



“WE do it together!” An Ethnographic Study of the Alliance Between Child and Hospital Clown During Venipunctures

Helle Nygaard Kristensen, PhD Student^{a,b,c,*}, Erik Elgaard Sørensen, PhD^{b,c}, Jennifer Stinson, PhD^{d,e}, Helle Haslund Thomsen, PhD^{b,c,f}

^a Department of Pediatrics, Aalborg University Hospital, Aalborg, Denmark

^b Clinical Nursing Research Unit, Aalborg University Hospital, Denmark

^c Department of Clinical Medicine, Aalborg University, Denmark

^d Lawrence S. Bloomberg Faculty of Nursing, University of Toronto, Ontario, Canada

^e Child Health Evaluative Sciences, Research Institute, The Hospital for Sick Children, Toronto, Ontario, Canada

^f Clinic for Anesthesiology, Child Diseases, Circulation, and Women, Aalborg University Hospital, Denmark

ARTICLE INFO

Article history:

Received 1 August 2018

Revised 13 March 2019

Accepted 18 March 2019

Keywords:

Children

Hospital clown

Venipuncture

Painful procedures

Children's experience

ABSTRACT

Purpose: Hospital clowns are widely used as a means of non-pharmacological intervention in the treatment of hospitalized children. However, little research has examined the impact of clowns on common painful needle-related procedures. This study explored children's pain experience and their ability to cope during a venipuncture while interacting with a clown in the acute admission unit.

Design and methods: An ethnographic fieldwork study was conducted. Data were collected over a 10-month period through participant observation and informal interviews, supplemented by video recordings. The participants comprised 38 acutely admitted children aged 4 to 15 years undergoing a venipuncture in the presence of a hospital clown. Analysis was structured in three stages: before venipuncture; during venipuncture; and after venipuncture.

Results: The development of a responsive interaction between child and clown, identified as a WE, was found to be beneficial to the child during venipuncture procedure. The WE was characterized by three themes “How do WE do this together?”; “WE are together”; and “I/WE did it!”

Conclusions: The study emphasizes the importance of a WE established between child and hospital clown from the first encounter until a final evaluation. This WE was verbalized repeatedly by the clown and the child and was essential in shaping a tailored approach which met the needs of each child. This approach seemed to strengthen the child's competence in pain management and ability to cope, thus building competence for future venipunctures.

Practice implications: Establishing a WE might advance the psychosocial care of hospitalized children undergoing acute painful procedures.

© 2019 Elsevier Inc. All rights reserved.

Background

Despite improvements in the management of pain in hospitalized children, children continue to report undertreated pain, which suggests a lack of adequate pain intervention (Birnie et al., 2014; Friedrichsdorf et al., 2015; Harrison et al., 2014; Kozłowski et al., 2014; Walther-Larsen et al., 2017). Specifically, acute procedural pain is a common experience for hospitalized children, and surveys (Friedrichsdorf et al., 2015; Walther-Larsen et al., 2017) have shown that children often describe the “worst pain” to be that caused by needle-related procedures.

In addition, children with previous negative experiences are at risk of increased levels of anxiety and distress, decreased pain thresholds, and psychological consequences which can affect subsequent procedures (McMurtry et al., 2015; Noel et al., 2012; Stinson, Yamada, Dickson, Lamba, & Stevens, 2008).

Clinical practice guidelines (Association of Pediatric Anesthesia, 2012; The Center of Clinical Guidelines, 2016) recommend the inclusion of both pharmacological and non-pharmacological strategies in pain management for medical procedures. Reviews also support various non-pharmacological psychological strategies, such as distraction, to draw the child's attention away from the pain stimuli and thereby help hospitalized children cope during needle-related procedures (Koller & Goldman, 2012; Stinson et al., 2008; Uman, Chambers, McGrath, & Kisely, 2008). Despite the evidence that these non-

* Corresponding author.

E-mail addresses: hnk@rn.dk (H.N. Kristensen), ees@rn.dk (E.E. Sørensen), jennifer.stinson@sickkids.ca (J. Stinson), hht@rn.dk (H.H. Thomsen).

pharmacological strategies are beneficial, they have not been commonly used in Danish hospital settings (Walther-Larsen et al., 2017). Moreover, Koller and Goldman (2012) recommend acknowledging the preferences of individual children in the choice of non-pharmacological strategies to achieve the best pain management.

Over the last decade, hospital clowns (referred to as “clowns”) have become a more common part of pediatric settings throughout the world (Koller & Gryski, 2008; van Venrooij & Barnhoorn, 2017). Clowns have been regarded as participants in a non-pharmacological supportive strategy (Barkmann, Siem, Wessolowski, & Schulte-Markwort, 2013; Dionigi, Sangiorgi, & Flangini, 2013; Kingsnorth, Blain, & McKeever, 2011; Koller & Gryski, 2008), who use cognitive distraction, humor, and imagery to shift attention away from pain or distress and thereby encourage the child to cope (Barkmann et al., 2013; Linge, 2012; Linge, 2013; Wolyniez et al., 2013).

A number of randomized controlled studies (Felluga et al., 2016; Fernandes & Arriaga, 2010; Meiri, Ankri, Hamad-Saied, Konopnicki, & Pillar, 2016; Wolyniez et al., 2013) and one meta-analysis (Sridharan & Sivaramkrishnan, 2016) have examined the interaction of clowns with children undergoing invasive procedures. Sridharan and Sivaramkrishnan (2016) showed that an intervention by a clown led to a significant decrease in stress and anxiety but had no beneficial effects on pain. Nevertheless, a prospective, non-blinded trial by Kristensen, Lundbye-Christensen, Haslund-Thomsen, Graven-Nielsen, and Elgaard Sorensen (2018) showed that the involvement of a clown significantly decreased pain during acute venipunctures for hospitalized children aged 7 to 15 years. Koller and Gryski (2008) described in a review of how therapeutic clowning can provide a complementary form of health care. Based on interviews with 9 children, Linge (2012) described a theoretical understanding of the therapeutic relation between sick children and clowns, with a focus on the perspective of the child.

However, clowns are often used in the context of entertainment, based on the assumption that humor is associated with the increased well-being of the child (Dionigi et al., 2013; Hansen, Kibaek, Martinussen, Kragh, & Hejl, 2011). Clowns are not routinely used during painful procedures (Barkmann et al., 2013), and there is a lack of clinical standardization regarding hospitalized children's interaction with clowns in the context of medical treatment and care (Koller & Gryski, 2008; Linge, 2012). Thus, little is known about these interactions. Therefore, the aim of the present study was to explore what characterizes the interaction between child and clown, and how this interaction influences the child's experience of pain and his or her ability to cope during the venipuncture procedure.

