related to pain, we talked as a group, not just a doctor and a nurse talking to each other, but always together.

[Interview 15]

Satisfaction with empowerment in the role of a parent depended on whether there was time set aside for mutual discussion, and how the parents were met in these situations. The parents reflected on their own role as a novice and found it empowering that they could participate in team meetings with the goal of asking relevant questions. Understanding infant care was central to being able to participate in discussions about pain management during doctor's rounds.

However, some parents reported that they felt overwhelmed with the sheer amount of information that they received in a short amount of time. The parents did not feel that participation in discussions was challenging because of a lack of opportunity, but rather because it was difficult to fully understand pain management.

The information just came, and then when you try to internalise it you cannot really grasp anything. It was perhaps a bit too fast.

[Interview 8]

When you do not necessarily know how to ask the right questions, then you do not know how to accept it [information].

[Interview 1]

4 | DISCUSSION

This study provides new insight about the role of parents in IPC during neonatal pain management. The results describe Finnish parents' experiences of several themes related to IPC in neonatal pain management. The results show that parents had different experience of IPC, for example, how their concerns and opinions were considered as well as how they were guided in the assessment and treatment of their infant's pain. The participating parents had similar experiences of the non-pharmacological pain relief provided by professionals, such as giving milk or glucose drops prior to blood sampling.

According to Orchard et al. (2012), IPC involves partnership, cooperation and coordination, along with the ability and willingness to share knowledge and skills. We applied this definition in the current study of parents' perspectives of IPC in neonatal pain management. The results of our study revealed that parents, who had been admitted to five different university hospitals, had varying experiences in all of these aspects. We feel that these results justify the statement that current neonatal pain management falls below parents' expectations.

The results identified several parts of care in which parents could have been taken into account better; for instance, aiming to treat neonatal pain in a timely and appropriate manner, which would be in accordance with IPC principles. Parents reflected on their role and competence in relation to professionals, and identified both positive aspects, and challenging issues. When discussing experiences with pain management, the parents talked about professionals mostly as one group, rather than dividing the professionals into designated professional groups. Although the parents were aware of the nurse's, bio-analyst's and doctor's role(s), they still had varying experiences. The parents' experiences with partnership, cooperation and coordination during the care process illustrated that it is demanding for professionals to integrate parents into neonatal pain management at the NICU.

Our results concerning partnership highlighted parents' need to understand the pain management context and how they can influence the process. According to our results, understanding the context gave parents the opportunity to participate as well as influence the planning and implementation of pain management. Parents have the right to participate in the care of their infant based on the principles of timely and adequate pain treatment and the avoidance of under- and over-treatment. Pain management also provides an opportunity to do this. In a study of parents' and nurses' experiences of partnership in NICUs, Brødsgaard et al. (2019) concluded that the co-creation of knowledge, development of competencies and negotiation of roles can create a successful parent-nurse relationship. Our finding about the importance of feeling valued in a team is not new. This result is similar to what has been reported in several other studies (Ferreira et al., 2021; Marfurt-Russenberger et al., 2016; McNair et al., 2020) of family-centered care, as parents have previously highlighted a need to be valued and listened to when their infant is being treated.

In our study, cooperation described instances in which parents experienced the right kind of encounter and were both able to give and receive feedback. Parents' experiences with IPC in the context of neonatal pain management has not previously been studied, so our results cannot be directly compared to prior evidence. However, Brødsgaard et al. (2019) previously stated that NICU nurses are in a position where they exercise power. Nurses can change the culture in the NICU if they are aware of what facilitates, or creates barriers, to cooperation with parents. Health care organisations, which have a hierarchical organisational culture, should always focus on equal treatment and smooth feedback. The results of our study highlight the need for cultural change. Studies on parental involvement in neonatal pain management (Balice-Bourgeois et al., 2020) and strengthening the role of parents (Axelin et al., 2015; Ferreira et al., 2021; Marfurt-Russenberger et al., 2016; McNair et al., 2020) support our findings regarding professionals' abilities and willingness to share knowledge and skills in relation to pain management. This shows just how long it takes to change clinical practices. It is well established that the implementation of new clinical care models is time-consuming; this is also the case in neonatal pain management. Roofthoof et al. (2014) already opened the discussion on this topic years ago by asking how long it takes to implement new working practices.