Methods

Ethical considerations

The study was approved by the pediatric administration of two university hospitals in the northern and middle regions of Denmark and by the Danish Data Protection Agency. According to Danish law, the study did not require approval from the local ethics committee. Either the researcher or the attendant nurse provided both children and parents with written and oral information. All children and their parents willingly participated. Data collection took place from April 2016 to January 2017.

Study design

The study used an exploratory qualitative approach guided by practical ethnographic principles (Hammersley & Atkinson, 2013; Spradley, 1980) and focused ethnography (Higginbottom, Pillay, & Baudu, 2013; Knoblauch, 2005). Focused ethnography is useful when exploring particular aspects of the clinical setting. Thus, the interaction between the acute admitted child and the clown during venipuncture was specifically explored. Focused ethnography allows flexibility by drawing on

multiple sources (e.g., non-verbal communication, play). This can advance knowledge about children that cannot be obtained adequately through other more structured methods (Carnevale, Macdonald, Bluebond-Langner, & McKeever, 2008). Thus, participant observations, video recording, and informal interviews with children were used in this study.

Study setting

The study was undertaken at two public general university hospitals. Fieldwork in the primary setting occurred in an acute pediatric admission unit and involved following one clown. Acutely hospitalized children were admitted and examined by doctors and nurses before either being sent home or hospitalized. The clown was not a part of the daily practice or routines of these units before this study was undertaken. Additional fieldwork following five clowns was performed in the secondary setting for selective observations (Spradley, 1980) (Table 1), since a move between different settings can make it possible to capture nuances in recurrent situations (Atkinson, 2015).

Study participants

Children were recruited from a sample of 111 children aged 4 to 15 years who were currently allocated for a non-blinded trial (Kristensen et al., 2018). Children were included if they were: (1) acutely admitted and scheduled for a venipuncture, (2) were unaware they would undergo a venipuncture, and (3) accompanied by at least one parent. Children with developmental disorders who were unable to speak Danish or English were excluded. After a venipuncture was scheduled, the nurse or the researcher provided information about the study. Written consent was obtained from parents. Then the child and the clown were introduced to each other, typically in the waiting area during play. The age range of 4 to 15 years was chosen because the upper age limit in pediatric clinics in Denmark is 15 years, and children as young as 4 years old can articulate their experiences related to events in hospitalization (Docherty & Sandelowski, 1999; Spradling, Coke, & Minick, 2012). The final sample included 38 children. For the current study, convenience sampling was used.

Study procedures

The participant observations were short-term (Knoblauch, 2005) and lasted approximately from 3 to 6 h a day. On days when the clown was present, the researcher (first author) followed the clown's interactions with all children participating in the study. The clown interacted with the children during the procedures using verbal and non-verbal techniques, such as play, music, applying temporary tattoos, and humor. By reflecting the emotional states of the children, the clown developed supportive relationships with them (Koller & Gryski, 2008). The duration of fieldwork and the size of sample were not decided in advance, as the goal was to obtain nuanced and rich data regarding the children's gender, age, and prior experiences from varied child/clown interactions. The data collection was consecutive and performed in five different phases as illustrated in Table 1. Demographic data and pain scores, seen in Table 2, were collected by the nurse.

In phase one (called the grand-tour), descriptive observations were conducted; these aimed to get an overview of the setting (Spradley, 1980) and to assess the procedures of admitting acutely ill children. These observations included children who had been prescribed a venipuncture and those who had not. The observations were independent of the presence of the clown. No children were included in phase one. Based on the observations of these three weeks, phase two (called the mini-tour) included a specific focus on children who underwent venipunctures in the presence of the clown. The participant observation was performed by following the child and the clown from their first encounter until the completion of the venipuncture. In phase two, video

Table 1
Episodic data collection phases with the total number of hours spent.

Phase one April 2016	Phase two May–Oct 2016	Phase three November 2016	Phase four December 2016	Phase five January 2017
<ul style="list-style-type: none"> Follow one HC Fieldwork in primary setting Grand tour 3 weeks - no children included Pilot testing video recording 	<ul style="list-style-type: none"> Follow one HC Fieldwork in primary setting – <i>Mini-tour</i> Video recording In total 230 h of data collection 	<ul style="list-style-type: none"> Break Rethinking current patterns and thoughts on the collected data 	<ul style="list-style-type: none"> Follow five HC's Fieldwork in secondary setting – selective observations In total 15 h of observation 	<ul style="list-style-type: none"> Proceed fieldwork in primary setting – 3 weeks In total 53 h of data collection

recording was added based on the assumption that this would capture details of the interaction which were not apparent in the field notes.

Phase three, which comprised a break and a rethinking of current patterns and ideas concerning the collected data, led to ending the fieldwork in the primary setting, as no new interpretations or patterns had come from recent observations (Higginbottom et al., 2013). The research team met to discuss their preliminary findings. From this discussion it became evident that, rather than focusing on a single clown, it would be valuable to observe multiple clowns using varying approaches. Thus, the team decided to add another phase (phase four).

Accordingly, the fieldwork of phase four consisted of selective observations (Spradley, 1980) following five clowns in the secondary setting. These observations focused on differences and nuances in child/clown interactions, such as how the clown encountered the child at a distance, how the clown articulated the venipuncture process, etc. A periodic removal from the field can enable researchers to rethink data which has become saturated (Atkinson, 2015). Thus, moving away from the primary fieldwork setting and introducing findings from the secondary fieldwork setting in phase four further focused the observations in a fifth phase. In total, 298 h of fieldwork were conducted.

Participant observation and informal interviews

The fieldwork in the primary setting was familiar to the first author, so during fieldwork an intermediate position, one which occupied a position between participant and observer, and balanced familiarity and strangeness, was adopted (Hammersley & Atkinson, 2013). The specific focus of the fieldwork was the interaction among such features as place, actor, activities, object, time, goal, and feelings (Spradley, 1980). The researcher completed handwritten notes during the fieldwork and later composed more detailed field notes with descriptions of speech and

nonverbal behavior to facilitate the construction of the analysis (Hammersley & Atkinson, 2013). Complete, expanded notes were prepared after the day's observation and were typewritten verbatim (Spradley, 1980).

In the examination room, informal interviews to capture the unique perspective of the child were conducted in a collaboration between clown, researcher, and child. An informal interview strategy was chosen (Spradley et al., 2012). To guide the younger children (Docherty & Sandelowski, 1999), a pain scale was used as a kind of cue to facilitate the discussion around their pain experience.

Video recordings

The interactions between the children and the clown were video-recorded to enable the encounter to be reviewed several times to ensure consistency in the coding of verbal and behavioral interactions (Bazeley & Jackson, 2013; Derry et al., 2010). These video recordings were intended as an adjunct to validate and improve the nuance of the transcriptions (Bazeley & Jackson, 2013). In some cases, the first author wrote field notes during the video recordings, while at other times the first author handled the camera and afterwards evaluated and made notes about the situation with the participating nurse.

Data analysis

The process of analysis unfolded as an interactive and dynamic process involving a moving back and forth between the whole and the parts following the five phases described in the thematic analysis approach (Braun & Clarke, 2018). Phase one included a review of the video recordings, followed by a thorough reading and rereading of all the data sources to become familiar with their content. In phase two, the initial

Table 2
"How do WE do this together" Relationship between theme, sub-themes, codes and quotes.

Theme	Sub-themes	Codes	Quotes
"How do we do this together"? (Before venipuncture)	Familiar atmosphere	Clown applying contact at a distance Timing and giving time Mutual listening attitude by child and clown Play tailored individual child (song, tattoos, fantasy)	ID 81, Boy 13 year, video: Clown stand outside the door looking through a window and starts making funny movements with balloons – showing if the boy wants him to come in. Slowly the boy looked up and, raises his hand for the clown to come in.
	Mutual understanding	Procedural information Waiting for the child to be ready Initiative of the child Child explicit worries and wishes Child expressing prior experiences Feeling clarity and overview	ID 10, Boy 9 year, field note: Clown walks around in the room making fun and contact, without involving the boy. Then clown places himself at a distance at a table, holding a little break, knocking his fingers against the table edge, looking up and towards the boy, says nothing. Time stands still ... After 20 min ... clown says "I actually have some tattoos that you can get while we are doing the VP. Do you want to see?" The boy spontaneously raises from the bed "YES, let us make a plan together"
	Clear game plan	Specific plan for how to do (place, distraction, parent's role) Verbal and non-verbal expression of child agreement	ID 24, Girl 6 year, field note: Clown says "I am just curious, do you want to sit by your mother, when we are planning the venipuncture"? The girl looks intense at clown and nods. Clown says "Then we can practice now, okay"? The girl says "Yes, last time I was afraid" ID 85, Boy 6 years, video: Clown and the boy sits side by side at a chair, clown touches the boys arm with small movements "WE can try to feel the skin, where you had the magic cream – how do you feel it"? The boy touch and smile to clown "We can do the tattoos as you told me"! They give High-five.

coding was generated. This coding was meant to capture data relevant for answering the research question across the entire dataset (Braun & Clarke, 2018). In the third phase, a search for relationships and patterns was discussed with one of the co-authors as a means of sorting the different codes into potential themes. At this point, an underlying framework was identified by dividing both the codes and the two initial themes (*clown tailoring strategies* and *child behavior and expression*) into three different stages (*before, during venipuncture, and after*). Within this frame of three stages, further analysis was performed. Finally, in phases four and five, the reviewing and refining of themes and subthemes was discussed with all the authors of the manuscript. Thus, the two initial themes were brought together into a single whole (*child/clown*) (Fig. 1). The analysis was treated within an illustrative approach, using detailed descriptions and interpretations of the themes with data quotations inserted as examples (Braun & Clarke, 2018). The video was reviewed to identify nuances in the patterns derived from the analysis of the field notes. Table 2 provides an example of the relationships among sub-themes, codes, and quotes of theme one: “How do WE do this together?”

Trustworthiness and rigor

The first author collected all data. Because of the first author’s familiarity with the setting, an unconscious anticipation of the events likely to occur could possibly be reflected in the data (Hammersley & Atkinson, 2013). However, familiarity with the setting can also facilitate tolerance and sensitivity in these emotionally challenging situations (Hammersley & Atkinson, 2013). Further, children may express their experiences in novel ways to a pediatric nurse (Carnevale et al., 2008). To validate the interpretations, a *member reflection* procedure was performed (Braun & Clarke, 2018), which involved debriefing with either the clown or the nurses to ensure a good fit between the researcher’s and the participants’ interpretations of the observed situation. Finally, the multiple methods of data collection and the frequent discussions among members of the research team during data collection and interpretation might strengthen the findings.

Findings

The demographics and the treatment-related data are described in Table 3.

The overarching theme “Clown strategies tailored to each child creating a WE” was based on three themes. These were entitled: (1) “How do WE do this together?” (*before venipuncture*); (2) “WE are together”

Table 3
Demographics and treatment-related data.

Demographics of the children (n = 38)	
Gender n (%)	
Boy	23 (60.5)
Girl	15 (39.5)
Age (years), n (%)	
4–6	14 (36.8)
7–15	24 (63.2)
Local anesthetic, n (%)	
Yes	26 (68.4)
No	12 (31.6)
Previous VP, n (%)	
Yes	20 (52.6)
No	18 (47.4)
Current pain ^a , n (%)	
Yes	12 (31.6)
No	26 (68.4)
Duration, (minute) ^b	
Before VP	
Median (min, max)	25 (0, 120)
During VP ^c	
Median (min, max)	4.3 (1.2, 16)
After VP	
Median (min, max)	5 (0, 20)
Pain score, n (%) ^d	
0	13 (34.2)
1–5	18 (47.4)
6–10	7 (18.4)
Number of attempts, n (%)	
1	35 (92.1)
>1	3 (7.9)

^a Current pain: when arriving to the admission unit.
^b Period of interaction with clown before, during and after venipuncture.
^c Measured with a clocklike device.
^d Numerical Rating scale and Wong-Baker Faces Pain Scale. Assessed by nurse after VP.

(*during venipuncture*); and (3) “I/WE did it!” (*after venipuncture*). These themes are illustrated with their subthemes in Fig. 1.

The WE represents a responsive interaction between the child and the clown and is characterized by a close relationship which evolved during a continuous, mutually focused attention. Thus, the WE included verbal and non-verbal gestures that manifested an interactive and close relationship between child and clown. The clown-tailored strategies focused on the child’s expression and behavior and were intended to create this WE. The WE gradually grew during the establishment of a relational alliance from the first encounter until the child left the examination room. The responsive interaction represented in the WE

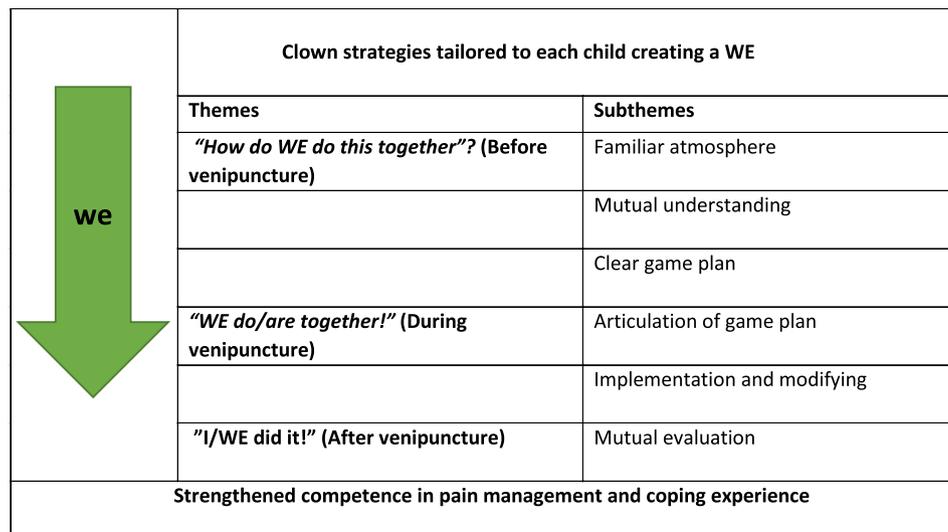


Fig. 1. Themes and subthemes.

ensured that the child's voice was both articulated and heard in this process. The themes were seen to be mutually dependent as the WE evolved in an interactive, dynamic, and relational flow. In the sections below the clown is referred to as "he" or as "clown." The biomedical laboratory technologist is referred to as "lab tech."