In this study, parents' experiences with coordination raised concerns about the lack of common and clear goals in pain management, which can be explained by an insufficient understanding of the pain management context. Parents expressed an openness towards guidance and wondered why they were not informed about certain aspects of care, for example, pain assessments and the possibility of non-pharmacological pain management in different pain-causing situations. Most wards have agreed to use certain pain assessment measures. The most common evidence-based non-pharmacological pain relief method as non-nutritive sucking coupled with glucose (Koukou et al., 2022; Ullsten et al., 2021) is also known, and parents described professionals using it. In the future, it would be important

for health professionals to recognise these situations, where parents can be involved in both the assessment of pain and its treatment with non-pharmacological methods. Parents accept that there are situations where pain can be treated either with a combination of non-pharmacological methods and medication or with medication alone, but even then, clear communication and collaboration is important. With increasing attention being paid to the consequences of overtreatment of pain with medication, it is also important for all professionals involved in the care of infant to be aware of non-pharmacological pain relief methods (Bucsea & Pillai Riddell, 2019; Eccleston et al., 2020). The lack of guidance experienced by parents may be explained by insufficient knowledge-sharing methods in clinical care (Bucsea & Pillai Riddell, 2019). In our study, parents felt supported during the doctor's rounds, but only when discussing an infant's care. When the topic shifted to pain management, the parents felt as outsiders. Experiences of inequality relative to pain management have been previously reported. A number of recent studies from different scientific disciplines show that it is highly challenging for parents to experience equality in the context of neonatal pain management (Eccleston et al., 2020; Ferreira et al., 2021; McNair et al., 2020). A Finnish study concerning parents' participation in decision-making during medical rounds in NICUs highlighted that—in some cases—parents' observations and preferences had minimal to no influence on communication or decision-making (Axelin et al., 2018). All the different patterns described in their study were also shown in the results of the present study and reflect the variability of clinical practices across different hospitals. The study by Axelin et al. (2018) also revealed that this variation in practices is related to infant and parental well-being, along with environmental factors.

Parental involvement is central to all phases of pain management, from planning to action (Mäki-Asiala et al., 2022) and should become a goal of IPC in neonatal pain management. However, it should be noted that the lack of common training for different professionals within the IPC team can lead to a clear lack of parental decision-making about their infants. Furthermore, the power imbalance between health care professionals and an infant's parents frequently excludes parents from planning, implementing and evaluating their infant's care (Orchard et al., 2005). A national guideline could be one way to influence the unification of neonatal pain management, but there is also a need for pain management training which would involve all of the professionals that treat infants (Balice-Bourgeois et al., 2020; Mäki-Asiala et al., 2022).

4.1 | Study limitations and strengths

The trustworthiness of this qualitative study can be judged by assessing the following elements: credibility; dependability; confirmability and transferability (Lincoln & Guba, 1985). It is important to note that all of the authors have been key in extending knowledge of neonatal pain management. The first author had extended knowledge of IPC and Newborn Individualised Developmental Care

and Assessment Program (NIDCAP) (Westrup, 2007) approach from an international context, while other co-authors were more familiar with family-centered care approach. Diverse backgrounds in the research team can strengthen the credibility of a study. To enhance credibility and avoid researcher bias, the second and third co-authors—who had less knowledge of IPC—were involved in data analysis and were able to ask valuable questions to discuss and clarify study findings. Moreover, two of the three authors were very experienced with qualitative research methodologies.

To ensure dependability, the first author conducted all of the interviews, which employed the exact same interview guide, within a three-month timeframe. To enhance confirmability, we have presented participants' quotations to support the study findings. The study involved participants from different university hospitals, which have different practices for parental involvement in pain management; this strengthened the transferability of the results. In addition, we have presented the research results as accurately as possible, so that readers can decide on the transferability of the results to a specific context.