Themes

"How do WE do this together"? (before venipuncture)

This theme covered the first encounter, starting in the waiting room and examination rooms. This theme occupied a broad time span, measured from the time the clown and the child met each other (Table 2). The theme comprises three subthemes: *familiar atmosphere*, *mutual understanding*, and *clear game plan*.

Familiar atmosphere. A familiar atmosphere was characterized by trust. Typically, the clown started engaging with the child at a distance, making his presence known by using his whole body to make indirect contact (e.g., smiling, nodding, funny movements or faces). He had an attentive waiting position characterized by silence and pauses, and used anywhere from seconds to minutes to judge the situation, listening intensely; he expressed this attentiveness by placing his head forward with wide-open and smiling eyes. He used several approaches which were tailored to the responses from each individual child. Generally, the clown established a familiar atmosphere, approaching the child with elements of play, fun, music or toys. In some cases, however, an approach characterized by silent listening or the use of few words was used. In this way, he invited the child to be a part of the WE on the child's own terms. Accordingly, children seemed to achieve a feeling of being met and invited. This was especially evident when the child had curious and surprised expressions in their eyes and used body language without signs of fear.

Some children responded from the beginning with a hesitant attitude, as if they needed more time to prepare for an interaction. This tendency was evident in the following example with an 11-year-old boy sitting on the bed in the examination room waiting with his mother for the venipuncture:

Outside the examination room, crying was heard. The clown walked with excessively slow steps past the open door in the hallway, turned around, went back, and stopped quietly in the doorway. Clown stepped forward a little in the doorway, stopped again, and paused. He breathed deep and said after a few seconds, "Is that your name, [child name]?" He paused and there was a moment of silence. The boy nodded, still with his head bent over his legs, crying. They began to talk and discussed a computer game for about 15 min. The clown said, "I think, [child name], that WE have to create our own plan together, when you go to get the venipuncture. I have some tattoos—maybe we could put one on your arm, when you get the venipuncture?" There was a pause and then the boy looked up and smiled "I would like to," he said. (ID 73).

In contrast, other children interacted spontaneously and immediately without any kind of reservation or hesitancy, as can be seen in the case of an 11-year-old boy:

The nurse reported that he was afraid of getting a venipuncture. The clown went immediately to the room with his guitar; he gently opened the door and then jumped into the room and started singing an Elvis song in a loud and deep voice. The boy lay on the bed while his mother and father sat at the table. Immediately all of them laughed out loud and relaxed. The boy raised his head and body. He smiled broadly at the clown. The clown wondered, "Do you know this song?" The boy's mother said, "Ask him, he loves this song." (ID108).

The familiar atmosphere appeared to provide most children with a sense of trust and seemed to allow them to put concerns related to

the impending venipuncture in the background, as illustrated by the case of a 4-year-old boy:

The boy and the clown sat right in front of each other making intense eye contact as they waited impatiently for the venipuncture. The clown told a funny story about his toy dog. The boy spontaneously put the soles of his feet towards the soles of clown's feet, and they touch each other. Confidently, they moved their joined feet back and forth without any words. The clown started to sing quietly and the boy and everyone else in the room were humming. The room was peaceful. (ID 112).

Mutual understanding. In some instances, the clown and the child developed a mutual understanding as the child prepared for the procedure. This understanding could develop when the clown spoke openly of the venipuncture to the child and encouraged the child to express feelings about prior experiences, worries, and wishes concerning the venipuncture. This was illustrated in the following example:

The clown and the 12-year-old girl sat together in the examination room. The clown looked in her eyes: "You did not feel safe last time, right?" She looked up and said, "No, I was afraid, because I have tried it before, and then I was worried. The worst thing about it is when they [lab tech] insert the needle." He nodded quietly and listened. "Yes, I understand, you have the feeling that this is not nice." She nodded quietly and looked at him. He said, "[Child name], I think we have to talk about how you want to be placed for the venipuncture." She said, "Yes, we do. I want to sit here on the chair." He nodded and said, "Then I and your dad can have a seat at each side of you, if that is okay?" She nodded, relaxed, smiling at him. (ID 106).

The value of revisiting prior experiences was especially evident when the clown encouraged the children to share their individual stories. By doing so, he allowed the child to take control in a situation where little control seemed possible. In response, the child made known their wishes and choices.

Clear game plan. By letting the children to express their thoughts, the clown elicits knowledge that he can build upon. This allows him to cooperate with the child in developing a clear game plan, one which includes the child's own wishes. A central element in the game plan employed in most of the cases was the use of tattoos. The tattoos and the work of placing them on the arm (the one not used for the venipuncture) acted as a sort of distraction. Tattoos seemed to work as a familiar element to many children of different ages and therefore provided a unique approach to establishing a more detailed game plan. In this way, it appeared to open the door to the venipuncture, as illustrated by the case of a 6-year-old boy in the waiting room:

The clown sat next to the boy, who was leaning against his mother. The clown looked with an intense quietness at the boy for a few seconds. Then he said, "Are you sad?" The boy did not answer, but his mum said that she just told him about the venipuncture. The clown nodded, looking at the boy "Then you might be sad, I understand that. Can I ask you something? Have you done this before?" The boy looked up at the clown and nodded. The clown said, "Do you want to choose a tattoo?" The boy nodded and looked at the tattoos while sniffing. The boy leaned towards him, away from his mother, and chose one. Clown said, "I have an idea. Do you want to figure out with me about how WE can manage the venipuncture? Actually, we could do a tattoo in the meantime!" The boy said, "Wont it hurt?" Clown stated, "You can feel a little prick. If the lab tech uses this arm, WE can put a tattoo on the other arm in the meantime." The boy smiled with his whole face, saying with enthusiasm "I want ALL of them, WE can do it together!" Clown said "YES! I am just a little curious, who do you want to sit by during the venipuncture?" The boy stated "My dad." Clown said, "Then

your dad takes care of you. Okay, [child name], then WE have a plan: your dad will sit with you, while WE are working together." (ID 9).