5 | CONCLUSIONS

Fully understanding the context and sharing information smoothly increases the sense of equality among parents and helps them feel valued and be seen as a resource. The realisation of IPC requires that both the infant's parents and professionals share a clear common goal and know how to assess and treat the infant's pain in a suitable manner. This means that both professional expertise and the parents' knowledge should be shared throughout pain management, from planning to implementation, to find the optimal pain treatment approach. The prerequisite for this type of situation is that everyone is familiar with evidence-based pain assessment and non-pharmacological pain relief methods.

5.1 | RELEVANCE TO CLINICAL PRACTICE

The possible negative consequences of the over- and under-treatment of pain among infants could be avoided if neonatal pain management is goal-oriented and involves successful IPC. In the context of neonatal pain management, IPC should include all of those involved in the infant's care as equal members. Concerning the aspect of partnership, communication about pain management should support parents' involvement in pain management and decision-making. This should be based on a genuine appreciation of the parents' views. Regarding cooperation, care should involve open and mutually respectful communication, with parents able to receive and give feedback. Working through conflicts and misunderstandings would reinforce a sense of equality and help parents embrace their role in pain treatment. The coordination of care is based on knowledge of the context. As such, professionals should set aside time to listen to parents, who should be supported in participating

in discussions, such as the doctor's rounds, and in guiding pain assessment and non-pharmacological pain management. Over time, parents will become the best judge of their child's feelings and could share this important knowledge. Fourth, professionals should keep in mind that they can reduce the burden of clinical work by considering parents as a resource. Pain management is an area in which parents can actively participate. Finally, special attention should be paid to interventions that promote IPC in the context of pain management. Both parents and professionals could benefit from training focused on pain assessment and relevant treatments in different NICU situations.

AUTHOR CONTRIBUTIONS

Critical contributions to the study design: Mariaana Mäki-Asiala, Anna Axelin and Tarja Pölkki; Substantial contribution to project coordination, data acquisition and analysis: Mariaana Mäki-Asiala; Drafting the manuscript: Mariaana Mäki-Asiala; Final categories, codes and interpretations, critical revision of the manuscript for important intellectual content, contribution to edit the manuscript, publication of final approval of the version and full access to the data: All authors; Takes full responsibility for the integrity of the data and the accuracy of the data analysis: First author.

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CONFLICT OF INTEREST STATEMENT

The authors declare no potential conflicts of interests.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

ETHICS STATEMENT

The first author's organisation had finalised a cooperation agreement on participant recruitment with the national association for premature infants before the research began. The study received ethics approval from The Ethics Committee of Human Sciences of University of Oulu (20.04.2022).

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REFERENCES

Axelin, A., Anderzén-Carlsson, A., Eriksson, M., Pölkki, T., Korhonen, A., & Franck, L. (2015). Neonatal intensive care nurses' perceptions

of parental participation in infant pain management: A comparative focus group study. *The Journal of Perinatal & Neonatal Nursing*, 29(4), 363–374. <https://doi.org/10.1097/JPN.000000000000136>

- Axelin, A., Outinen, J., Lainema, K., Lehtonen, L., & Franck, L. S. (2018). Neonatologists can impede or support parents' participation in decision-making during medical rounds in neonatal intensive care units. *Acta Paediatrica*, 107(12), 2100–2108. <https://doi.org/10.1111/apa.14386>
- Balice-Bourgeois, C., Zumstein-Shaha, M., Simonetti, G. D., & Newman, C. J. (2020). Interprofessional collaboration and involvement of parents in the management of painful procedures in newborns. *Frontiers in Pediatrics*, 8, 394. <https://doi.org/10.3389/fped.2020.00394>
- Brødsgaard, A., Pedersen, J. T., Larsen, P., & Weis, J. (2019). Parents' and nurses' experiences of partnership in neonatal intensive care units: A qualitative review and meta-synthesis. *Journal of Clinical Nursing*, 28(17–18), 3117–3139. <https://doi.org/10.1111/jocn.14920>
- Bucea, O., & Pillai Riddell, R. (2019). Non-pharmacological pain management in the neonatal intensive care unit: Managing neonatal pain without drugs. *Seminars in Fetal & Neonatal Medicine*, 24(4), 101017. <https://doi.org/10.1016/j.siny.2019.05.009>
- Eccleston, C., Fisher, E., Howard, R. F., Slater, R., Forgeron, P., Palermo, T. M., Anderson, B. J., Chambers, C. T., Crombez, G., Ljungman, G., Jordan, I., Jordan, Z., Roberts, C., Schechter, N., Sieberg, C. B., Tibboel, D., Walker, S. M., Wilkinson, D., & Wood, C. (2020). Delivering transformative action in paediatric pain: A Lancet Child & Adolescent Health Commission. *The Lancet Child Adolescent Health*, 5, 47–87. [https://doi.org/10.1016/S2352-4642\(20\)30277-7](https://doi.org/10.1016/S2352-4642(20)30277-7)
- Elo, S., Kääriäinen, M., Kanste, O., Pölkki, T., Utriainen, K., & Kyngäs, H. (2014). Qualitative content analysis: A focus on trustworthiness. *SAGE Open*, 4(1), 2158244014522633.
- Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing*, 62(1), 107–115. <https://doi.org/10.1111/j.1365-2648.2007.04569.x>
- Ferreira, A., Ferretti, E., Curtis, K., Joly, C., Sivanthan, M., Major, N., & Daboval, T. (2021). Parents' views to strengthen partnerships in newborn intensive care. *Frontiers in Pediatrics*, 9, 721835. <https://doi.org/10.3389/fped.2021.721835>
- General Data Protection Regulation (EU 2016/679) of the European Parliament and of the Council. Advance online publication. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02016R0679-20160504>. (Last accessed 11/29/2021).
- Koukou, Z., Theodoridou, A., Taousani, E., Antonakou, A., Panteris, E., Papadopoulou, S.-S., Skordou, A., & Sifakis, S. (2022). Effectiveness of non-pharmacological methods, such as breastfeeding, to mitigate pain in NICU infants. *Children*, 9(10), 1568. <https://doi.org/10.3390/children9101568>
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry* (pp. 289–331). SAGE. [https://doi.org/10.1016/0147-1767\(85\)90062-8](https://doi.org/10.1016/0147-1767(85)90062-8)
- Mäki-Asiala, M., Kaakinen, P., & Pölkki, T. (2022). Interprofessional collaboration in the context of neonates' pain management: A cross-sectional survey. *Pain Management Nursing*, 23(4). <https://doi.org/10.1016/j.pmn.2022.08.006>
- Marfurt-Russenberger, K., Axelin, A., Kesselring, A., Franck, L. S., & Cignacco, E. (2016). The experiences of professionals regarding involvement of parents in neonatal pain management. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, 45(5), 671–683.
- McNair, C., Chinia, N., Shah, V., McAllister, M., Franck, L. S., Stevens, B., Burry, L., & Taddio, A. (2020). Metasynthesis of factors that influence parents' participation in pain management for their infants in the NICU. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, 49(3), 263–271. <https://doi.org/10.1016/j.jogn.2020.02.007>
- Olmos-Vega, F., Stalmeijer, R. E., Varpio, L., & Kahlke, R. (2023). A practical guide to reflexivity in qualitative research: AMEE guide