In summary, a tailored and focused clown approach from the first encounter established the WE. Thus, the decisions were shared, and the child was not alone in managing the venipuncture, as shown by the child's switch during the interaction from worried/crying to smiling/relaxed emotions. As observed throughout these cases, the child could place his worried thoughts in the background and interact with the clown in planning the venipuncture. No fear of the clown was shown.

"WE are together!" (during venipuncture)

The theme *"WE are together!"* was defined as the situation from the time the lab tech entered the examination room until the venipuncture was complete, as seen in Table 2. The theme comprised two sub-themes: *articulation of the game plan* and *implementation and modifying*.

Articulating of game plan. A verbally expressed articulation of the game plan by the clown in an empathic and humorous tone, with the child's voice embedded, illustrated *"WE are together."* This articulation of the game plan was reflected in the case of a 10-year-old boy:

The clown looked with a glimpse in his eye towards lab tech when lab tech entered the examination room and then back to the boy. He said "[Child name] is a little worried about the venipuncture, but WE made an agreement about making a tattoo, okay? And WE have agreed that he wants to know exactly when you insert the needle, but he wants to look away—he doesn't want to see it!" The boy nodded and looked intently at the clown. The clown added "And WE have a plan"—the lab tech then performed the venipuncture. (ID25).

As can be seen, the clown communicated the plan loudly to ensure the consistency and continuity of this particular game plan for everyone in the room.

Implementation and modifying. The clown continued to act as the responsible person by implementing and modifying the game plan. The clown constantly orchestrated, guided, and allowed the children to maintain a sense of control, while he carefully read their gestures and respected their varying expressions. Accordingly, the majority of the children managed well, and cooperated in the interaction by looking relieved, often only smiling or nodding and keeping their eyes on him. Because of the clown's ability to redirect the focus of attention during the venipuncture, often through the use of tattoos, the child seemed to be able to place the procedure in the background. This was observed in video recordings when the child looked back and forth between the clown and the lab tech while keeping his/her arm straight without moving, despite the presence of worried facial expressions. Because of the feeling of being together in a WE, most children seemed able to follow the plan.

Nevertheless, in some cases, the child did not cooperate as planned. Accordingly, the clown continued the emotional support by modifying the strategy depending on the child's reaction, as exemplified in the case of a 5-year-old girl:

The girl sat on the bed with her mother's arms around her. The clown sat at eye level with his hand on the girl's leg. She breathed, making loud noises [not crying, but afraid]. This went on for 20 min. Lab tech tried to perform the venipuncture several times, but the girl pulled her arm away. Clown went down on his knees, and quietly said, "Remember what we planned with the tattoos and having mum sit with you," but she just continued to cry. After a pause, the clown breathed deeply, moved a step backward, and laid aside the tattoos; he grasped the guitar, and started singing in a calm and quiet tone. Lab tech waited quietly. The mother held the girl gently and nuzzled her arm calmly. He

continued singing as he gazed at the girl. She began to sing with him, sniffing. The lab tech performed the venipuncture. (ID 38).

As illustrated, the clown took a timeout to assess the situation and determined a new strategy with the child.

Most of the children aged 4 to 6 years sniffled or cried during the procedure; however, they still cooperated. In a few cases, the child could not cope, and the game plan was not effective. These cases were linked to situations where the children had not been prepared in advance, the parent just held the child in order *"to get it done,"* or two venipuncture attempts became necessary.

"I/WE did it!" (after venipuncture)

The period after venipuncture was defined as the period from the departure of the lab tech from the room until the end of the encounter when the child left (Table 2). In this stage, the clown often remained seated near the child. In this way, he showed that the process was not yet over. The child often responded by remaining seated, holding the clown's hand, or playing with him unhurriedly. The theme comprised one sub-theme: *mutual evaluation*.

Mutual evaluation. The mutual evaluation was based on an interest in sharing the child's experience. The WE gradually grew by means of physical and mental contact. Children stayed in close contact by holding hands, chatting, or sitting close. In these situations, the clown encouraged the child to recount feelings of how *"I/WE did it,"* as illustrated by the case of this 14-year-old girl:

The venipuncture had just finished, and she kept holding the clown's hand. He was still on his knees and said, "Did you feel it? Was it less uncomfortable—better than last time?" She nodded. He stated "You looked away. [Child name], you are SO good." She was still holding his hand. He looked intently in her eyes and said, "You just did it. You knew you should look away just at the time when the needle got inserted—YOU WERE!!!" She smiled quietly, a little embarrassed. He asked, "Was it okay doing it this way?" The girl said, "YES, it was much better. WE handled it!" (ID 29).

In this case, the clown undertook an evaluation of how the game plan went in collaboration with the child. In some cases, this evaluation included an assessment of how the child felt about pain (in relation to the pain intensity scores). However, on most occasions, the clown focused on the psychological or psychosocial dimension. He made the child aware of individual strategies by visualizing and repeating how the child had handled the venipuncture, focusing on the non-threatening aspects of the event. The child responded with a sometimes-surprising expression of awareness, but overall listening and reflecting with a clear answer to questions about how they felt, often providing a high-five.

Finally, the clown and the child talked about ways to handle the next venipuncture. Together, they focused on creating awareness of individual strategies and competencies for managing this event in the future. Accordingly, the children were able describe how they would do this, as this example reflects:

The clown and a 6-year-old boy sat beside each other. The clown said, "How did you feel when you looked at it?" The boy said, "NOT good!" The clown said, "You managed it, you really did! You managed it so well!" The boy's mother said, "Can you remember, [child's name], how the venipuncture went last time?" The child shook his head "NO". His mother said, "Last time, we actually held you the whole time." He looked at his mother and said, "But that time the clown wasn't there, THAT'S WHY!" Clown and child look at the FACES pain rating scale together, and the boy said, "I was scared." There was a pause and then the clown nodded quietly and said, "Listen, what about next time ... if you have another venipuncture, how do you think you will deal with it, if I am not

here?" The boy promptly said, "Then I can breathe deeply down in my stomach and I can look away, like WE planned!!" (ID 114).

The children often described their prior experiences as painful and fearful. Therefore, this stage seemed to manifest the importance of remaining in the interaction after the venipuncture to reduce the anticipatory fear of subsequent procedures.

Discussion

The aim of this study was to explore what characterizes the interaction between child and clown, and how this interaction influences the child's experience of pain and his or her ability to cope during a venipuncture. The findings had an overarching theme of "Clown strategies tailored to each child creating a WE", which was based on three themes: "How do WE do this together" (before); "We are together" (during venipuncture); and "I/WE did it" (after).