- No. 149. *Medical Teacher*, 45(3). <https://doi.org/10.1080/0142159X.2022.2057287>
- Orchard, C. A., Curran, V., & Kabene, S. (2005). Creating a culture for interdisciplinary collaborative professional practice. *Medical Education Online*, 10(1), 4387. <https://doi.org/10.3402/meo.v10i.4387>
- Orchard, C. A., King, G. A., Khalili, H., & Bezzina, M. B. (2012). Assessment of Interprofessional team collaboration scale (AITCS): Development and testing of the instrument. *Journal of Continuing Education in Health Professions*, 32(1), 58–67. <https://doi.org/10.1002/chp.21123>
- Perry, M., Tan, Z., Weiding, T., Xu, W., & Cong, X. S. (2018). Neonatal pain: Perceptions and current practice. *Critical Care Nursing Clinics of North America*, 30(4), 549–561. <https://doi.org/10.1016/j.cnc.2018.07.013>
- Pillai Riddell, R. R., Racine, M. N., Gennis, H. G., Turcotte, K., Uman, L. S., Horton, R. E., Kohut, S. A., Hillgrove Stuart, J., Stevens, B., & Lisi, D. M. (2015). Non-pharmacological management of infant and young child procedural pain. *Cochrane Database of Systematic Reviews*, 2017, CD006275. <https://doi.org/10.1002/14651858.CD006275.pub3>
- Pölkki, T., Korhonen, A., & Laukkala, H. (2018). Nurses' perceptions of pain assessment and management practices in neonates: A cross-sectional survey. *Scandinavian Journal of Caring Sciences*, 32(2), 725–733. <https://doi.org/10.1111/scs.12503>
- Prentice, D., Jung, B., Taplya, K., Stobbe, K., & Hildebrand, L. (2016). Staff perceptions of collaboration on a new interprofessional unit using the Assessment of Interprofessional Team Collaboration Scale (AITCS). *Journal of Interprofessional Care*, 30(6), 823–825.
- Roofthoof, D. W., Simons, S. H., Anand, K. J. S., Tibboel, D., & van Dijk, M. (2014). Eight years later, are we still hurting newborn infants? *Neonatology*, 105(3), 218–226. <https://doi.org/10.1159/000357207>
- Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups. *International Journal of Quality Health Care*, 19(6), 349–357. <https://doi.org/10.1093/intqhc/mzm042>
- Ullsten, A., Andreasson, M., & Eriksson, M. (2021). State of the art in parent-delivered pain-relieving interventions in neonatal care: A scoping review. *Frontiers in Pediatrics*, 9. <https://doi.org/10.3389/fped.2021.651846>
- Vinall, J., & Grunau, R. E. (2014). Impact of repeated procedural pain-related stress in infants born very preterm. *Pediatric Research*, 75(5), 584–587. <https://doi.org/10.1038/pr.2014.16>
- Walker, S. M. (2019). Long-term effects of neonatal pain. *Seminars in Fetal and Neonatal Medicine*, 24(4), 101005. <https://doi.org/10.1016/j.siny.2019.04.005>
- Walter-Nicolet, E., Calvel, L., Gazzo, G., Poisbeau, P., & Kuhn, P. (2017). Neonatal pain, still searching for the optimal approach. *Current Pharmaceutical Design*, 38(23), 5861–5878. <https://doi.org/10.2174/1381612823666171017164957>
- Westrup, B. (2007). Newborn individualized developmental care and assessment program (NIDCAP)—Family-centered developmentally supportive care. *Early Human Development*, 83(7), 443–449. <https://doi.org/10.1016/j.earlhumdev.2007.03.006>
- Willis, D. G., Sullivan-Bolyai, S., Knafl, K., & Cohen, M. Z. (2016). Distinguishing features and similarities between descriptive phenomenological and qualitative description research. *Western Journal of Nursing Research*, 38(9), 1185–1204.
- World Health Organization. (2010). Framework for Action on Interprofessional Education & Collaborative Practice. Advance online publication. https://apps.who.int/iris/bitstream/handle/10665/70185/WHO_HRH_HPN_10.3_eng.pdf?sequence=1. (Last accessed 12/08/2022)
- World Medical Association. (2018). Declaration of Helsinki-Ethical Principles for Medical Research Involving Human Subjects. Advance online publication. <https://www.wma.net/policies-post/wma-declaration-of-helsinki-ethical-principles-for-medical-research-involving-human-subjects/> (Last accessed 12/08/2022)
- Zengin, H., Suzan, O. K., Hur, G., Kolukisa, T., Eroglu, A., & Cinar, N. (2023). The effects of kangaroo mother care on physiological parameters of premature neonates in neonatal intensive care unit: A systematic review. *Journal of Pediatric Nursing*, 50882–5963(23), e18–e27. <https://doi.org/10.1016/j.pedn.2023.04.010>

SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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