The findings suggest that establishing the kind of responsive interaction which characterizes the WE strengthened the child's competence in pain management and improved their coping ability during the venipuncture. The WE gradually grew and was maintained from the first encounter (before), throughout the procedure, and until the final evaluation (after). Kitson, Conroy, Kuluski, Lolock, and Lyons (2013) argue that the patient's voice needs to be heard from the very beginning and maintained throughout the encounter. Ethics in pediatrics mandate children's rights to participate, share and understand decisions concerning their condition and care, based on effective communication with healthcare providers on an ongoing basis. In particular, focusing on children's individual preferences, temperaments, and medical conditions is of great importance (Koller, 2017). Our results suggest that the clown provided these individual tailored strategies together with the child during the venipuncture. Therefore, the relationship established in a WE appears to contribute to the child's feeling of not being alone; for this reason, it positively contributes to the child's coping experience and creates memories helpful for future procedures.

Throughout the three stages, the clown tailored his strategies depending on his responsive interactions with the child, and this tailoring was critical to the WE. Highlighting the importance of establishing a rapport from the first encounter and maintaining it throughout the procedure and the evaluation is in line with findings from Ofir, Tener, Lev-Wiesel, On, and Lang-Franco (2016). Their study involved children from the ages of 5 to 16 who, as they prepared for and underwent invasive examinations, were kept company by a clown. The findings made clear the importance of including clowns in all stages of the process to enable the child to view the whole visit within the alliance with the clown.

The use of play as a strategy to facilitate children's stress reduction during hospitalization and medical procedures is described in the work of child life specialists (Thompson, 2018). Nevertheless, to our knowledge, this is the first ethnographic study exploring the child/clown interaction during a uniform procedure in a large group of acutely hospitalized children. The findings, which suggest that the interaction positively supports the child's ability to cope during venipuncture, are in line with earlier research (Koller & Goldman, 2012; Uman et al., 2008) regarding the use of non-pharmacological interventions during needle-related procedures. However, research concerning clowns has shown conflicting results in allaying anxiety and pain in children (Sridharan & Sivaramakrishnan, 2016). Nevertheless, a recent study (Kristensen et al., 2018) indicates that the pain-relieving effect for children older than 6 years who receive venipuncture while interacting with a clown is superior to that of a control group. Hence, this study adds some new insights to the venipuncture experiences of children aged 4 to 15 years.

The current study findings suggest that the responsive interaction in a WE is central from the first encounter. Based on establishing an intense presence with the child, a trustful familiar atmosphere was

established. Unlike other distraction techniques (e.g., videogames), the clown, as a human being, has the unique advantage of being able to tailor and modify a strategy adapted to individual children within a situated and non-demanding approach (Koller & Gryski, 2008). Including both childlike and grownup characteristics, the clown role opens itself to different ways of acting embedded in the situation at hand. The use of play in an interpersonal approach can lead the child to a place of comfort (Koller & Gryski, 2008; Thompson, 2018) in a stressful situation, as can be observed between the child and the clown in the establishment of a WE.

Although the clown uses strategies similar to those a nurse employs for pain management, the clown does not have a specific health professional role in the venipuncture situation, and therefore the clown can maintain focus on the interaction. In contrast, the nurse or lab tech is obliged to focus both on the procedures and on the interaction.

Apart from any change in their pain scores, children with previous experiences or current pain felt supported by the clown during the interaction. Therefore, these findings contrast with a previous study by Kristensen et al. (2018), who found that the clown tended to have a minor effect on pain intensity for children with previous venipuncture. The current study has identified a long duration of the before venipuncture stage, suggesting that using time to establish the relationship from the beginning had a valuable influence on the experience of pain, even in situations where children had prior experiences, current pain, or a documented high pain score on the scale.

"We are together" illustrates that the clown builds upon and maintains the WE by articulating and orchestrating. In return, the child responds with a positive feeling of being able to master the situation, with a sense mutual understanding and control based on a clear game plan. This is in line with research conducted by Runeson, Hallstrom, Elander, and Hermeren (2002) and Koller (2017), which found that the child's feeling of mastery and having control is improved when children are listened to, provided with preparation, and offered support in participating in decisions regarding their own situation and care. In a broader perspective, as described by Kitson et al. (2013), the establishment of a trusting relationship is essential in taking care of the individual patient during the entire hospital stay. Feo and Kitson (2016) recommend establishing and maintaining trust through continual positive interactions as these interactions can shape the patient's perception of trust. Our findings suggest that the above-mentioned perspectives also seem to be the case at a very concrete level, specifically in the establishment of a trustful relationship between a child and a clown during a venipuncture procedure.

Finally, "I/WE did it" describes how the WE was maintained in the mutual evaluation. By arguing that building a relationship is not a hierarchical process, but instead evolves continually through ongoing interactions (Feo & Kitson, 2016), these findings underline the importance of having the clown present in the evaluation as a means of providing the child with competencies to manage a painful procedure in the future. The importance of an evaluation is supported by Noel et al. (2012), which provides some evidence that the post-procedure period offers an opportunity for memory-reframing interventions that can be efficacious in modifying children's memories of needle procedures.

The findings reveal that the WE strengthened the child's competence in pain management and coping experience in each of the three stages. The WE functions as an individual tailored strategy and embeds the particular characteristics of the child. The active participation of the child in the responsive interaction with the clown may be seen to differ from the approaches of other distraction techniques. The current findings support the work of Svendsen and Bjork (2014), who found that nurses considered the use of non-pharmacological approaches not only important for relieving pain and distress, but equally important for obtaining the cooperation of the child during the informed application of an individually tailored strategy. The children in this study demonstrated that a close collaboration with the clown provided them with the resources to manage the venipuncture.

Additionally, the findings show that the responsive interaction in a WE can offer the child the opportunity to share and express feelings. Children's ability to cope during stressful events is associated with such variables as temperament, age, previous experiences, and coping style (Koller, 2008). Therefore, seeing the clown role as a process based on the individual needs of the child is essential for empowering the child to cope. Potentially stressful situations which can be controlled are construed as less threatening (Bandura, 1977). Accordingly, the interaction with the clown enhances the child's belief in having the power to cope in the situation, which also may empower the child to be less likely to develop frightening thoughts in future situations (Bandura, 1977). These findings suggest the importance of generating further research on the influence of clowns during repeated painful procedures. Furthermore, the findings suggest research on how the child's individual strategies can be used in future situations without the presence of a clown.

Strengths and limitations

The strength of this study is its contribution to the body of knowledge of the venipuncture experiences of children aged 4 to 15 years. The same venipuncture can be experienced as threatening by one child and non-threatening by another. Therefore, following multiple children was considered to be a strength of this study because it allowed for nuances and variations in the data. Furthermore, the selective observation performed in the secondary fieldwork validated the findings from the primary fieldwork by presenting similar clown strategies and child behaviors. Fieldwork is a valid method to use within a broad age range due to the limited verbal capabilities of younger children. The long period of fieldwork enabled a moving back and forth between ideas and data in an iterative process in which ideas were used to make sense of data along the way (Hammersley & Atkinson, 2013).

In terms of limitations, the broad age range of this study included children of different developmental competencies. Such a range of competencies could be addressed by further research exploring how age and developmental differences affect the reception of the clown in various settings. The fieldwork focused on the child/clown interaction. However, ethnography yields empirical data about the lives of people in a specific situation and context, and about the ways these lives interact (Spradley, 1980). The context of children acutely admitted to hospital also included parents, nurses, and other healthcare professionals whose perspectives were not included in the current study. This omission may prevent a complete understanding, especially of the underlying role of parents in this situation. Further work investigating how the parents of these children affect the intervention of the clown would be of value.

Conclusion

The findings point to the importance of establishing a WE from the first encounter and maintaining and developing it throughout the venipuncture, with the goal of influencing the child's pain experience and ability to cope. Throughout the three stages, the child and the clown interacted using individually tailored strategies. During the three stages, the interaction between child and clown appeared to provide the child with an experience of strengthened competencies in pain management and coping. The first encounter is essential for creating a WE maintained throughout the process. The evaluation stage, especially, highlights the importance of creating an awareness of the child's individual coping strategies for future procedures.

This study provides a useful insight which could help to promote multidisciplinary initiatives, such as including clowns during painful procedures, to ensure best practices in managing procedural pain in children. Specifically, nurses can advocate for collaboration with hospital clowns during acute procedural pain. The establishment of a WE might inspire and advance the psychosocial care of hospitalized

children undergoing painful procedures, suggesting that the WE may be helpful in other non-pharmacological approaches, provided by nurses and other healthcare professionals. Further research is required to investigate the effectiveness of clowns in different painful procedures and treatments incorporating involvement of the child and the child's preferences in the choice of individual strategies.

Funding

This work was supported by the Danish Child Cancer Foundation, Copenhagen; the North Denmark Region Health Science Foundation; and the Clinical Nursing Research Unit, Aalborg University Hospital, Denmark.

The authors have no conflicts of interest to declare.

CRediT authorship contribution statement

Helle Nygaard Kristensen: Supervision, Writing - review & editing. **Erik Elgaard Sørensen:** Supervision, Writing - review & editing. **Jennifer Stinson:** Supervision, Writing - review & editing. **Helle Haslund Thomsen:**

References

- Association of Pediatric Anesthesia of Pediatric Anaesthetists of Great Britain and Ireland (2012). *Good practice in postoperative and procedural pain management*. *Pediatric anesthesia* (2nd ed.), 22. (pp. 1–81).
- Atkinson, P. (2015). *For ethnography*. London: SAGE Publications Ltd.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191–215.
- Barkmann, C., Siem, A. K., Wessolowski, N., & Schulte-Markwort, M. (2013). Clowning as a supportive measure in paediatrics - a survey of clowns, parents and nursing staff. *BMC Pediatrics*, 13(1)(166), 1–10.
- Bazeley, P., & Jackson, K. (2013). *Qualitative data analysis with NVivo* (2nd ed.). London: SAGE Publications Ltd.
- Birnie, K. A., Chambers, C. T., Fernandez, C. V., Forgeron, P. A., Latimer, M. A., McGrath, P. J., & Finley, G. A. (2014). Hospitalized children continue to report undertreated and preventable pain. *Pain Research & Management*, 19(4), 198–204.
- Braun, V., & Clarke, V. (2018). *Successful qualitative research: A practical guide for beginners*. SAGE Publications Ltd.
- Carnevale, F. A., Macdonald, M. E., Bluebond-Langner, M., & McKeever, P. (2008). Using participant observation in pediatric health care settings: Ethical challenges and solutions. *Journal of Child Health Care*, 12(1), 18–32. <https://doi.org/10.1177/1367493507085616>.
- Derry, S., Pea, R., Barron, B., Engle, R., Erickson, F., Goldman, R., & Sherin, B. (2010). Conducting video research in the learning sciences: Guidance on selection, analysis, technology, and ethics. *The Journal of the Learning Sciences*, 19, 3–53.
- Dionigi, A., Sangiorgi, D., & Flangini, R. (2013). Clown intervention to reduce preoperative anxiety in children and parents: A randomized controlled trial. *Journal of Health Psychology*, 19, 369–380. <https://doi.org/10.1177/1359105312471567> 2013.
- Docherty, S., & Sandelowski, M. (1999). Focus on qualitative methods: Interviewing children. *Research in Nursing & Health*, 22(2), 177–185.
- Felluga, M., Rabach, I., Minute, M., Montico, M., Giorgi, R., Lonciari, I., & Barbi, E. (2016). A quasi randomized-controlled trial to evaluate the effectiveness of clowntherapy on children's anxiety and pain levels in emergency department. *European Journal of Pediatrics*, 175(5), 645–650. <https://doi.org/10.1007/s00431-015-2688-0>.
- Feo, R., & Kitson, A. (2016). Promoting patient-centred fundamental care in acute healthcare systems. *International Journal of Nursing Studies*, 57, 1–11. <https://doi.org/10.1016/j.ijnurstu.2016.01.006>.
- Fernandes, S. C., & Arriaga, P. (2010). The effects of clown intervention on worries and emotional responses in children undergoing surgery. *Journal of Health Psychology*, 15(3), 405–415. <https://doi.org/10.1177/1359105309350231>.
- Friedrichsdorf, S. J., Postier, A., Eull, D., Weidner, C., Foster, L., Gilbert, M., & Campbell, F. (2015). Pain outcomes in a US children's hospital: A prospective cross-sectional survey. *Hospital Pediatrics*, 5(1), 18–26. <https://doi.org/10.1542/hpeds.2014-0084>.
- Hammersley, M., & Atkinson, P. (2013). *Ethnography: Principles in practice* (2nd ed.). London: Routledge, 1995.
- Hansen, L. K., Kibaek, M., Martinussen, T., Kragh, L., & Hejl, M. (2011). Effect of a clown's presence at botulinum toxin injections in children: A randomized, prospective study. *Journal of Pain Research*, 4, 297–300. <https://doi.org/10.2147/JPR.S23199>.
- Harrison, D., Joly, C., Chretien, C., Cochrane, S., Ellis, J., Lamontagne, C., & Vaillancourt, R. (2014). Pain prevalence in a pediatric hospital: Raising awareness during pain awareness week. *Pain Research & Management*, 19(1), e24–e30.
- Higginbottom, G., Pillay, J., & Baudu, N. (2013). Guidance on performing focused ethnographies with an emphasis on healthcare research. *The Qualitative Report*, 18(17), 1–16.
- Kingsnorth, S., Blain, S., & McKeever, P. (2011). Physiological and emotional responses of disabled children to therapeutic clowns: A pilot study. *Evidence-Based Complementary and Alternative Medicine, eCAM*, 2011, 732394. <https://doi.org/10.1093/ecam/nek008>.

- Kitson, A., Conroy, T., Kuluski, K., Lolock, L., & Lyons, R. (2013). *Reclaiming and redefining the fundamentals of care: Nursing's response to meeting patients' basic human needs*. Adelaide, South Australia: School of Nursing, the University of Adelaide.
- Knoblauch, H. (2005). Focused ethnography. *Forum, Qualitative Social Research / Forum, Qualitative Sozialforschung*, 6(3). <https://doi.org/10.17169/fqs-6.3.20>.
- Koller, D. (2008). Child life council evidence-based practice statement child life assessment: Variables associated with a child's ability to cope with hospitalization. Rockville, MD: Child Life Council.
- Koller, D. (2017). "Kids need to talk too": Inclusive practices for children's healthcare education and participation. *Journal of Clinical Nursing*, 26(17–18), 2657–2668. <https://doi.org/10.1111/jocn.13703>.
- Koller, D., & Goldman, R. D. (2012). Distraction techniques for children undergoing procedures: A critical review of pediatric research. *Journal of Pediatric Nursing*, 27(6), 652–681. <https://doi.org/10.1016/j.pedn.2011.08.001>.
- Koller, D., & Gryski, C. (2008). The life threatened child and the life enhancing clown: Towards a model of therapeutic clowning. *Evidence-based Complementary and Alternative Medicine*, 5(1), 17–25. <https://doi.org/10.1093/ecam/nem033>.
- Kozlowski, L. J., Kost-Byerly, S., Colantuoni, E., Thompson, C. B., Vasquenza, K. J., Rothman, S. K., & Monitto, C. L. (2014). Pain prevalence, intensity, assessment and management in a hospitalized pediatric population. *Pain Management Nursing*, 15(1), 22–35. <https://doi.org/10.1016/j.pmn.2012.04.003>.
- Kristensen, H. N., Lundbye-Christensen, S., Haslund-Thomsen, H., Graven-Nielsen, T., & Elgaard Sorensen, E. (2018). Acute procedural pain in children: Intervention with the hospital clown. *The Clinical Journal of Pain*, 34(11), 1032–1038. <https://doi.org/10.1097/AJP.0000000000000625>.
- Linge, L. (2012). Magical attachment: Children in magical relations with hospital clowns. *International Journal of Qualitative Studies on Health and Well-Being*, 7. <https://doi.org/10.3402/qhw.v7i0.11862>.
- Linge, L. (2013). Joyful and serious intentions in the work of hospital clowns: A meta-analysis based on a 7-year research project conducted in three parts. *International Journal of Qualitative Studies on Health and Well-Being*, 8, 1–8. <https://doi.org/10.3402/qhw.v8i0.18907>.
- McMurtry, C. M., Pillai Riddell, R., Taddio, A., Racine, N., Asmundson, G. J., Noel, M., & HELPinKids&Adults Team (2015). Far from "just a poke": Common painful needle procedures and the development of needle fear. *The Clinical Journal of Pain*, 31 (Suppl. 10), S3–11. <https://doi.org/10.1097/AJP.0000000000000272>.
- Meiri, N., Ankri, A., Hamad-Saied, M., Konopnicki, M., & Pillar, G. (2016). The effect of medical clowning on reducing pain, crying, and anxiety in children aged 2–10 years old undergoing venous blood drawing - a randomized controlled study. *European Journal of Pediatrics*, 175(3), 373–379.
- Noel, M., Chambers, C. T., Petter, M., McGrath, P. J., Klein, R. M., & Stewart, S. H. (2012). Pain is not over when the needle ends: A review and preliminary model of acute pain memory development in childhood. *Pain Management*, 2(5), 487–497. <https://doi.org/10.2217/pmt.12.41>.
- Ofir, S., Tener, D., Lev-Wiesel, R., On, A., & Lang-Franco, N. (2016). The therapy beneath the fun: Medical clowning during invasive examinations on children. *Clinical Pediatrics*, 55(1), 56–65. <https://doi.org/10.1177/0009922815598143>.
- Runeson, I., Hallstrom, I., Elander, G., & Hermeren, G. (2002). Children's needs during hospitalization: An observational study of hospitalized boys. *International Journal of Nursing Practice*, 8(3), 158–166.
- Spradley, J. (1980). *Participant observation*. California: Wadsworth Publishing Co., Inc.
- Spratling, R., Coke, S., & Minick, P. (2012). Qualitative data collection with children. *Applied Nursing Research*, 25(1), 47–53. <https://doi.org/10.1016/j.apnr.2010.02.005>.
- Sridharan, K., & Sivaramakrishnan, G. (2016). Therapeutic clowns in pediatrics: A systematic review and meta-analysis of randomized controlled trials. *European Journal of Pediatrics*, 175(10), 1353–1360. <https://doi.org/10.1007/s00431-016-2764-0>.
- Stinson, J., Yamada, J., Dickson, A., Lamba, J., & Stevens, B. (2008). Review of systematic reviews on acute procedural pain in children in the hospital setting. *Pain Research & Management*, 13(1), 51–57.
- Svendsen, E. J., & Bjork, I. T. (2014). Experienced nurses' use of non-pharmacological approaches comprise more than relief from pain. *Journal of Paediatric Nursing*, 29(4), e19–e28. <https://doi.org/10.1016/j.pedn.2014.01.015>.
- The Center of Clinical Guidelines, Denmark (2016). *Assessment of pain intensity in acute pain in children aged 28 days-18 years*. Clearing House.
- Thompson, R. H. (2018). *The handbook of child life: A guide for pediatric psychosocial care* (2nd ed.). United States: Charles C. Thomas, Publisher, Ltd.
- Uman, L. S., Chambers, C. T., McGrath, P. J., & Kisely, S. (2008). A systematic review of randomized controlled trials examining psychological interventions for needle-related procedural pain and distress in children and adolescents: An abbreviated Cochrane review. *Journal of Pediatric Psychology*, 33(8), 842–854.
- van Venrooij, L.T., & Barnhoorn, P.C. (2017). Hospital clowning: A pediatrician's view. *Eur J Pediatric* 176, 191–197. doi:<https://doi.org/10.1007/s00431-016-2821-8>.
- Walther-Larsen, S., Pedersen, M. T., Friis, S. M., Aagaard, G. B., Romsing, J., Jeppesen, E. M., & Friedrichsdorf, S. J. (2017). Pain prevalence in hospitalized children: A prospective cross-sectional survey in four Danish university hospitals. *Acta Anaesthesiologica Scandinavica*, 61(3), 328–337. <https://doi.org/10.1111/aas.12846>.
- Wolyniez, I., Rimon, A., Scolnik, D., Gruber, A., Tavor, O., Haviv, E., & Glatstein, M. (2013). The effect of a medical clown on pain during intravenous access in the pediatric emergency department: A randomized prospective pilot study. *Clinical Pediatrics*, 52(12), 1168–1172. <https://doi.org/10.1177/0009922813502257>.